



GOVERNMENT INSTITUTE OF SCIENCE

NIPAT NIRANJAN NAGAR, CAVES ROAD, AURANGABAD 431 004
MAHARASHTRA



SELF STUDY REPORT CYCLE 2

SUBMITTED TO
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
Bangalore-560 072

GOVERNMENT INSTITUTE OF SCIENCE

NIPAT NIRANJAN NAGAR, CAVES ROAD, AURANGABAD 431 004
MAHARASHTRA



Director: Dr. Ravindra. R. Deshpande.

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PREFACE

There is a pressing need for innovative learning approaches and delivery methods to improve quality and relevance of higher education with lateral mobility while expanding student numbers. One key way of achieving this, in line with the existing policy in education, is to exploit the transformational benefits of ICTs and other emerging technologies to enhance teaching, improve learning skills and support personalised learning.

While higher education graduates are more likely to find employment than people with lower levels of qualifications, higher education curricula are often slow to respond due to existing mechanisms and changing needs in the wider economy.

The institute is modernising education programmes to provide graduates with high-level of employable as well as the transferable skills that equip graduates for a rapidly evolving market.

The gauge of quality education is influenced by the competence and motivation of teachers and researchers. Institute is well aware of this fact and extends every possible help to its staff to go that extra mile to achieve quality in education. Virtuous working conditions, including transparent and fair procedures, good initial and continuing professional skill development of students and recognition of teaching and research excellence, are essentially followed to ensure that Institute produces the high quality academic outputs as set out in its vision and mission statements.

It has been a thoroughly engrossing experience documenting the SSR which wouldn't have been possible without the whole hearted support of my staff especially the Institutes NAAC and IQAC committees. I am sure that the evaluation of our Institute by the NAAC peer team during its visit will provide us additional objectivity to our goals. Accept our warm regards and I gladly welcome the peer teams' visit to our campus.

Dr. R. R. Deshpande

Director

A. EXECUTIVE SUMMARY

The Institute was established on 14th August 1974 and is the only Government administered Postgraduate Education & Research Institute in Marathwada region of Maharashtra. The Institute is located at the foothills of *Satpuda* Mountain Range and the famous Aurangabad Caves of the World famous Caves of Ajanta – Ellora era. It is sprawled over an area of 25 acres of tranquil environment. It is a Government funded Institute affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and managed by Government of Maharashtra through Director of Higher Education, Pune. Institute offers education and research in the subjects viz. Biophysics, Botany (with specialization in Applied Mycology, Medicinal Botany and Pharmacognosy), Biotechnology, Geology and Microbiology leading to M.Sc. and Ph.D. degrees of affiliated university. The foremost intention of founding this Institute was to offer higher education to students belonging to the underprivileged region of Maharashtra. Institute is also a pioneer in introducing M.Sc. courses in Biophysics, Biotechnology, Geology, Microbiology and specializations in Botany viz. Applied Mycology, Medicinal Botany and Pharmacognosy in Marathwada region.

Criterion I -Curricular Aspects

Since its inception the Institute has remained engrossed and devoted to its distinctly stated mission and objectives. It remains true to its mandate of providing quality education in frontline subjects, trying to ameliorate the lack of specialized knowledge and proficiency prevailing in students of the region. Research undertaken at the institute is focused towards developing technology capable of solving problems faced by the agricultural and industrial community locally. These being the highlight of the Institute's vision, mission and objective, they have been clearly stated and displayed in the premises and are well communicated via print and electronic media. Curricula set forth by the affiliating university are implemented with passion by the skilled, qualified and aptly trained faculty aided by well-crafted academic plan designed and followed immaculately. During the execution of the course content adequate attention is laid on curricular, co-curricular and extra-curricular aspects for a well-rounded development of a student with all the necessary knowledge and skills suited to the needs of various employers. The Institute administration plays a proactive role in providing a nurturing environment and modern infrastructure that is catalyzing the flow of knowledge and skills from the Institute's faculty to its students. Collaborations with academia and industries is driving the acquisition of skills and providing a platform of placement

opportunities. The Institute has inked MoUs and have made arrangements with various organizations for academic and research activities. Many students have been placed in different industries on training and job through the vibrant contribution of the Institute's Placement & Training cell. A tab on the quality of teaching and learning process is done by continual acquisition and analysis of inputs from students, teachers and parents through self-appraisal and feedback providing an all-round perspective. The analysis outcomes are shared with the respective individuals providing a mechanism for showing the right direction and scope for further quality enhancement.

Criterion II- Teaching Learning and Evaluation

Students being the soul of the Institute, the Institute follows a well-planned admission process which is systematically publicized and attracts deserving students from across the region. Admission to all the courses is undertaken as per the norms of Government of Maharashtra and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. The admission process is widely publicized through means of an informative and comprehensive prospectus, the same is displayed on the Institutes website along with timely updates of the admission process, also advertisements carrying the details of the process is circulated in all the leading regional Newspapers. The impact of it is such that students get admitted through a smooth process, in a fair and transparent manner resulting in early commencement of the courses. The implementation of State Government reservation policy by the Institute during admissions has resulted in student admissions from the backward community, schedule caste, schedule tribe as well as differently-abled group. Fee concessions or scholarships for socially as well as economically backward and minority students are provided as per the directives of Department of Social Welfare. Admission trends of recent years indicate an overall optimistic trend. The demand ratio for various courses ranges from 1.75: 1 to 6.3: 1 over a four year period. The trends have remained stable and indicate a positive outlook to the courses being offered. One unique student centric initiative implemented at the Institute, which aims to promote independent learning in students contributing towards enhancement of learning quality is the Ready Reference Pattern an innovative method to allow the students to prepare scripts and trump cards by adopting method to write minimum words with maximum illustrations. To sustain teaching quality faculty are sent for workshops on revised syllabi organized by Board of Studies in respective subjects. During the course of last four years faculty have attended in all 14 different workshops, refreshers and orientations to enhance their teaching skills. During the same period, 40 percent faculty acted as resource persons, 06

percent participated and 07 percent of faculty presented papers in Workshops / Seminars / Conferences organized by external professional agencies. Due at large to the teaching-learning environment provided at the Institute the students in the last four years have been able to perform well with their performance ranging from a minimum of 75 percent to a maximum of 100 percent.

Criterion III-Research, Consultancy and Extension

As a part of its mandate the Institute undertakes research in all the five subjects being offered in the campus. Every research activity initiatives of the Institute are routed through a six membered Research Co-ordination Committee consisting faculty members who are recognized research guides. The Director takes decision on matters related to research on the recommendations forwarded by the committee. In the academic year 2013-14 the committee has processed and made recommendations on 34 different applications/proposals. The Institute follows a transparent general process that aids in smooth completion of various research projects undertaken by the faculty. Some of the prominent measures in this regard include purchases through central store as per the requirement suggested by the investigator, permitting the use of infrastructure across various departments of the Institute for research, granting faculty study leave, permitting participation/presentation in conferences held abroad, facilitating timely audit of expenses and submission of grant utilization certificate. Alumni Lecture Series and other student centric activities conducted under the GISA STEP-IN (STudent EmPowerment INitiative) program, wall bulletins created by students and undertaking mini projects are few of the efforts made by the institution in developing scientific temper, research culture and aptitude among students. Eleven faculty of the Institute are research guides and are guiding in all 39 students for Ph.D. degree. In the past 05 years 21 students pursuing Ph.D. degree from Institute were awarded with degrees. Currently 09 major and an equal number of minor projects funded from various National funding agencies are underway among all the faculty of the Institute. Thirty two different programs were successfully organized by the Institute with the focus on capacity building in terms of research and imbibing research culture among the staff and students. Institute lays emphasis on technology transfers and has successfully transferred research outcomes from lab to land in few instances. In all funding of Rs. 121 Lakhs for infrastructure development and research is presently sanctioned for the Institute from different agencies. Academic linkages have been developed with research organizations, Universities and other educational institutions. Students are encouraged to consult experts from these institutions

for their advanced analytical work, training and research problems. Eight Institute faculty are members/advisors on the editorial boards of research journals. In the last five years Institute faculty have generated 108 publications in their respective research areas while 40 publications were listed in International Databases. Nine books have been published by five faculty. One of the faculty was awarded with young researcher award from the Government at the national level. 12 faculty have been recognized by reputed professional bodies and agencies.

Efforts are being taken to initiate student centric activities for their overall development under “STEP-IN” (STudents EmPowerment INitiative), an initiative venture to establish Industry-Institute Advisory Forum, and implement action programs for Human Resource Development in respective fields. Consultancy services are implemented as per the Resolution of Government of Maharashtra. Various Departments of this Institute render in all 15 different consultancy services as per the expertise available. As part of extension and outreach, Institute organized 05 different programs amounting to Rs. 15.5 Lakhs creating scientific awareness, scientific temper, social sensitization inculcating social responsibility and leadership qualities amongst the students at large. Under the NSS program, the Institute adopted two villages, viz. Waladgaon and Gavdari Tanda in Aurangabad Taluka and rendered services for the improvement of the village along with the participation of villagers. Students participated in digging of continuous contour trenching (CCT) and check dams and creating awareness of water conservation and watershed management amongst the villagers. Two MoUs was signed by the Institute for academic and research activities with university and college from the region. Forty five students were placed in different Industries /Institutions and organizations.

Criterion IV- Infrastructure And Learning Resources

The institute has a clear policy of augmenting infrastructural facilities as a spur for ensuring academic excellence. New infrastructure is created and existing upgraded to enhance academic standards and increase efficiency. Constant and proper monitoring of infrastructure has helped the optimal usage of the existing facilities. Each department of the Institute has two separate classrooms, one faculty chambers, one staff room, two laboratories, one separate research laboratory, one Instrumentation facility, one girls’ common room, one boys’ room, one departmental library, one store room and one dark room. There is a common multipurpose Hall/auditorium with a sitting capacity of three hundred which is used for conducting annual social gathering and conferences, workshops, meetings and other

academic events. Further there is a playground, one Botanical garden, a Central Computing Centre, central library along with a reading room, separate administrative block, parking area and separate boy's and girl's hostel. LCD projector, copier, computer with internet connectivity, scanner, fax machine, video camera and still camera are available for academic support. Various sports events and extracurricular activities are organized at the Institute ensuring a holistic development of the students. The major sports events are conducted throughout the year by the Institute sport in charge headed by independently constituted sport Committee. The students are encouraged to participate in intercollegiate and University sports events including indoor and outdoor games, youth festival etc.

Ladies hostel has a capacity of 60 inmates and has a common room, warden's residence and necessary amenities are available in the hostel. The boy's hostel has a capacity of 60 inmates, a warden's residence, playground, common room along with basic amenities are available in the hostel. Monthly visit of ladies and Gent's doctor is arranged. In emergency Hostel's rector arranges to admit the student to Government Medical Hospital, Aurangabad. Director's quarter and quarters for class – 4 employees are available on the campus. The Institute has 24 X 7 security guards. The services of the security are outsourced from security agency. Spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, recreational spaces for staff and students, safe drinking water facility etc. exists as Common Facilities on the campus.

The Institute has constituted Library committee, which advises the overall functioning of the library - purchase / subscription of the books, journals etc. required by each Department. Open-access in library is available for all the users. SOUL WEB OPAC with one terminal is installed for collection searching. The library augments its collection by subscribing to INLIBNET's N-LIST Package for e-books and e-journals. The library has 04 computers for public access. Users are also allowed to use the computers to access the e resources and to use internet facility. The institute has set up UGC-NRC with broad band internet facility under UGC XIth plan merged schemes. Every department and library is connected with individual VPN connectivity for browsing on internet.

Criterion V: Student Support and Progression

Institute is aware of the fact that a strong student support system helps them to sustain the high level of motivation and focus needed to succeed in higher education, hence Institute strives to provide and has put in place support mechanisms in every possible way. The

support extends from admission to completion of course and beyond. An informative prospectus guides a student during the admissions. For students of weaker section support in fees in the form of scholarships and fee concession is provided Viz. Central Government: Govt. of India scholarship for SC and ST students, National Merit Scholarship, State Government : Eklavya Merit Scholarship, EBC (Fee Concession), PTC (Fee Concession), Scholarship for NT & OBC, Open Merit Scholarship, Research fellowship: Three fellowships are provided from the Director, Higher Education, Pune, on merit basis to full time research students of this Institute. Some of the measures apart from teaching that are provided to students are : one to one counseling, special remedial coaching for slow learners, regular assignments – class tests, tutorials, monitoring student’s attendance, promoting students to participate in seminars, workshops, in-plant training programs, field visits, study tours and outreach activities. Further guidance for various competitive exams is provided as a result many students regularly qualify these examinations. There is a functional Placement and Training Cell.

Criterion VI- Governance, Leadership and Management

Good working conditions, including transparent and fair procedures, good initial and continuing professional skill development of students and recognition of teaching and research excellence, are essentially followed to ensure that Institute produces the high quality academic outputs as set out in its vision and mission statements. Since the Institute is managed by the Department of Higher Education, Government of Maharashtra, the required infrastructural facilities are provided by the Government. The Director essentially acts as a liaison by submitting proposals to the Director of Higher Education (DHE) and the Government and pursues the proposals at DHE and Government level so as to enhance the processing towards sanction of grants. The grants thus received are disbursed amongst the Departments for effective implementation of the proposals following the Government norms and prescribed procedures. The faculty members are involved in the overall development of the students by organizing student-centric events. The quality of research is maintained by publishing papers in peer reviewed journal, motivating research students to participate in State, National as well as International symposia/conferences and also taking efforts by forwarding proposals for procuring necessary funds from various funding agencies like UGC, DST, DBT, ICMR, etc.

The Director and the faculty meet regularly in designing and implementation of quality, plans and policy. Recently, Local Advisory Committee has been established for the Institute by the Government, which in its first meeting, forwarded various suggestions regarding administrative, financial, educational and student centric activities leading to uplift the Institute.

The Secretary and Joint Secretary, Higher Education conduct meeting of the Directors/Principals to review the institutional progress. The Director of Higher Education coordinates these meetings and is regularly in contact with Director of the Institute to sort out various issues. The assessment of the Institute's performance through Key Performance Indicators (KPI) is submitted by the Director to the DHE, Pune and discussed in the State Level Review Meetings.

Teachers are provided with essential laboratory and library facilities for upgrading their knowledge and carrying out research. They are also encouraged to seek funds from various funding agencies and interact with scientific community through presentation of their research work at conferences, seminars, symposia and workshops. All financial resources are made available for the Institute by the State Government under the Plan and Non-plan Budgets.

In addition to funding from Government, the Institute has put forth the proposals for funding from UGC, DST and Ministry of Environment and Forests at central government level and from Rajiv Gandhi Council for Science and Technology, Government of Maharashtra. The Institute received grant of Rs. 12.26 Lakhs under XIth plan (2007-2012) from UGC and Rs. 50 lakhs from DST under FIST Scheme for the period (2012-2017). Recommendations by the IQAC is acknowledged and incorporated regularly.

Criteria VII- Innovations and Best Practices

Innovations introduced during the last four years which have created a positive impact on the functioning of the college include effective internal assessment system since 2003 consisting of tutorials, seminars and their evaluation by teachers followed by intimation to students. Inculcating and nurturing the research aptitude via introduction of independent paper on Research Methodology and Communication Skills and one mini-project per semester per student, effective practice for review writing, method standardization, data analysis, etc. Visiting faculty and alumni are invited in the Institute for expert lectures, regular organization of In-plant training/demonstration in hospitals, visits to industry and research organizations, field study, participation in conferences, summer projects, guidance

for the NET/SET and other competitive examinations, emphasis on the utility of e-resources, viz. e-books, multimedia presentations, powerpoint presentations, informal/concept notes, reviews, protocols, virtual presentations, use of software. Library orientation has been newly introduced to nurture students for effective use of library resources.

Best practices of the Institute include Providing Experiential Training to the students and nurturing value-based education that teaches social responsibilities and good citizenry.

SWOC Analysis of the Institute

STRENGTH

- Young Dynamic & Qualified teaching staff.
- Separate classrooms and well equipped practical laboratories for M.Sc. Part 1 & 2 year students.
- Central Computing facility under DST-FIST programme.
- Stable and high demand ratio for the courses.
- Exhaustive efforts supporting institute's vision and mission with established policies.
- Experienced, Staff contribute in designing curriculum at affiliating universities.
- Courses have elaborate and Competent syllabi that is enriching and preparing the students for successfully qualifying different national and global competitive examinations viz. NET, GATE, SET, GRE-TOFEL
- Participation of faculty at all levels of institutional governance.
- Frequent visits of Alumni occupying key positions in academics and research organizations and their interaction with students boosts the morale and builds up the confidence, logical approach and knowledge .
- The students are encouraged for participating in National/ International conferences, workshops and symposia for elaborate academic exposure.
- Majority of faculties with Ph. D.
- Student-centric academic planning and implementation
- Career oriented curricula and guidance.
- Instrumentation facilities open for all students, researchers of Institute and other organization.
- Groundwater exploration consultancy to farmers and gamma irradiation facility are effective extension services to community.

- Implementing students centric activities leading to overall development of students.
- Designing of need based curriculum after interacting with alumina, industrial officials/experts and other subject related organizations.
- A positive industry-Institute coordination for mutual benefits.
- Recommending students for In-Plant Training, Summer Training, workshops, Skill Development programme, Seminars etc.
- Functional Placement and Training Cell.
- GISA initiative alumina lecture series/ interaction for overall development of the students
- Recognized Research Centre of affiliating university.
- Eleven faculty of the Institute are research guides and are guiding in all 39 students for Ph.D. degree.
- Presently 09 Major research Projects and 09 Minor Research project are ongoing in the institute.
- There are 108 Research papers published within last five years.
- Employment through placement cell by arranging campus interviews and other interactive efforts.

WEAKNESS

- Limited/ inadequate funding for purchase of sophisticated equipment.
- The conservative mind set-up of the students and lack of awareness about the contents and prospects of the interdisciplinary subjects offered in campus, poor economic background are a constraints in enrolling, affecting flow of deserving students.
- Inadequacy of experienced teaching staff due to vacant teaching positions.
- The housekeeping within the department is affected due to abolishment of the nonteaching posts (laboratory staff), resulting in overburdening the teaching staff, hampering their own research work.
- Lack of separate funding for executing house projects

OPPORTUNITY

- Further scope for Placement of maximum students for summer trainings
- Empowerment of the students from under privileged Marathwada region in the interdisciplinary science like Biophysics, Biotechnology and Microbiology to conquer over national/global challenges.

- Inculcation of multi-skills in emerging biosciences/medical sciences/ life sciences and agricultural sciences.
- Developing consultancy services in emerging field to provide extension services and generate resources.
- Nurturing and Providing direction to hidden talent of the students.
- With a provision of additional teaching staff and filling up vacant teaching and nonteaching posts, a training in novel specializations can be effectively initiated.
- Geology Department has opportunity to promote and establish research for creating socioeconomic impact in water conservation, ground water survey and water quality assessment etc.
- Faculty can acquire additional qualifications in allied fields by pursuing their Post-Doctoral research.
- Developing consultancy services in emerging field to provide extension services and generate resources.
- Training in novel specializations like Nanobiotechnology, Nanomedicine, Environmental microbial technology, Genetic engineering instrumentation, and Bioengineering can be effectively initiated.
- Departments have potential to establish further Interdisciplinary activities in teaching and research.

CHALLENGES

- Departments face difficulties in development due to constrain in finances, man power (non-teaching staff) and also space.
- Rapid advances in science and explosion of information putting enormous stress on existing curricula and infrastructure
- Need for high value up gradations in content and infrastructure in resource constraint environment
- Slowdown of economy affecting job prospects offering attractive remunerations leading to drop in highly motivated students.
- Increased need to create awareness about the inter- disciplinary nature and the available career opportunities in courses offered at Institute.
- Need to enrich research in through collaborations with established research institute.

- Establishment of Sophisticated Instrumentation laboratory with availability of state-of-art instrumental, procedural and computational facility.
- Filling of vacant position, getting more funds to enable for maintaining and improving department position in current competition so as to sustain students interest in courses offered at Institute.



PROFILE OF THE INSTITUTE



Part-I : INSTITUTIONAL DATA

A. PROFILE OF THE INSTITUTION

1. Name and address of the college :

Name : Government Institute of Science.
Address : Caves Road , Nipat Niranjan nagar,
City : Aurangabad.
Pin : 431 004
State : Maharashtra
Website : www.inosca.org

2. For communication :

Designation	Name	Telephone with STD code	Mobile	Fax	Email
Director	Dr. Ravindra. R. Deshpande.	Office: 0240-2400589 0240-2400586 Residence : 0240-2351032	+91- 9823867880	0240- 2400103	director@inosca.org iqacgis@gmail.com rr.heritage.bio@gmail.com
Steering committee Coordinator	Dr. Swati A. Peshwe.	Office : 0240-2400586	+91- 9890135720	0240- 2400103	swatipeshwe@rediffmail.com iqacgis@gmail.com

3. Status of the Institute :

Affiliated College :

4. Type of Institution :

a. By Gender

I. For Men

Ii. For Women

iii. Co- education

b. By shift

i. Regular

ii. Day

iii. Evening

5. Is it a recognized minority institution?

Yes / No :

If yes specify the minority status (Religious/ linguistic/any other) and provide documentary evidence.

6. Source of funding :

Government :
Grant –in aid

Self financing
Any other :

7. a. Date of establishment of College : (14 /08/1974)

University to which the college is affiliated:

Affiliation certificate is attached as Annexure I

8. Details of UGC recognition :

Under Section	Date , Month and Year (dd-mm-yy)	Remarks (If any)
i 2 (f)	05/01/1980	Institute was established in 1974 and recognition under 2f and 12B of the UGC Act 1956
ii 12 (B)	03/09/1985	The Institute fulfills all the conditions as specified in Section 2f and 12 B .Hence its name figures at Sr.No . in the list of recognized institutions displayed on UGC website.

Annexure II (Enclose the Certificate of recognition u/s2(f)and 12(B) of the UGCAct)

9. Details of recognition/approval by statutory/regulatory bodies other than UGC(AICTE,NCTE,MCI,DCI,PCI,RCI etc.) : NA.

10. Does the affiliating University Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?

Yes No

11. If yes, has the College applied for availing the autonomous status?

Yes No

(Since Institute is governed by State Government, proposal for approval is submitted to the Government)

12. Is the college recognized by UGC as a college with Potential for Excellence(CPE)?

Yes No

If Yes, date of recognition:

13. For its performance by any other governmental agency?

Yes No

14. Location of the campus and area in sq.mts :

Location*	Urban
Campus area in sq.mts.	101171.41 m ²
Built up in sq. mts.	1223.9 m ²

15. Facilities available on the campus (Tick the available facility and provide numbers or other details at appropriate places) or in case the Institute has an agreement with other agencies in using any of the listed facilities provide information on the facilities covered under the agreement.

Auditorium /Seminar complex with infrastructural facilities: Yes

Sport facilities:

Play ground : Yes

Swimming pool : No

Gymnasium : No

Hostel : Yes

Boys' hostel : One

Number of inmates : 60

Facilities (mention available facilities)

Lodging , Boarding, recreation and medical facility

Girls hostels : One

Number of inmates : 60

Facilities (mention available facilities)

Lodging, Boarding, recreation and medical facility

Working women's hostel: No

Number of inmates : NA

Facilities (mention available facilities)

16. Residential facilities for teaching and nonteaching staff (give numbers available- cadre wise)

Government provides residential accommodation to its teaching and nonteaching employees in Government colonies, located at various places in Aurangabad. While Director's bungalow with out house , guest house , Ladies hostels' rector quarter and quarter for non teaching staff are available in campus.

17. Cafeteria : No

18. Health centre staff : No

19. First aid, Inpatient, Outpatient, Emergency care facility, Ambulance

Health Centre staff :

27. Details of programmes offered by the college (Give data of current academic year)

Sr. No	Program Level	Name of the programme /Course	Duration	Entry qualification	Medium of instruction	Sanction / approved student strength		No of student admitted	
1	UG	NA							
2	PG	M.Sc. by papers	02 yrs.	Graduation in respective subjects for Microbiology, Botany, Geology While any science graduate for Biotechnology and Biophysics.	English	For both M.Sc. I & II each	M.Sc. I	M.Sc. II	
		Biophysics					20	09	11
		Biotechnology					20	20	21
		Botany					20	20	10
		Geology					20	23	16
		Microbiology					20	21	19
3	Ph.D.	Biophysics	3-5 yrs.	M.Sc. in respective subject NET/SET/PE T/GATE etc	English	08/guide	03		
		Biotechnology					03		
		Botany					08		
		Geology					03		
		Microbiology					09		

28. Does the college offer self –financed Programmes?

Yes No

If yes, how many?

29. New programmes introduced in the college during the last five years if any?

Yes		No	✓	Number	
-----	--	----	---	--------	--

30. List the departments: (respond if applicable only and do not list facilities like Library, Physical Education as department, unless they are also offering academic degree awarding programmes. Similarly, do

not list the departments offering common compulsory subjects for all the programmes like English, regional languages etc.)

Particulars	UG	PG	Research
Science	NA	Biophysics Biotechnology Botany Geology Microbiology	Biophysics Biotechnology Botany Geology Microbiology
Arts		NA	
Commerce		NA	
Any Other not covered above		-	-

31. Number of programmes offered under (programme means a degree course like B.A., B.Sc., M.A., and M.Com...)

a. Annual system

b. Semester system

01 (M.Sc.)

c. Trimester system

32. Number of Programmes with Credit Based semester System :

None

Inter/ Multidisciplinary Approach

00

Any other (Specify and provide details)

NA

33. Does the college offer UG and/or PG programmes in Teacher Education?

Yes

No

34. Does the college offer UG or PG programmes in physical

Education? : No.

35. Number of teaching and non teaching positions in the Institute

Positions	Teaching faculty						Non teaching staff		Technical staff	
	Professors		Associate professor		Assistant professor					
	M	F	M	F	M	F	M	F	M	F
Sanctioned by the State Government	04		10		19		15*			
Recruited	01	01	04		06	05	13	01		
Yet to recruit	02		06		04		01			
Sanctioned by the Management/society or other authorized bodies.	NA		NA		NA		NA		NA	
Recruited	NA		NA		NA		NA		NA	
Yet to recruit	-----		-----		-----		-----		-----	

*Additionally 05 non-teaching staff is working.

36. Qualification of the teaching staff:

Higher qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent teachers							
D.Sc./D.Litt.	-	-	-	-	-	-	-
PhD.	01	01	04	-	03	04	13
P.G.					04	01	05
Temporary teachers							
Ph.D.							
M.Phil.							
PG						01	01

Number of Visiting/ Guest faculty engaged with the College :

09

- Furnish the number of the students admitted to the college during the last four academic years:

Categories	2011-12		2012-13		2013-14		2014-15	
	Male	Female	Male	Female	Male	Female	Male	Female
SC	26	12	23	10	13	15	10	19
ST	00	02	01	01	02	01	04	03
OBC	15	18	15	12	28	11	16	11
General	37	39	37	49	47	49	49	41
Others	12	03	13	03	18	03	07	07

37. Details on student enrolment in the college during the current academic year:

Type of students	UG	PG	M.Phil.	Ph.D.
Students from the same state where the college is located	--	166	---	25
Student from the other states of India	--		----	-----
NRI students	--		---	----
Foreign students	--	03	---	-----
Total	---	169	---	25

- Dropout rate in UG and PG (average of last two batches):

UG PG

- Unit cost of education :

(Unit cost = total annual recurring expenditure (actual) divided by total number of students enrolled)

a) Including the salary component :

b) Excluding the salary component :

38. Does the college offer any programme / in distance education mode (DEP)?

Yes No

➤ Provide Teacher-Student ratio of the programme / course offered :

Sr.No.	Department	No. of teachers	No. of Students	Ratio
1	Biophysics	02	20	1:10
2	Biotechnology	06	20	1:3.3
3	Botany	02	20	1:10
4	Geology	04	20	1:05
5	Microbiology	06	20	1:3.3

39. Is the College is applying for Accreditation :

Cycle 1 Cycle 2 Cycle 3 Cycle4

➤ **Date of accreditation*(applicable for Cycle2, Cycle3, Cycle4 and re- assessment only):**

Cycle 1: 16.09.2004 Accreditation / Result B⁺⁺

- *Enclosed copy of accreditation certificate and peer team report as an annexure.*

Enclosed as Annexure III

40. Number of working days during the last academic year:

41. Number of teaching days during the last academic year:

Teaching days means days on which lectures were engaged excluding the examination days :

42. Date of establishment of Internal Quality Assurance Cell (IQAC):

15.01.2005

43. Details regarding submission of Annual Quality Assurance Reports (AQAR) to NAAC:

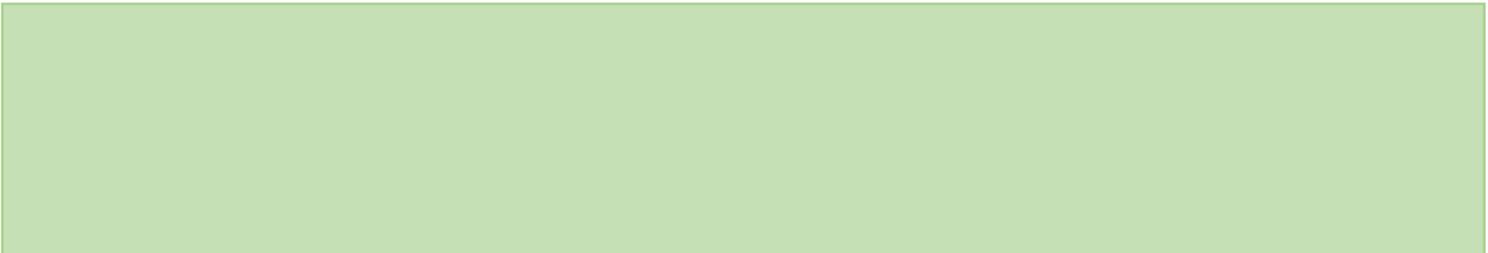
AQAR (i)	10/06/2014
AQAR(ii)	10/06/2014
AQAR(iii)	10/06/2014
AQAR(iv)	10/06/2014

44. Any other relevant data(not covered above)the college would like to include.(Do not include explanatory/descriptive information) :

Nil



CRITERIA I: CURRICULAR ASPECTS



B. CRITERIA-WISE ANALYTICAL REPORT

CRITERION I: CURRICULAR ASPECTS

1.1.1 State the vision, mission and objectives of the Institute. Describe how they are communicated to the students, teachers, staff and other stakeholders.

Vision: ACCELERATING SCIENCE EDUCATION FOR HUMAN WELFARE

- The Institute of Science, Aurangabad will be the world class Science Institute, pursuing for academic and scientific excellence, catering to the needs of global community, striving for its harmonious development by inculcating lifelong learning skills to serve for the socio-economic development having concern for ecology and social harmony.

Mission:

- To develop citizens with scientific temperament, moral and ethical values and multifaceted proactive personality by providing quality education.
- Institute of Science will very soon opt for autonomy.
- Institute will evolve system(s) to provide quality education to suit local, regional, National needs and needs that will arise due to globalization.
- Institute will grow in multi directions with innovative approaches to serve community at large in front line areas in this new millennium in the field of Science and Technology.
- The Institute will provide practical based training to cater the needs of the industries.
- To develop and strengthen Industry-Institute participation directly in teaching, learning processes and financial aspects of the Institute.
- To start the new departments that will suit our goals, mission and objectives.

Objectives:

- To fulfill the backlog of higher education of the region in the emerging areas of science.
- To cater higher education and training in front-line areas of science, that will have strong vocational value and job potential.
- To generate human resources, so as to fulfill the local needs of industrial growth.
- To enable the students of Marathwada region to enter into national level competition in the field of Science and Technology.
- To impart quality and value-based education.
- To help the students to discover and tap their fullest potential while becoming properly integrated personalities, who will emerge as responsible and productive citizens of India.
- To consciously gear all its academic activities to sustainable environmental practices encompassing land, water and its flora and fauna.
- To transfer the technology from laboratory to field.
- To extend the expertise services to solve the local problems relating to agriculture and industries.
- To propagate and to make awareness of science education.

The vision, mission and objectives are communicated through display-boards of all the departments, official website of the Institute at www.inosca.org, the Institute's prospectus and through various meetings with the students, staff, parents and alumni).

1.1.2 How does the Institute develop and deploy action plans for effective implementation of the curriculum? Give details of the process and substantiate through specific example(s).

- The Institute follows the curriculum designed by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
- At the beginning of every academic year, all the departments prepare an academic calendar, teaching plan and time table to be implemented during the year.
- The Institute encourages the teachers to attend workshops and orientation program organized by the Board of Studies in respective subjects to acquaint themselves with the depth of theory, practical, and the reference material.
- Teachers are made in charge of various aspects of curriculum with respect to planning and execution, a teacher is in-charge of group of student and guides them for seminars and projects, right from reviewing of literature to presentation.
- Continuous monitoring of the students as a part of internal assessment.
- Undertaking field visits to understand concepts, in Geology and Biological sciences.
- Industrial visits to understand production, technical and manufacturing processes.
- Every department submits their plan for organizing lecture of eminent personalities/scientist to promote the students to choose research career.

1.1.3 What type of support (procedural and practical) do the teachers receive (from the University and/or Institute) for effectively translating the curriculum and improving teaching practices?

- The Institute prepares an Academic Calendar that specifies the curriculum to be taught by a teacher, duration of the session, the date of commencement of internal and external examination.
- The Institute receives regular circulars, letters and emails from the University regarding the changes or modifications in the curriculum. Thus the faculty members receive all sorts of support from the University and Institute to understand the curriculum properly.
- When University implements new patterns of the syllabi, the University organizes workshops for effective implementation of the curriculum for the teachers. The Institute encourages its faculty to organize and participate in such workshops.
- Various departments of the institute have their collection of teaching videos, virtual labs which aids in regular class room teaching.
- The Faculty Development Program on ICT based teaching-learning provide further scope for dynamism in curricula designing and restructuring. Industrial experts and academic bodies have contributed to the initiation of new age program.
- The Feedback on curriculum obtained from students, academic peers, parents and stakeholders have facilitated changes of the curriculum, innovative initiatives and ensured continuous growth.
- The faculty members of the Institute are allowed to include books, reference books, and journals of their subject as per their requirement. The faculty members are

having the facilities such as computer, internet, photo copying, printing, scanning etc. available in each department of the Institute.

- The teachers are encouraged to participate in orientation courses, refresher courses, workshops, teacher training programs conducted by Academic Staff College and other organizations from time to time.
- Teachers are motivated to participate / organize various workshops/seminars/conferences for updating knowledge pertaining to the current issues and recent trends in various subjects.
- Teachers are encouraged to use various modes of teaching such as seminars, power-point presentation, projects, assignments, tutorials excursions and industrial visits.
- State Training Policy (STP), Foundation Training Programme (FTP) for newly recruited Gazzeted officers at YASHDA, Pune.
- Five faculty are pursuing Ph.D.

1.1.4 Specify the initiatives taken up or contribution made by the Institute for effective curriculum delivery and transaction on the Curriculum provided by the affiliating University or other statutory agency.

The Institute contributes to effective curriculum delivery and transactions, by:

- Providing teachers with the relevant reference material in form of books, e-journals as well as an access to internet facilities to enhance their knowledge of the subject which in turn would aid in effective delivery of the curriculum.
- Providing reference material and practical protocols to Board of Studies for orientation of the teachers on new curriculum.
- Conducting workshops/ preparatory tests for NET-SET examination to help the students of the Institute with the syllabus.
- M.Sc. students having dissertation/ project as a part of their curriculum in various subjects so as to provide a platform for these students to get acquainted with research skills.
- Students are placed for summer training in various research Institutes/ industries.
- Faculty members are encouraged and provided with ICT facilities for effective subject communication and efforts are made to sensitize and create awareness of the need for ICT in education.
- Class rooms of the Institute building are furnished with LCD/Projector/ audio video system. Institute's every department has Internet access through cable network. This facility is provided to all faculty members, research scholars and students of the departments to keep them updated in their respective subject.
- Courses in all the subjects offered by the Institute have been updated and made relevant in consonance with the University curriculum (both theoretical and practical components) which ensure the development of practical skills based on theoretical knowledge, problem solving exercises, field studies/visits, case studies, surveys and excursions including industrial visits, hands-on experience, and project works ensure skill development in relevant subject-areas of study.

1.1.5 How does the Institute network and interact with beneficiaries such as industry, research bodies and the University in effective operationalization of the curriculum?

- The Institute constantly keeps in touch with its affiliated University. Regular formal and informal meetings are conducted throughout the academic sessions to keep abreast with the latest trends in their fields of study.
- Experts from the University/ Industry/ Institutes are invited for discussions, workshops and for professional interactions with the faculty members. Many new things are acquired and also communicated by our Faculty members during Board of Studies meetings in the University. Moreover, most of our faculty members participate in workshops, seminars and conferences at State, National and International levels, thereby inculcating the ability for curriculum development and its effective implementation.
- The Institute collaborates with NGOs, other Institutes and the University in organizing seminars and workshops which address the curriculum, directly or indirectly. The Placement and Career Counselling Cell of the Institute organize program related to various disciplines with different industry/organization.
- Department of Geology have signed a Memorandum of Understanding (MoU) with School of Earth Sciences, SRT University, Nanded. Department of Microbiology have signed MoU with Yogeshwari Mahavidyalaya, Ambejogai.
- Academic linkages with VSBT, Baramati; Govt. Medical College, Aurangabad; Pharmacy Colleges, Aurangabad, ONGC, Vadodara and MRSAC, Nagpur, Aditi Infotech, Nagpur, WIHG, Dehradun, RRSC, Nagpur, Paul Hebert Centre For DNA Barcoding and Biodiversity Studies, Aurangabad, IIT Powai, Mumbai, Academic Staff College, Dr. Babasaheb Ambedkar Marathwada University Aurangabad, SRTMU Nanded, Mumbai University, Mumbai, Barkatullah University, Bhopal, Kakatiya University, Warangal.
- Analytical assistance is availed from other research laboratories for the research work.
- Xcelris, Ahmedabad has linked up with the Institute for culture identification facility..

The staff and research students interact with the industrial units and research laboratories in order to obtain relevant knowledge and assistance. Moreover instrumentation facility is also made available to research students of other departments. The faculty members are invited by other Institutes and academic staff colleges for delivering talks. The faculty members are nominated as Ph.D. referees by other Universities. The faculty members are invited for guest lecture/placement/Expert for JRF interview/inauguration of Conference/Resource persons /Examiners in other University/ in various academic organizations. The academic linkages with local Institutes, hospitals, laboratories are developed to encourage the training in various practical aspects and skills within the subject

1.1.6 What are the contributions of the Institute and/or its staff members to the development of the curriculum by the University?

The Institute cannot design the curriculum, being a college affiliated to the Dr. BAMU, Aurangabad. The curricula are framed by the Board of Studies of concern subjects and approved by the Academic Council of the University. The Institute has to abide by and follow the curriculum designed by the University. Some faculties of our Institute are selected as the members of such University committees. For instance;

CRITERIA-I CURRICULAR ASPECTS.....

Sr. No.	Name of Faculty	Department	Post held
1	Dr. S. M. Deshpande	Geology	Chairman, Board of Examinations in Geology Member Ad-hoc Board in Geology, Member Research Recognition Committee in Geology
2	Dr. M. A. Sonar	Geology	Member, Ad-hoc Board in Geology
3	Dr. Mrs. S. A. Peshwe	Microbiology	Member, Ad-hoc Board in Biotechnology
4	Dr. A. G. Jadhav	Microbiology	Member, Ad-hoc Board in Bioinformatics
5	Dr. Mrs. S. M. Dharmadhikari	Microbiology	Member of the Board of Studies in Microbiology
6	Dr. Sahera Nasreen	Botany	Invited Member for designing syllabus of Botany. Chairperson for paper setting.
7	Dr. A. N. Salve	Botany	Invited Member for designing syllabus of Botany
8	Shri. S.G. Kulkarni	Biophysics	Chairman of Ad- hoc Board in Biophysics
9	Mrs. V.N. Wadekar	Biophysics	Member of Ad- hoc Board in Biophysics

They contribute in designing and revising of the University syllabi of the courses. The University organizes workshops, and seminars with all faculty members in different

capacities from different colleges affiliated to the University, where information and feedback for appropriate inclusion is also discussed.

1.1.7 Does the Institute develop curriculum for any of the courses offered (other than those under the purview of the affiliating University) by it? If 'yes', give details on the process ('Needs Assessment', design, development and planning) and the courses for which the curriculum has been developed.

NO

1.1.8 How does Institute analyze/ensure that the stated objectives of curriculum are achieved in the course of implementation?

- The feed-back is taken from students, their parents and alumni. Based on this feedback, valuable suggestions are made to the teaching faculty, as well as Board of Studies in different subjects. Academic-result-graph over the years (academic sessions) annual performance indicator (API) and self-appraisal of every faculty is utilized to assess the progress.
- The prescribed syllabus of the respective subjects is duly completed within the stipulated time and a record of the same is maintained by each department. Further, the degree of achievement of curriculum objectives is analyzed by:
 - Student's assessment through class tests, seminars, assignments, tutorials and short term projects.
 - Student's feedback on curriculum.
 - Teacher's feedback on curriculum.

1.2 Academic Flexibility

1.2.1 Specifying the goals and objectives give details of the certificate/diploma/ skill development courses etc., offered by the Institute.

No, the Institute does not offer such a program.

1.2.2 Does the Institute offer program that facilitate twinning /dual degree? If 'yes', give details.

No, the Institute does not offer such a program.

1.2.3 Give details on the various Institutional provisions with reference to academic flexibility and how it has been helpful to students in terms of skills development, academic mobility, progression to higher studies and improved potential for employability. Issues may cover the following and beyond:

M. Sc. students are permitted to use the laboratory/ library facilities at their convenience even after hours to facilitate their ongoing dissertation/ project. Similarly, students taking Ph. D. program also avail the same facility. Students use library facilities from 09.30 a.m. to 05.45 p.m., and also additional hours are given during examination period so that more time span is available for students to refer books and journals. Students also make use of Internet facility to prepare for referring work, seminar and notes.

1.2.3.1 Range of Core / Elective options offered by the University and those opted by the college

Sr. No	Subject	No. of Elective in University	No. of Elective in Institute
1	Botany	06	02
2	Biophysics	No University Department	04
3	Biotechnology	NA	NA
4	Geology	NA	NA
5	Microbiology	NA	NA

1.2.3.2 Choice Based Credit System and range of subject options

No, the Institute does not offer such a program.

1.2.3.3 Courses offered in modular form

The Institute follows the courses in the format prescribed by the University.

1.2.3.4 Credit transfer and accumulation facility

No, the Institute does not offer such a program.

1.2.3.5 Lateral and vertical mobility within and across program and courses

No, the Institute does not offer such a program.

1.2.3.6 Enrichment courses

The Institute conducts enrichment program on curricular, co-curricular as well as extracurricular aspects especially those related to social awareness, environment and health to ensure an overall holistic development of the students.

1.2.4 Does the Institute offer self-financed program? If 'yes', list them and indicate how they differ from other program, with reference to admission, curriculum, fee structure, teacher qualification, salary etc.

No, the Institute does not offer such a program.

1.2.5 Does the college provide additional skill oriented program, relevant to regional and global employment markets? If 'yes' provide details of such program and the beneficiaries.

Yes, the Institute conducts program such as:

➤ **Workshop on preparation for NET- SET Examination:**

Two day workshops on preparation and guidance on NET-SET were organized at the Institute in 2011 for the preparation of these exams. The workshops covered the basic

essential aspects for Earth and Life Sciences examination. Experts from various Universities were invited to deliver lectures. All M. Sc. and Ph.D. students participated in the workshop.

➤ **Teacher training workshop:**

Two days skill initiative training program was organized in the Microbiology Department for the under graduate teachers in Microbiology under the aegis of Department Development Fund UGC XI plan sponsored by UGC, New Delhi. The participants were provided hands on training on various sophisticated techniques of Molecular Biology, Immunology and Bioinformatics etc. M.Sc., Ph.D. students and teachers from the Institute as well as other affiliated colleges were benefitted from the workshop.

➤ **Workshop on communication dynamics and interview skills.**

➤ **Seminar on IPR**

One day seminar on IPR and Patenting was organized in the Microbiology Department under the aegis of Department Development Fund UGC XI plan sponsored by UGC, New Delhi.

➤ Microbiology Department had organized a Guest lecture by alumnus Dr. Suman Rawat,

➤ Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities.

1.2.6 Does the University provide for the flexibility of combining the conventional face-to-face and Distance Mode of Education for students to choose the courses/combination of their choice” If ‘yes’, how does the Institute take advantage of such provision for the benefit of students?

No, there is no such a program /combination available in the University.

1.3 Curriculum Enrichment

1.3.1 Describe the efforts made by the Institute to supplement the University’s Curriculum to ensure that the academic program and Institute’s goals and objectives are integrated?

The Institute supplements the University’s curriculum to ensure integration of academic program with Institute goals by:

- Organizing lectures of experts from various fields.
- Organizing study tours and industrial visits.
- Encouraging students for summer training programs in industries and institutions.
- Organizing intercollegiate events like debate competition, seminars and poster presentations.
- Celebration of National Science Day.
- Students are working for Ph.D. degree under interdisciplinary program.
- Pre-University theory exams are conducted to make students accustomed to the pattern of questions and are given suggestions for improvement through individual counseling. This helps to improve the performance and confidence of the students.

1.3.2 What are the efforts made by the Institute to enrich and organize the curriculum to enhance the experiences of the students so as to cope with

the needs of the dynamic employment market?

The Institute is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and follows the curriculum designed by University. However, efforts are taken to enrich the curriculum time to time by taking following measures:

- Encourage students to undertake summer training in various industries and research Institutes to acquaint them with the recent trends.
- Organize workshops to provide students hands-on experiment on various analytical instruments.
- Provides training in communication and soft skills.
- Guidance for dissertation and research project writing.

1.3.3 Enumerate the efforts made by the Institute to integrate the cross cutting issues such as Gender, Climate Change, Environmental Education, Human Rights, ICT etc., into the curriculum?

Efforts are made to integrate cross cutting issues such as gender, climate change, Environmental Educating, Human Rights, ICT by adopting following measures:

- Organization of conferences on issues of environment, IPR and ICT.
- Celebration of various days like Environment, Worlds water day, Biodiversity day, Biotechnology Day, workshop on Sensitization, Awareness and Motivation and arranging lectures of experts in these fields.
- Institute also encourages the teachers and students to adopt, practice and perpetuate ICT wherever possible.
- Organization of residential camps by NSS unit to work on Gender equality, plantation and other social issues.
- We are providing consultancy services for water conservation, monuments preservations, and ground water survey.
- For serving the community and the nation our Institute NSS volunteers participate in various social-welfare activities.

1.3.4 What are the various value-added courses/enrichment program offered to ensure holistic development of students?

Moral and ethical values:

The value-orientated curricula of the humanities give the students opportunities of self-development and lead to their awareness of self-respect, their potentialities, sincerity, honesty and hard-work

Employable and life skills:

Introduction of ICT-oriented curricula in Biotechnology, Microbiology and Biophysics promotes students' awareness towards innovation, creativity and entrepreneurship. Technological advancement and innovations in educational transactions have been undertaken to ensure skill development amongst students, enriching their learning experiences, thus meeting the Global and National demands. Several workshops were organized to build up the technical skill and research aptitude in among students

Better career options:

M.Sc. in basic science subjects, the practical-classes and projects ensure the development of practical skills based on theoretical knowledge. Problem solving exercises, field studies/visits, case studies, surveys, industrial visits, hands on

experience, and project works ensure skill development in relevant subject area of study. Thus, thrust to skills and knowledge component help in employability.

Community orientation

Following Community orientation program were organized through:

- NSS unit
- Blood donation Camp.
- Program on AIDS, Dengue, Malaria awareness.
- Slum cleaning campaigns.
- Women’s health.
- Tree plantation.
- Literacy Camp.

1.3.5 Citing a few examples enumerate on the extent of use of the feedback from stakeholders in enriching the curriculum?

All courses ensure both knowledge and skill development for enhancing competence to face the global scenario. The Institute is having contact with alumni of all the departments and suggestions/ feedback from alumni member are taken to widen the scope of the respective subject. Also every department have organized parent meets, suggestions from them were considered for improve and enrichment.

1.3.6 How does the Institute monitor and evaluate the quality of its enrichment program?

The Director forms various committees to take care of its enrichment program through IQAC. The In-charge of respective programs present the report annually to the Director. The Institute thus, makes sure that the program offered and other extra-curricular and co-curricular activities bear the relevance to some important regional, state, national and global issues and thus, inculcate moral and ethical values among the learners. Moreover, feedback from the stakeholders helps in monitoring and evaluating the quality of the enrichment program.

1.4 Feedback System

1.4.1 What are the contributions of the Institute in the design and development of the curriculum prepared by the University?

Since the Institute is affiliated to the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, the curricula framed by the respective Board of Studies of the University are implemented in toto on approval. The Institute has to abide by and follow the curriculum designed by the University. Some faculties of our Institute are selected as the members of such University committees. For instance;

Sr. No.	Name of Faculty	Department	Post held
1	Dr. S. M. Deshpande	Geology	Chairman, Board of Examinations in Geology Member Ad-hoc Board in Geology, Member Research Recognition Committee in Geology
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3	Dr. Mrs. S. A. Peshwe	Microbiology	Member, Ad-hoc Board in Biotechnology

4	Dr. A. G. Jadhav	Microbiology	Member, Ad-hoc Board in Bioinformatics
5	Dr. Mrs. S. M. Dharmadhikari	Microbiology	Member of the Board of Studies in Microbiology, Member of 32-5, Faculty of Science.
6	Prof. Sahera Nasreen	Botany	Invited member on syllabus committee
7	Dr. A. N. Salve	Botany	Invited member on syllabus committee
8	Shri. S.G. Kulkarni	Biophysics	Chairman, Ad- hoc Board in Biophysics
9	Mrs. V.N. Wadekar	Biophysics	Member, Ad- hoc Board in Biophysics
10	Dr. R. R. Deshpande	Nanotechnology	Member, Ad-hoc Board

1.4.2 Is there a formal mechanism to obtain feedback from students and stakeholders on Curriculum? If ‘yes’, how is it communicated to the University and made use internally for curriculum enrichment and introducing changes/new program?

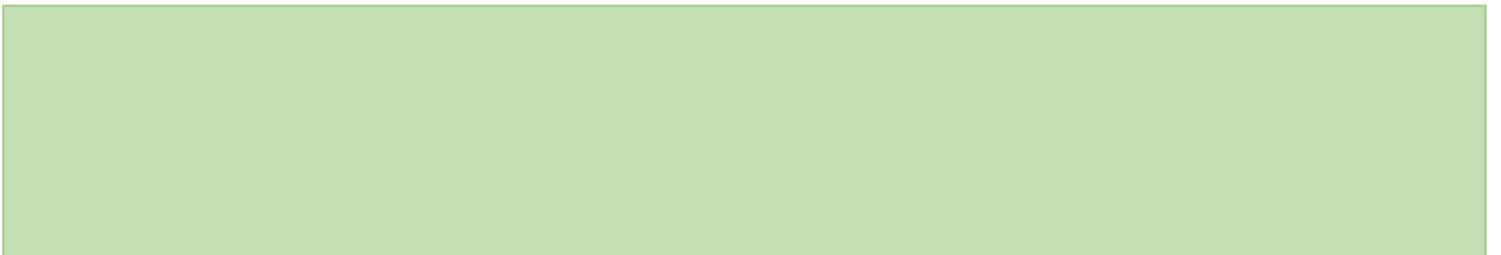
Student feedback is obtained for all the courses conducted in the Institute. The feedback is analyzed and forwarded for evaluation to IQAC committee. The teachers are assessed regularly through the Annual Performance Indicator (API), self-performance appraisal, confidential reports and on the basis of the teaching record, attendance record, annual report and result record.

1.4.3 How many new program/courses were introduced by the Institute during the last four years? What was the rationale for introducing new courses/program?

NIL



CRITERIA-II
TEACHING-LEARNING AND EVALUATION



CRITERION II : TEACHING-LEARNING AND EVALUATION

2.1 Student Enrolment and Profile

2.1.1 How does the college ensure publicity and transparency in the admission process?

The Institute uses various methods to ensure the publicity about the admission:

(a) Prospectus

The Institute publishes an elaborative and instructive prospectus at the beginning of each academic year. It includes detail information about the vision, mission, objectives, profile of the Institute, infrastructure and learning resources, library, courses offered, guidelines for admission, fee structure, rules of discipline and code of conduct, general rules pertaining to attendance, scholarships, free ships, hostel facility and extension activities. Thus, through the prospectus, complete and comprehensive information of the admission process is made known to students and parents.

(b) Institutional website

- The Institute has a updated website: www.inosca.org
- The Institute uploads the prospectus on the website having the information about the admission such as courses and seats available, reservations, schedule of admissions for each course and merit list of admission.

(c) Other modes

After the declaration of graduation results, Institute publicizes the process of admission by the following modes:

- During the visits of our faculty members to other colleges, provide necessary information regarding Institute, courses taught, programs conducted and overall admission process. Students coming for admission are also well counselled by our faculty members. This information is furnished to the faculty of other institutions when they visit to our Institute.
- Advertisement and course information is given in leading regional and state level newspapers.

The Institute ensures transparency in the admission process by following methods:

Monitoring the whole process through Admission Committee:

Every department has an admission committee independently consisting of Head, faculty and representative of the Reservation Cell to monitor the process of selection of students for admission.

Displaying of admission schedule:

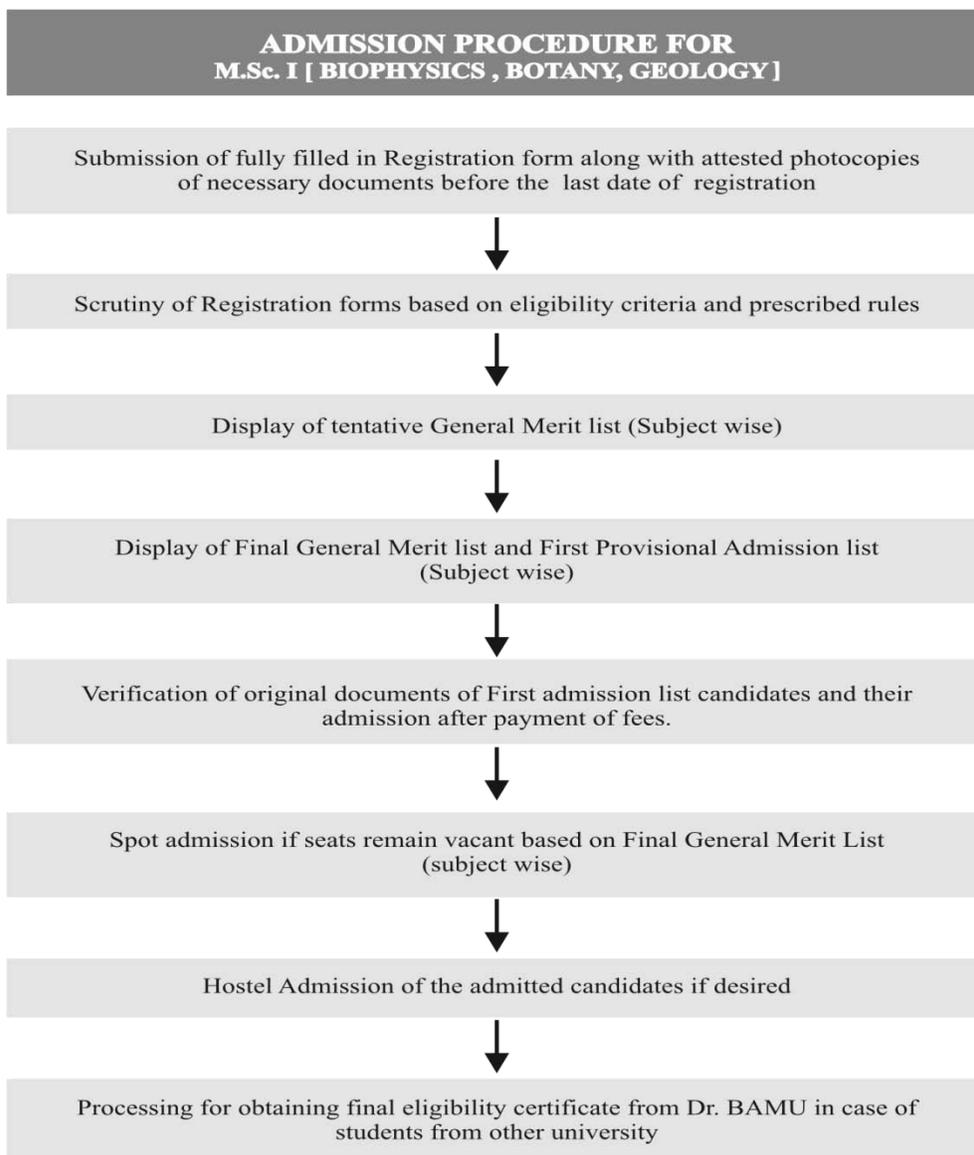
Immediately after declaration of the graduation results of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, the Institute displays information about courses offered, total seats with reservations, schedule of admissions on the notice board and website of the Institute.

Compliance of Government and University Norms for Admission:

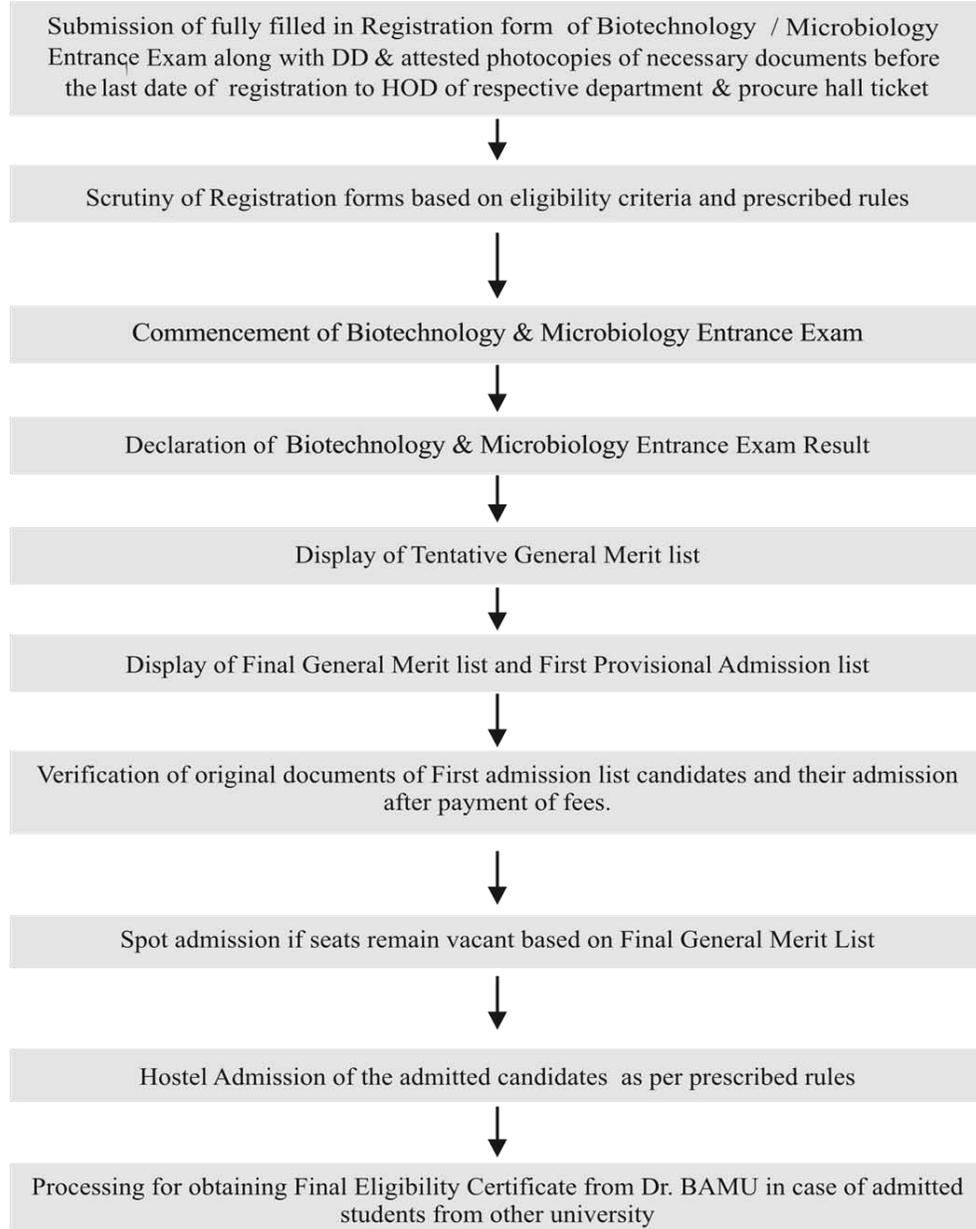
The Institute complies with the norms issued by the affiliating University and Government of Maharashtra about the admission process.

Counselling to Students and Parents by Teachers:

Counselling is offered by the teachers to guide the students about the scope of the subject and admission process.



ADMISSION PROCEDURE FOR M.Sc. I Biotechnology & Microbiology



2.1.2 Explain in detail the criteria adopted and process of admission (Ex. (i) merit (ii) common admission test conducted by state agencies and national agencies (iii) combination of merit and entrance test or merit, entrance test and interview (iv) any other) to various courses of the Institution.

Students for various courses are admitted using either of the following two criteria:

- **Academic merit for admission to Geology, Botany and Biophysics courses.**
- **Common entrance test for admission to Biotechnology and Microbiology courses.**

The main criterion for selection of the student for admission to all courses is academic performance in respective subject and reservation policy of Government of Maharashtra and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

The selection criterion for admission to the various courses is as follows:

- For all courses (except M.Sc. in Biotechnology and Microbiology) the students are selected on the basis of merit at the graduation level and the prescribed eligibility criteria.
- For M.Sc. Biotechnology and Microbiology (Part I), the students are selected through the entrance test.
- Students for Ph.D. Degree are selected as per guidelines issued by the University.

2.1.3 Give the minimum and maximum percentage of marks for admission at entry level for each of the programmes offered by the college and provide a comparison with other colleges of the affiliating university within the city/district.

The following table depicts the cut of percentage for admission at the entry level for the academic year 2013 – 14:

Course M.Sc. I yr	Open		SC		ST		DT/NT		OBC/SBC	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Botany	49.13	69.16	#	39.5	#	60.16	*	*	50.0	65.16
Geology	66.08	84.52	59.00	61.39	55.33	71.00	#	70.25	#	66.75
Microbiology	57.08	91.25	59.33	74.0	*	*	*	*	63.16	78.0
Biotechnology	61.08	83.25	71.00	77.67	#	72.28	67.45	78.61	66.43	79.06
Biophysics	48.16	78.0	51.66	60.5	*	*	#	53.83	#	61.33

- Single student admission

* - No admission

Normally M.Sc. Part I admission are conducted in the Institute, University Departments and affiliated colleges simultaneously and independently. Post Graduate Centre for various subjects of Dr. Babasaheb Ambedkar Marathwada University are placed in University as well as various colleges. Hence, it is not possible to provide a comparison with respect to cut off percentage at entry level.

2.1.4 Is there a mechanism in the institution to review the admission process and student profiles annually? If ‘yes’ what is the outcome of such an effort and how has it contributed to the improvement of the process?

The Director and the admission committees monitors, scrutinizes and takes the review of the status of admission process and students profile periodically. This information is also forwarded to the higher authorities of the government and steps are taken to improvise the process.

Outcome:

1. Fair admission process without any complaints.

2. Earlier commencement of the courses.

2.1.5 Reflecting on the strategies adopted to increase/improve access for following categories of students, enumerate on how the admission policy of the institution and its student profiles demonstrate/reflect the National commitment to diversity and inclusion

- **SC/ST**
- **OBC**
- **Women**
- **Differently able**
- **Economically weaker sections**

Category	Percentage	
(a) Scheduled Castes including those converted to Buddhism	SC	13.0
(b) Scheduled Tribe including those residing outside the specified areas	ST	07.0
(c) Denotified Tribe (Specified 14 and similar tribes)	DT	03.0
(d) Nomadic Tribes (Dhangar and similar tribes as per list)	NT1	02.5
(e) Nomadic Tribes (Per-January 1990 and similar tribes as per list)	NT2	03.5
(f) Nomadic Tribes (Wanjari and similar tribes as per list)	NT3	02.0
(g) Other Backward Classes	OBC	19.0
(h) Special Backward Classes	SBC	02.0

- **Minority community**

(a) Students from SC/ST

- Observance of Reservation Policy

At the time of admission, reservation policy for students from SC/ST category is strictly followed.

- Offering concessions in Fees and scholarships as per the directives of Department of Social Welfare.

(b) Students from OBC

- Observance of Reservation Policy.

At the time of admission, reservation policy for students from OBC category is strictly followed.

- Offering concessions in Fees and scholarships as per the directives of Department of Social Welfare.

(c) Differently-abled

- Observance of Reservation Policy at institute level.

At the time of admission, reservation policy for differently-abled students is strictly followed at the institute level.

(d) Economically-weaker sections

The concessions in fees is offered to the Economically Backward Class students as per the directives of Government of Maharashtra.

(e) Minority Community

- Minority scholarships are offered as per the directives of Ministry of Minority Affairs, Government of India.

(g) Any other (Specify)

Reservation is offered to the wards of Ex-servicemen and Freedom Fighters at Institute level as per the Government and University norms.

2.1.6 Provide the following details for various programmes offered by the institution during the last four years and comment on the trends. i.e. reasons for increase / decrease and actions initiated for improvement.

Programmes	No. of applications				No. of students admitted				Demand Ratio			
	2011-12	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14	2014-15
M.Sc.												
Botany	22	60	64	95	20	20	21	20	1.1:1	3 : 1	3.2 : 1	4.75 : 1
Geology	36	35	68	53	17	20	21	23	2.11 : 1	1.75 : 1	3.23 : 1	2.3 : 1
Microbiology	49	94	81	79	20	21	20	21	2.45 : 1	4.47 : 1	4.05 : 1	3.76 : 1
Biotechnology	116	134	137	126	20	21	22	20	5.8:1	5.90 : 1	6.22 : 1	6.3: 1
Biophysics	25	61	89	31	11	20	20	14	2.72:1	3.05 : 1	4.45:1	2.21 : 1

The trend in the demand ratio is fairly stable across different courses offered.

2.2 Catering to Student Diversity

2.2.1 How does the institution cater to the needs of differently-abled students and ensure adherence to government policies in this regard?

- Institution provides support to the physically disabled students.
- According to the government policies reservations are provided to students with disabilities.

2.2.2 Does the institution assess the students’ needs in terms of knowledge and skills before the commencement of the programme? If ‘yes’, give details on the process.

Every admitted student is assessed with respect to his/her knowledge and skills through one to one interaction by faculty. Depending on the feedback the need-based teaching is planned. Thereafter, the Director, Heads and the faculty appraise the student about the Institute, course pattern, internal evaluation methods, scope of the subject and future prospects.

2.2.3 What are the strategies adopted by the institution to bridge the knowledge gap of the enrolled students (Bridge/Remedial/ Add-on/Enrichment Courses, etc.) to enable them to cope with the programme of their choice?

The Institute adopts the following strategies to bridge the knowledge gap of the entrants in enabling them to cope with the programme to which they are enrolled.

- **Personal Counselling:** Teachers play an important role in personal counselling. The students are counselled to boost their self-confidence and self-esteem.
- **Departmental Meeting:** Periodic departmental meetings are conducted to discuss the overall level of knowledge, skills and progress of entrants.

2.2.4 How does the college sensitize its staff and students on issues such as gender, inclusion, environment etc.?

The institution sensitizes its staff and students on the issues such as gender equality, ragging and creates awareness to maintain and sustain the environment of the Institute with strict rules and regulations. Institute has constituted women's grievance redressal cell, anti-ragging Committee and NSS unit, which organizes programs on gender sensitization and for tackling environmental issues.

2.2.5 How does the institution identify and respond to special educational/learning needs of advanced learners?

On the basis of students' academic performance in curricular, co-curricular, extra-curricular and extension activities, the institution identifies the advanced learners.

- With a view to further enhance the performance and give the challenges to the abilities of advance learners we have adopted the innovative strategies like seminars, personal counselling, industrial training, assigning the responsibilities to conduct activities and encouragement to participate in various competitions.
- Advanced Learners are made Class Representative and members of Students' Council where they are entrusted responsibilities which inculcates leadership qualities and organizational skills. They are provided a platform to voice their opinions, display their creativity and shoulder the responsibility of solving grievances of the student body.
- They are also given the opportunity to organize all events, seminars, workshops by acting as event managers and volunteers.
- They are also encouraged to participate in group discussions, debates, quiz competitions to enhance their interactive skills and expression.
- They are helped with advanced learning material and projects.

2.2.6 How does the institute collect, analyze and use the data and information on the

academic performance (through the programme duration) of the students at risk of drop out (students from the disadvantaged sections of society, physically challenged, slow learners, economically weaker sections etc. who may discontinue their studies if some sort of support is not provided)?

The institution collects and analyzes the information on the academic performance from all the students by evaluating them after each semester by means of class test, assignments, seminars, projects, tutorials and semester examination. The parents/guardians are informed about the attendance and percentage of marks of the students to check the drop outs.

Slow learners are given personal attentions, to boost their confidence and motivated to achieve their goals.

2.3 Teaching-Learning Process

2.3.1 How does the college plan and organize the teaching, learning and evaluation schedules? (Academic calendar, teaching plan, evaluation blue print, etc.)

The academic activities of the college are planned well in advance and they are put into practice at the commencement of the academic year in stepwise manner as given below:

- **Academic Calendar:** Before the commencement of the academic year, every department prepares the academic calendar. It depicts month-wise schedule for lecture and practical hours, co-curricular and extra-curricular activities to be conducted by departments, schedule for internal assessment. It is communicated to students.
- **Teaching Plan:** Every teacher prepares teaching plan at the beginning of the academic year. To prepare a teaching plan, they follow a systematic procedure by taking into account number of teaching days available in the semester, categorisation of syllabus of each subject into units, topics and sub-topics. The teaching plan is elaborately discussed in departmental meeting. The Director and Heads ensure effective execution of teaching plan by taking feedback in staff meetings.

2.3.2 How does IQAC contribute to improve the teaching –learning process?

An IQAC of the Institute functions as a quality instrument to initiate and sustain the quality parameters of the institution in curricular, co-curricular and extra-curricular activities. It also helps to improve the teaching learning process by introducing the latest teaching learning aids, ensuring

quality teaching and progress in studies by holding special lectures, seminars and workshops.

2.3.3 How is learning made more student-centric? Give details on the support structures and systems available for teachers to develop skills like interactive learning, collaborative learning and independent learning among the students?

Since the number of students in each class is only 20, personal attention is greatly facilitated.

Teachers are encouraged to supplement the lectures with the appropriate supporting method and aid to make the teaching effective, participative and learner centric. Teachers participate in

faculty development programmes and learn skills for interactive, collaborative and independent learning. To inculcate these skills among the students, the Institute adopts the following strategies:

- Organization of seminars and workshops, project presentations, group discussions, quiz, debate, practical sessions in laboratories offer innovative methods of learning.
- Use of internet and other modern computer assisted techniques enhance the curiosity of students in the subject and make learning process student friendly.
- As part of collaborative learning initiatives students are encouraged to attend invited lectures by alumni, experts from industries and other institutions and embark on educational tours, summer projects, industrial visits as well as field visits.
- Implementing a Ready Reference Pattern an innovative method to allow the students to prepare scripts and trump cards by adopting method to write minimum words with maximum illustrations.
- Utility of e-resources facilitates for enhanced teaching learning process.

2.3.4 How does the institution nurture critical thinking, creativity and scientific temper among the students to transform them into life-long learners and innovators?

- To nurture critical and rational thinking, the students are given independent project work and encouraged to analyse their findings scientifically under the supervision of their respective guides.
- The alumni lectures help to develop scientific temperament and oral skills.
- Student participation and presentation in National/International Conferences, workshops and talks by the experts are encouraged.
- The entire academic programme is student-centric and it transforms them into life-long learners and innovators.

2.3.5 What are the technologies and facilities available and used by the faculty for effective teaching? e.g. : Virtual laboratories, e-learning - resources from National Programme on Technology Enhanced Learning (NPTEL) and National Mission on Education through Information and Communication Technology (NME-ICT), open educational resources, mobile education, etc.

The following modern technologies and facilities are provided by the Institute for effective teaching:

- The traditional chalk and board method of teaching is supplemented by the use of OHP, LCDs and computers.
- Internet facility is made available to teachers and students.
- Institute has initiated establishment of virtual class room.

2.3.6 How are the students and faculty exposed to advanced level of knowledge and skills (blended learning, expert lectures, seminars, workshops etc.)?

The students and faculty are exposed to advanced knowledge and skills in the following ways:

- Participation in seminars/workshops/conferences for presenting research papers.
- Attending orientation and refresher courses and training programmes.
- Interactions with faculties of other institutions.

- Exposure to interactive lectures of eminent speakers.
- Undertaking research projects.
- Publishing research papers in reputed National and International journals.
- Using Internet and e-Journals.
- Encouraging students for participation in various competitions in diverse fields viz. cultural, social, sports and research at different levels.
- Encouraging embarking on educational tours, summer projects, industrial visits as well as field visits.

2.3.7 Detail (process and the number of students/benefitted) on the academic, personal and psycho-social support and guidance services (professional counselling/mentoring/academic advice) provided to students?

Academic and career counselling of the students is done as per requirements. Even parents are informed about academic and career opportunities for their ward.

Counselling for further Studies:

Counselling is done for higher studies available in India and Abroad.

Career counselling:

Various lectures are conducted by experts from industrial and educational organizations for the benefit of students. Information of job opportunities in different companies is provided by the Placement Cell of the institute.

Counselling regarding NET/SET/GATE:

To create awareness and motivate students to appear and qualify for NET/SET/ GATE examinations.

2.3.8 Provide details of innovative teaching approaches/methods adopted by the faculty during the last four years? What are the efforts made by the institution to encourage the faculty to adopt new and innovative approaches and the impact of such innovative practices on student learning?

All the faculty members have taken initiative to introduce innovative teaching approaches:

- a. Teachers regularly use modern Information and Communications Technology (ICT) to deliver the lectures.
 - b. Various softwares are being used in all departments for assisting teaching, learning process and research.
 - c. Study material, various links to e-learning resources, thesis repositories etc. are provided to the students.
- Institute encourages teachers to adopt modern method of teaching by providing required facilities e. g. every department is provided with computer and internet facility to become ICT friendly.
 - Impact of these practices on students' learning is obvious by the fact that they have adapted to power point mode of presentations, have acquired mastery in collecting reference material for their research and project work using various search engines.

2.3.9 How are library resources used to augment the teaching- learning process?

- The Library resources are the key resources for the augmentation of the teaching learning process. The books, reference material etc. are issued to students and teachers as and when required.
- Project work, assignments, preparation for competitions, knowledge extension programmes are made possible through exhaustive reference material available in the library.
- The library is upgraded periodically with the latest reference books, journals etc. providing students with advanced knowledge.
- Latest books are displayed to attract students to spend their time in the library.
- E-learning is promoted by providing N-LIST facility.
- The library facility of the Institute is available to the students, researchers and teachers of other institutions also.
- The library automation process is in progress.
- The extension service is also being provided.

2.3.10 Does the institution face any challenges in completing the curriculum within the planned time frame and calendar? If ‘yes’, elaborate on the challenges encountered and the institutional approaches to overcome these.

Since the Institute plans the time frame of academic calendar according to University curriculum, the students and the faculty do not face any challenges or problem in completing the course within the stipulated time period. However, extra lectures are conducted as and when required.

2.3.11 How does the institute monitor and evaluate the quality of teaching learning?

- The Director and faculty monitor the teaching and learning process.
- The feedback is taken from the students by interacting with them.
- The Head of the department takes a review about the status of syllabus progression in the departmental meetings and then communicates it to the Director.
- The record of subjects taught and practical conducted is maintained by the individual faculty. This record is endorsed by the Head of the Department and the Director at the end of the academic year.
- Result analysis is done and necessary measures are taken for improvement if needed.

2.4 Teacher Quality

2.4.1 Provide the following details and elaborate on the strategies adopted by the college in planning and management (recruitment and retention) of its human resource (qualified and competent teachers) to meet the changing requirements of the curriculum

Highest qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
Permanent Teachers							
D.Sc. /D. Litt.							
Ph.D.	01	01	05	02	03	02	14
M.Phil.							
PG					04	01	05
Temporary Teachers							
D.Sc. /D. Litt.							
Ph.D.							
M.Phil.							
PG						01	01
Part-Time Teachers							
D.Sc. /D. Litt.							
Ph.D.							
M.Phil.							
PG							

For the requirement of faculty and their appointment, the Director communicates the vacancy to the Government, through Director of Higher Education, Maharashtra State, Pune, which is processed by the Government as per the recommendations of Maharashtra Public Service Commission for appointment to concerned posts.

2.4.2 How does the institution cope with the growing demand/ scarcity of qualified senior faculty to teach new programmes/ modern areas (emerging areas) of study being introduced (Biotechnology, IT, Bioinformatics etc.)? Provide details on the efforts made by the institution in this direction and the outcome during the last three years.

Institute imparts education in frontline subjects / modern areas with qualified faculty. To meet the growing demand emerging areas, the Institute seeks the help of visiting faculty from renowned academic and research institutions to deliver the lectures on modern topics. To cope with the advances in the information technology all the faculty have already qualified the MS-CIT examination prescribed by Government of Maharashtra. Institute already houses the advanced courses like Biophysics, Microbiology and Biotechnology with qualified faculty. The existing faculty is encouraged to acquire further advanced knowledge and new skills to impart the same to the students through workshops/ conferences/ training programmes. Bioinformatics is one of the papers in the curriculum and trained teachers are available to cope up with the syllabus. The institute has organised invited lectures of experts from C-DAC, Pune,

Bioinformatics Centre, and Savitribai Phule Pune University for teachers and students.

2.4.3 Providing details on staff development programmes during the last four years elaborate on the strategies adopted by the institution in enhancing the teacher quality.

a) Nomination to staff development programmes

Academic Staff Development Programmes	Number of faculty nominated
Refresher courses	08
HRD programmes	01
Orientation programmes	02
Staff training conducted by the university	NIL
Staff training conducted by other institutions	07
Summer/winter schools, workshops, etc.	02

b) Faculty Training programmes organized by the institution to empower and enable the use of various tools and technology for improved teaching-learning.

Teaching learning methods/approaches

For the teaching learning methods, the Institute follows the lesson plan and the academic calendar of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. As and when the syllabi were revised, workshops were organized by the Institute, in addition teachers were motivated to attend syllabus revision workshops, orientation and refresher courses etc. The teaching techniques learnt in the Orientation Courses are implemented by the teachers.

Content / knowledge management

The resources for content/ knowledge management are compiled from library books, journals, e-resources and academic interactions with colleagues and senior teachers from other institutions. Ready Reference Pattern is implemented to mobilise students towards self-study.

c) Percentage of faculty

Invited as resource persons in Workshops / Seminars / Conferences organized by external professional agencies: 08 (40%)

Participated in external Workshops / Seminars / Conferences recognized by national/international professional bodies: 06 (30%)

Presented papers in Workshops / Seminars / Conferences conducted or recognized by professional agencies: 07 (35%)

2.4.4 What policies/systems are in place to recharge teachers? (eg: providing research grants, study leave, support for research and academic publications teaching experience in other national institutions and specialized programmes industrial engagement etc.)

- The institution has taken steps for recharging teacher/faculty by encouraging them to attend various State, National and International level conferences/seminars/Ph.D. review meetings,

BoS to other universities, etc. The Institute encourages the faculty to avail grants from various funding agencies.

- The Institute organized seminars, workshops and conferences at National level, in collaboration with UGC, DST, and other funding agencies.
- The academic and physical infrastructure is made available to faculty for the research and completion of projects.
- The Institute also encourages the faculty members for National and International publications.

2.4.5 Give the number of faculty who received awards / recognition at the state, national and international level for excellence in teaching during the last four years. Enunciate how the institutional culture and environment contributed to such performance/achievement of the faculty.

NIL

2.4.6 Has the institution introduced evaluation of teachers by the students and external Peers? If yes, how is the evaluation used for improving the quality of the teaching-learning process?

Yes, the process of evaluation of teachers by the students has been introduced. The feedback of students is critically analysed, and teachers are informed about the outcome. Such evaluation has helped in improving the quality of teaching and learning process. This offers an opportunity for self-introspection and improvement by undertaking remedial measures.

2.5 Evaluation Process and Reforms

2.5.1 How does the institution ensure that the stakeholders of the institution especially students and faculty are aware of the evaluation processes?

The Institute ensures that the stakeholders of the institution like students and faculty are aware of the evaluation processes, by sending the teachers for evaluation meetings conducted by the University from time to time and then conveying it to the students.

Whenever a new course /syllabus is introduced by the University, the Board of Studies in that subject holds workshops/orientation programmes to orient teachers on course content, course depth, marking system and evaluation procedure, which are then disseminated by the teachers to the stakeholders. Teachers also attend Centralised Assessment Programme for paper assessment and get acquainted with the evaluation procedure.

2.5.2 What are the major evaluation reforms of the university that the institution has adopted and what are the reforms initiated by the institution on its own?

The evaluation reforms of the university adopted by the Institute:

- Semester system and Internal Assessment: Internal assessment consists of class tests, assignments, presentation, case studies, projects and viva voce, attendance in class, participative learning etc.
- PET, Course Work and Interview: Ph.D. Entrance Test (PET), interview and course work have been introduced as an integral part of Ph.D. degree programme.

The evaluation reforms initiated by the Institute on its own:

Institute conducts class tests before the commencement of the University Examination and the evaluation of performance is displayed on the notice board. This helps in improving the performance of the students in the University examination.

Institute has initiated NET/SET Preparatory Test for preparing the students to qualify national level exams such as NET, SET, GATE etc.

2.5.3 How does the institution ensure effective implementation of the evaluation reforms of the university and those initiated by the institution on its own?

The Institution has implemented the evaluation reforms made by the University from time to time as regular practices. The institution sends its faculty members to the University for Evaluation.

2.5.4 Provide details on the formative and summative assessment approaches adopted to measure student achievement. Cite a few examples which have positively impacted the system.

The positive impact of present evaluation approach adopted by the University and Institute is that, the students have a greater exposure to the different topics of their interest from the syllabus which in turn helps in improving their presentation skills on various scientific issues. They are prompted to analyse the topic concerned critically and present the same effectively. This system also has contributed in the students scoring better in the examination. For example,

Mr. Bhaurao Choushette from Department of Biotechnology, has passed UGC-CSIR NET (LS) in December- 2013 in the subject of Life-science during his M.Sc. Part-II study.

Ms. Pradnya Kulkarni from Department of Biotechnology, has passed GATE-2014 in Life-science during her M.Sc. Part-II study.

2.5.5 Detail on the significant improvements made in ensuring rigor and transparency in the internal assessment during the last four years and weightages assigned for the overall development of students (weightage for behavioural aspects, independent learning, communication skills etc.

The internal assessment system was introduced in all the departments from the beginning. The internal assessment process is quite transparent and it shows the performance of the students. Communication skills are tested by presentations and viva voce examination. Weightage is given to active participation and behavioural aspects of the students.

2.5.6 What are the graduate attributes specified by the college/ affiliating university? How does the college ensure the attainment of these by the students?

The development of student attributes is a constant thread throughout the Institute's strategic plan whether referring to learning, teaching or research. There are some graduate attributes like moral values, and social responsibility. Value-oriented education, health and hygiene, good citizenship, social welfare and intellectual strength are the other attributes which are achieved through curricular, co-curricular and extracurricular activities.

2.5.7 What are the mechanisms for redressal of grievances with reference to evaluation both at the college and University level?

Internal examination is repeated for the students in case of their unsatisfactory performance. A student has a right to appeal in case he/she is not satisfied with the marks awarded to him/ her in external assessment. Students may ask for photocopy of the answer book of the University examination and /or may apply for re-valuation.

2.6. Student performance and Learning Outcomes

2.6.1 Does the college have clearly stated learning outcomes? If ‘yes’ give details on how the students and staff are made aware of these?

- The Director of the Institute addresses the students during commencement of academic year. The information about learning outcome, opportunities, scope and innovative programmes to be implemented is conveyed.
- The students are also addressed in the respective department by the Head and faculty to make them aware of the opportunities and the scope of the subjects in different areas

2.5.5 Enumerate on how the institution monitors and communicates the progress and performance of students through the duration of the course/programme? Provide an analysis of the students’ results/achievements (Programme/course wise for last four years) and explain the differences if any and patterns of achievement across the programmes/courses offered.

- Cumulative record is maintained in the departments to monitor the progress of the students.
- Monitoring includes student counselling wherever necessary.
- Students are monitored through internal tests and it is communicated through the marks and remarks of the answer books.
- Course wise pass percentage of last four years.

Sr. No.	Course	2010-11	2011-12	2012-13	2013-14
1	Botany	100	100	100	88.23
2	Geology	100	100	100	95.00
3	Microbiology	100	100	100	94.45
4	Biotechnology	100	100	100	85.71
5	Biophysics	100	100	83.33	75.00

2.6.3 How are the teaching, learning and assessment strategies of the institution structured to facilitate the achievement of the intended learning outcomes?

The teaching, learning and assessment strategies of the institution are structured to facilitate the

achievement of the intended learning outcomes as per the University curriculum through the lectures, practical, seminars, assignments and projects.

- Teaching methods are implemented according to the requirement of the topic to achieve the intended learning outcome.
- The students are motivated to deliver seminars, complete the assignments, project presentations, writing of project report, imbibe instrument handling skills, writing scripts and trump cards by following Ready Reference Pattern and tutorials. These activities are helpful in enhancing their communication skill, confidence etc.
- Assessment strategies, especially the internal assessment are also restructured, with the consent of Board of Studies to meet the learning outcome of a particular subject/paper.

2.6.4 What are the measures/initiatives taken up by the institution to enhance the social and economic relevance (student placements, entrepreneurship, innovation and research aptitude developed among students etc.) of the courses offered?

- Institute promotes quality professionals by training students to achieve excellence. Since the Institute conducts post graduate and Ph.D. courses, stakeholders get an opportunity to work in various academic and research institutions thereby contributing their services to society. The confidence, knowledge and self-discipline inculcated in the students enhance opportunities for self-employment.
- The placement and training cell of the institute nurtures the interview skills and arranges campus interviews for providing the employment opportunity.
- Students are encouraged to participate in national/ international workshop, conferences, symposia, in-plant training in industries, mines, hospitals, laboratories etc.

2.6.5 How does the institution collect and analyse data on student performance and learning outcomes and use it for planning and overcoming barriers of learning?

The results are analysed in the departmental meetings and remedial measures are taken for necessary improvement.

2.6.6 How does the institution monitor and ensure the achievement of learning outcomes?

The institution monitors the achievement of learning outcomes through the written tests and semester results. Institute ensures achievement of learning outcomes through guidance, discussions, interactive learning, by providing study materials, reference books etc.

2.6.7 Does the institution and individual teachers use assessment/ evaluation outcomes as an indicator for evaluating student performance, achievement of learning objectives and planning? If 'yes' provide details on the process and cite a few examples.

Yes. Assessment/evaluation is one of the indicators used by the staff which gives insights into improving the students' performance.

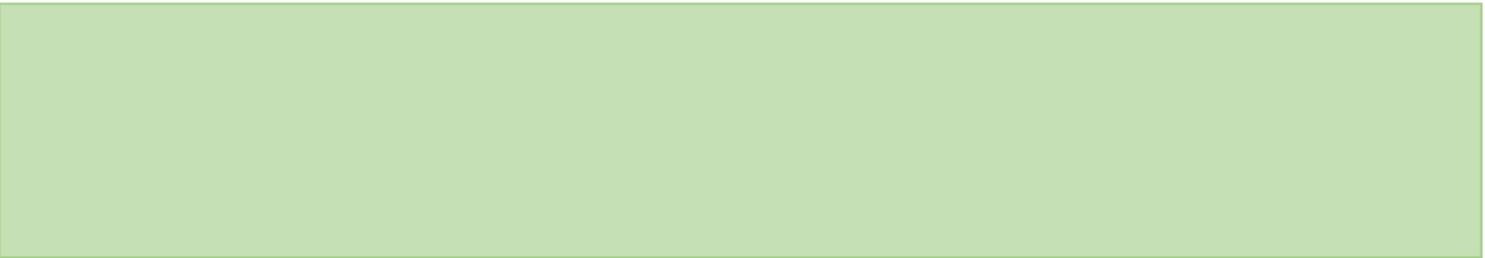
- The student achievers of state/national level tests are felicitated in the Institute.

Learning objectives are also achieved through educational excursions, Industrial visits etc. This gives students a better insight into new vistas of knowledge and serves as a link between theoretical and practical knowledge. For example,

1. Visit to a fermentation industry to study the upstream and downstream processing.
2. Students are acquainted with the quality assurance and control measures, GMP, CMP practices, effluent treatment adopted by the industries.
3. Field visits to various mining industries and biodiversity spots.
4. Practical demonstrations of cobalt therapy units LINAC facilities for radiotherapy practices and dosimetry.



CRITERIA III: RESEARCH, CONSULTANCY AND EXTENTION



RESEARCH, CONSULTANCY AND EXTENSION

3.1 Promotion of Research

3.1.1 Does the Institution have recognized research center/s of the affiliating University or any other agency/organization?

The Institute is a recognized research centers in five disciplines viz. Botany, Microbiology, Biophysics, Geology and Biotechnology and is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

3.1.2 Does the Institution have a research committee to monitor and address the issues of research ?If so, what is its composition? Mention a few recommendations made by the committee for implementation and their impact.

The following Research Co-ordination committee is constituted at the Institute.

Table No.1: Research Co-ordination Committee:

Sr. No.	Name of Faculty member	Designation	Name of the Department	Position
1	Prof. Sahera Nasreen	Professor	Botany	Chairman
2	Prof. R.A.Satpute	Professor	Biotechnology	Member
3	Dr(Mrs) S.M.Dharmadhikari	Associate Professor	Microbiology	Member
4	Dr(Mrs) S.A.Peshwe	Associate Professor	Microbiology	Member
5	Dr.S.M.Deshpande	Associate Professor	Geology	Member
6	Dr.M.A.Sonar	Assistant Professor	Geology	Member

- The functions of the Research Coordination committee includes scrutiny and recommendation of:
 - Ph.D. application forms and execution of the Ph.D. admission process.
 - Research proposals, submitted by the faculties to different research funding agencies,
 - Applications of faculties for recognition as research guide of affiliating and other Universities,
 - Ph.D. theses of the students being submitted to the affiliating University after organizing and evaluating pre-Ph.D. seminars of research students.

Accordingly the committee operationalizes the above processes. This has resulted in streamlining the various research related activities in the Institute.

Table 2. Activities monitored by the Research Co-Ordination committee (2013-14).

Sr. No.	Name of Activity	Number of Proposals
1	Scrutiny of proposals for recognition as Ph.D. research guide for affiliating university	03
2	Facilitating the submission of Ph.D theses	09
3	Processing of Ph.D students admission.	14
4	Forwarding minor and major research proposals	03
5	Scrutiny of proposals for recognition as Ph.D. research guide for other University.	03
6	Recommending the faculty for use of infrastructure and laboratory facilities for Ph.D. research.	02

3.1.3 What are the measures taken by the institution to facilitate smooth progress and implementation of research schemes/projects?

- The Purchase of instruments, chemicals and glassware and utilization of contingency is executed by Central Store of the Institute following government purchase procedure and the norms of funding agencies. However, Principal Investigator submits the specifications of the articles required.
- The appointment of project fellow/s is executed by the Director in consultation with the Principal Investigator as per the norms of the funding agencies.
- The Director releases the required resources as per the demand of Principal Investigators by following the norms of the Institute and the funding agencies.
- Facilitate timely auditing and submission of utilization certificate to the funding authorities-The Director, the Drawing and Disbursing Officer (DDO) is continuously monitoring the utilization of funds under their respective heads and ensuring 100% utilization of sanctioned funds. The DDO is constantly advising and helping the Principal Investigators for timely auditing and submission of their utilization certificates to respective funding agencies.

Facilities provided to the faculty for Research:

- Institute is supporting the faculty members and research personnel in providing the infrastructure facilities.
- Faculty members pursuing Ph.D. degrees are permitted to utilize the laboratory facilities of the Institute.

Table No 3. List of beneficiaries among the faculty

Sr. No	Name of Faculty	Department	Name of University	Status of Research
1	Dr.A.N.Dongare	Geology	Rashtrasant Tukadoji Maharaj University, Nagpur.	Awarded Ph.D in 2010
2	Dr.A.G.Jadhav	Microbiology	Saint Gadge Baba Amravati University	Awarded Ph.D in 2012
3	Dr.(Smt) J.J.Bhuktar	Microbiology	Swami Ramanand Teerth Marathwada University	Awarded Ph.D in 2012
4	Mrs. V. S. Wadekar	Biophysics	Swami Ramanand Teerth Marathwada University	Work in progress

CRITERIA-III RESEARCH, CONSULTANCY AND EXTENSION.....

5	Ms. Anjali D.Naik	Biotechnology	Dr. Babasaheb Ambedkar Marathwada University	Work in progress
5	Mr. Harris Panakkal	Biotechnology	Dr. Babasaheb Ambedkar Marathwada University	Work in progress
6.	Mr. Satish G. Kulkarni	Biophysics	North Maharashtra University, Jalgaon	Work in progress

- An exemption of 2 hours/week of teaching load is provided to Research Guides.
- Special leave to teachers: Following faculty members of Institute were granted special permission and duty leave by Director, Higher Education, Pune to promote the research in the form of participation and presentation of research papers at National and International level.

Table No 4- Faculty Participation in Conferences Abroad.

Sr. No	Name of Faculty	Facility Provided	Year
1	Dr. A. N. Dongre	Permitted and granted leave to pursue research in Guttenberg, Germany	2012
2	Dr. A.V. Pethkar	Permitted and granted leave to participate in International Conference held at Redit, Malaysia	2012
3	Dr. (Mrs.) S. M. Dharmadhikari	Permitted to participate in International Conference at Rajiv Gandhi Science Centre, Mauritius	2013
4	Dr. (Mrs.) S. A. Peshwe	Permitted to participate in International Conference at Rajiv Gandhi Science Centre, Mauritius	2013
5	Mr. I. R Gupta	Permitted and granted leave to participate in International Conference at Malaysia	2013
6	Dr. A. N. Dongre	Permitted and granted leave to pursue postdoctoral research in Johannesburg University, South Africa	2014

- Support in terms of technology and information needs-Instrumentation facility, Computer and internet facility and Library resources and INFLIBNET facility are also provided to the faculty.

3.1.4 What are the efforts made by the institution in developing scientific temper and research culture and aptitude among students? (Last Three Years).

- Director and faculty members are engaged in motivating and guiding students to participate in research activities to develop their scientific temper.
- The Department of Microbiology, Biotechnology, Biophysics and Geology implement student research projects as part of curriculum at PG. As a result, the students take keen interest in participating in a number of research related, co-curricular and extra-curricular activities.
- The Institute has initiated a Library Orientation for the students in order to train them in the effective utilization of the library facilities.

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- The National Science Day is celebrated every year in order to cultivate scientific temper.
- Students are encouraged to participate in National level workshops/conferences.
- Alumni Lecture Series is conducted under the GISA STEP-IN (STudent EmPowerment INitiative) program.
- Department of Biophysics has introduced and implemented compulsory mini-projects for each semester and a paper on Research Methodology and Communication Skills in the syllabus to cultivate and nurture research aptitude in students.
- Interaction with experts in industries/mining and other organizations and field work provides exposure of students to the recent developments in the respective areas.
- Department of Microbiology has initiated the display of “Wall Magazine” by PG students to increase awareness about recent trends in the subject.
- Industry visits and field tours are organized for students to expose them to state-of-the-art in the subjects.
- The research students are encouraged to complete the Pre-Ph.D. course of the affiliating University

3.1.5 Give details of the faculty involvement in active research (Guiding student research, leading Research Projects, engaged in individual /collaborative research activity?)

1. Guiding Student Research

Table No.5-A: Details of Research Guides in the Institute

Sr .N o	Name of Research Guide	Department	Sanctioned Letter no.	Year of Approval	Total number of candidates working
1	Prof. Sahera Nasreen	Botany	PG/IV/Recog/1995-96/2650-51	1996	08
2	Prof. R.A.Satpute	Botany	PG/Ph.D/2003-04/3420-21	2/7/2003	04
3	Dr(Mrs) S.M.Dharmadhikari	Microbiology	P.G./Ph.D./2007/128-29	24-04-07	06
4	Dr(Mrs) S.A.Peshwe	Microbiology	P.G./Ph.D./2007/1126-27	24-04-07	07
5	Dr.S.M.Deshpande	Geology	(PG/Ph.D. /2007/8158-59	18/08/2007	08
6	Dr.M.A.Sonar	Geology	P.G./Ph.D./2007/1130-31	24-04-07	03
7	Dr. A.V.Pethkar	Microbiology	BAMU- P.G./Ph.D./2014/13413	15-02-14	01
			PU- (Ph.D.) BUTR/science/243/148	09/10/10	
			PU- (M. Phil.) BUTR/science/243/148	18-03-10	
8	Dr(Mrs) A.S.Vinchurkar	Biophysics	PG/Ph.D./2012/5478	25/07/2012	03
			SUS/BCUD/PGBUTR/2012-13/2752 (Biotech at Solapur Univ.)	15/07/2013	05
9	Dr. A.N. Salve	Botany	P.G./Ph.D./2014/6410	07/08/14	New

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					Recognition
10	Dr.A.N.Dongre	Geology	P.G./Ph.D./2014/6410	07/08/14	New Recognition
11	*Dr.S.G.Gupta (presently working as Director, Institute of Forensic Science)	Microbiology & Biotechnology	PG/Ph.D./2000/7665-94 PG/Ph.D./2008/12326-27	06/11/2000 03/12/2008	06
11	Dr.(Mrs.) S.P.Bidarkar Librarian	Library and Information Science	VASDCSCA/102/08 (M.Lib. guide)	2008	*04
11	Total Number of Research Students				46

Table No. 5-B: Details of Research Students pursuing research work in the Institute

Sr. No	Name of Student	Name of Guide	Subject	Year of Registration	Remark
1	Mrs. Pandhare R.S.	Dr.S.G.Gupta	Microbiology	2004	Pre Ph.D synopsis submitted
2	Mr. Shinde K. S.	Dr. R. A. Satpute	Botany	2008	Work in progress
3	Mr. Ingole S.T.	Dr.M.A.Sonar	Geology	2008	Work in progress
4	Bhatpude A. A.	Dr. S. M. Deshpande	Geology	2008	Work in progress
5	Subukade V. D.	Dr. S. M. Deshpande	Geology	2008	Work in progress
6	Ms.Muneera Farooq Vani	Dr.Sahera Nasreen	Botany	2009	Thesis Submitted
7	Ms. Padalkar R.R.	Dr.S.A.Peshwe	Microbiology	2009	Thesis submitted
8	Mr. Zaheer Beg	Dr.S.M.Dharmadhikari	Microbiology	2009	Thesis submitted
9	Mrs. Gothoskar Vandan S.	Dr.S.M.Dharmadhikari	Microbiology	2009	Thesis submitted
10	Ms. Reshma Jaweria	Dr.S.A.Peshwe	Biotechnology	2009	Thesis submitted
11	Mrs. Shete Arusha	Dr.S.G.Gupta	Microbiology	2009	Work in progress
12	Mr. U. S. Bhagwat	Dr. S. M. Deshpande	Geology	2011	Work in progress
13	Mr. Sarika Girdhari	Dr.S.A.Peshwe	Microbiology	2012	Work in progress
14	Mr. Vinod Jogdand	Dr.S.G.Gupta	Microbiology	2012	Work in progress
15	Mr. Girish Kukreja	Dr.S.A.Peshwe	Microbiology	2012	Work in progress
16	Mrs. V.P. Jamdhade	Dr.R.A.Satpute	Botany	2012	Work in progress
17	Mr. Ravi Pawar	Dr.M.A.Sonar	Geology	2012	Work in progress
18	Ms.Bharti wadekar	Dr.S.M.Dharmadhikari	Microbiology	2013	Work in progress
19	Mr.Yogesh Phatake	Dr.S.M.Dharmadhikari	Microbiology	2013	Work in progress
20	Mr.Hrushikesh Deshpande	Dr.S.M.Dharmadhikari	Microbiology	2013	Work in progress

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21	Ms. Dipti Dehere	Dr.S.M.Dharmadhikari	Microbiology	2013	Work in progress
22	Mrs.Suchita Choudhari	Dr.S.A.Peshwe	Microbiology	2013	Work in progress
23	Ms. Anuja Zine	Dr.S.A.Peshwe	Microbiology	2013	Work in progress
24	Ms. Rashika Siddiqui	Dr.S.A.Peshwe	Microbiology	2013	Work in progress
25	Mr. Anirudh Bhagat	Dr.A.V.Pethkar	Microbiology	2013	Work in progress
26	Mr. Vilasrao Ghorpade	Dr.S.G.Gupta	Microbiology	2013	Work in progress
27	Mrs Manisha Shelke	Dr.R.A.Satpute	Botany	2014	Work in progress
28	Mrs. Haqeeqat A.Arshi	Dr.Sahera Nasreen	Botany	2014	Work in progress
29	Mrs.Vijata B.Hase	Dr.Sahera Nasreen	Botany	2014	Work in progress
30	Mr.Digambar S.Pawar	Dr.Sahera Nasreen	Botany	2014	Work in progress
31	Mrs.Sathe Seema M.	Dr.Sahera Nasreen	Botany	2014	Work in progress
32	Mr. Gavahane B.U.	Dr.Sahera Nasreen	Botany	2014	Work in progress
33	Mrs.Farhana Jabin Md.Abdul Hai	Dr.Sahera Nasreen	Botany	2014	Work in progress
34	Ms.Patil Aarti Mohan	Dr. Sahera Nasreen	Botany	2014	Work in progress
35	Mr.Waseem Ahmed	Dr.R.A.Satpute(Guide) & Dr.S.G.Gupta(Co-Guide)	Biotechnology	2014	Work in progress
36	Ms. Pooja Sonawane	Dr.S.G.Gupta	Biotechnology	2014	Work in progress
37	Mr. Saini Tejbhan Jalsingh	Dr.S.G.Gupta	Biotechnology	2014	Work in progress
38	Mr. Gaurav K.Kadu	Dr.M.A.Sonar	Geology	2014	Work in progress
39	Mr.Nitin R.Tatte	Dr.S.M.Deshpande	Geology	2014	Work in progress
40	Mr.Vaseem G.Sayed	Dr.S.M.Deshpande	Geology	2014	Work in progress
41	Mrs. M.S.Dubey	Dr.S.M.Deshpande	Geology	2014	Work in progress
42	Mr. G.D. Mahajan	Dr. S.M. Deshpande	Geology	2014	Work in progress
43	Ms. Supriya S.Thakur	Dr.Aruna S.Vinchurkar	Biophysics	2014	Work in progress
44	Mrs Bhakare P.S.	Dr.Aruna S.Vinchurkar	Biophysics	2014	Work in progress
45	Mr Pravin Dhepe	Dr.Aruna S.Vinchurkar	Biophysics	2014	Work in progress

Table No. 5-C : Details of Research Students awarded Ph.D in the last five years

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Sr. No	Name of Student	Name of Guide	Subject	Year of Registration	Year of Award
1	Dr. B. Aglave	Late Dr.M.S.Andhale	Biotechnology	2006	2009
2	Mr. Zafar Khan	Dr.Sahera Nasreen	Botany	2007	2010
3	Mr.Govankoppa R.B.	Dr. R. A. Satpute	Botany	2007	2011
4	Mr. Deepak Pardhe	Dr.R.A.Satpute	Botany	2007	2011
5	Dr. Sayed R. A.	Dr.S.G.Gupta	Microbiology	2004	2011
6	Dr. Mohammed Asif Iqbal.	Dr.S.G.Gupta	Microbiology	2006	2011
7	Mr. Hungund S.B.	Dr.S.G.Gupta	Microbiology	2006	2011
8	Dr. Pramod D. Ghogare	Dr.S.G.Gupta	Microbiology	2006	2011
9	Dr.Vaishali U. Dange	Dr.(Mrs) S.A.Peshwe	Biotechnology	2009	2012
10	Dr.Vihang V.Madane	Dr (Mrs) S. M. Dharmadhikari	Biotechnology	2009	2012
11	Dr. Vaishali H. Ajane	Dr.(Mrs)S.M.Dharmadhikari	Microbiology	2008	2012
12	Dr. Yogini Mule	Dr (Mrs) S. M. Dharmadhikari	Biotechnology	2009	2012
13	Ms.Shaista Parvin	Dr.Sahera Nasreen	Botany	2008	2012
14	Mr. Vishal Shinde	Dr.Sahera Nasreen	Botany	2008	2012
15	Mr. Suradkar S. W.	Dr. R. A. Satpute	Botany	2008	2012
16	Mr.Gurusahani Y.H.	Dr.S.G.Gupta	Biotechnology	2010	2012
17	Mr.V.R. Tembhurne	Dr.S.P.Nanir	Botany	2001	2012
18	Mr. Aher K. K.	Dr.S. M. Deshpande	Geology	2007	2012
19	Mr.Gaikwad S. G.	Dr.M.A.Sonar	Geology	2007	2012
20	Mr. Niles Bhosle	Dr.Sahera Nasreen	Botany	2009	2013
21	Mrs. Sheikh Farah	Dr.Sahera Nasreen	Botany	2009	2014

TableNo.6 Leading Research Projects, undertaken as individual/collaborative research

Sr. No	Name of PI with sanctioned letter number and date	Nature of Project(Major /Minor)	Funding agency	Individual/collaborative research activity
1	Dr. S. M. Deshpande	Major	DST- SERC, New Delhi	Individual
2	Dr. S. M. Deshpande	Major	UGC- New Delhi	Individual
3	Dr. A. G. Jadhav	Minor	UGC-WRO, Pune	Individual
4	Dr. S. A. Peshwe	Minor	UGC-WRO, Pune	Individual
5	Dr. S. M. Dharmadhikari	Minor	UGC-WRO, Pune	Individual
6	Dr. S. M. Deshpande	Major	UGC-MRP-New Delhi	Individual
7	Prof. Sahera Nasreen	Minor	UGC-WRO, Pune	Individual
8	Mr. S. G. Kulkarni	Minor	UGC-WRO, Pune	Individual
9	Mrs. V. N. Wadekar	Minor	UGC-WRO, Pune	Individual
10	Prof. Sahera Nasreen	Minor	UGC-WRO, Pune	Individual
11	Dr. A. N. Dongare	Minor	UGC-WRO, Pune	Individual

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12	Dr. M. A. Sonar	Major	DST-SERC, New Delhi	Individual
13	Dr. J. J. Bhuktar	Minor	UGC-WRO, Pune	Individual
14	Dr. A. N. Dongare	Major	DST- FastTrack, New Delhi	Individual
15	Dr. J.J. Bhuktar	Major	DST, New Delhi	Individual
16	Dr. A. G. Jadhav	Major	DST, New Delhi	Individual
17	Dr. S. M. Dharmadhikari	Major	DST-WOS-A	Individual as Mentor
18	Dr. S. A. Peshwe	Major	DST-WOS-A	Individual as Mentor

- Dr. R. R. Deshpande has submitted a concept proposal to Department of Biotechnology, Govt. of India, in collaboration with Archaeological Survey of India, Aurangabad and North Maharashtra University, Jalgaon.

3.1.6 Give details of workshops/training programs/ sensitization programs conducted/organized by the institution with focus on capacity building in terms of research and imbibing research culture among the staff and students.

Table No-7 Details of workshops/ training programs organized by the Institute

Sr. No.	Workshops/ Training Programs/Sensitization Programs organized	Year of Organization
1	Seminar series was conducted under National Science Day celebrations organized under the aegis of National Council for Science and Technology and Rajiv Gandhi Science and Technology Commission, Government of India The theme of the program “understood the Planet Earth”.	2008
2	A unique awareness program on “Basic Principles of Microbiology with reference to techniques used to study Biodeterioration and conservation of Monuments” for the students of Diploma in Archeology, Archeological Survey Of India, New Delhi	2008
3	New Collaborative Research Program: Academic collaboration with Open University UK & Dept. of Geology, Banarus Hindu University to work on Kimberlites of Eastern Dharwad Craton, South India	2009
4	University sponsored Seminar on Emerging Trends in Biodiversity and Environment.	2010
5	University sponsored Workshop on Revised syllabus of M.Sc. Microbiology	2010
6	State level SAM workshop sponsored by UGC	2011
7	One day Workshop on IPR and Patenting was organized under the aegis of UGC. (Department Development Fund UGC XI plan)	2011
8	Two days skill initiative program training program was organized for under graduate teachers in Microbiology under the aegis of UGC. (Department Development Fund UGC XI plan)	2011
9	Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities.	2011
10	Two days workshop on preparation and guidance for NET/SET examination was organized under the aegis of UGC.(UGC XI plan)	2012
11	Three Day Workshop On Communication Dynamics and Interview Skills under the agies of UGC.(Equal Opportunity Cell of the Institute under UGC	2012

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	XI Plan)	
12	One week SAM women Workshop for development of women staff at higher level sponsored by UGC.	2012
13	NLIST awareness Program	2012
14	Organized one day workshop on M. Sc. Microbiology Syllabus revision under the aegis of Dr. B.A.M.U, Aurangabad	2013
15	Lecture series on 'Electrophysiology' September 2013	2013
16	Lecture series on "Medical Imaging and Biomechanics" in December 2013	2013
17	Lecture series on "ESR and NMR spectroscopy" in September 2013	2013
18	Seminar on Bioinformatics and Computational Biology.	2013
19	Guest Lecture on Miracles of Nanotechnology	2013
20	Poster and Slogan competition on Energy Conservation	2013
21	One Day Seminar on the occasion of Death Anniversary of Dr. S. R. Ranganathan- Father of Library Science	2013
22	Exhibition of Reference books	2013
23	Gandhian Thoughts	2014
24	Water purification methods and World Peace	2014
25	Scope and Opportunities in Biotechnology	2014
26	Structural features of Biomolecules	2014
27	Lecture series on Biostatistics	2014
28	GISA initiated Alumni lecture series	2014
29	Librarians Day Program	2014
30	Special day celebrations	2014
31	Health awareness campaign	2014
32	Election awareness program- competitions organized- Rangoli, Debate, Drawing and Sports.	2014

3.1.7 Provide details of prioritized research areas and the expertise available with the institution.

Table No. 8 -- Details of Prioritized Research Areas and the Expertise

Sr. No	Expertise	Research Area
1	Dr. R. R. Deshpande	Environmental Microbiology (Biodeterioration and Conservation of Cultural Heritage, Organic Waste Management)
2	Prof. Sahera Nasreen	Applied Mycology, Plant Pathology, Medicinal Botany, Mushroom Cultivation
3	Prof. R. A. Satpute	Cytogenetics & Plant Breeding, Plant Biotechnology, Phytochemical Screening
4	Mr. S. G. Kulkarni	Radiation Biophysics, Bioinformatics, Ultrasound Biophysics.
5	Dr. A. S. Vinchurkar	Medical Biophysics, Electrophysiology,

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6	Dr. S. M. Dharmadhikari	Medical Microbiology, Molecular biology and environmental biotechnology
7	Dr. S. A. Peshwe	Enzyme technology, Bioprocess engineering,
8	Dr. S.M. Deshpande	Hydrogeology, environmental geology
9	Dr. A. V. Pethkar	Environmental biotechnology, Nano biotechnology, Microbial technology
10	Dr. A. N. Dongre	Petrology, Gemology
11	Dr. K. M. Wanjarwadkar	Micropaleontology, Stratigraphy, Ichnology
12	Dr. A. N. Salve	Plant Ecology, Phycology, Aquatic Biology
13	Dr. M. A. Sonar	Paleontology
14	Mrs. V. S. Wadekar	Radiation Biology, Molecular genetics & Immunology
15	Dr. A .G. Jadhav	Environmental biotechnology, Halotolerance,Enzymology
16	Dr. J. J. Bhuktar	Bioremediation
17	Dr. M. S. Patil	Bioremediation and biodegradation , Environmental Biotechnology,
18	Mr. H. P. Panakkal	Microbial Biotechnology
19	Mr.I.R.Gupta	Nanoparticles, Nano toxicology
20	Mr. R. P. Bhagat	Molecular Biotechnology and drug screening.
21	Mrs. A. D. Naik	Biodegradation, Enzymology
22	Dr. S.P.Bidarkar	Library Management

3.1.8 Enumerate the efforts of the institution in attracting researchers of eminence to visit the campus and interact with teachers and students?

- Organization of National Science Day.
- Organization of Conferences, Seminars/Workshops.
- Industry-Institute Interaction.
- Publication of Research articles/papers in scientific Journals/Books/magazines/Newspapers.
- Spread of Institutional Research activities through paper presentation at various International and national conferences and Interactions with eminent scientists.
- Inviting Eminent Scientists as Resource Persons in various Conferences/Seminars at Institute
- Activities conducted under STEP-IN
- Offering consultancy services, research facilities and library services.

3.1.9 What percentage of the faculty has utilized Sabbatical Leave for research activities? How has the provision contributed to improve the quality of research and imbibe research culture on the campus?

- The percentage of faculty availed the sabbatical leave is 5 % .
- Dr. A.N. Dongre has done **collaborative research work** with Prof. Dorrit Jacob and Prof. S. F. Foley, (Presently in Macquarie University, Australia) at Geo-cycles Research Centre, Institute of Geosciences, Johannes Gutenberg University, Mainz, Germany (January 2013). Obtained high precision trace element data (using LA-ICPMS) for collaborative research project on Kimberlites and their mantle xenoliths of India. The research work has been utilized while teaching REE, Kimberlites, Diamonds, Geochemistry and Dharwar Craton of India to M.Sc. students in class and in field.

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- Dr. A. N. Dongre has been sanctioned two years (26.10.2014-25.10-2016) sabbatical leave (study leave) for **Post-Doctoral Research** work at Department of Geology, University of Johannesburg, Auckland Park, Johannesburg, South Africa, under the supervision of Prof. K. S. Viljoen.

3.1.10 Provide details of the initiatives taken up by the institution in creating awareness/advocating/transfer of relative findings of research of the institution and elsewhere to students and community (lab to land)

- The outcome of research is disseminated amongst the students and community through guidance, interface meets, presentations in conferences/seminars, short term training programs.
- The experts of the Institute advise the community about groundwater survey and testing for potability and irrigation as and when asked for.
- Awareness has been created amongst students and community about biodeterioration and conservation of cultural heritage by organizing workshop/seminars and delivering lectures in conferences, training programs, etc.
- In respect of transfer of technology from lab to land, our faculty have contributed action program on solid waste disposal by using biosanitizer in places like prisons, schools, temples, housing societies, etc. under CLEAN India project in association with Bharatiya Vidya Bhavan, Aurangabad Kendra and Development Alternatives, New Delhi.
- Faculty members have contributed through mass communication media to popularize science.
- Organized popular lectures, slide shows, seminars essay, debate competitions, science quiz, radio programs, folk form of mass communication and science and technology exhibition under the aegis of National Council of Science and Technology Communication, Government of India and Rajeev Gandhi Science and Technology Commission, Government of Maharashtra.
- Organized University sponsored C. V. Raman lecture series.

3.2 Resource Mobilization for Research

3.2.1 What percentage of the total budget is earmarked for research? Give details of major heads of expenditure, financial allocation and actual utilization.

There is no such provision.

3.2.2 Is there a provision in the institution to provide seed money to the faculty for research? If so, specify the amount disbursed and the percentage of the faculty that has availed the facility in the last four years?

There is no such provision.

3.2.3 What are the financial provisions made available to support student research projects by students?

There is no such provision; however research students avail following financial assistance:

- Rajeev Gandhi Scholarship, Open Merit Scholarship etc.

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- Junior Research Fellowship for JRF working under projects funded by UGC/DST/DBT
- Financial assistance through DST for WOS-A fellows.
- Malulana Azad Minority Fellowship

3.2.4 How does the various departments/units/staff of the institute interact in undertaking inter-disciplinary research? Cite examples of successful endeavors and challenges faced in organizing interdisciplinary research.

- Faculties have taken initiative to proceed for inter-disciplinary research by guiding the students of different allied subjects.
- Four students of Biotechnology have successfully completed their research work under the guidance of faculty of Microbiology through interdisciplinary program and two students of Biotechnology are working under the guidance of faculty of Botany.
- Research students are interacting and taking guidance from faculty members of the various departments of the Institute.

3.2.5 How does the institution ensure optimal use of various equipment and research facilities of the institution by its staff and students?

- In each department there is a committee for purchase, supervision and maintenance of Instruments.
- Research and PG students are entrusted the task of monitoring the proper care and maintenance of instruments to ensure optimal use of the instruments.
- The Instrumental facilities available in each department are open to all staff members and Research and PG students. As per their requirement they are permitted to use the facility and record is maintained in the form of log books in respective departments.

3.2.6 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facility? If 'yes' give details.

Yes. The Institute has received special grants from the following agencies:

Table no. 9. Grants received from various funding agencies

Sr. No.	Purpose	Agency	Fund sanctioned(Rs.)	Funds received (Rs.)
1	Establishment of Remote Sensing and GIS Laboratory	Marathwada Statutory Development Board, Aurangabad	20,00,000/-	5,00,000/-
2	Infrastructure development	DST-FIST	50,00,000/-	39,50,000/-
3	Establishment of UGC- NRC centre, NET-SET coaching for SC/ST/OBC/ Minority students, equal opportunity	UGC-XI Plan, merged schemes	12,26,000/-	12,26,000/-

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	centre, career guidance cell			
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3.2.7 Enumerate the support provided to the faculty in securing research funds from various funding agencies, industry and other organizations. Provide details of ongoing and completed projects and grants received during the last four years. (2010-2014)

The Director of the Institute encourages all faculties to submit research proposals to the funding agencies and provides necessary administrative and infrastructural facilities for the same.

Table No. 10-A: Minor Research Projects

Nature of the Project	PI & duration Year FromTo	Titleof the project	Nameof the funding agency	TotalGrant	
				Sanctioned	Received
Minor	Dr. A. G. Jadhav	Isolation and characterization from Lonar lake.	UGC-WRO, Pune	1,00,000	54,000
	Dr. (Mrs.) S. A. Peshwe	Studies on production, optimization, kinetics and clinical applications of L-asparaginase.	UGC-WRO, Pune	1,60,000	1,24,000
	Dr. (Mrs.) S. M. Dharmadhikari	Optimization of laccase production from potential laccase producer isolated...	UGC-WRO, Pune	1,35,000	97,000
	Prof. Sahera Nasreen	Mineralization of Hazardous Pesticides in Soil Through Microorganisms	UGC-WRO, Pune	1,50,000	1,50,000
	Mr. S. G. Kulkarni	Genotoxicity profile of some pesticides.	UGC-WRO, Pune	1,35,000	1,12,000
	Mrs. V. N. Wadekar	Modification of gamma irradiation response by certain herbal extract.	UGC-WRO, Pune	65,000	37,000
	Dr. A. N. Dongare	Kimberlites of Wajrakarur Kimberlite field (WKF).	UGC-WRO, Pune	2,00,000	1,85,000/-
	Dr. J. J. Bhuktar	Comparative studies on degradation of textile dyes by microbial consortia.	UGC-WRO, Pune	1,90,000	1,35,000
	Dr. S. M. Deshpande	Environmental impact assessment of Aurangabad township with the emphasis on SPM, groundwater quality and noise studies.	UGC-WRO, Pune	1,95,000	1,65,000

Table No. 10-B: Major Research Projects

Nature of the Project	PI & Duration Year From To	Title of the project	Name of the funding agency	Total grant	
				Sanctioned	Received
Major	Dr. S. M. Deshpande	Hydrogeochemistry and genesis of fluoride contaminated groundwater from parts of Rajura and Korpana Tehsil of Chandrapur district, Maharashtra	DST-SERC, N. Delhi	3,50,000	3,00,000
	Dr. S. M. Deshpande	Geochemistry and genesis of fluoride contaminated groundwater from parts of Warora tehsil, Chandrapur district, Maharashtra,	UGC-New Delhi	7,91,000	4,74,000
	Dr. M. A. Sonar	Fossil bryozoa from Tertiary sediments of Kutch and its bearing on depositional environment	DST - SERC, New Delhi	14,00,000	14,00,000
	Dr. A. N. Dongre	Petrological, Geochemical and Geochronological studies on Kimberlites of Timmasamudram Kimberlite cluster, Wajrakarur Kimberlite field, Eastern Dharwar Craton, Southern India	SERC FAST TRACK, New Delhi	17,88,000	17,88,000
	Dr. (Mrs.) J. J. Bhuktar	Development of efficient microbial inocula for decolorization and degradation of textile dyes and their amines	DST, New Delhi	12,00,000/-	6,00,000/-
	Dr. A. G. Jadhav	Screening and characterization of PI from plant with antimicrobial activity.	DST, New Delhi	12,00,000/-	6,00,000/-

C. Interdisciplinary projects- NIL

D. Industry sponsored – NIL

Table No. 10-E. Students' Sponsored Projects:

Natureofthe Project	PI & Duration Year FromTo	Titleof the project	Nameof the funding agency	TotalGrant	
				Sanctioned	Received
Students' Sponsored Projects DST WOS-A Major Research project	2013-2015	Studies on Microbial Phytases and its application to enhance the broiler performance	DST, New Delhi	14, 74000/-	7,65000/-
Student's Sponsored Projects DST WOS-A Major Research project	2013-2015	To evaluate antibacterial activity of bacteriocin reduced from marine probiotics and their application		14, 74000/-	7,65000/-

3.3 Research Facilities

3.3.1 What are the research facilities available to the students and research scholars within the campus?

Table No. 11-A - Instrumental facilities

Sr. No.	Name of the instrument	Department where installed	Research application
1	Thermal cycler with gel doc	Biotechnology	Gene amplification studies
2	UV-Visible spectrophotometer	Biotechnology Microbiology, Biophysics, Botany	Quantitative studies of microbial biomolecules, Viz. proteins, enzymes, Nucleic acids,
3	Atomic Absorption Spectrophotometer	Geology	Determination of elemental composition of water and soil samples, Biohydro metallurgical studies, Bioaccumulation, Environmental and Industrial pollutant detection and

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			monitoring
4	Rock cutting machine	Geology	Cutting thin sections of rock specimens
5	Rock polishing machine	Geology	Polishing the thin sections of rocks
6	Rock powdering machine	Geology	Powdering of rock samples for analysis
7	Petrological microscope	Geology	Study of optical properties of thin sections of rock specimens
8	Flame photometer	Geology	Determination of elemental composition of water and soil samples
9	Biosafety cabinet	Microbiology Biotechnology,	Microbiological work under aseptic conditions
10	Cooling Centrifuge	Microbiology Biotechnology, Botany	Sedimentation and separation of macromolecules
11	Rotary evaporator	Botany	Preparation of plant and tissue extracts, sample concentration
12	Vacuum concentrator	Biotechnology	Sample concentration
13	Inverted Microscope	Biotechnology, Botany	Observation of cells in Animal Cell Culture
14	Electrophysiological data acquisition and analysis system	Biophysics	Electrophysiological recordings
15	Solar water distillation unit	Biophysics	Generation of pure water for experimental purposes
16	Ultrasonic interferometer	Biophysics	Analysis of ultrasonic velocity and exposure
17	Thermoluminescence analyzer	Biophysics	Measurement of thermoluminescence glow curve

Table No. 11-B- Radiation facilities:

Gamma radiation chamber with Cobalt 60	Biophysics	Irradiation with gamma radiation to study mutation and variation in microbes, plants etc.
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C] Culture facilities: Separate facility with all accessories such as biosafety cabinets, laminar air flow cabinets and CO₂ incubator for microbial cultures and animal cell cultures.

D] Library facilities:

Table No. 12-Books and Journals

Sr. No.	Type of Reading Material	Total No. of Books & Journals
1	Text Books	6493
2	Reference Books	2101

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3	Journals	25
4	e-journals through N-LIST	3000+
5	e-books through N-LIST	97,000+

E] Computer and Internet facility:

Every Department has adequate computers with internet facilities. Well-equipped computer laboratory is being set up under DST-FIST scheme. UGC-NRC centre is created for students under UGC XIth Plan.

3.3.2 What are the institutional strategies for planning, upgrading and creating infrastructural facilities to meet the needs of researchers especially in the new and emerging areas of research?

A committee was constituted for the planning, execution and submission of proposals to the UGC, DST and other funding agencies for infrastructure development such as modernization of laboratories, central instrumentation facility, virtual classroom, computer laboratory, smart classroom, extension of laboratory buildings, modernization of library, etc. The research coordination committee has been constituted to streamline the research activities and up-gradation of facilities.

3.3.3 Has the institution received any special grants or finances from the industry or other beneficiary agency for developing research facilities?

No

3.3.4 What are the research facilities made available to the students and research scholars outside the campus/other research laboratories?

Academic linkages have been developed for availing PG training and research facilities and expert guidance with research organizations, Universities and other educational institutions,

- University Department Chemical Technology; Department of Physics Aurangabad.
- Government Pharmacy College, Aurangabad;
- Government Medical College, Aurangabad;
- YB Chavan College of Pharmacy;
- National Chemical Laboratory, Pune;
- Kamalnayan Bajaj Hospital, Aurangabad;
- Dhoot Hospital, Aurangabad, NCCS, Pune;
- IISc, Bangalore;
- Xcelris, Ahmedabad;
- Aditi Infotech, Nagpur;
- ONGC, Vadodara;
- School of Earth Science, SRTMU, Nanded;
- MRSAC, Nagpur;
- ACTREC, Navi Mumbai;
- Wadia Institute of Himalayan Geology, Dehradun;

3.3.5 Provide details on the library/ information resource center or any other facilities available specifically for the researchers?

The Institute provides library facility to the researchers. Following resources are made available specifically for the researchers:

Reference books, Journals, Archives, e-journals, N-LIST, laboratory manuals, Ph.D. theses, encyclopedias, lexicons, maps and topo sheets.

3.3.6 What are the collaborative research facilities developed/created by the research institutes in the college.

- An Atomic Absorption Spectrophotometer is installed in the Department of Geology which is used by all Departments for determination of metal concentration in the samples.
- The thermal cyler installed in Biotechnology Department is used by the other Departments for PCR based practical and research purposes.
- Thermoluminescence analyzer installed in Biophysics Department is used by all the departments for thermoluminescence based studies.
- Gamma chamber facility of the Biophysics department is used by all the departments for exposure to gamma rays.
- Inverted microscope with photographic attachment of Botany department is used by all the departments for culture based studies.

3.4 Research Publications and Awards

3.4.1 Highlight the major research achievements of the staff and students in terms of Patents obtained and filed (process and product)

1. Aniroodha V. Pethkar and Anirudh P. Bhagat, A method for purification and recovery of nanoparticles: provisional specifications filed in Indian Patents Office, Mumbai, December 2013 (Indian Patent No. 9350/MUM/2013).

3.4.2 Does the Institute publish or partner in publication of research journal(s)? If 'yes', indicate the composition of the editorial board, publication policies and whether such publications' listed in any international database?

The Institute does not publish or partner in publication of any research journal. However, a number of faculty members are on the editorial boards of various peer-reviewed International/National research journals.

Table No. 13- Details of faculty working on editorial board

Sr. No.	Faculty member	Designation	Name of Journal
1	Dr. A. V. Pethkar	Editorial Advisor	Journal of Environmental Research and Development (IF= 1.20)
2	Dr. (Mrs.) S. M. Dharmadhikari	Editorial member	Journal of Microbial World
3	Dr. (Mrs.) S. A. Peshwe	Editorial member	Shodhankan
4	Dr. (Mrs.) Saheera	Editorial member	IJSR International Journal,

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	Nasreen		JBAS
5	Dr. S. M. Deshpande	Editorial member	Bionano Frontier
6	Dr(Mrs) A.S.Vinchurkar	Editor	Trends in life sciences
7	Dr(Mrs) A.S.Vinchurkar	Editor in chief	Trends in biotechnology Research
8	Dr(Mrs) A.S.Vinchurkar	Member of Editorial advisory board	DAV international J of sciences

3.4.3 Details of publications by the faculty and students (Last Five Years)**Table No. 14 – A- Total number of publications of faculties for last five years**

Sr. No	Name of Faculty	Total number of Publications
1	Prof. Sahera Nasreen	17
2	Prof. R. A. Satpute	09
3	Dr. (Mrs.) A. S. Vinchurkar	05
4	Dr. (Mrs.) S. M. Dharmadhikari	11
6	Dr. (Mrs.) S. A. Peshwe	09
7	Dr. S. M. Deshpande	14
8	Dr. M. A. Sonar	04
9	Dr. A. V. Pethkar	07
10	Dr. A. N. Salve	05
11	Dr. K. M. Wanjarwadkar	01
12	Dr. J. J. Bhuktar	04
13	Dr. A. N. Dongare	06
14	Dr. M. S. Patil	04
15	Mr. I. R. Gupta	07
16	Mr. R. P. Bhagat	04
18	Ms. A. D. Naik	02
	TOTAL	109

Table No.14 . B- Number of papers published by faculty and students in peer-Reviewed journals

Sr.	Name of Faculty	Type of Publications	Name of Journal	Impact factor	ISSN No.
Publications in 2011					
1	Prof. Sahera Nasreen	National	Indian Journal of Scientific Research	2.5	0976-2876
2	Prof. Sahera Nasreen	International	Journal of Eco biotechnology		2077-0464
3	Prof. Sahera Nasreen	National	Bioinfolet	0.06	0973-1431
4	Prof. Sahera Nasreen	International	Annals of Pharmacy and Pharmaceutical Sciences	0.076	0976-125x
5	Prof. Sahera Nasreen	International	Chiang Mai University Journal of Natural Science	0.033	1685-1994

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6	Prof. Sahera Nasreen	Natioinal	Bioinfolet	0.06	0973-1431
7	Prof. R. A. Satpute	National	Journal of Experimental Sciences 1 (1)	-	2218-1768
8	Prof. R. A. Satpute	International	International Jour. of Pharm Tech Research 3 (1)	-	0974-4304
9	Prof. R. A. Satpute	National	Journal of Experimental Sciences 2,(4)	-	2218-1768
10	Prof. R. A. Satpute	National	PKV Research Journal, 35 No.1, ,	-	ISSN: 0378-813X
11	Prof. R. A. Satpute	National	Journal of Experimental Sciences 1 (1)	-	2218-1768
12	Dr. (Mrs.) S.M. Dharmadhikari	National	Journal of Microbial World 13(1), 78-84.	-	0972-1487
13	Dr. (Mrs.) S.M. Dharmadhikari	International	Bionano Frontier 4(2), 221-223.	0.045	ISSN 0974-0678
14	Dr. (Mrs.) S.M. Dharmadhikari	International	Journal of TIDEE, 10(2) 171-176.		
15	Dr. (Mrs.) S.M. Dharmadhikari	International	International Journal of Biotechnology and Biosciences 1(4), 480-485.	-	2231-0304
16	Dr.(Mrs.) S. A. Peshwe	International	Bionano Frontier-An International Journal of Science & Technology Vol. 4(1):162-167.	0.045	ISSN 0974-0678
17	Dr.(Mrs.) S. A. Peshwe	National	Journal of Microbial World Vol. 13(1):68-73.	-	0972-1487
18	Dr.(Mrs.) S. A. Peshwe	International	International Journal of Biotechnology and Biosciences: Vol. 1(4):458-462.	-	2231-0304
19	Dr.(Mrs.) S. A. Peshwe	International	International Journal of Biotechnology and Biosciences: Vol. 1(4): 486-489		2231-0304
20	Dr. S. M. Deshpande	National	<i>Gondwana. Geological Magazine</i> vol. 26 (2),pp.157-162	-	0970-261X
21	Dr. S. M. Deshpande	International	Int. Jour. of Environment & Earth Sciences vol.1 (1), 19-25	-	0976-741X
22	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science And Technology, vol. 1 (3), 91-95.	1.2068	2249-8109
23	Dr. S. M. Deshpande	International	<i>Bionano Frontier</i> Jour. of Inter. Soc. of Sci. & Tech, vol.4 (1) 157-161	0.045	0974-0678

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24	Dr. A. N. Salve	International	Environ. Sci. Pollut. Res. 18 :1129–1138.	2.75	1614-7499
25	Dr.(Mrs.) J.J.Bhuktar	International	Bionanofrontier. 4((2):228-233.	0.031	0974-0678.
26	Dr.(Mrs.) J.J.Bhuktar	International	International Journal of Biotechnology and Biosciences. 1 (2): 204-213.	-	2231-0304
27	Dr.(Mrs.) J.J.Bhuktar	International	International Journal of Biotechnology and Biosciences.1(4):437-443.	-	2231-0304
28	Dr. A. G. Jadhav	International	Journal of Microbial World, 2011.	-	0972-1487
29	Dr. A. G. Jadhav	International	Bionano Frontier, 2011, Vol. 4(2) 203 – 205 (2011).	0.045	0974 – 0678
30	Dr. A. N. Dongare	International	Geochemical Journal, v. 45, pp. 79-85.	1.942	1880-5973
31	Dr.A.S.Vinchurkar	International	International J of Biological macromolecules	2.453	
32	Dr.A.S.Vinchurkar	National	Bionano Frontier	0.045	0974-0678
Publications in 2012					
1	Prof. Sahera Nasreen	National	Journal of Air, Water and Soil Pollution	2.5	
2	Prof. Sahera Nasreen	National	Indian Journal of life sciences		
3	Prof. Sahera Nasreen	National	International Organization of Scientific Research		
4	Prof. Sahera Nasreen	National	Bioscience Discovery		
5	Prof. Sahera Nasreen	National	IOSR Journal of Pharmacy		
6	Prof. Sahera Nasreen	International	Bionano Frontier	0.045	ISSN 0974 – 0678
7	Prof. R. A. Satpute	International	International Journal of Recent Trends in Science & Technology,2(3)	1.2068	2249-8109
8	Prof. R. A. Satpute	National	Current Botany, 2012, (2):2012	-	2220-4822
9	Prof. R. A. Satpute	National	Ecologies & Fisheries 5(1): 2936, 2012.	-	0974-6323
10	Dr.(Mrs.) S.M. Dharmadhikari	International	International Jour. of Current Research, 4(2), 083-087.Online		0975-8333X
11	Dr. (Mrs.) S.M. Dharmadhikari	International	Journal of Pure and Applied Microbiology 6 (3),	0.065	
12	Dr.(Mrs.) S. A. Peshwe	International	Bionano Frontier Jan-June 2012: 26-27	0.045	0974-0678
13	Dr.(Mrs)	National	Science Research Reporter		2249-

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	S. A. Peshwe		2(1): 46-50.		2321
14	Dr. S. M. Deshpande	International	Jour. of Applied Geochemistry Vol. 1. pp.10-15.	-	0972-1967
15	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology. Vol.4, pp:120-124.	1.2068	2249-8109
16	Dr. S. M. Deshpande	International	International Journal of Environment and Earth Sciences. Vol. 1, pp. 36-49.	-	0976-741X
17	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology, vol.3 (1), 91-95.	1.2068	2249-8109
18	Dr. S. M. Deshpande	International	Res. Jour. Chem. Sci., vol. 2(1), 25-31.	-	0972-0626
19	Dr. A. V. Pethkar	International	Journal of Environmental Research and Development, 6 (3A): 594-600	1.2	ISSN: 0973-6921
20	Dr. A.V. Pethkar	International	Journal of Environmental Research and Development, 6 (3A): 645- 652.	1.2	ISSN: 0973-6921
21	Dr. A.V. Pethkar	International	African Journal of Microbiology Research, 6 (24): 5173-5178.	0.533	ISSN: 0973-6921.
22	Dr. A. N. Salve	International	Trends in Biotechnology Research .1(1) : 7-14		ISSN: 1996-0808.
23	Dr. A. N. Salve	International	Trends in Life science Vol. 1(2) pp 34 – 40		
24	Dr. A. G. Jadhav	International	European. Jour. Exp. Biol, 2012, (2 (5):1550-1555		ISSN: 2248 – 9215 CODE N (USA) : EJEB AU)
25	Dr. A. G. Jadhav	International	Bioinformation Vol. 9, Accepted (online) 0973-8894 (print)		ISSN 0973-2063
26	Dr. A. N. Dongare	National	Gondwana Geological Magazine, Special Publication no. 13, pp.25-36.	-	ISSN: 0970-261X
27	Mr. I. R. Gupta	International	Acta Horticulturae (ISHS) 963:69-77.		

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28	Mr. Rahul Bhagat	International	Int. Jour. Med. Arom. Plants 2(4):579-588.		
29	Dr.A.S.Vinchurkar	National	Trends in Fisheries Research	0.045	
30	Dr.A.S.Vinchurkar	International	DAV international J of Science	0.378	
31	Dr.A.S.Vinchurkar	National	Trends in Parasitology Research	5.14	
Publications in 2013					
1	Prof. Sahera Nasreen	International	European Journal of Experimental Biology.2013,3(1):144-152,	1.0	ISSN 2248-9215
2	Prof. Sahera Nasreen	International	International Journal of Scientific Research, 2013. 2(4) 19-21,	1.4	0973-1547
3	Prof. Sahera Nasreen	National	Indian Journal of Research, 2013. 2(3) 9:10.	1.19	
4	Prof. Sahera Nasreen	National	Indian Journal of Applied Research, 2013. 3(5) 57:59.	0.8215	2249-555X
5	Prof. Sahera Nasreen	International	Asian Academic Research Journal of Multidisciplinary, 2013. 1(12) 91:98		
6	Dr. (Mrs.) S.M. Dharmadhikari	International	Pelagia Research Library: European Journal of Experimental Biology, 3(1):434-442.		2248-9215
7	Dr. (Mrs.) S.M. Dharmadhikari	National	In Indian Journal of Applied Research 3(6),2013.	0.8215	2249-555x
8	Dr. (Mrs.) S.M. Dharmadhikari	International	Bionano Frontier.Vol.6, Issue-2	0.045	0974
9	Dr.(Mrs.) S. A. Peshwe	International	Bionano Frontier Jan-June 2013: 29-32.	0.045	0974
10	Dr.(Mrs.) S. A. Peshwe	National	Indian Journal of Applied Research 3(6): 241-243	0.8215	2249-555X
11	Dr (Mrs.) S. A. Peshwe	National	Indian Journal of Applied Research 3(6): 433-436.	0.8215	2249-555X
12	Dr. S. M. Deshpande	International	Jour. of Applied Geochemistry, 15, pp.: 201-212.	-	0972-1967
13	Dr. M. A. Sonar	National	Journal of Geological Society of India 81, 665-676	0.576	ISSN: 0016-7622
14	Dr. M. A. Sonar	National	Journal of Paleontological Society of India58,195-203	-	ISSN: 0552-9630
15	Dr. M. A. Sonar	National	Journal of Earth System Science,122, 149-161	0.95	ISSN: 0253-4126

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16	Dr. M. A. Sonar	National	Journal of Paleontological Society of India 58, 195-203	-	ISSN: 0552-9360
17	Dr. A.V. Pethkar	International	Materials Science Forum Vol. 757 (2013), Trans Tech Publications, Switzerland, pp 285-293.	0.3.	ISSN: 1662-9752
18	Dr. A. N. Salve	National	Textiles and Light Industrial Science and Technology (TLIST) 2 (1):27-35.	-	ISSN : 2304-9421
19	Dr. A. N. Salve	International	Int. Jour. of Pharma and Bio Sci. 4(3) : B : 385-395.	2.958	ISSN: 0975-6299
20	Dr. K. M. Wanjarwadkar	International	Jour. Geol. Soc. India. Vol. 81(4), PP. 549-555.	0.576	0016-7622
21	Dr. A. G. Jadhav	International	Bionano Frontier Vol. 6 (1), 2013 ISSN 094 – 0678	0.045	0974-0678
22	Dr. A. N. Dongare	National	Journal of the Geological Society of India, v. 82, pp. 485-494.	0.576	0016-7622
23	Dr. A. N. Dongare	International	Lithos, v. 196, pp. 150-168.	3.691)	0024-4937
24	Dr. A. N. Dongare	International	Geochemical Journal (in press).	1.942	1880-5973
25	Dr. A. N. Dongare	International	Journal of Asian Earth Sciences (under review)	2.301	13679120
26	Dr. M. S. Patil	National	Water Air Soil Pollution 224:1755.	1.8	
27	Mr. I. R. Gupta		Current Nanoscience 9 (5): 576-587(12)		
Publications in 2014					
1	Prof. R. A. Satpute	International	International Journal of Recent Trends in Science and Technology, 9(3), January 2014		2277-2812
2	Dr. (Mrs.) S.M. Dharmadhikari	International	Journal of Applied Research 04(07), pp8-10.	2.1652	2249-555X
3	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology, Vol. 11, No.1, Pp105-108.	1.2068	2249-8109
4	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology, Vol. 11, No.1, Pp105-108.	1.2068	2249-8109
5	Dr. S. M. Deshpande	National	Gondwana Geological Magazine Vol 14, pp. 177-	-	ISSN: 0970-

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			185.		261X
6	Dr. S. M. Deshpande	National	Gondwana Geological Magazine Vol 14, pp. 167-176.	-	ISSN: 0970-261X
7	Dr. A. V. Pethkar	International	Journal of Environmental Research and Development, 8 (4): 945-954.	2.4	ISSN: 0973-6921
8.	Dr. A. N. Salve	National	Journal of Environmental Research and Development, 9 (1): 945-954.	0.609	ISSN: 0973-6921
9.	Dr.Mrs. S.M. Dharmadhikari	National	Indian Journal of Applied Research 3(6): 241-243	0.8215	2249-555X

C. Number of publications listed in International Database (for e.g.Web of Science, Scopus, Humanities International Complete ,Dare Database- International Social Sciences Directory, EBSCO host,etc.)

Number of publications listed in International Database- 45

D] Monographs: Nil

E] Chapter in Books

1. **Gupta I. R.**, Sarkar B.,and Rai M. (2014) Deciphering Nanotoxicity on Zebrafish Model. In ‘Advances in Biochemistry and Biotechnology’. Eds. Biplab Sarkar and Chiranjib Chakraborty, Astral International, New Delhi : pp 67-80.
2. Rai, M., Ingle, A., **Gupta, I.**, Gaikwad, S., Gade, A., Rubilar, O. and Duran, N. (2014). Cytotoxicity and genotoxicity of copper nanoparticles. In ‘Nanotoxicology, Nanomedicine and Nanotoxicology’. Eds. N. Duran et al. 325-345. Springer Science Business Media, New York.
3. Rai, M., Ingle, A., Gaikwad, S., **Gupta, I.**, Yadav, A., Gade, A., Duran, N. (2014) Fungi Myconanofactory, Mycoremediation and Medicine. CABI Publication. (In Press).
4. **Gupta, I.**, Duran, N. and Rai, M. (2012). Nano-Silver Toxicity: Emerging Concerns and Consequences in Human Health. In ‘Nano-Antimicrobials: Progress and Prospects’. Eds. Rai M, Cioffi, N, 7: 525-548. Springer Verlag, Germany.

F] Books Edited- Books with ISBN/ISSN numbers with details of publishers

1. Dr. Ulhas Patil, Dr. Ketan Narkhede, **Dr. Ajay Jadhav** and Dipmala Bhandari, A text Book of **Principles of Microbiology** (111. ElementaryMicrobiology, 121. Microscopy and basics biochemistry, FY B. Sc. Semester I Paper I and II) **ISBN 81-7815-031-X**. Vrinda Publications, Jalgaon.

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2. Dr. Ulhas Patil, Dr. Ketan Narkhede, **Dr. Ajay Jadhav** and Dipmala Bhandari, A text Book of Principles of Microbiology (121. Cell biology of Microbiology 122. Methods in microbiology) **ISBN 81-7815-032-8**. Vrinda Publications, Jalgaon.
3. **Sahera Nasreen**, Research in aerobiology. Sahitya Sagar Publication, Kanpur, ISSN No.-/ISBN-No 978-81-920352-2-2.
4. **Sahera Nasreen**, Antimicrobial agents from plants, publisher Lambert Germany
5. **A.N. Dongre**, D.B. Malpe and S.M. Deshpande (Eds.) (2012). Recent Developments in Researches on Geology and Mineral Resources of India. Gondwana Geological Magazine, Spl. Publ. no. 13, 197p.
6. **A.S.Vinchurkar** (Ed) Electrophysiological Characterisation of snake venoms, Lambert academic publishing
7. **A.S.Vinchurkar** (Ed) Neutralisation of snake venom by physical agents. Lambert academic publishing
8. **A.S.Vinchurkar** (Ed) Neutralisation of snake venom by chemical agents. Lambert academic publishing.
9. **A.S.Vinchurkar** (Ed) Snake venoms: physiological and pharmacological study.. Lambert academic publishing.

3.4.4 Provide details (if any) of Research awards received by the faculty

- **Dr A. N. Dongre-**
 - Received **Young Researcher Award- 2009** (National Geo-science Award old National Mineral Award) given by **Government of India, Ministry of Mines** for carrying research on south Indian kimberlites.
 - Received two years (26.10.2014-26.10.2016) Post Doctoral research fellowship from Johannesburg University, Johannesburg, South Africa.
- **Dr.R.R.Deshpande**
 - Received Best Teacher Award by Rotary Club, Aurangabad
- **Dr. (Mrs.) Saheera Nasreen**
 - Conferred with “Jewel of India” award by Indian Solidarity Council in New Delhi in 2007.
- **Dr. (Mrs.) Saheera Nasreen**
 - Conferred with eminent citizen of India award by National and International compendium, New Delhi in 2007.
- **Dr. (Mrs.) Saheera Nasreen**
 - Conferred with Rashtriya Vidya Saraswati Puraskar by International Institute of Education and management New Delhi in 2007

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- **Dr. A. V. Pethkar**
 - Awarded the Best Poster Presentation award in the International Congress of Environmental Research ICER-13 held at Maulana Azad College, Aurangabad in December 2013

- **Mrs. V. N. Wadekar**
 - Selected as a Summer Research Fellow (SRF-2013) by Indian Academy of Science Bangalore as IASc-INSA-NASI Fellow and successfully completed summer project in Indian Institute of Science Education and Research (IISER), Pune under the guidance of, Dr. Mayurica Lahiri, Molecular Biology Division during 2nd May -2^{9th} June 2013.

- **Mrs. V. N. Wadekar**
 - Awarded by Indian Academy of Sciences for successful completion of summer research project. The award includes Complementary copy of Academic publication “Lilavati’s Daughters”, complimentary one year subscription of Academy Journal on science education ‘Resonance’ and a web page on Science Academy’s website.

- **Dr. Mrs. S. M. Dharmadhikari**
 - Best paper award in oral presentation at Nat. Conf. on Microbial Technology for sustainable Agriculture .

- **Mr. I. R. Gupta**
 - Received Travel Grant from Indian Council of Medical Research, Government of India, for presentation of research paper in International Conference on Environmental Science and Biotechnology, Kuala Lumpur, Malaysia.

Recognition received by the faculty from reputed professional bodies and agencies, nationally and internationally.

Dr. R. R. Deshpande

- Life Member of Bharatiya Vidya Bhavan, Association of World Citizens, Indian Trust for Art and Cultural Heritage (INTACH)
- Advisor for Ajanta and Ellora Development Plan during 1991-93.
- Chief Co-ordinator of CLEAN India program of Development Alternatives, New Delhi supported by European Commission and Central Pollution Control Board and Foundation Ensemble, France implemented by Bharatiya Vidya Bhavan, Aurangabad Centre
- Advisor- DBT Science College- Vidya Pratishthan’s Arts Commerce and Science College, Baramati under DBT-Star College scheme
- Chairman, DST-DSIR Project Review Committee constituted by DST-DSIR, Government of India, New Delhi on project sanctioned to Nirmal Seeds Pvt. Ltd., Pachora, Dist. Jalgaon
- Member Governing/Management Council of four Autonomous and Deemed Universities; Member, National Green Corps, Aurangabad District Committee (Harit Sena).
- Advisor on Ellora Biotech Pvt Ltd. Aurangabad
- Prof. Sahera Nasreen is Life Member of Indian Phytopathology society

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- Dr. Mrs S.A. Peshwe, Dr. Mrs S.M. Dharmadhikari, Dr. A. V. Pethkar: Life members of Association of Microbiologists of India.
- Dr. Mrs S.A. Peshwe, Dr. Mrs S.M. Dharmadhikari, Dr. A. V. Pethkar, Dr. A. G. Jadhav and Dr. (Mrs.) J. J. Bhuktar :Life members of Microbiologists Society India
- Dr. (Mrs.) S. M. Dharmadhikari is Life Member of Society of Human Genetics.
- Mr. S. G. Kulkarni, Dr. (Mrs.) A. S. Vinchurkar and Mrs. V. N. Wadekar are Life Members of Indian Biophysical Society.
- Mr. S. G. Kulkarni was Academic Co-ordinator, Aurangabad District and national verifier for National Children’s Science Congress, DST, Government of India.
- Dr. A. V Pethkar is Life Member of Association of Microbiologists of India and Fellow Member of JERAD.
- Dr. A.N. Salve is Life Member of Krishnamurthy Institute of Algology.
- Dr. A.N. Salve is Life Member of Indian Science Congress.
- Dr. Mrs. S. M. Dharmadhikari and Dr. Mrs M. S. Patil are life member of Biotech Research Society of India.
- Dr. Mrs. M. S. Patil is Life member of ‘Indian Society of Pharmacognosy’, Vidisha, M.P.
- Dr. A. N. Dongre and Dr. K. M. Wanjarwadkar are Life members of the Geological Society of India, Bangalore.
- Dr. K. M. Wanjarwadkar is Life Member of Palaentological Society of India and The Gondwana Geological Society and the International Organization of Palaeobotany.

Incentives given to faculty for receiving state, national and international recognitions for research Contributions.

The Institute promotes the faculty members to undertake research activities and get associated with National/International academic bodies.

3.5 Consultancy

3.5.1 Give details of the systems and strategies for establishing institute-industry interface?

Efforts are being taken to initiate student centric activities for their overall development under “STEP-IN” (STudents EmPowerment INitiative), an initiative venture to establish Industry-Institute Advisory Forum and implement action programs for Human Resource Development in respective fields. Our vision statement of STEP-IN is, “to be most admired Industry-Institute advisory forum engaging youngsters in education and equip tomorrow’s workforce with relevant skills by linking with industry requirements” to march towards mission as follows -

“We will inculcate employability/entrepreneur skills in the students by high quality academic experience, developing performance competencies through hands on training in modular employable skills and helping them to meet job-fit skill requirement of the industry”

Strategy for execution of activities under STEP-IN

1. Establish strong between Industry and Institute co-ordination
2. Develop and Translate Campus to Corporate curricula
3. Undertake skill development initiatives by blending modular employable

4. skill programs

Line of Action

1. To establish strong rapport between Industry and Institute.
2. To encourage the exchange of knowledge to student learners regarding intricacies of industrial sectors.
3. To design/blend industry-need based curriculum to meet the skill-force requirement.
4. To arrange special lectures of eminent persons from industries and institutions.
5. To organize Entrepreneur Development Programs in association with the industry and related organizations.
6. To inculcate research aptitude among the students by undertaking mini/major/minor research projects of mutual benefits.
7. To organize seminars, symposium, conferences, workshops and short term trainings.
8. Placement through campus interviews programs in collaboration with industries.
9. To design, blend and execute short term training programs leading to skill development among the students at large to increase the employability of the students, in collaboration with related industries.
10. To promote students to participate in in-plant training programs in related industries/organizations
11. To create awareness, assessment, action & advocacy program related to conservation of material, architectural and natural heritage.
12. To establish strong Community Led Environment Action Network (CLEAN) in association with the industry by implementing action programs for cleaner and greener neighborhood.

3.5.2 What is the stated policy of the institution to promote consultancy? How is the available expertise advocated and publicized?

Consultancy services are implemented as per the Resolution of Government of Maharashtra. Various Departments of this Institute render consultancy services as per the expertise available.

Table No-15 Details of consultancy offered

Sr. No.	Name of Department	Consultancy Offered
1.	Geology	<ul style="list-style-type: none">➤ Consultancy of groundwater exploration➤ Water analysis for trace elements➤ Geological field guidance.➤ Consultation for rain water harvesting and conservation of water.
2	Botany	<ul style="list-style-type: none">➤ Taxonomical identification of Fungal cultures➤ Fungal identification of samples from forensic laboratories.➤ Mushroom cultivation

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3	Microbiology	<ul style="list-style-type: none">➤ Microbiological analysis of contaminants from food beverages and pharma industries.➤ Antimicrobial susceptibility tests.➤ Potability of water.➤ Effluent analysis.➤ Provision of Microbial culture collection
4.	Biophysics	<ul style="list-style-type: none">➤ Gamma irradiation facility
5.	Biotechnology	<ul style="list-style-type: none">➤ PCR based identification and amplification➤ Certification of establishment of Biotech based small scale industries.

3.5.3 How does the institution encourage the staff to utilize their expertise and available facilities for consultancy services?

- Institute encourages the staff by permitting them to share their expertise for consultancy services by utilizing institutional facilities.
- The Director of the Institute acts as an interface between the industries and NGOs, and according to their requirements, instructs the Departments to render their consultancy services.
- The Institute encourages the faculty for consultancy provided by them by appreciating their efforts and success of their contribution.
- The Institute organizes meetings with industrial experts through Institute -Industry Interaction Cell and motivates them to undertake consultancy services/industrial/corporate projects in their specialized fields.

3.5.4 List the broad areas and major consultancy services provided by the institution and the revenue generated during the last four years.

Broad areas of consultancy services offered by the departments of the Institute and revenue generated during last four year through these services are given below:

Table No-16-Details of consultancy offered

Sr. No.	Consultancy Offered	Revenue generated (Rs.)
1	Consultancy of groundwater exploration	45,400
2	Gamma irradiation facility	6200
3	Microbiological analysis of pharma products	3000
4	Providing and Identifying Fungal cultures	4,000

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5	Supply of microbial cultures to students and affiliated colleges of Dr. BAMU.	Free-of -cost
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3.5.5 What is the policy of the institution in sharing the income generated through consultancy? (Staff involved: Institution)and its use for institutional development?

The income from consultancy services is deposited in the office and its utilization is as per the Government norms.

3.6 Extension Activities.

3.6.1 How does the institution promote institution-neighbourhood-community network and student engagement, contributing to good citizen ship,service orientation and holistic development of students?

Institute has initiated and has successfully promoted Institution-neighborhood-community network and carried out various activities through NSS unit.

- The Institutional activities not only sensitize and make students aware of societal needs and issues, but they also help the local community in turn.
- Organized ‘Swachhata Abhiyan’ on the occasion of Mahatma Gandhi Jayanti.
- Organized Health checkup and Blood donation camp.
- Organized rallies creating awareness about Polio and AIDS
- Through Folk form of mass communication, street plays, the awareness about science is spread door to door within community.
- Villages were adopted and various beneficial activities have been carried out in and around villages viz. organization of seminars, farmer meet, Swachhata Abhiyan etc.
- Cleaning the campus within and around the Institute along with NSS volunteers.
- Organized Slogan and Poster Competition for students on the theme of energy conservation to create its awareness.
- Tree plantation activity involving faculty and students of the Institute and neighborhood.
- A Program entitled “Jagar Janivaanvcha” an initiative by Ministry of Higher and Technical Education, Government of Maharashtra was organized in the Institute to encourage the female students higher education. Under this aegis various programs were organized viz. felicitation of female alumni of the Institute gracing prestigious positions in their career, health awareness camp in association with Shanta-Govind Medical Foundation, Aurangabad.
- Students are motivated to attend the Flag hoisting ceremony on National days and Marathwada Mukti Sangram Day, Maharashtra Day,
- Students organize special days celebrations such as Teachers’ Day Celebrations, Guru Pournima,

3.6.2 What is the Institutional mechanism to track students’ involvement in various social movements/activities which promote citizenship roles?

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- The Institute has constituted Students' Council through proper election process. The General Secretary and representatives of various committee viz. Cultural, Sports, NSS, Ladies' representatives and all members of students' council are actively involved in organization of various programs throughout the year within Institute.
- Encouraged members of the students' council to participate in Bharatiya Chhaatra Sansad events organized by Maharashtra Institute of Technology, Pune.
- Encouraged students to participate in organic waste disposal project under CLEAN India program organized by Bharatiya Vidya Bhavan, Aurangabad Kendra in association with Development Alternatives, New Delhi.
- Students take suo-motto initiative and leadership role in organization of various activities like Welcome and Farewell events and Teachers' Day. They plan and execute such activities under the guidance of faculty of departments.
- Students are actively involved in organization of National Environmental Day, Annual social gathering. By taking leadership role and group involvement they have organized various events viz. Science and Technology Exhibition, Poster Competition, Slogan competition, Debate, Seminars, different cultural programs etc.
- **Organization of various programs under STEPIN**– Students EmPowerment INitiative specifically designed for students' overall growth leading to make them good citizens. Student-centric activities are organized under this initiative as listed hereunder:
 - Created awareness of Voting Rights of the individuals amongst the students and staff through SVEEP (Systematic Voters Education and Electoral Participation) by taking oath for Parliamentary Elections and by organizing various competitions like Rangoli, Drawing, Painting, Debate, Essay and Sports and awareness rally through "Matadan Jagriti Abhiyan" for the State Assembly Elections.
 - A Program entitled "Jagar Janivaanvcha" an initiative by the Department of Higher Education, Government of Maharashtra was organized in the Institute to encourage the female students in higher education. Under this aegis various programs were organized Viz. felicitation of female alumni of the Institute gracing prestigious positions in their career, NET/SET guidance to the girl student etc. Providing Medical facilities in the campus in association with Shanta-Govind Medical Foundation, Aurangabad.
 - Organized Din-Vishesh programs like Savitri Bai Phule Jayanti, Shivaji Maharaj Jayanti, Dr. Babasaheb Ambedkar Jayanti etc., for students to get acquainted with social contributions of various social activists.

3.6.3 How does the institution solicit stakeholder perception on the overall performance and quality of the institution?

The overall performance and quality of the institute is evaluated by certain indices which are assessed and evaluated from time to time.

a) Performance of Teachers

- **Academic**- result performance, self-appraisal, students' feedback, Key Performance Indicator, feedback obtained through interactions in the Parents'- Teachers' meet.

- **Research-** participation and presentation of research papers in conferences, invited as resource persons in seminars, conferences, workshops and other events, research publications, nominations on various research advisory/reviewing committees/editorial boards, organization of seminars, conferences and training programs, undertaking and executing major and minor research projects, guiding research students for Ph.D. degree, working as experts and referees in other Universities for evaluation of Ph.D. theses and practical examinations and mentoring the projects of post graduate students.
- **Administrative-** Working on various committees constituted by the Institute, Director of Higher Education, affiliating University, management of Institutional and Departmental administration, such as college inspection, enquiry committee, purchase, library, research coordination, NAAC, IQAC, National Science Day, Affiliation, Training and Placement cell, membership of BOS/32(5)/RRC.
- Dr. R. R. Deshpande worked as Joint Director of Higher Education, Maharashtra State, Pune.

b)Performance of Students

- The curricular performance of the students was assessed on the basis of outcome of result, position in University Merit List, award of Inspire Fellowship, selection in reputed organizations and other credentials.
- Co-curricular performance of students was assessed on the basis of success in various International and National level competitive examinations, eligibility tests, industrial training, participation and presentation of research articles/posters in conferences/seminars and other special achievements.
- Extra-curricular performance of students was assessed on the basis of success in participation in Debate Competition, Quiz competition, Poster competition organized by affiliated and other Universities.

3.6.4 How does the institution plan and organize its extension and outreach Programs? Providing the budgetary details for last four years, list the major extension and outreach programs and their impact on the overall development of student.

Table No.-17- Organization of extension and outreach programs

Sr. No	Name of Extension and outreach Program	Budgetary Details	Overall impact
1	National Science Day Celebration (2008)	80,000/-	Creating scientific awareness and scientific temper
2	National Service Scheme (2008-2014)	2,14100/-	Inculcating social responsibility
3	Schemes under UGC (UGC-XI th Plan)	12,26000/-	Academic upliftment and Social sensitization of students and community
4	C.V. Raman Lecture Series (2013-14)	7500/-	Creating scientific awareness and scientific temper

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5	Annual Social Gathering (20012-13 & 2013-14)	29000/-	Inculcating leadership qualities and cultural awareness amongst the students at large.
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3.6.5 How does the institution promote the participation of students and faculty in extension activities including participation in NSS, NCC, YRC and other National /International agencies?

The Institute has constituted NSS unit which conducted following activities with the participation of students and faculty members:

- Students of NSS unit carry out regular activity of eradication of Parthenium grass.
- NSS unit conducts Blood Donation camp and cleanliness campaign.
- Health checkup camp is organized in the boys' and girl's hostel in association with Shanta Govind Medical Foundation.
- Special camp for creation of awareness about water conservation and conservation related conventional structures like construction of check dam (Vanrai Bandhara) and Continuous Contour Trenches (CCT).
- District orientation camp and Tree-plantation through NSS at Hanuman Tekadi and Gogababa Tekdi, Aurangabad.

3.6.6 Give details on social surveys, research or extension work (if any) undertaken by the college to ensure social justice and empower students from under-privileged and vulnerable sections of society?

The Institute has not undertaken any kind of social survey, research or extension work to ensure social justice. However, the Institute organized equal opportunity programs under the aegis of UGC- XI Plan for the underprivileged. The Institute adopted two villages under NSS program for empowering the students and community through interactive sessions.

3.6.7 Reflecting on objectives and expected outcomes of the extension activities organized by the institution, comment on how they complement students' academic learning experience and specify the values and skills inculcated.

Extension activities helped in inculcation of health awareness, environmental awareness, social responsibility, experiential learning, confidence and courage building, increase in perspectives towards the society, developments in communication skill and competitiveness.

3.6.8 How does the institution ensure the involvement of the community in its reach out activities and contribute to the community development ?Detail on the initiatives of the institution that encourage community participation in its activities?

- Under the NSS program, the Institute adopted two villages, viz. Waladgaon and Gavdari Tanda in Aurangabad Taluka and rendered services for the improvement of the village along with the participation of villagers. Students participated in digging

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of continuous contour trenching (CCT) and check dams and creating awareness of water conservation and watershed management amongst the villagers.

- Since the year 2005, Dr. R. R. Deshpande working as Honorable Secretary of Bhartiya Vidya Bhavan's Aurangabad Kendra. He initiated to establish unique solid waste disposal units in 10 prisons of Aurangabad region under the CLEAN India program in association with Bhartiya Vidya Bhavan Kendra, Aurangabad.
- Dr. R. R. Deshpande gave a presentation on "Organic waste management through city farming" at Workshop on Conservation of Cultural Heritage held at INTACH, Marwar, Jodhpur Chapter, Umaid Bhavan Palace, Jodhpur.
- Dr. R.R. Deshpande imparted knowledge in a Short Term Training Course on Chemical Conservation of Monuments organized at Aurangabad by Archeological Survey of India, Dehradun.
- Dr. R. R. Deshpande shared his knowledge as a resource person at UGC sponsored State Level Seminar on "Role of Microorganisms in Industrial Effluent Treatment" organized by KSK Arts, Science and Commerce College, Beed.

3.6.9 Give details on the constructive relationships forged (if any) with other institutions of the locality for working on various outreach and extension activities.

The Institute has forged constructive relationships with NGOs as mentioned below.

S. No.	Name of organization/NGO	Activity
1	Blood Bank, MGM Hospital	Blood donation camp
2	Dattaji Bhale Blood Bank	Blood donation camp
3	Lokmanya Blood Bank	Blood donation camp
4	Blood Bank, GMC, Aurangabad	Blood donation camp
5	Grampanchayat, Waladgaon	NSS activities
6	Grampanchayat, Gavdari Tanda	NSS activities
7	Bharatiya Vidya Bhavan, Aurangabad Kendra	CLEAN India program
8	Shanta-Govind Medical Foundation	Medical check-up and health counselling

3.6.10 Give details of awards received by the institution for extension activities and /contributions to the social/community development during the last four years.

Contributions made by faculties has been appreciated and recognized and felicitated by different social organizations

Dr.R.R.Deshpande

- The work related to environment protection for cleaner and greener neighbourhood by adapting the dictum "Think Globally Act Locally" carried out

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by Dr. R.R. Deshpande faculty of the Institute was appreciated and in terms of reward he was nominated as Honorable advisor on CLEAN (Community Led Environment Action Network) INDIA program of developmental alternatives, New Delhi to implement community related activities.

- The contribution of Dr. R. R. Deshpande was acknowledged and he was invited as Resource Person at Indo-Belgium workshop on “Biodeterioration and Conservation of Monuments” organized by Janssen Pharmaceuticals, Belgium and Archeological Survey of India, Government of India at Chennai.
- Work of Dr. R. R. Deshpande on Biodeterioration and Conservation of Monuments was appreciated through invitation as a Resource person at 6th National Conference of Indian Association of applied Microbiologists on Microbial Ecology, Biodiversity, Molecular Techniques and it's Prospects at Velure, Nammakkal, Tamilnadu.

Mr.S.G.Kulkarni

- Nominated as academic co-ordinator and National level verifier for Bal Vidnyan Congress by DST, Government of India

3.7 Collaborations

3.7.1 How does the Institution collaborate with Research laboratories, Institute and Industry for research activities? Cite examples and benefits accrued of the initiatives-collaborative research, staff exchange, sharing facilities and equipment, research scholarships etc.

Sharing facilities and equipment

- Collaborative Research and training programs involving local hospitals were executed by Biophysics Department with Kamalnayan Bajaj, Dhoot hospital and Mangal Medi centre Aurangabad to train the students in radiotherapy and medical imaging techniques.
- Analytical facilities are availed from Renowned Institutions like NCL, Pune, University Department of Chemical Technology, CDRI, Lucknow , IISc, Bangaluru, Wadia Institute of Himalyan Geology, Deharadun, IIT, Mumbai, NMU, Jalgaon, Aditi Infotech, Nagpur etc.

Staff Exchange

Institute is taking efforts to sign up MOU with some colleges and universities in respect of staff exchange and the collaborative research.

Benefits accrued

- Linkages and collaborations with various industries and organizations are benefitted for research students to performed their analytical work viz. Wockhardt Research centre/University department of chemical technology/Government college of pharmacy/Mangal Medi centre/Dhoot Hospitals/Government department of Forensic laboratories/IIT Mumbai/Wadia Institute of Himalayan Geology,Deharadun/Mahyco Research centre Jalna.

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3.7.2 Provide details on MOU's /Collaborative arrangement (if any) with Institutions of national importance/other universities/industries/corporate entities etc and how they have contributed to the development of the institutions?

- Department of Geology, Institute of Science has signed a MoU with School of Earth Sciences, SRTM University, Nanded. It has mutually benefitted the academia of both the sides in terms of utilization of resources, sharing of knowledge and ideas and collaborative research.
- Department of Geology, Institute of Science has signed a MoU with Auger Group, Inc. Dba Clearwater Group in Point Richmond, California USA.

3.7.3 Give details(if any) on industry- institution –community interactions that have contributed to the establishment /creation/up gradation of academic facilities, student and staff support, infra-structure facilities of the institutions namely laboratories/library/new technology/placement service etc.

Sr.No	Name of Industry	Type of interaction	Benefits
1	Wockhardt Research Institute	Through Head & Director recommendation	Placement
2	Ellora Biotech	Through Head & Director recommendation	Placement
3	ONGC, Vadodara	Through Head & Director recommendation	Training /Dissertation
4	MRSAC, Nagpur	Through Head & Director recommendation	Training /Dissertation
5	Aditi Infotech, Nagpur	Through Head & Director recommendation	Training /Dissertation
6	Allana	Through Head & Director recommendation	Implant Training

3.7.4 Highlighting the names of eminent scientist/participants who contributed to the events, provide details of National and International conferences organized by the college in last four years.

Sr. No	Conference / workshop / seminar	Organized by	Invited Speakers	Year of Organisation
1	Seminar series was conducted under National	Institute of Science,	i) Mrs. Angha Patil , Director, Dilasa	2007-08

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	Science Day celebrations organized under the aegis of National Council for Science and Technology and Rajiv Gandhi Science and Technology Commission, Government of India.. The theme of the program was “Understanding the Planet Earth”.	Aurangabad	Foundation (NGO), Aurangabad ii) Dr. D.G. Deshkar, Editor, Jalsamvad, Aurangabad; iii) Prof. Musande, WALMI, Aurangabad; iv) Prof. Dadhich, AUCA, Pune; v) Dr.R.R. Deshpande, Aurangabad; vi) Dr. Mrs. Khadilkar, Dilasa Foundation (NGO), Aurangabad	
2	A unique awareness program on “Basic Principles of Microbiology with reference to techniques used to study bio-deterioration and conservation of Monuments” for the students of Diploma in Archeology, Archeological Survey of India, New Delhi.	Organized by Department of Microbiology in association with Archeological Survey of India, Dehradun and Aurangabad	i) Shri. Mangiraj, Dy. Suptd. Archeological Chemist. ASI, Aurangabad ii) Shri. Manager Sing Dy. Suptd. Archeological Chemist. ASI, Ajanta Caves, Ajanta.	2007-08
3	National Seminar on emerging Trends in Biodiversity and Environment, 26-27 February,2010	Institute of Science, Aurangabad in association with Dr. Babasheb Ambedkar Marathwada University.	i) Principal Dr. Wadood Khan ii) Dr. G.K. Kulkarni iii) Prof. Mohd. Mussadiq iv) Prof. A.S. Dhabe v) Prof. D.S Mukadam	2009-10
4	Workshop on Revised syllabus	Department of Microbiology	Dr. A.M. Deshmukh, Dr. P. R. Puranik	2009-10
5	State level SAM workshop sponsored by UGC	Institute of Science, Aurangabad	Dr. V.V. Godse	2010-11
6	Organisation of National Conference on - Recent Developments in Geology and Mineral Resources of India	Organized by Department of Geology.	Dr. D.B. Yedekar Ex. Vice Chancellor, SRTMU, Nanded; Prof. N.J. Pawar, Vice Chancellor, Shivaji Univ. Kolhapur; Dr. N.V. Chalpatirao,	2010-11

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			BHU, Varanasi; Prof. Talat Ahmad, Delhi Univ.	
7	One day Workshop on IPR and Patenting was organized under the aegis of UGC. (Department Development Fund UGC XI plan)	Post graduate Department of Microbiology	i) Dr. S. M. Kulkarni, Scientist, WOKHARDT Research Centre, Aurangabad. ii) Dr. Pravin R. Puranik Associate Professor, North Maharashtra University, Jalgaon iii) Dr. Sanket Kulkarni Advocate, High Court, Aurangabad. iv) Dr. Mrs. K. P. Puranik Patent Consultant, Jalgaon.	2011-12
8	Two days skill initiative program training program was organized for under graduate teachers in Microbiology under the aegis of UGC. (Department Development Fund UGC XI plan)	Post graduate Department of Microbiology	Dr. Mrs. S.M. Dharmadhikari Dr. Mrs. S.A. Peshwe	2011-12
9	Two days workshop on preparation and guidance for NET/SET examination was organized under the aegis of UGC.(UGC XI plan)	Institute of Science	Dr. Ulhas Patil, Shirpur Dr. Aniket Gade, Dr. Ravi Dhande Dr. Parijat Roy	2011-12
10	Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities.	Post graduate departments of Microbiology, Biotechnology, Botany , Biophysics and Geology.	i) Dr. D.C. Meshram, Univ. of Pune, ii) Dr M.V. Baride iii) Prof. P.P. Kundal iv) Dr. AM. Varde v) Dr. Parijat Roy vi) Prof. S.J. Sangode vii) Prof. D.B. Malpe viii) Dr. S.N. Patil ix) Prof. S.C. Patel x) Dr. Y.A. Murkute xi) Dr. Arun Kharat, Director, Academic Staff College, Dr. BAMU	2011-12

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			xii) Dr. Mane, HoD, Dept. of Chemistry, Dr. BAMU xiii) Dr. Bapu Shingte; xiv) Dr. Chondekar, Dep. of Zoology	
11	International Lecture series on Risk analysis and sustainable remediation of environmental resources under the aegis of UGC. (Career Council Cell of the Institute under UGC XI Plan)	Dep. Of Geology and Care Water Group- Water Alliance, California, USA	Dr. James Jacob, Hydrogeologist Stephen Jacob Bakar, Hydrogeologist	2011-2012
12	Three Day Workshop On Communication Dynamics and Interview Skills under the aegis of UGC.(Equal Opportunity Cell of the Institute under UGC XI Plan)	Institute of Science, Aurangabad	Mr. Amit Bagchi, Director, National Institute of Education, Aurangabad.	2012-13
13	One week SAM women Workshop for development of women staff at higher level sponsored by UGC.	Institute of Science, Aurangabad	Dr. V.V. Godse Dr. Datar	2012-13
14	Organized one day workshop on M.Sc Microbiology Syllabus revision under the aegis of Dr. B.A.M.U, Aurangabad	Post graduate departments of Microbiology	Prof. A. M. Deshmukh, Head, Dept. Of Microbiology, Dr. Babasaheb Ambedkar Marathwada University Sub campus, Osmanabad. Dr. M.G. Bodhankar, Prof. D.Y. Patil College, Pune. Mr. Shrikant Kulkarni, Scientist, Wockhardt Laboratories Ltd, Aurangabad. Dr. Neelam Arora, Manager QC, Atra Pharma Ltd. Aurangabad	2013-14

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15	Lecture series on 'Electrophysiology' September 2013	Post graduate department of Biophysics	Dr A.V.Kulkarni Asso.Prof. Medicity Institute of Medical Sciences, Hyderabad.	2013-14
16	Lecture series on "Medical Imaging and Biomechanics" in December 2013	Post graduate department of Biophysics	Mr C.G .Chinawale Asst..Prof. from C.U.Shah Medical College, Surendranagar, Gujrat	2013-14
17	lecture series on "ESR and NMR spectroscopy" in September 2013	Post graduate department of Biophysics	Dr A.V.Kulkarni Asso.Prof. Medicity Institute of Medical Sciences ,Hyderabad	2013-14
18	Seminar on Bioinformatics and Computational Biology.	Post graduate department of Biophysics	Dr. Urmila Kulkarni- Kale, Information Scientist , Bioinformatics Center Pune University ,Pune	2013-14
19	Guest Lecture on Miracles of Nanotechnology	Post graduate departments of Microbiology	Dr. Dilip R. Peshwe Head, Metallurgy Dept. VNIT, Nagpur	
20	Gandhian Thoughts	Post graduate departments of Microbiology & Geology	Mr. Berni Meyer, American Gandhi, USA	
21	Water purification methods and world peace	Post graduate departments of Microbiology & Geology	Mr. Larry Kerschner, Environmentalist, Vietnam	
22	Scope and oppurtunities in Biotechnology	Post graduate departments of Biotechnology	Prof. P. B. Papdiwal, Dept. of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	
23	Structural features of Biomolecules	Post graduate departments of Biotechnology	Prof. R.T. Mahajan Biotechnology Dept. MJ college Jalgaon	
24	Lecture series on Biostatistics	Post graduate departments of Biotechnology	Dr. Mungikar Retd. Professor, Botany Dept. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	

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25	Workshop on Implementation of Revised Syllabus	Microbiology	i) Dr. A.M. Deshmukh, DR.BAM University Sub-Center, Osmanabad ii) Dr.Bodhankar, Bhartiya University, Pune iii)Dr. Shrikant Kulkarni, Wockhardt, Aurangabad;Smt. Arora, Atra Pharma, Aurangabad	
26	National Science Day	Institute of Science	i) Dr. Sahib ii)Mr. Khose iii) Dr. Rajendra Joshi	2013-14

3.7.5 How many of the linkages/collaborations have actually resulted in formal MoUs and agreements? List out the activities and beneficiaries and cite examples (if any) of established linkages that enhanced and /or facilitated

- a) Curriculum development :BOS is authority to decide curriculum
- b) Internship: Linkages established with various industries/ Organizations for summer/implant training.
- c) On-the-job training : Allana / BDAPaithan MIDC, Dist. Aurangabad.
- d) Faculty exchange and development: As a member of BOE faculty exchanged for Examination/Resource persons/Referee for Evaluation of Ph.D work
- e) Research :
1. MoU between Dept. of Geology of Institute of Science and School of Earth Science of Swami Ramanand Treeth Marathwada University (SRTMU), Nanded regarding hydrogeological studies has fetch wide state level recognition to the Institute.
 2. MoU between Dept. of Microbiology of Institute of Science and Yogeshwari Mahavidyalaya, Ambajogai affiliated to Dr. Babasaheb Ambedkar Marathwada University regarding academic and research activities.
- f) Consultancy and Extension : As per the requirements of Industries/Individuals work is being carried out.
- g) Publication : MoU between Dept. of Geology of Institute Science and The Gondwana Geological Society, Nagpur for publication of the proceedings of the National Conference has yielded a publication as special volume- A.N. Dongre, D.B. Malpe and S.M. Deshpande (Eds.) (2012). Recent Developments in Researches on Geology and Mineral Resources of India. Gondwana Geological Magazine, Spl. Publ. no. 13, 197p.
- h) Student placement : Forty five students were placed in different Industries / Institutions and organizations.
- i) Twinning programs : Nil
- j) Introduction of new courses : Nil
- k) Student Exchange : Nil

l) Any other : Nil

3.7.6 Details on systematic efforts of institution in planning, establishing and implementing the initiatives of the linkages/collaborations.

- Decided goals, aims and objectives for the overall development of students and Institute, planning was made by interacting with different industries and other organizations.
- Industries and various organizations responded by selecting the students for various implant trainings and summer training/dissertations.
- Through Training and Placement cell post graduate and research students were recruited through campus interviews and off- campus selection.
- Received consultancy serves from industries.
- Institute in association with industries organizing short term training programmes on soft skill development.
- Platform is created for academic and research work due to linkages developed with School of Earth Science of Swami Ramanand Treeth Marathwada University (SRTMU), Nanded and Yogeshwari Mahavidyalaya, Ambajogai affiliated to Dr. Babasaheb Ambedkar Marathwada University.
- Linkages and collaborations with various industries and organizations are benefitted for research students to performed their analytical work viz. Wockhardt Research centre/University department of chemical technology/Government college of pharmacy/Mangal Medi centre/Dhoot Hospitals/Government department of Forensic laboratories/IIT Mumbai/Wadia Institute of Himalayan Geology, Deharadoon/Mahicco Research centre Jalna.

Any other relevant information regarding research, consultancy and extension which college would like to include-

Research

- New Collaborative Research Program: : Academic collaboration with open university UK & Dept. of Geology, Banarus Hindu University to work on Kimberlites of Eastern Dharwad Craton, South India (2008-09).
- Director of the Institute permits Instrumental facility services to Researchers outside of the Institute as per their demand.

Consultany

- Providing Geological mapping and hydrogeological survey to individuals and other organizations like – National Grid Corporation, India at Chitegaon.
- Providing advice for conservation of monuments with petrological study of archaeological samples- specially plaster of monuments

Extension

- Library services provided to the ex-students, other college students, research scholars and teachers of other institutions.
- Dr. R. R. Deshpande has designed and executed Short Term Training Program on
 - Analytical Microbiology for distillery chemist.
 - Microbial Limit Test for pharmaceutical and food preparation.
 - Term training program in Analytical Microbiology

CRITERIA-III RESEARCH, CONSULTANCY AND EXTENSION.....

- Prepared Ready to Refer Laboratory Manual specifically designed for aforesaid training programs.
- Dr.R.R.Deshpande has organized one day workshop on organic waste disposal through city farming management to school students of Sant Gadage baba educational and multipurpose Prathisthan's Varaha Mihir kendre and vidyan School,Mitmita.
- Farmers Meet was organized at Tongaon, Dist. Aurangabd on the theme "**Grow Better in Less Water**". The event was addressed to near about hundred farmers by Prof. H.K. Kausadikar, and Dr. Kazi from Maharashtra Agricultural University and Dr. S.M. Deshpande from Govt. Institute of Science, Aurangabad.

Initiatives taken by the institution for extension activities:

- National Conference organized by Department of Geology
- Organization of one week National science day open to the general community to participate in various competitions like debate, essay, quiz, science and technology exhibition.
- Organization of popular lecture series and slide shows, street plays, folk forms to communicate science to common man under National Science Day Celebrations.
- Organization of farmers' meet in villages to convey the message of energy, soil and water conservation and importance of biofertilizers, awareness of health and hygiene.
- One day Workshop on IPR and Patenting was organized in the Microbiology Department under the aegis of Department Development Fund UGC XI plan sponsored by UGC, New Delhi.
- Awareness about voting rights of the citizens was carried by organizing rally, verbal communication with individuals, display of posters and stickers in the neighborhood, etc.
- Two days skill initiative training program was organized in the Microbiology Department for the Under Graduate Teachers in Microbiology under the aegis of Department Development Fund UGC XI plan sponsored by UGC, New Delhi.
- Two days' workshop on preparation and guidance for NET/SET examination was organized in the Microbiology Department under the aegis of UGC XI plan sponsored by UGC, New Delhi. The workshop covered the basic science streams, viz. earth sciences and life sciences.
- Three Day Workshop on Communication Dynamics and Interview Skills- Equal Opportunity Cell of the Institute under UGC XI Plan.
- One week SAM women Workshop for development of women staff at higher level, sponsored by UGC, New Delhi.
- Students and faculty of Biotechnology Department visited Navjivan – a centre for mentally retarded children and arranged a nature visit for them.

Contribution of the institution through various extension activities, outreach programs, partnering with NGOs and GOs:

- The various extension activities and outreach programs conducted by the Institution has resulted in increased awareness amongst the general public about awareness related to health and hygiene by organizing blood donation camp and AIDS awareness rally on International AIDS Day.

CRITERIA-III RESEARCH, CONSULTANCY AND EXTENSION.....

- Awareness of Environmental protection is created in the society by organizing the following events.
- **Popular lectures** and slide shows were organized on the theme “KNOW YOUR NATURAL RESOURCES AND NURTURE THE NATURE” in different local schools as a part of National Science Day 2007 celebrations under the aegis of NCSTC Govt. of India and RGCSTC, Govt. of Maharashtra
- **Science and Technology Exhibition** organized based on Eco Awareness for school and college students in the form of posters still models and working models as a part of National Science Day 2007 celebration
- **Street play was conducted** at local railway station, central bus stand and Begumpura on the topics, ‘POPULATION EXPLOSION AND ITS ILL EFFECT’ & ‘WATER SCARCITY AND MANGEMENT’ as a part of National Science Day 2007 celebrations
- **Radio Talk** on Nature’s enrichment via sustainable development was broadcast on Yuva Vani, Vidnyan Varta and Wasundhareche Ruun on All India Radio as a part of National Science Day 2007 celebration

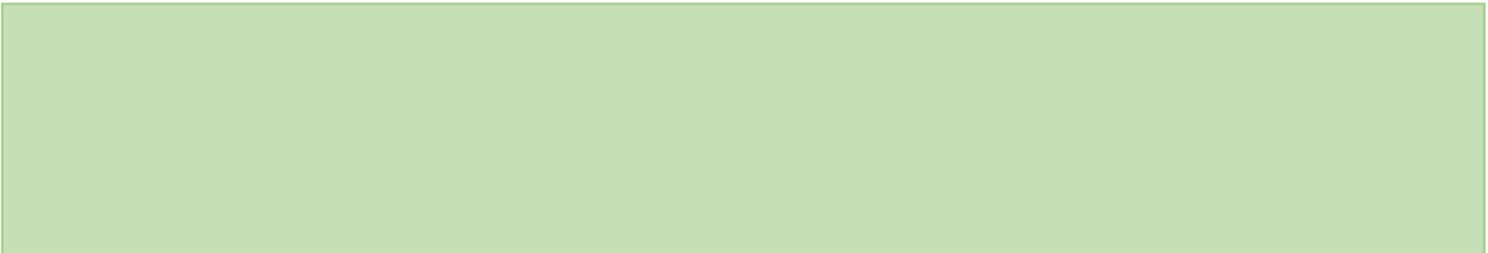
- **Action Project implemented:** Solid Waste management using Vermi Biosanitizer and Sujala Biosanitizer (7 day Program) at Aurangabad Central Prison, Nashik Central Prison, Paithan Open Prison, Academic Staff College of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Nanded District Prison, Osmanabad District Prison, Dhule District Prison, Jalgaon District Prison, Shri Kshetra Tuljabhavani Trust Public School (Tuljapur, District Osmanabad), Shri Kshetra Renuka Mata Temple (Mahur District, Nanded), Shri Tuljabhavani Temple (Tuljapur, District Osmanabad) and at the Ha, De, Mahotsav organized by S. P. Society, Pune at H. D. High School, Solapur.
- **Action Project implemented:** Solid waste management using Vermi⁺⁺ Biosanitizer & Sujala biosanitizer 7 day program by pit method (19-9-08) at Parbhani District Prison (Parbhani)
- **Solid waste management** using City farming drum method plus biosanitizer at Mrs. Rajani Bhogale’s Bungalow, Mitra Mandal Colony, Osmanpura (Aurangabad) organised by All Women Social Responsibility Society, AWSRS (Aurangabad), Kendriya Vidyalay, Nagar Naka, Army Cantonment (Aurangabad)
- **Solid waste management** City farming Rally cum Exhibition at Police ground National Program (Aurangabad).
- **Solid Waste management** using innovative 7 days cyclic method with vermin⁺⁺ Biosanitizer at Pride park, Vedant Nagar (Aurangabad), Mayor’s Bunglow, AMC (Aurangabad), Government Institute of Science (Aurangabad), Golegaon Village (Rural area), Near Jatwada (Aurangabad), Row houses Khinwsara Park, Garkheda

CRITERIA-III RESEARCH, CONSULTANCY AND EXTENSION.....

(Aurangabad), Kanchanwadi (Aurangabad), Refreshers course, Staff Academic College, Dr. Babasaheb Ambedkar Marathwada University (Aurangabad), Dr. Mrs. Vaishnov's Bungalow, Heritage Society, Osmanpura (Aurangabad), Dr. Mrs. Kapsikar's Bungalow, Tilak Nagar (Aurangabad), Nutan School, AMC, Jublee Park (Aurangabad), Nawab Jane Galli, Shahganj (Aurangabad), Beed District Prison (Beed),



CRITERIA IV: INFRASTRUCTURE AND LEARNING RESOURCES



CRITERION IV - INFRASTRUCTURE AND LEARNING RESOURCES

4.1. Physical Facilities

4.1.1. What is the policy of the Institution for creation and enhancement of infrastructure that facilitate effective teaching and learning?

The Institute has a well-defined policy of augmenting infrastructural facilities as a catalyst for ensuring academic excellence. New infrastructure is created and existing is upgraded to enhance academic standards and increase efficiency. Moreover, constant and proper monitoring of infrastructure has helped the optimal usage of the existing facilities.

The Institute reviews the existing situation and submits the plan as per the requirements to the State Government through Director of Higher Education; Pune. Then the State Government makes provision in plan and non-plan budget. From non-plan budget the Institute meets recurring expenses. The Institute, being managed by State Government, Department of Higher Education, and every year plan and non-plan budgetary provision is made in the following manner:

A. Plan and non-plan provision for expenditures on existing academic and administrative system

Every year in the month of April, the Institute takes review of its expected recurring and non-recurring requirements for the ensuing academic year.

Non-Plan Budget

- The complete Proposal for non-plan budget is submitted to the Director of Higher Education for further processing.
- After complete scrutiny of the requirements, permission for budget under different heads is made out of the provision allotted at the disposal of the Director of Higher Education, Pune.

Plan Budget

- For plan budget, self-explanatory proposal is submitted separately to the Department of Higher Education, Government of Maharashtra, through Director of Higher Education.
- The Director of Higher Education, in turn recommends the proposal to the Government after scrutiny for further approval.

B. Provision for Construction and Expansion

- For the purpose of construction, plan in blue –print form and estimates are obtained from Building and Construction Department, Aurangabad.
- A justified proposal along with the plan and estimates is submitted for approval to the Department of Higher Education, Government of Maharashtra, through Director of Higher Education.
- Director of Higher Education after scrutiny and satisfaction recommends the proposal to the Department of Higher Education, Govt. of Maharashtra for approval.
- After the approval, the proposal is submitted to the Finance Department of Government of Maharashtra separately for budgetary provision through proper channel well in advance, so as to enable the department to take the necessary action and complete the required procedure of demanding inclusion of the proposal and making a provision for the same in the state budget.

- The minor repairs, renovation and general maintenance is executed by Public Works Dept. Aurangabad using common grants for building maintenance.

4.1.2. Details of the facilities available for a) Curricular and co-curricular activities – classrooms, technology enabled learning spaces, seminar halls, tutorial spaces, laboratories, botanical garden, Animal house, specialized facilities and equipment for teaching, learning and research etc.

Institute campus admeasuring 101171.41 m² with a built up area of 1223.9 m² includes three laboratory buildings, administrative building, library building, multipurpose hall, boy's and girl's hostel buildings, Director's bungalow, Class IV staff quarters. Guest house building is under construction. The five academic departments are housed in three laboratory buildings, having similar layout and room structures. The details of the dimensions are as follows

Curricular and co-curricular facilities

Sr. No.	Description of the facility	Number	Area in Sq.mts.
1	Class room- 1 (M.Sc. I)	1	55.66
2	Class room- 2 (M.Sc. II)	1	58.06
3	Faculty Chambers	3	34.82
4	Staff Room	1	46.40
5	Laboratories	1	2314.60
		2	2314.60
6	Research Laboratories	1	2271.70
7	Instrumentation Room	1	55.66
8	Boy's common Room	1	41.76
9	Girl's common Room	1	41.76
10	Departmental Library	1	41.76
11	Store Room	1	92.88
12	Dark Room	1	58.06
□ Above dimensions mentioned are similar for each department.			
13	Auditorium/Multipurpose Hall	1	589.59
14	Play Ground	1	12,600
15	Garden	1	1,089
16	Central Computing Center (Network Resource Center)	1	34.82
17	Central Library	01	745.38
18	Reading Room	01	109.82
19	Administrative Office	01	720.00
20	Parking Area	01	40.26
21.	Director's bungalow	1	129.36
22.	Class IV staff Quarter building	1	151.46
23.	Girl's Hostel	1	1599.32
24.	Boy's Hostel	1	1521.05

25.	Gamma Chamber	1	225.0
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Equipment for Academic Support

Sr. No.	Equipment	Number
1	LCD Projectors	08
2	OHP	04
3	Computer systems with all accessories	66
4	Printers	28
5	Scanners	10
6	Fax Machine	01
7	Photocopy Machine	03
9	Video Camera	01
10	Still Camera	02
11	UPS	02
12	Public Address System	01
13	Refrigerators in various Departments	15
14	Podium	06

b) Extracurricular activities: sports, outdoor and indoor games, gymnasium, auditorium, NSS, NCC, cultural activities, Public speaking, communication skills development, yoga, health and hygiene etc.

Sr.No.	Extracurricular Activities	Details of Extracurricular Activities
01	Sports & Athletics	<ul style="list-style-type: none"> ➤ The institute has facilities for sports (outdoor & indoor) viz. Badminton, Carrom, Volley Ball, Table Tennis, Chess, Cricket, Football (Soccer) & events in athletics (single bar, sprinting). ➤ Various sports events and extracurricular activities are organized in the Institute ensuring a holistic development of the students. ➤ The students are encouraged to participate in intercollegiate and University sports events, youth festival etc. provided with travel Concessions for participating in various Competitions. ➤ During the sports events, special kits and other necessary sports accessories are made available by the Institute to the participating students. ➤ The prize winners of the various sports activities are felicitated with prizes/certificates
02	NSS	<ul style="list-style-type: none"> ➤ Since 1996-97, NSS is effectively functioning in Institute. ➤ The students are encouraged to participate in NSS activities. These activities are used to inculcate social concern in their minds especially for the community development, women empowerment, spread of literacy and promotion of peace and harmony. <ul style="list-style-type: none"> □ Some noteworthy activities of the NSS unit are: <ol style="list-style-type: none"> 1. Tree plantation drive. 2. Cleanliness drive in campus & surrounding locality 3. Teachers Day celebration on 5th September. 4. Women's day- 8th March. 5. Annual Training Camp. 6. Ten days of residential camp in villages. 7. <i>Blood donation camp</i>

03	Cultural Events & Multipurpose Hall	The cultural committee provides a platform to the students to participate in various competitions and socio-cultural events. The main aim of the cultural committee in hosting cultural events is to build up and nurture confidence in the students, ensure an all-round development and encourage qualities like organizational ability, leadership, public speaking, team spirit, sportsmanship, crisis management etc. The cultural committee organizes a number of lectures on various current issues that imbibe the moral values in students. An auditorium with a sitting capacity of three hundred is used for conducting annual social gathering and conferences, workshops, meetings and other academic events. It is also used for indoor games.
05	Yoga, health and hygiene etc.	Monthly visit of ladies and Gent's doctor is arranged. All the Departments are equipped with first aid facilities. In addition, medical facilities are also available for students staying in the hostel.
06	Public speaking	The students participate in various events nurturing the public speaking.
07	Communication skills development	Communication skills development training programme was organized for betterment of students.

4.1.3. How does the institution plan and ensure that the available infrastructure is in line with its academic growth and is optimally utilized? Give specific examples of the facilities developed/augmented and the amount spent during the last four years (Enclose the Master Plan of the Institution/campus and indicate the existing physical infrastructure and the future planned expansions if any).

The detailed layout plan of the Institute is as follows.

The detailed layout plan of the Institute

Sr. No.	Building No.	Ground Floor	First Floor
1	Administrative building	Director's Office, Administrative Office, Central store, Wash Room	IQAC/ NAAC Office, Women's Redressal Cell, Record Room, Meeting Hall
2	Library Building	Stack Room, Reading Room, Reference Section, Librarian's Cabin, Wash Room	Periodical section, Store Room
3	Laboratory building 1	Department of Botany	Department of Geology
4	Laboratory building 2	Department of Microbiology	Department of Biotechnology
5	Laboratory building 3	It is temporarily allotted to Govt. Institute of Forensic Science.	Department of Biophysics

Facilities augmented for academic and administrative purpose

Sr No.	Department	Facilities Available
1	Botany	<ul style="list-style-type: none"> ● Herbarium and Museum ● Instrumentation facilities ● Photography room
2	Microbiology	<ul style="list-style-type: none"> ● culture room ● A walk-in cold room (5 °C) ● Instrumentation facilities ● Gas Chromatography

3	Biotechnology	<ul style="list-style-type: none"> • culture room • Instrumentation facilities • Gradient PCR machine • Microprocessor based table top fermentor • Smart classroom proposed (FIST)
4	Biophysics	<ul style="list-style-type: none"> • A unique facility of Co-60 gamma irradiation system procured from B.A.R.C., Trombay, Mumbai. . • PC based Thermo luminescence analyzer • Electrophysiology data acquisition system. • Instrumentation facility.
5	Geology	<ul style="list-style-type: none"> • Water analysis laboratory • Remote Sensing Laboratory • Rock, fossil and Mineral Museum • Thin section preparation • Petrological Analysis laboratory • Micropalontology laboratory
6	Administrative Building	<ul style="list-style-type: none"> • Director's chamber, • Registrar's chamber, • Different sections of the office viz.: • Establishment section, Academic section, account section, Inward/Outward section, • Central store, • NAAC/IQAC room, • Staff meeting hall, • Women's Redressal Cell • Record room.
7	Multipurpose Hall	<ul style="list-style-type: none"> • Acoustic arrangement. • Seating capacity of 300. • Public address system • Badminton court • Table tennis table.

4.1.4 How does the institution ensure that the infrastructure facilities meet the requirements of students with physical disabilities?

- The institute is committed to make the stay of differently-abled students comfortable.
- It ensures that the infrastructure facilities meet the requirement of the students with physical disabilities by accommodating their classes and library facility on the ground floor, providing comfortable furniture.
- The needs of the physically challenged are further taken care of by the supporting staff.

4.1.5. Give details on the residential facility and various provisions available within them:

➤ **Hostel Facility Accommodation Available:**

- **Ladies hostel:** Ladies hostel has the capacity of 60 inmates. Mess hall, Common room, Warden's residence and necessary amenities are available in the hostel.

- **Boys Hostel:** The boy's hostel has the capacity of 60 inmates. Warden's residence, playground, Mess hall, Common room and necessary amenities are available in the hostel.

➤ **Recreational facilities**

Recreational facilities are available in the Hostel.

➤ **Computer facility including access to internet in hostel.**

Computer and net facilities are available in the institute during official hours.

➤ **Facilities for medical emergencies:**

Monthly visit of ladies and Gent's doctor is arranged. In emergency Hostel's rector arranges to admit the student to Government Medical Hospital, Aurangabad.

➤ **Library facility in the hostels**

Library facilities are available in institute library and department library. News papers are made available in girls and boys hostel.

➤ **Available residential facility for the staff and occupancy**

Rector quarter, Director's quarter and quarters for class – 4 employees are available on the campus.

➤ **Constant supply of safe drinking water**

It is maintained in the hostels

➤ **Security**

The Institute has 24 X 7 security guards. The services of the security are outsourced from security agency.

4.1.6. What are the provisions made available to students and staff in terms of health care on the campus and off the campus?

The provisions made available to the students and staff in terms of health care on the campus and off the campus include.

On the Campus

- First aid boxes are available in every Department.
- The Health checkup camp is organized.
- Health awareness programmes are organized.

Off the Campus

In case of emergency students are referred to the adjacent DKMM Medical College and Hospital and Government Medical Hospital, Aurangabad.

4.1.7. Give details of the Common Facilities available on the campus – spaces for special units like IQAC, Grievance Redressal unit, Women's Cell, Counseling and Career Guidance, Placement Unit, Health Centre, Canteen, recreational spaces for staff and students, safe drinking water facility, auditorium, etc.

Sr. No.	Unit	Facilities
1	IQAC	Furnished office in administrative building.
2	Grievance Re- dressal unit	Grievance boxes are installed in all Departments. The grievances are addressed by the Grievance Redressal committee in the Administrative building.
3	Women's Cell	Facility available in administrative building.

4	Counseling and Career Guidance/ Placement Cell	Facility available in the Microbiology Department.
5	Health Center	Facility made available in the respective hostels.
6	Canteen	Not Available
7	Recreational Spaces for Staff and Students	Indoor game facilities are available.
8	Safe drinking water facility	Water cooler with aqua guard facility is provided.
9	Auditorium	Well-furnished auditorium with acoustic and sitting capacity three hundred is available.
10	NSS	NSS office is in Geology Department.
11	Vehicle Parking	Is available for Staff and Students.
12	Play ground	Play ground where cricket, volleyball, football and athletics is available.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of such a committee. What significant initiatives have been implemented by the committee to render the library, student/user friendly?

The Institute has constituted Library committee, which advises the overall functioning of the library - purchase / subscription of the books, journals etc required by each Department. The constitution of the committee is as follows:

Sr. No.	Name	Designation
1	Dr. R. R. Deshpande	Director
2	Dr. R. A. Satpute	Chairperson
3	Mr. S. G. Kulkarni	Member
4	Dr. Sahera Nasreen	Member
5	Dr. Mrs. S. M. Dharmadhikari	Member
6	Dr. S. M. Deshpande	Member
7	Dr. A. N. Dongre	Member
8	Mr. H.P. Pannakal	Member
9	Mr. S.N. Jadhav	Member

10	Dr. Mrs. S. P. Bidarkar (Librarian)	Member Secretary
11	Student Representative	Ex-officio member
12	Ladies Representative	Ex-officio member

Following initiatives have been taken and implemented by the committee:

- 1) Brings better understanding of the role of the library among users.
- 2) Advises in
 - Book selection.
 - Framing the policies.
 - Providing best possible services to the users.
 - Making decisions on administrative and technical matters related to the library.
 - Organizing student centric activities.
- 3) The Committee monitors the allocation and utilization of the budget for different departments for purchase of books and journals.
- 4) Reviews suggestions received from the library users for appropriate implementation.
- 5) To review the stock verification report and recommend to write off the lost books

User-friendly initiatives:

- The librarian is supported by one assistant and one library peon who ensure the smooth functioning of the library. The cordial, co-operative and the informed staff of the library keep the library user-friendly by making the dealings easy and comfortable.
- Open access is provided to all the students.
- Electronic Book Search facility - Author-based, Subject-based, Title-based and Publisher based have been processed and being installed for automated functioning of the library to make the transactions easier.
- Access to e-books and e-journals through INFLIBNET etc., are some of the user friendly initiatives.
- The e-books on CDs are available for ready reference.

4.2.2 Provide details of the following:

- **Total area of the library (in sq. mts)**
- **Total seating capacity**
- **Working hours(on working days, on holidays, before examination days, during examination days, during vacation)**
- **Layout of the library(individual reading carrels, lounge area for browsing and relaxed reading IT zone for accessing e- resources)**

Well ventilated, lighted and furnished two storied partially automated library and reading room with following specifications is available in the premises

Library Area Specifications

Sr. No.	Particulars	Specifications
1	Total area of the Library	745.38 sq mt
2	Total area of the Library (Reading Room)	109.82 sq mt

Seating capacity Specifications

Sr. No.	Particulars	Specifications
1	Total seating capacity for students	50
2	Total seating capacity for staff	15

Working hours (on working days, on holidays, before examination days, during examination days, during vacation)

Sr.No.	Particulars	Specifications
1	On working days	9.30 a.m. – 5.45 p.m.
2	Before Examination	9.30 a.m. -5.45p.m.
3	During Examination days.	9.30 a.m.- 10 p.m.
4	During vacation	9.30 a.m. – 5.45 p.m.
5	Holidays	10.00 a.m. -6.00 p.m.

Layout of the library (individual reading tables, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)

Interior layout plan of the Library is attached.

Ground floor	First Floor
Acquisition, Technical, Reference, Periodical Section, Stack Room, User IT Zone, Reading Room	Periodical Section(Bound Volumes), Store Room
	Proposed Research Cubicles

4.2.3 How does the library ensure purchase and use of current titles, printed e-journals and other reading materials? Specify the amount spent on procuring new books, journals and e-resources during the last four years

- Every year a certain amount is earmarked for the purchase of library books and journals.
- First preference is given to current titles, reference books and journals related to the syllabus.
- The Heads of the departments provide the list of required books as per the syllabi and number of copies of the texts and reference books.
- The librarian contacts the suppliers of book agencies.

- As per the budgetary provision, the books and other reading material are purchased.

The following table provides details of the amount spent on procuring library resources

Library holdings	2010-11		2011-12		2012-13		2013-14	
	Number	Amount (Rs)	Number	Amount (Rs)	Number	Amount (Rs)	Number	Amount (Rs)
Text Books	85	61105.05	313	273446.10	123	129094	10	34996
Reference e-Books	32	65055.95	95	118864.90	38	120104	12	37835
Journals /Periodic als	34	3,62,987	30	356302	28	483216	25	446251
e-Resources	2100+J 51000+ Books	5000.00	3000+J 75000+ Books	5000.00	3000+J 75000+ Books	5000	6000+J 97000+ Books	5000
Any Other CD	77	-	-	-	-	-	-	-
Digital database	-	-	-	-	-	-	Lectures & Animations 9373	---

4.2.4 Provide details on the ICT and other tools deployed to provide maximum access to the library collection?

- **OPAC**
- **Electronic Resource Management package for e-journals**
- **Federated searching tools to search articles in multiple databases** □Library Website.
- **In-house/remote access to e-publications:**
- **Library automation**
- **Total number of computers for public access** □Total numbers of printers for public access:
- **Internet band width/ speed**
- **Institutional Repository**
- **Content management system for e-learning**
- **Participation in Resource sharing networks/consortia (like INFLIBNET)**

ICT Facility	Particulars
OPAC	Open-access in library is available for all the users. SOUL WEB OPAC with one terminal is installed for collection searching.
Electronic Resource Management package for e-journals	The library augments its collection by subscribing to INLIBNET's N-LIST Package for e-books and e-journals
Federated Searching Tool used to search Articles:	NIL
Library Website	Information is available on the Institutes website
In-house/remote access to e-publications	Through Personal ID provided by N-LIST.
Library Automation	Registered open access system, library automation using the software SOUL 2.0 which is state-of-the-art library automation software designed and developed by the INFLIBNET. It is user-friendly software developed to work under client-server environment. Computerized management of library operation, Computer based retrieval of information. Bar coded books for searching purpose
Total number of computers for public access	The library has 04 computers for public access. Users are also allowed to use the computers to access the e resources and to use internet facility
Internet band width/Speed	Internet facility with VPN connectivity with speed 256 kbps speed is available in the Library. Staff and students avail this facility. Library provides internet facility as well as the access to e journals and e-books under N-LIST program to library users.
Institutional Repository	Repository of back question papers is available in the library. Library database is compatible with SOUL 2.0. Preparation of the database of IIT lectures is in progress
Content management system for e-learning	Implemented department wise
Participation in Resource sharing networks/consortia (like INFIBNET)	Yes institution is making use of the INFLIBNET Facilities. Institution has access to more than 6000+ e-journals and 97,000+ e books through program entitled "National Library and Information Services infrastructure for Scholarly Content" (NLIST)"by INFLIBNET funded by the Ministry of Human Resource development under its National Mission on Education through ICT.

Among the other facilities offered by the library are Institutional Repository, printing etc. The support facilities available in the library are as follows:

- Internet facility to students, researchers and staff.
- Audio and Video learning content in CD and DVD format.
- Access to e-journals and e-books.
- Computers with printer
- UPS facility for Un-interrupted lighting

4.2.5 Provide details on the following items:

- Average number of walk-ins
- Average number of books issued/returned per day
- Ratio of library books to students enrolled
- Average number of books added during last three years
- Average number of login to OPAC
- Average number of login to e-resources
- Average number of e-resources downloaded/printed
- Details of “weeding out” of books and other materials
- Number of information literacy trainings organized

Particulars	Number
Average number of walk-ins	65
Average number of books issued/returned per day	85
Ratio of library books to students enrolled	38:1
Average number of books added during last three years	971 per year
Average number of login to OPAC	23 per day
Average number of login to e-resources	35 per day
Average number of e-resources downloaded / printed	32 per day
Details of “weeding out” of books and other materials	Once year.
Number of information literacy trainings organized <ul style="list-style-type: none"> • Every year, a literacy training programme is organized for all first year students. • Book exhibition organized • Lecture Series was organized on the occasion of Dr. S. R. Ranganathan Birth Anniversary. • “Dr. A.D. Agate <i>Grantha Dalan</i>” consisting of valuable collection of donated books and research papers of Late Dr. A. D. Agate, Ex. Director, Agharkar Research Institute, Pune and well known Geomicrobiologist of International repute. 	

4.2.6 Give details of the specialized services provided by the library

- **Manuscripts:**
- **Reference:**
- **Reprography:**
- **ILL (Inter Library Loan Service):**
- **Information deployment and notification (Information Deployment and Notification)**
- **Download: Yes Printing:**
- **Reading list/ Bibliography compilation:**
- **In-house/remote access to e-resources:**
- **User Orientation and awareness:**
- **Assistance in searching Databases: Available INFLIBNET/IUC facilities INFLIBNET**

Details of the specialized services

Specialized services	Details
Manuscripts:	NIL
Reference:	The reference service is provided to all readers. The external users are allowed for referencing purpose.
Reprography	Photocopying facility is available. Printing facility is available in the library.
ILL (Inter Library Loan Service):	Yes, books are given on loan basis to other institutions. Students of other institutions are allowed to refer the reading material.
Information deployment and notification (Information Deployment and Notification) :	New arrivals displayed; Information and Notification put on Notice Board of the Library. Book exhibitions are organized every year.
Download:	Yes
Printing:	Printing facility is available
Reading list/ Bibliography compilation:	Available
In-house/remote access to e-resources:	Available
User Orientation and awareness:	User Orientation program is conducted for all first year students in library.
Assistance in searching Databases:	The library offers OPAC facility. The Librarian and library staff is always available to provide assistance in database search.
INFLIBNET/IUC facilities INFLIBNET	N-LIST facility with individual ID for each user in the institute is provided.

4.2.7 Enumerate on the support provided by the Library staff to the students and teachers of the college.

Location	No of	Laser	Scanner	UPS	LCD	Photocopying	Fax
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The Library staff is always at the service of the library users and extends all required support. Support provided by the library staff to the students and teachers of the college is of the following type:

- Information support
- Book reservation facility
- Search and location assistance for printed as well as e-learning resources through NLIST and other educational web-sites
- Reprographic facility printing
- OPAC
- Book- Bank facility
- Archival services making available University syllabus, and previous years' question papers
- Displaying —New Arrivals prominently

4.2.8 What are the special facilities offered by the library to the visually/physically challenged persons? Give details.

The library staff willingly helps such students as and when required. Physically disabled students are given special preference in issuing books. Visually challenged persons not yet admitted in the institute within this tenure.

4.2.9 Does the library get the feedback from its users? If yes, how is it analyzed and used for improving the library services. (What strategies are deployed by the Library to collect feedback from users? How is the feedback analysed and used for further improvement of the library services?)

Yes, a feedback register for visitors and suggestion box for in house users is kept in the library. Periodic analysis of feedback is carried out and valid suggestions are considered by the library committee.

In order to improve the services of the library the following practices are implemented in the library

- Library has kept a suggestion box which is opened once a month. The Suggestions are discussed and solutions are prescribed.
- The Director conducts random sample survey among students and faculty on the effectiveness of services offered by the library staff
- Students give the written application in the library. They ask for the additional facilities, services from the library.

4.3 IT Infrastructure

4.3.1. Give details on the computing facility available (hardware and software) at the institution. Number of computers with Configuration (provide actual number with exact configuration of each available system)

At present the Institution has 67 Computers in various departments and office including the computers of UGC-NRC. The institute upgrades the computer systems periodically. Following are the configuration of computer systems available in the Institution.

	Personal Computers	Printer			Projector	Machine	Machine
Dept of Microbiology	10	4	2	--	03	01	--
Dept of Biotechnology	9	2	1	--	2	--	--
Dept of Biophysics	15	3	1	05	--	01	--
Dept of Botany	07	01	01	02	01	--	--
Dept of Geology	14	05	03	01	01	01	--
Library	04	01	--	01		--	--
Directors' Cabin	01	01	01	01	--	--	01
Office	08	07	01	---	--	01	--

Sr. No.	Department	PC make	Configuration
1	Central Store	Dell 980	P3, core – I 3, 3.2 Ghz, 2 GB RAM, DVDR, 300GB HDD, 49” monitor(dell) Win 7, speaker
2		Assembled	P-4, 3.00Ghz, 1GB RAM, 80 GBHDD, DVDRW, 19” Monitor(Dell), XP
3	Office - Establishment	Assembled	P-4, 3.00Ghz, 1GB RAM, 80 GBHDD, DVDRW, 19” Monitor(Dell), XP
4	Office - Account Section	HP P40	3090 MT, Pentium (duel core), 2.07Ghz, 1GB RAM, 250 GBHDD, DVDRW,19”Monitor (Dell) , XP
5		Dell 980	Intel core I 3, 3.2Ghz, 2GB RAM, DVD ROM, 300 GBHDD, DVDRW, Win 7
6		Assembled	P -4, 3.00Ghz, 1GB RAM, 80 GBHDD, DVDRW, 20” Monitor(View sonic), XP
7	Office - Academic section	RP tech	P-4, (duel core), 2.2Ghz, 1GB RAM, 160GBHDD, DVDRW, XP
8	Director's cabin	Dell 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
	total		08
9	Library - Reading Room	Dell	Intel core I 3, 3.1Ghz, 2GB RAM, 500 GBHDD, DVDRW, 19” Monitor(Dell), Win 7
10	Library	HP – ML 115	AMD Athlon – X2,1GB RAM,(duel core),2.3GHz, 160 GB HDD, DVDROM,XP, 19” Monitor(HP)
11		Assembled	P -4, 3.2Ghz, 512 MB RAM, 80 GBHDD, DVDROM, XP
12		Assembled	P-4,2.8 Ghz, 256 MB RAM, 80 GBHDD, DVDRW, Win -vist 17” CRT Monitor(LG)
	Library Total		04
13	Department of	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
14	Department of	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.

15	Botany	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
16		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
17		Lenovo	Intel core – 2-D40, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7.
18		HP	HP Proliant AMD opteron, ML 115
19		Compaq- SG 31451L	P -4, 1.6 Ghz, 512MB RAM, 80 GBHDD, DVDRW, AOC 19” Monitor
		total	07
20	Department of Geology- computer lab	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
21		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
22		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
23		HCL	Intel core – I 3, 3.2 Ghz, 2 GB RAM, 500GB HDD, 19” monitor (dell) Win 7.
24		HCL	Intel core- i-3
25		Lenovo	Think centre core – 2 Duo
26		HCL	Intel core – I 3, 3.2 Ghz, 2 GB RAM, 500GB HDD, 19” monitor (dell) Win 7.
27		Assembled	P-4, DVDRW, CRT 19” Monitor
28		Assembled	P-4, Duel core, 15” monitor HP
29		Assembled	Intel duel core 1.6 Ghz, 1 GB RAM, DVDROM, 160GB HDD, 19” Monitor, Win 7(U).
30	Department of Geology	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
31		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
32		HP Compaq dx2480	Intel core – 2 Duo,2.93GHz, 160GB HDD, 2GB RAM
33		Dell XP 8500	Intel core i5, 3.10Ghz, 4GB RAM, 1 TB HDD
	Department of Geology total	14	
34	Department of Biotechnology (Computer lab.)	Lenovo – Think centre	Intel core – 2-D40, 2.94 Ghz, 2 GB RAM, DVDRW, 320GB HDD, 19” Monitor, Win 7.
35		Lenovo – Think centre	Intel core – 2-D40, 2.94 Ghz, 2 GB RAM, DVDRW, 320GB HDD, 19” Monitor, Win 7.
36		HCL	Intel core – I 3, 3.2 Ghz, 2 GB RAM, 500GB HDD, 19” monitor (dell) Win 7.
37		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
38	Department of Biotechnology	Dell Optiplex 980	Intel core I 3, 3.2Ghz, 2GB RAM, DVD ROM, 300 GBHDD, DVDRW, Win 7
39		Dell Optiplex 980	Intel core I 3, 3.2Ghz, 2GB RAM, DVD ROM, 300 GBHDD, DVDRW, Win 7

40		Dell Optiplex 980	Intel core I 3, 3.2Ghz, 2GB RAM, DVD ROM, 300 GBHDD, DVDRW, Win 7
41		Dell Optiplex 980	Intel core I 3, 3.2Ghz, 2GB RAM, DVD ROM, 300 GBHDD, DVDRW, Win 7
42		HP pro	Intel Duel core,2.70 GHz, 1 GB RAM, 250GB HDD, Win 7.
	Department of Biotechnology	Total	09
43	Department of	Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
44	Microbiology (Computer lab.)	HP Compaq dx2480	Intel core – 2 Duo,2.93GHz, 160GB HDD, 2GB RAM
45		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
46	Department of Microbiology	Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
47		Lenovo thinkcentre	Intel core – 2-Duo, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7.
48		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
49		Lenovo thinkcentre	Intel core – 2-Duo, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7..
50		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
51		Dell Optiplex 983	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
52		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
	Department of Microbiology	Total	10
53	Department of Biophysics	Lenovo	Intel core – 2-Duo, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7.
54		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
55		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.
56		Dell Optiplex 780	Intel core – II duo, 3.06 Ghz, 2 GB RAM, DVDROM, 320GB HDD, Win 7.

57		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
58		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
59		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
60		Dell Optiplex 980	Intel core – I 3, 3.2 Ghz, 2 GB RAM, DVDROM, 300GB HDD, Win 7.
61		Lenovo Thinkcentre	Intel core – 2-Duo, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7.
62		Lenovo Thinkcentre	Intel core – 2-Duo, 2.93 Ghz, 2 GB RAM, DVDRW, 300GB HDD, 19” Monitor, Win 7.
63		HP Compaq dx2480	Intel core – 2 Duo, 2.93GHz, 160GB HDD, 2GB RAM
64		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
65		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
66		RP tech	Pentium P -4, core-2-D40, 2.33Ghz, 1GB RAM, 160 GBHDD, DVDRW, Square monitor Jet way, XP
67		Assembled	Intel p-4, 3.06GHz, 512MB RAM, 80Gb HDD
	Department of Biophysics	Total	15

Licensed Software The list of Licensed Software available in the Institution is as follows

Software Product Title

- **SOUL 2.0**
- **Windows – 7 Operating System**
- **Windows – 8 Operating System**
- **Windows – XP Operating System**

- Office 2010
- Antivirus

4.3.2 Detail on the computer and internet facility made available to the faculty and students on the campus and off-campus?

- Institute has established WAN through wired networking to connect the computers from all departments, library and office. Each department has computers facility with scanners and printers.
- The institute has set up UGC-NRC with broad band internet facility under UGC XIth plan merged schemes. Every department and library is connected with individual VPN connectivity for browsing on internet.
- Each department is provided with two 24- port manual switches to share internet connectivity.
- In addition to this, library provides e-Journals and e-Books through N-LIST program on and off campus to every authenticated user (Students/Faculty).

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

a) The IT infrastructure up gradation plans of the institution chiefly involve:

- Up gradation of Internet Facility by increasing Bandwidth.
- Introducing Wi-Fi enabled campus in limited areas is also under consideration.
- ICT enabling in all classrooms.
- Operationalization of established virtual class room.

b) Strategy for Deployment and Up-gradation

- Computer laboratory, smart class room are being set up under DST – FIST program.
- Virtual class room is established through State Government fund and will be operationalized in association with Institute of Science, Mumbai.
- Wi-Fi enabled facility within reading room of the library, laboratories within the departments, and sections of the office will be established through State Government funds.

4.3.4 Provide details on the provision made in the annual budget for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution (Year wise for last four years)

The Institution updates computer systems as per the necessity. The budgetary provision made for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution during last four years is shown below.

Sr. No.	Year	Total Budget Provision Plan O.E. & Plan M.E.	Purchase of Computers	Maintenance
1	2010-11	32,35000	6,93,461	15325

2	2011-12	20,37,675	1,08,850	32,300
3	2012-13	23,20,000	---	28,625
4	2013-14	21,60,515	---	22,270

4.3.5 How does the institution facilitate extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students?

Faculty members as well as students use the ICT resources (LCD Projector, internet connectivity) for classroom teaching and seminars. The guest lectures on various inter- disciplinary topics are organized for benefit of students. Teachers also make use of the e-resources in the library.

4.3.6. Elaborate giving suitable examples on how the learning activities and technologies deployed (access to on-line teaching – learning resources, independent learning, ICT enabled classrooms/learning spaces etc) by the institution place the student at the centre of teaching-learning process and render the role of a facilitator for the teacher.

- The teaching staff use audio-visual aids and ICT for teaching purposes, which makes learning effective as well as interesting.
- Computers with the internet facility are made available freely to the students for effective preparation and presentation.
- Staff and students are using online/ offline e- resources for teaching and learning in coverage of the syllabus and competitive examinations.

4.3.7 Does the Institution avail of the National Knowledge Network connectivity directly or through the affiliating university? If so, what are the services availed of?

Institution does not have facility of National Knowledge Network connectivity. The institute’s library is connected N-LIST program from 2009. The institute’s library is also a center for accessing the knowledge through internet.

4.4 Maintenance of Campus Facilities

4.4.1 How does the institution ensure optimal allocation and utilization of the available financial resources for maintenance and upkeep of the following facilities (substantiate your statements by providing details of budget allocated during last four years)?

4.4.2

The Heads of the Departments request for the maintenance needs of the departments to the Director of the institution. The proposal is processed for sanction through Director of Higher Education, Govt. of Maharashtra. According to the need-based priority, the maintenance work is undertaken after receiving grants according to stated plan, as per govt norms. Following is the statement of expenditure on different infrastructure maintenance heads during the last four years:

Sr. No.	Item	Expenditure in Lakh
---------	------	---------------------

		2010-11	2011-12	2012-13	2013-14
A	Building	26.50	16.58	64.08	55.00
B	Furniture	-----	2.02198	----	----
C	Equipment	23.37	23.13	15.54	10.88
D	Computers	6.93461	1.08850	----	---
E	Vehicles	---	---	----	---
F	Any Other	---	---	---	---

4.4.3 What are the institutional mechanisms for maintenance and upkeep of the infrastructure, facilities and equipment of the college?

- Since Institute is a government organization, the electrical, civil and campus work is maintained by Public Works Department, Aurangabad.
- The computers, equipment and other allied facilities concerning academics is maintained through the private agencies on call basis.
- The water supply within the campus is managed by class-IV employees of the institute. The cleaning up of water tanks is exercised by institute through private agencies on periodic basis.
- Minor electrical repairs are carried out by local electricians as and when required.
- Cleaning work is entrusted on sweepers on contract basis.
- The campus has 24 X 7 security ensured through the private security providing agency.

4.4.3 How and with what frequency does the Institute take up calibration and other precision measures for the equipment/instruments?

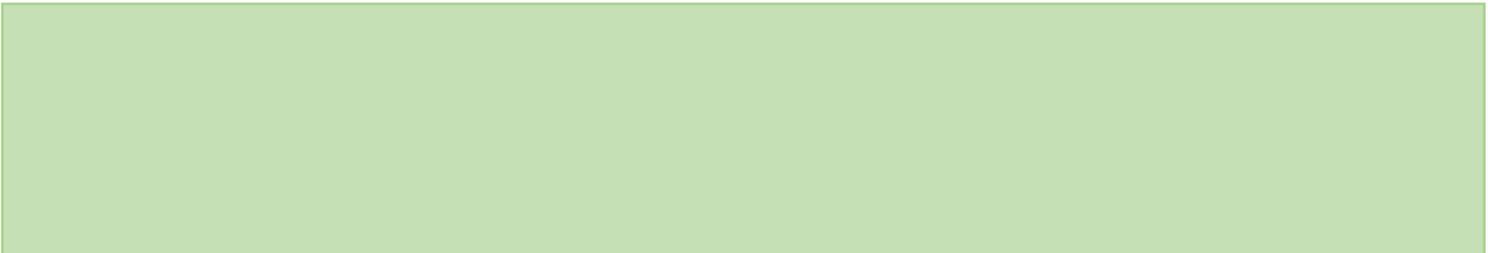
No.

4.4.4 What are the major steps taken for location, upkeep and maintenance of sensitive equipment (voltage fluctuations, constant supply of water etc.)?

The sophisticated instruments are kept in separate, clean air conditioned room. The sensitive equipment and computers are operated via voltage stabilizer, UPS etc.



CRITERIA V: STUDENT SUPPORT AND PROGRESSION



CRITERION V: STUDENT SUPPORT AND PROGRESSION**5.1 Student Mentoring and Support****5.1.1 Does the Institution publish its updated prospectus/handbook annually? If 'yes', what is the information provided to students through these documents and how does the Institution ensure its commitment and accountability?**

Yes. The updated prospectus of the Institute is published and circulated every year, which includes all the necessary information for the aspirants seeking admission. The information in prospectus is focused on vision, mission, goals, social commitments, infrastructure facilities, research facilities, scholarship information, hostel facility information, fee structure, eligibility criteria, admission process, reservation criteria, rules and regulations and other relevant information. The prospectus of the Institute is available on the official website of the Institute, i.e. www.inosca.org. The Institute is committed to responsibility and its accountability about the information mentioned in the prospectus.

5.1.2 Specify the type, number and amount of Institutional scholarships/freeships given to the students during the last three years and whether the financial aid was available and disbursed on time?

Students from economically weak background or those belonging to reserved category are given concession in fee according to University and government regulations. However, in other genuine cases, needy students are permitted to pay the fees in installments.

The details of the scholarships/freeships are as follows:

Central Government : Govt. of India scholarship for SC and ST students
National Merit Scholarship

State Government : Eklavya Merit Scholarship
EBC (Fee Concession)
PTC (Fee Concession)
Scholarship for NT & OBC
Open Merit Scholarship
Research fellowship

i. Three fellowships are provided from the Director, Higher Education, Pune, on merit basis to full time research students of this Institute.

Details of the scholarships and freeships received by the students are given the table listed below

2011-2012

No.	Category	Scholarship			Freeship		
		Proposal submitted	Sanctioned	Amount (Rs.)	Proposal submitted	Sanctioned	Amount (Rs.)
1	SC	29	29	2,71,528	4	4	13,225
2	ST	02	00	00	0	0	0
3	OBC	20	20	1,21,743	2	2	7,933
4	VJNT	8	8	49,541	1	1	2,646
5	SBC	1	1	4,736	0	0	0
6	EBC/PTC	9/1	4/1	680	0	0	0

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7	Minority	10	10	77,976	0	0	0
8	Eklavya	12	6	20,000	0	0	0
9	Dakshina	1	1	10,000	0	0	0
10	DHE	1	1	10,000	0	0	0
	Total	94	81	5,66,204	7	7	23,804

2012-2013

S.No.	Category	Scholarship			Freeship		
		Proposal submitted	Sanctioned	Amount (Rs.)	Proposal submitted	Sanctioned	Amount (Rs.)
1	SC	26	26	73,993	4	4	11,241
2	ST	0	0	0	0	0	0
3	OBC	26	26	73,913	2	2	5,730
4	VJNT	11	11	30,926	0	0	0
5	SBC	2	2	5,730	0	0	0
6	EBC/PTC	0	0	0	0	0	0
7	Minority						
8	Eklavya	7	7	70,000	0	0	0
9	Dakshina	0	0	0	0	0	0
	Total	72	72	2,54,562	6	6	16,971

2013-2014

S.No.	Category	Scholarship			Freeship		
		Proposal submitted	Sanctioned	Amount (Rs.)	Proposal submitted	Sanctioned	Amount (Rs.)
1	SC	26	26	73,993	4	4	11,241
2	ST	0	0	0	0	0	0
3	OBC	26	26	73,913	2	2	5,730
4	VJNT	11	11	30,926	0	0	0
5	SBC	2	2	5,730	0	0	0
6	EBC/PTC	0	0	0	0	0	0
7	Minority						
8	Eklavya	7	7	70,000	0	0	0
9	Dakshina	0	0	0	0	0	0
	Total	72	72	2,54,562	6	6	16,971

5.1.3 What percentage of students receives financial Asst. stance from state government, central government and other national agencies?

Year	Percentage of students receiving financial Asst. stance from State Government	Percentage of students receiving financial Asst. stance from Central Government	Percentage of students receiving financial Asst. stance from other National Agencies
2011-2012	14	87	Nil
2012-2013	00	75	Nil
2013-2014	07	71	Nil

5.1.4 What are the specific support services/facilities available for students from SC, ST, OBC, economically weaker sections, students with different abilities, overseas students, students who participate in various competitions (National/International), medical Asst. stance to the students: health centre, health insurance, etc., organizing coaching classes for competitive examinations, skill development (spoken English, computer literacy, etc.), support for slow learners, exposure of the students to other institutions of higher learning/corporate/business house, publication of student magazine.

Students from SC/ST, OBC section:

Full fee Scholarships / free ships, admission reservation as per the rules, marks-relaxation for admission, book bank facility etc., are made available to students from SC/ST/OBC categories.

- The Institute provided Remedial Coaching to the SC and ST students under UGC XI plan..
- Book bank facility is provided to SC/ST/OBC students.
- Fees payment facility in installment for students from economically weaker sections.
- Government EBC freeship for students from economically weaker section.

Students with different abilities.

- No student with different abilities has sought admission to the Institute. However, provision of ramp facility at the entry of the office, library, hostel and departments is being made.
- There is a provision of reservation for differently abled students at the time of admission.

Overseas student.

- Four overseas students have sought admission in M.Sc. Geology.

Measures taken to promote the students participation-

- The Institute Asst. sts students, by all means to participate in various competition like Sports, quiz, debate, and cultural events at local, state national and international level to ensure their overall development
- Provision of T.A. and D.A. for the participants.
- Recognition and special attendance.

Medical Asst. stance to the students:

- Medical Check-up campaign organized for the students in association with Shanta-Govind Medical Foundation, Aurangabad.
- Institute does not have health center however the students can avail medical facility from DKMM Homeopathic College and Hospital which is adjacent to the campus of Institute.
- Institute has first aid box facility for students and staff.

Organizing coaching classes for competitive exams-

The Institute provided

- NET/SET coaching for the SC, ST, OBC and Minority students under UGC XIth Plan.
- “Communication Dynamics and interview skills” workshop under Equal Opportunity Cell of UGC XIth Plan.
- Provided books in the library related to UGC-CSIR- NET/SET, etc.

Other Facilities provided are as follows:-

- Sports Facilities: Indoor & Outdoor games
- Grievance- redressal cell
- Photo Copy Facility
- Internet facility
- Mini Bus for academic touring
- Railway / Bus concession
- Medical Health Check up and Counseling facilities
- Placement and Training Cell

In-plant Training is provided in related fields

The Departments recommend the students to In-Plant Trainings in various industries and organizations.

5.1.5 Describe the efforts made by the Institution to facilitate entrepreneurial skills, among the students and the impact of the efforts.

- Institute regularly invites eminent personalities from various industries and research institutions to share their knowledge and experience with students.
- Conferences, guest lectures, seminars & workshops are conducted by the Institute which provides exposure to current research opportunities in various life science and Earth Science disciplines.
- Students also attend guest lectures, seminars & workshops conducted by other institutions.
- The Institute has established Placement and Training Cell.

5.1.6 Enumerate the policies and strategies of the Institution which promote participation of students in extracurricular and co-curricular activities such as sports, games, Quiz competitions, debate and discussions, cultural activities etc.

- * Additional academic support, flexibility in examinations
- * Special dietary requirements, sports uniform and materials
- * Any other

Sports:

- Institute has in- campus facilities for indoor and outdoor games in the campus. All the facilities are open for students throughout the year.
- Every year Institute organizes interclass winter sports during the annual gathering event, in which students and staff participates enthusiastically.
- Following are the list of sports facilities that are available. Sports committee is looking after all the sporting events to be organized in the Institute.
- The students are encouraged to participate in Inter collegiate, Universities, and District levels in these events. Institute provides travel concession facilities for participation.

Outdoor Games	Indoor Games
Cricket	Badminton,
Foot Ball	Table Tennis

Volley Ball	Chess
Gymnastics	Carom

Cultural activities

- Institute also organizes cultural events every year on various occasions like annual social gathering, fresher's and farewell program.
- All the students are encouraged to participate in such events. Best performers in such events are rewarded with certificates and prizes.

Extracurricular activities

- Institute organizes various extracurricular activities like poster presentations, quiz, *rangoli*, drawing, debate, essay competitions, etc. throughout the year on various occasions to motivate the students for boosting leadership qualities, stage courage and cultural awareness and social responsibility.
- The Institute had arranged two workshops on Skill development program for the students under the equal opportunity cell.
- Three days special training program was organized on "Communication Dynamics and Interview skills" under the equal opportunity cell.

5.1.7 Enumerating on the support and guidance provided to the students in preparing for the competitive exams, give details on the number of students appeared and qualified in various competitive exams such as UGC-CSIR- NET, UGC-NET, SLET, ATE / CAT / GRE / TOFEL / GMAT / Central /State services, Defense, Civil Services, etc.

The institute provides guidance to the students in the preparation of competitive examinations.

- NET/SET coaching for SC, ST, OBC and Minority students was organized under the UGC XI plan in Life sciences and Earth Sciences.
- Additionally the staff members guide the students besides the teaching hours.

Sr. No.	Academic Year	NET	GATE	SET	GRE	TOEFL	ICMR JRF
1.	2011-12	02	00	00	00	00	00
2.	2012-13	00	03	00	00	00	00
3.	2013-14	05	03	02	01	01	01

5.1.8 What type of counseling services are made available to the students (academic, personal, career, psycho-social etc.)

- The Institute provides academic, personal and psycho social counseling.
- Extensive academic counseling is provided to the students at the entry level.
- Career oriented counseling is provided at the departmental level as well as by the Placement and Training Cell.

5.1.9 Does the Institution have a structured mechanism for career guidance and placement of its students? If 'yes', detail on the services provided to help students identify job opportunities and prepare themselves for interview and the percentage of students selected during campus interviews by different employers (list the employers and the programs).

- Institute has placement and Training Cell for students and it remains in contact with various industries to identify the vacancies.
- The placement cell takes initiative to organize the interviews for the students.
- Placement cell also organizes the lectures related to career and scope by inviting experts from industries as well as academics.
- Our faculty members are committed to give support and appropriate suggestions to students for placement.
- Alumni also guide the students on- “how to search for vacancies and approach the employers”. They refer our students to their employer and help them in getting job.

Table showing information of placement of students placed in various sectors during last three years:

Sr. No.	Academic Year	Name of the Student	Industry/ Working place	Subject
1	2011	Aher Kailas R.	Jr. Geologist	GSDA, Govt. of Maharashtra
2		Pawar Ravi B.	Jr. Geologist	GSDA, Govt. of Maharashtra
3		Bhagwat Barkul	Asst.. Teacher Partur, Jalna district	Botany
4		Budhwant Amol	Asst.. Teacher Rajur, Ahmednagar	Botany
5		Amrin Begum	Urdu High School	Botany
6		Kiran Gawande	Wockhardt Biotech, Aurangabad	Biotechnology
7		Vishant Panchal	Wockhardt Biotech, Aurangabad	Microbiology
8		Jaisingh Rajput	Wockhardt Biotech, Aurangabad	Microbiology
9		Dheeraj Gaikwad	Wockhardt Biotech, Aurangabad	Microbiology
10	2012	Gaikwad Sharad. G.	GSDA, Govt. of Maharashtra	Jr. Geologist
11		Amol M. Jambhurne	Oil Field Instrumentation, Mumbai	Geologist
12		Anand K. Mahule	College of Science, Chikaldara	Lecturer
13		Shaikh Azhar Mohd.	Oil Field Instrumentation, Mumbai	Geologist
14		Giri Pawankumar M.	Global Transgenes Ltd., Nath Seeds, Aurangabad	Water Analyst
15		Bhosale Nilesh Pandurang	Shri. Mahaske Patil Sanstas, Artc, Com and Sci. College, Jafrabad	Asst.stant Professor
16	2013	Ganesh Arun Korhale	Global Transgenes Ltd., Nath Seeds, Aurangabad	Biotechnology
17		Manisha R.Survase	Wockhardt Ltd., Aurangabad	Biotechnology
18		Priti R. Ranjanikar	Wockhardt Ltd., Aurangabad	Biotechnology
19		Nagsen Telgote	Thyrocare Techno. Ltd., Mumbai	Biotechnology
20		Anand Borulkar	Atra Pharma Ltd. Aurangabad	Biotechnology
21		Satish Narode	Wockhardt Ltd. Aurangabad	Biotechnology
22		Prashant Dhamangaonkar	Ciigma Hospital, Aurangabad	Biotechnology
23		Ganesh Pawar	Balwant College of Arts, Comm. and Sci. Vita, Dist Sangli	Asst. Prof. Botany
24		Vikas Jadhav	Balwant College of Arts, Comm. And Sci. Vita, Dist Sangli	Asst. Prof. Botany
25		Kiran Pawar	New College of Education Lasur, Dist Aurangabad	Asst.st. Professor in Botany
26	Ranjana Kale	Dadaji Kondeo High School, CIDCO, Aurangabad	Highschool Teacher	

27		Mosiqi Sayeed	A- Anjuman Islam Jinjira Jr. College, Shrivardhan, Dist. Ratnagiri	Jr. Lecturer.	College,
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2012-13

Table showing information on Academic upgradation after completing Post Graduate from Institute

Sr. No.	Academic Year	Student	Event	Subject
1	2010-11	01	Pursuing Ph.D at SRTMU, Nanded	Microbiology
2.	2011- 12	01	INSPIRE Fellow	Biophysics
3	2011- 12	02	NIMHANS, Bangalore	Biophysics
4	2011- 12	01	Ph. D. Nagpur	Biophysics
5	2011-12	01	Pursuing Ph. D. (Austria)	Biotechnology
6	2012-13	02	INSPIRE Fellow	Biophysics & Geology
7	2012-13	02	Ph. D. (Japan & India)	Biophysics
8	2012-13	02	Pursuing M.Phil.(SRTMU)	Botany
9	2013-14	02	Pursuing Ph. D. (Czech Republic and Mumbai Univ.)	Biophysics
10	2013-14	03	Pursuing M. Phil. (SRTMU)	Botany
11	2014-15	02	Pursuing Ph. D. (Kolhapur Univ.) and Bharti Vidyapeeth, Pune	Botany
12	2014-15	01	Dip. In Radiation Imaging Techniques, TATA Hospital. Mumbai.	Biophysics

5.1.10 Does the Institution have a student grievance redressal cell? If yes, list (if any) the grievances reported and redressed during the last four years.

Yes, the Institution has a strategy to address the students' grievances on various aspects like academics, administration, other facilities etc.

- Grievances related to the hostels are attended by the Hostel committees and recommended to the Director for redressal. Similar procedure is followed for the library and department related grievances.
- The necessary measures are taken after the issues are discussed in the respective meetings.
- Examination and result related grievances are recommended by the Director to university authorities for further clarifications or measures.

5.1.11 What are the Institutional provisions for resolving issues pertaining to sexual harassment?

As per university's direction, Institute has formed Women's Grievance Redressal Cell as per the *Vishakha* guidelines for women empowerment and resolving issues pertaining to sexual harassment. Institute continuously monitors and takes preventive measures to ensure that no such incidents happen and proper discipline gets maintained. During student council formation, one lady representative is nominated as the member of the cell. The constitution of the cell is as follows

Sr. No.	Name	Designation	Departments
1	Prof. Sahera Nasreen	Chairperson	Botany
2	Dr. S. A. Peshwe	Member	Microbiology

3	Dr. S. M. Dharmadhikari	Member	Microbiology
4	Mrs. V.N. Wadekar	Member	Biophysics
5	Dr. M. S. Patil	Member	Biotechnology
6	Dr. Smita Avchar	Member	Non-Govt.
7	Dr. A. S. Unhale	Member	Non-Govt.
8	Dr. S. P. Bidarkar	Secretary	Library

The Institute takes the pride in stating that no complaints have been received in this context.

5.1.12 Is there an anti-ragging committee? How many instances (if any) have been reported during the last four years and what action has been taken on these?

Yes, Institute has formed an anti-ragging committee according to the directives of UGC and Government of Maharashtra.

- Display boards showing anti-ragging notices are displayed in every department.
- During the admission process, students and their parents have to sign an undertaking form that states all the rules and regulations regarding anti-ragging law.

Due to all these preventive measures not a single ragging incidence has occurred till now in the Institute

5.1.13 Enumerate the welfare schemes made available to students by the Institution.

Institute understands the importance of student's well being and hence always tries to fulfill the same.

- The Institute has provided hostel facility to all the students at very minimum cost.
- Medical facility is provided in association with Shanta- Govind Medical foundation. As well as medical facilities are provided to the students when required at very low cost from DKMM Medical College and Government Medical Hospital, Aurangabad.
- Institute has constituted a special committee to address the student's grievances.
- Every year Institute forms a student council as per university guidelines to conduct the student related activities smoothly. It also helps in development of leadership abilities among students.
- All the students are always encouraged to participate in various co-curricular activities which help in overall development of students. These kinds of activities also boost the moral values in students.
- Every department of the Institute organizes industrial visits for students in reputed industries to make them aware of industrial culture (Corporate sector) and current demands.
- Institute takes adequate efforts for processing of application forms for sanction of State, Central government etc. scholarships to the eligible students.

5.1.14 Does the Institution have a registered Alumni Association? If 'yes', what are its activities and major contributions for Institutional, academic and infrastructure development?

- Institute has a registered alumni association.
- The alumni interact with staff and students on aspects like current needs of industries, new industrial establishments in surrounding area.
- Alumni also suggest the necessary up-gradations in syllabus, routine practical and project work etc.
- The alumni of Department of Botany have hosted "**Principal S.P. Nanir Gold Medal**" and a **Cash Prize** for a student securing First position in M.Sc. Final examination in Botany from the Institute. The alumni have deposited Rs. 80,000/- and the annual interest accrued on this deposit is utilized for this purpose.

- The Alumni Association of Department of Biotechnology is functioning as GISBAAA-Govt. Institute of Science Biotechnology Alumni Association Aurangabad. GISBAAA has launched a social networking platform for networking with its alumni at <https://groups.yahoo.com/neo/groups/GISBAAA> link for alumni networking platform.
- Department of Microbiology, Botany, and Biophysics arrange the lectures of alumni under Alumni Lecture Series initiated by the Institute.
- Department of Geology organized an Alumni Meet.

5.2 Student Progression

5.2.1 Providing the percentage of students progressing to higher education or employment (for the last four batches) highlight the trends observed.

Student progression	Percentage of progression for the academic years	Result in %	PG M.Phil. / Ph. D.	Employed	Campus selection	Entrepreneurship
	2010- 11	79.1	1	25	-	02
	2011- 12	75.5	5	10	0	02
	2012- 13	83.7	5	7	2	04
	2013-14	91.2	27	12	7	06

5.2.2 Provide details of the program wise pass percentage and completion rate for the last four years (cohort wise/batch wise as stipulated by the university)? Furnish program-wise details in comparison with that of the previous performance of the same Institution and that of the Colleges of the affiliating university within the city/district.

Institute's academic performance in the form of result 2010-2014

Year	Subject	Appeared	Passed	Failed	% Result
2010	Biophysics (I)	9	8	1	88.9
	Biophysics (II)	12	5	7	41.7
	Geology(I)	15	11	4	73.3
	Geology(II)	17	17	0	100.0
	Microbiology (I)	20	19	1	95.0
	Microbiology (II)	19	16	3	84.2
	Biotechnology (I)	22	14	8	63.6
	Biotechnology (II)	20	16	4	80.0
	Botany (I)	9	5	4	55.6
	Botany (II)	10	10	0	100.0
	Total	153	121	32	79.1
2011	Biophysics (I)	10	2	8	20.0
	Biophysics (II)	11	11	0	100.0
	Geology(I)	18	15	3	83.3

CRITERIA-V STUDENT SUPPORT AND PROGRESSION.....

	Geology(II)	12	11	1	91.7
	Microbiology (I)	14	9	5	64.3
	Microbiology (II)	20	11	9	55.0
	Biotechnology (I)	18	18	0	100.0
	Biotechnology (II)	21	16	5	76.2
	Botany (I)	15	9	6	60.0
	Botany (II)	12	12	00	100.0
	Total	124	93	31	66.4
2012	Biophysics (I)	9	5	4	55.6
	Biophysics (II)	8	8	0	100.0
	Geology(I)	18	13	5	72.2
	Geology(II)	17	17	0	100.0
	Microbiology (I)	20	13	7	65.0
	Microbiology (II)	17	16	1	94.1
	Biotechnology (I)	20	17	3	85.0
	Biotechnology (II)	20	20	0	100.0
	Botany (I)	13	9	4	69.2
	Botany (II)	5	5	0	100.0
	Total	147	123	24	83.7
2013	Biophysics (I)	13	12	10	92.3
	Biophysics (II)	6	5	1	83.3
	Geology(I)	20	19	1	95.0
	Geology(II)	17	17	0	100.0
	Microbiology (I)	19	18	1	94.7
	Microbiology (II)	19	13	6	68.4
	Biotechnology (I)	21	21	0	100.0
	Biotechnology (II)	20	16	4	80.0
	Botany (I)	18	16	2	88.9
	Botany (II)	9	7	2	77.8
	Total	162	144	27	88.9
2014	Biophysics (I)	13	11	2	84.6
	Biophysics (II)	12	10	2	83.3
	Geology(I)	19	18	1	94.7
	Geology(II)	19	18	1	94.7
	Microbiology (I)	20	19	1	95.0
	Microbiology (II)	18	17	1	94.4

	Biotechnology (I)	22	21	1	95.5
	Biotechnology (II)	21	18	3	85.7
	Botany (I)	11	11	0	100.0
	Botany (II)	15	12	3	80.0
	Total	170	155	15	91.2

5.2.3 How does the Institution facilitate student progression to higher level of education and/or towards employment?

The Institute encourages students to peruse doctoral and postdoctoral research work either in the Institute or elsewhere. This results in clearing NET/GET/ SET examinations essential for entering in to teaching and research career. The Institute also takes initiatives under functional Placement and Training Cell for enhancing the employability in industries and institutions.

5.2.4. Enumerate the special support provided to students who are at risk of failure and drop out?

The dropout rate due to inability to cope with studies is very minor. Students leave courses to join other government aided colleges during the first month of the admission as there is huge difference in fees structure of self finance and government aided colleges. Sometimes the economical and psychological issues contribute to the dropout factors. The Institute has taken all the possible measures to minimize the student dropout rate.

Some of such measures include

- One to one counseling
- Special remedial coaching for slow learners
- Regular Assignments – Class tests, tutorials.
- Monitoring student's attendance.
- Promoting students to participate in seminars, workshops, in-plant training programs, field visits, study tours and outreach activities.

5.3 Student Participation and Activities

5.3.1 List the range of sports, games, cultural and other extracurricular activities available to students. Provide details of participation and program calendar.

Sports and games

Sports: Institute has in campus facilities for indoor and outdoor games in the campus. All the facilities are open for students throughout the year. Every year Institute organizes interclass winter sports during the annual gathering event, in which students and staff participates enthusiastically. Following are the list of sports facilities that are available. Sports committee is looking after all the sporting events to be organized in the Institute.

The students are encouraged to participate in Inter collegiate, Universities and District levels in these events. Institute provides travel concession facilities for participation.

Outdoor Games	Indoor Games
Cricket	Badminton,
Foot Ball	Table Tennis
Volley Ball	Chess
Gymnastics	Carom

Cultural activities

Institute also organizes cultural events every year on various occasions like annual gathering fresher's and farewell programmes. All the students are encouraged to participate in such events. Best performers in such events are rewarded with certificates and prizes.

Extracurricular activities

Institute organizes various extracurricular activities like poster presentations, quiz, *rangoli*, drawing, debate, essay competitions, etc. throughout the year on various occasions to motivate the students for boosting leadership qualities, stage courage and cultural awareness and social responsibility

5.3.2 Furnish the details of major student achievements in co-curricular, extracurricular and cultural activities at different levels: University / State / Zonal / National / International, etc. for the previous four years.

- Ms. Indrani Sen-Dutta, an alumna of Biophysics Department was awarded the Indian Young Biotechnologist Award 2013 for research work in Stem cells and Neuroscience.
- Mr. Mahesh Chandak, an alumna of Biophysics Department completed Ph.D. work in Protein structure from Japan, while Mr. Shrikant Patil, another alumna completed Ph.D. in Radiobiology, from Mangalore University, Karnataka.
- Ms. Deepali Rajput, student of Biophysics Department was selected at National level for 60 days summer project in National Institute of Animal Biotechnology (NIAB).
- Eighteen students and three faculty members of Biophysics Department participated and presented posters in International Symposium- "Accelerating Biology-2014-Computing Life" at C-DAC, Pune during February 18-20, 2014.
- Mr. Jagdish Paithankar, a student of Biophysics was selected for Doctoral fellowship at Department of Applied Zoology, Mangalore University Mangalore, Karnataka.
- Mr. Amol Wayal, General Secretary, Student Council and Ms. Rashmi Pardesi, Ladies Representative, participated in "Bhartiya Chhatrasansad - 2014" at MIT, Pune, during Jan 11-13, 2014.
- Students of Microbiology Department participation in one day seminar and achieved 2nd prize at Patoda.
- Fifteen Students of Microbiology Department participated in one day seminar on RNA Biology at Shiv Chatrapati College, Aurangabad.
- Ten students of Botany Department attended the National Conference organized by the Dept. of Botany, Govt. Arts and Science College, Aurangabad on 27th and 28th Dec. 2013.
- Two students were awarded 1st prize in poster presentation at Govt. Arts and Science College, Aurangabad 27th and 28th Dec. 2013.
- Mr. Yahya Pathan, a student of Botany was awarded 1st prize in oral presentation at the National Conference organized by the Dept. of Botany, Govt. Arts and Science College, Aurangabad, 27th and 28th Dec. 2013.

5.3.3 How does the college seek and use data and feedback from its graduates and employers, to improve the performance and quality of the Institutional provisions?

The Institute has a procedure for obtaining feedback from students to improve the quality of the Institutional provisions made for academic as well as administration works. The Heads and the Director of the Institute takes exit feedback from the final year students regarding teaching and administration processes. Every department is in contact with their alumni and obtains the feedback from them. The inputs obtained from them serve as an effective tool to introduce need based changes in teaching and learning or research activities for improving overall competency of student's employability. We also seek feedback from parents. This had been helpful in improving the overall efficiency of the Institute

5.3.4 How does the college involve and encourage students to publish materials like catalogues, wall magazines, college magazine, and other material? List the publications/materials brought out by the students during the previous four academic sessions.

The students are encouraged to display informative posters on various current issues like Energy crises, Pollution, Saving girl child, Voting Awareness, various themes of National Science Day etc. The research students present posters in various national and international conferences, symposia. Students also write the scientific research papers for publication in peer reviewed journals.

5.3.5 Does the college have a Student Council or any similar body? Give details on its selection, constitution, activities and funding.

The Student's Council is constituted in the Institute every year as per directions given by the Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. The election process is monitored by the committee duly constituted by the Director of the Institute. All the process followed is transparent as per the guidelines and schedule of the University.

The election process is as follows:

- The student's council is elected through prescribed election procedure of University. The representatives from every Class Representative, NSS, sports, cultural, two ladies representatives are nominated by Director based on age and credentials at academic, co- and extra-curricular level as evidenced from the documents. All nominated members of the council elect one amongst them as the General Secretary. The constituted student council is encouraged to organize various student-centric activities with the help of student volunteers.
- The Ladies Representative plays a key role in navigating the participation of girl students in various activities.
- Under the guidance and supervision of Gymkhana Committee, the Sports Secretary organizes various sports events.

5.3.6 Give details of various academic and administrative bodies that have student representatives on them.

Student representatives are included as members of the following Committees

- Library
- IQAC
- Sports
- Sub- committees of Annual Social Gathering
- NSS
- Boys' Hostel
- Girls' Hostel
- Students' Council

5.3.7 How does the Institution network and collaborate with alumni and former faculty of the Institution?

- Institute maintains the database of alumni and former faculty.
- Majority of alumni regularly visit the Institute to interact with the existing students and faculty.
- Institute recognizes the credentials achieved by the alumni.
- The experience and knowledge of former faculty is utilized for student centric activities of the Institute.
- The alumni and former faculty are communicated through e-mails and telephones.

- **The Alumni Association of Department of Biotechnology is functioning as GISBAAA-Govt. Institute of Science Biotechnology Alumni Association Aurangabad.** GISBAAA has launched a social networking platform for networking with its alumni at <https://groups.yahoo.com/neo/groups/GISBAAA> link for alumni networking platform.

Linkages : The Institute has following linkages: **(Students Summer Training , Projects)**

Sr. No.	Name of Organizations	Location
1	Bhabha Atomic Research Centre	Mumbai
2	Bose Institute	Kolkata
3	Centre for DNA Finger Printing & Diagnostics	Hyderabad
4	Centre for Cellular and Molecular Biology	Hyderabad
5	Concourse Information Technology International Limited	Pune
6	Chittaranjan National Cancer Institute	Kolkata
7	Department of Microbiology, M.S. University	Baroda
8	Directorate of Geology and Mining	Nagpur
9	Govt. Biocontrol Laboratory	Aurangabad
10	Goa University	Dona Paula (Goa)
11	Hindustan Zinc Limited	Udaipur (Rajasthan)
12	ICMR Research Centre	Kolkata
13	Institute of Microbial Technology	Chandigarh
14	Institute of Veterinary Biological Products	Pune
15	Institute of Nuclear Medicine and Allied Sciences	New Delhi
16	Indian Institute of Chemical Biology	Kolkata
17	Indian Institute of Science, Bangalore	Bangalore
18	Inter-University Consortium centre (DAE Facilities) in Radiation Biology	Kolkata
19	Jadavapur University	Kolkata
20	Kalyani University	Kalyani, (W.B.)
21	Kamal Hi-Tech System ,Pvt.Ltd.	Aurangabad
22	Mahyco Research Centre	Jalna
23	Nath Biotechnologies Ltd.	Aurangabad
24	National Institute of Virology	Pune
25	National Chemical Laboratory	Pune
26	National Institute of Oceanography	Panjim

27	Post Graduate Institute of Medical Sciences and Research	Chandigarh
28	Physics Department, University of Pune	Pune
29	Post-graduate Department of Geology Nagpur University	Nagpur
31	Regional Research Laboratory	Jammu
32	Rudranee Infotech Ltd.	Aurangabad
33	Saha Institute of Nuclear Physics	Kolkata
34	Shere Kashmir Institute of Medical Sciences	Srinagar
35	Scientific Research Centre, Kelkar Education Trust	Mumbai
36	Wockhardt Research Centre	Aurangabad
37	Western Coalfields Limited	Nagpur

**Academic Linkages
(Extension Lectures, Collaborative Research by Institute Faculties)**

Sr. No	Name of Organizations	Location
1	Environmental Science Dept., Dr. Babasaheb Ambedkar Marathwada University	Aurangabad
2	School of Life Science and School of Environmental Science, North Maharashtra University	Jalgaon
3	Academic Staff College, Pune University	Pune
4	Academic Staff College, Dr. Babasaheb Ambedkar Marathwada University	Aurangabad
5	Department of Physics, Pune University	Pune
6	School of Life Science, Swami Ramanand Tirth Marathwada University	Nanded
7	Dayanand College	Latur
8	Rajarshi Shahu College	Latur
9	Maulana Azad College	Aurangabad
10	Deogiri College	Aurangabad
11	Badrinarayan Barwale College	Jalna

Students undergone training programme in academic year 2009-10

Name of the student	Department	Name of the research institute where summer training was offered	Duration of training
Ms. Munisha Kazi	Biotechnology	BARC, Mumbai	3 Months
Ms. Aparna Mahalpure	Biotechnology	NCL, Pune	1 Month

Mr. Ganesh Gaikwad	Geology	Maharashtra Remote Sensing application centre, Nagpur	3 Months
Mr. Chetan Rupwate	Geology	Maharashtra Remote sensing application centre, Nagpur	3 Months
Mr. Abhijeet Mali	Geology	Maharashtra Remote sensing application centre, Nagpur	3 Months
Mr. Neeraj	Geology	Maharashtra Remote sensing application centre, Nagpur	3 Months
Ms. Sunita Ingle	Biophysics	Dept. of Radiotherapy, Kamal Nayan Bajaj Hospital Aurangabad	2 months
Ms. Varsha Salunke	Biophysics	Dept. of Radiotherapy, Kamal Nayan Bajaj Hospital Aurangabad	2 months

2012-2013

Department	Linkages/collaborations developed	Outcome of linkage/collaboration
Biophysics	Local educational institutions, hospitals, laboratories	Encouraged the training in various practical aspects and skills within the subject, teaching faculty of the department framed the syllabus of Biophysics for 1st year B. Sc. of SRTM University, Nanded.
Geology	MoU with School of Earth Sciences, SRT University, Nanded.	Sharing of technical expertise in the subject.
Microbiology	Academic linkages with VSBT, Baramati, Govt. Medical college, Aurangabad, Pharmacy college, Aurangabad, Academic Staff College, Dr. BAMU, Aurangabad, North Maharashtra University, KTHM College, Nashik, SRTM Univ., Nanded.	Sharing of expertise, availability of analytical services for M.Sc. and research students, faculty members serving as resource persons, faculty members serving as examiners on panels of other Universities, faculty members invited as Ph.D. referees, faculty members invited as experts on interview panels, students get opportunity of summer projects/training.

A unique activity of inviting alumni of the Institute to interact with the students' and share their experience about the role of the Institute in shaping their career was initiated. Under this initiative the following lecture series was organized by the Microbiology Department.

Sr. No.	Name Of the Guest	Topic
1.	Dr. Jayant Bhogale, Managing Director, Microbax Industries Hyderabad	Bioprospecting aspects of fermentation Technology
2.	Mr. Dattatray Savant	Inauguration of GISA Initiative Alumni Lecture series.
6.	Mr. Shyam Deshpande District Collector, Jalna	How to prepare for Service examinations
7.	Mrs. Mukti Panse Associate Professor, Microbiology D. Y. Patil College, Pune	Verbal Nonverbal Communications
8.	Mr. Shrikrushna Pimple	Role of Microbiologist in Pharma

	Asstt. Manager, Ajanta Pharma, Aurangabad	Industries
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Year 2011-12

Personal Enhancement

- (1) Two days' workshop on preparation and guidance for NET/SET examination was organized in the Microbiology Department under the aegis of UGC XI plan sponsored by UGC, New Delhi. The workshop covered the basic science streams, viz. earth sciences and life sciences.
- (2) Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities

Special lectures on Career

Nil

Placement cell

Nil

On Campus interview

Nil

Students qualifying NET/SLET/GATE etc.

Track of Students qualifying competitive exams

- One student of Biophysics Department was awarded INSPIRE Fellowship of DST -2013
- Two students of Biophysics Department qualified the NIMHANS (Bangalore) entrance exam with the 1st and 3rd rank respectively, and joined as a research fellow
- Faculty members of Geology department guided students for the various competitive examinations of MPSC and UPSC for the posts of Geologists. As a result of the efforts, following students got placements: Mr. Bhagwat Barkul (Partur, Jalna district), Mr. Budhwant Amol (Rajur, Jalna district) and Miss Amrin Begum (Urdu School).
- Two student of Biotechnology department qualified UGC-CSIR NET (LS) in 2013, One Student qualified ICMR-JRF, SET, ICAR-NET, UGC-CSIR NET-JRF and GATE in the year 2014. One student qualified GATE-2014.

Year 2012-13

Personal Enhancement

- Two days workshop on preparation and guidance for NET/SET examination was organized in the Microbiology Department under the aegis of UGC XI plan sponsored by UGC, New Delhi. The workshop covered the basic science streams, viz. earth sciences and life sciences.
- Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities
- Faculty members of Geology Department guided students for the various competitive examinations of MPSC and UPSC for the posts of Geologists.

Special lectures on Career

Sr. No.	Workshop/Seminar	Invited Speakers	Organized by
1.	Three Day Workshop On Communication Dynamics and Interview Skills	Mr. Amit Bagchi, Director, National Institute of Education, Aurangabad.	Equal Opportunity Cell of the Institute under UGC XI Plan
2.	One week SAM women Workshop for development of	Dr. V.V. Godse Dr. Datar	Sponsored by UGC, New Delhi

	women staff at higher level.		
3	Alumni lecture series		

Students qualifying NET/SLET/GATE etc.

Name of examination	Number of qualified candidates
NET	1
GATE	1

Year 2013-14

Personal Enhancement

- Two days workshop on preparation and guidance for NET/SET examination was organized in the Microbiology Department under the aegis of UGC XI plan sponsored by UGC, New Delhi. The workshop covered the basic science streams, viz. earth sciences and life sciences.
- Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities
- Faculty members of Geology Department guided students for the various competitive examinations of MPSC and UPSC for the posts of Geologists.

Special lectures on Career

Sr. No.	Workshop/Seminar	Invited Speakers.	Organized by
1.	Scope and oppurtunities in Biotechnology	Prof. P. B. Papdiwal, Dept. of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	Dept. of Botany
2.	One week SAM women Workshop for development of women staff at higher level.	Dr. V.V. Godse Dr. Datar	Sponsored by UGC, New Delhi
3	“Jagar Janivaanvcha” to encourage the Female students in higher education for the future career, NET/SET guidance to the girl student etc.		Initiative by Ministry of Higher and Technical education, Govt. of Maharashtra, organized by Institute of Science, Aurangabad
3	Alumni lecture series- lecture1, inaugural talk	Mr. Dattatray Savant	Institute of Science, Aurangabad
4	Alumni lecture series- lecture2, Bioprospecting aspects of fermentation Technology	Dr. Jayant Bhogale, Managing Director, Microbax Industries Hyderabad	Institute of Science, Aurangabad
5	Alumni lecture series- lecture3, How to prepare for Service examinations	Mr. Shyam Deshpande District Collector, Jalana	Institute of Science, Aurangabad
6	Alumni lecture series- lecture4, Verbal/Nonverbal Communications	Mrs. Mukti Panse Associate Professor, Microbiology D. Y. Patil	Institute of Science, Aurangabad

		College, Pune	
7	Alumni lecture series- lecture5, Role of Microbiologist in Pharma Industries	Mr. Shrikrushna Pimple Asstt. Manager, Ajanta Pharma, Aurangabad	Institute of Science, Aurangabad

Placement cell

Sr. No.	Name of the Industry/Organization	Student Name	Post Appointed	Department	Remark
1	Mylan Pharma Ltd. Aurangabad	Mr. Krishna Kharat	Analyst Quality Control	Microbiology	Counseling by Placement Cell
2.	Baxter Industries, Aurangabad	Mr. Saquib Shaikh	Analyst Quality Control	Microbiology	Counseling by Placement Cell
3.	Baxter Industries, Aurangabad	Ms. Kalyani Naik	Trainee Quality Control	Microbiology	Counseling by Placement Cell
4.	Global Transgenes Ltd., Nath Seeds Aurangabad	Mr. Ganesh Korhale	BITP Trainee	Biotechnology	Counseling by Placement Cell
5	Global Transgenes Ltd., Nath Seeds Aurangabad	Ms. Manisha Survase	BITP Trainee	Biotechnology	Counseling by Placement Cell
6	Wockhardt Ltd. Aurangabad	Ms. Priti Ranjanikar	BITP Trainee	Biotechnology	Counseling by Placement Cell
7	Thyrocare Technologies Ltd., Mumbai	Mr. Nagsen Telgote	Executive Customer Relationship Management	Biotechnology	Counseling by Placement Cell
8.	Atra Pharmaceutical	Mr. Anand Borulkar	Analyst Quality Control	Biotechnology	Counseling by Placement Cell
9.	Wockhardt Ltd. Aurangabad	Mr. Satish Narode	Analyst Quality Control	Biotechnology	Counseling by Placement Cell
10	Wockhardt Ltd. Aurangabad	Ms. Ayesha Khan	IPR trainee	Biotechnology	Counseling by Placement cell

On Campus interview

Sr. No.	Name of the Industry/Organization	Student Name	Post Appointed	Department	Remark
1.	Wockhardt Ltd. Biotech Park, MIDC area, Waluj, Aurangabad	Mr. Dhiraj Gaikwad	Analyst Quality Control	Microbiology	Appointed through Campus Interview by Placement Cell on 19 th April 2013
2.	Wockhardt Ltd. Biotech Park, MIDC	Mr. Jaysingh Rajput	Analyst Quality Control	Microbiology	Appointed through Campus Interview by

	area, Waluj, Aurangabad				Placement Cell on 19 th April 2013
3.	Wockhardt Ltd. Biotech Park, MIDC area, Waluj, Aurangabad	Mr. Vishant Panchal	Analyst Quality Control	Microbiology	Appointed through Campus Interview by Placement Cell on 19 th April 2013
16	Wockhardt Ltd. Biotech Park, MIDC area, Waluj, Aurangabad	Mr. Kiran Gawand	Analyst Quality Control	Biotechnology	Appointed through Campus Interview by Placement Cell on 19 th April 2013

Students qualifying NET/SLET/GATE etc (2008-2013).

Name of examination	Number of qualified candidates
NET	05
GATE	03
GRE	01
TOEFL	01
ICMR-JRF	01
ICAR-NET	01
SET	01



**CRITERIA VI: GOVERNANCE, LEADERSHIP
& MANAGEMENT**



CRITERION VI : GOVERNANCE, LEADERSHIP & MANAGEMENT

6.1 Institutional Vision and Leadership

6.1.1 State the vision and mission of the Institution and enumerate on how the mission statement defines the institution's distinctive characteristics in terms of addressing the needs of the society, the students it seeks to serve, institution's traditions and value orientations, vision for the future, etc.?

Vision Statement:

ACCELERATING SCIENCE EDUCATION FOR HUMAN WELFARE

To be a world class Science Institution, pursuing for academic and scientific excellence, catering to the needs of global community, striving for its harmonious development by inculcating life-long learning skills to serve for the socio-economic development having concern for ecology and social harmony.

Mission Statement

- To develop citizens with scientific temperament, moral and ethical values and multifaceted proactive personality by providing quality education.
- The Institute will opt for autonomy.
- The Institute will evolve system(s) to provide quality education to suit local, regional, National needs and needs that will arise due to globalization.
- The Institute will grow in multi-directions with innovative approaches to serve community at large in front line areas in this new millennium in the field of Science and Technology.
- The Institute will provide practical based training to cater the needs of the industries.
- The Institute will develop and strengthen industry-Institute participation directly in teaching-learning processes and financial aspects of the Institute.
- The Institute will start the new departments that will suit its goals, mission and objectives.

Institute's distinctive characteristics:

- Overcoming the backlog of higher education of the region in the emerging areas of science.
- Providing higher education and training in front-line areas of science that will have strong vocational value and job potential.
- Generating human resources to fulfill the local needs of industrial growth.
- Motivating the students of Marathwada region to enter into national level competition in the field of Science and Technology.
- Imparting quality and value-based education.
- Assisting the students to discover and tap their fullest potential while becoming properly integrated personalities who will emerge as responsible and productive citizens of India.
- Consciously directing all its academic activities to sustainable environmental practices encompassing water, land and its flora and fauna.
- Developing technologies for field applications.
- Extending services to solve the local problems relating to agriculture and industries.
- Creating and propagating awareness of science and technology.
- Initiating events that nurture the required skills amongst the students to make them employable.

Initiatives addressing the vision, mission and goals of the Institute

- The Institute is the only State Government administered post graduate and research Institute in Marathwada region and is a pioneer in establishing the post graduate departments in the subjects like Microbiology, Biophysics, Biotechnology and Geology, even before the establishment of these departments in the affiliating University jurisdiction. The students of Marathwada region therefore have had an exposure to get trained in advanced/frontline applied science areas leading to occupy significant positions in industries and institutions.
- The Institute since its inception believes in training the students to inculcate scientific temperament, moral and ethical values, advanced knowledge and skills, hands-on training, sensitizing students and community in material, architectural and natural heritage and its protection. Accordingly, the curricular, co-curricular and extra-curricular implementation plans were designed to develop multifaceted personalities.

6.1.2 What is the role of Top Management, Principal and Faculty in design and implementation of its quality policy and plans?

- Since the Institute is managed by the Department of Higher Education, Government of Maharashtra, the required infrastructural facilities are provided by the Government. The Director plays a liaising role by submitting proposals to the Director of Higher Education (DHE) and the Government and pursues the proposals at DHE and Government level so as to enhance the processing towards sanction of grants. The grants thus received are disbursed amongst the Departments for effective implementation of the proposals following the Government norms and prescribed procedures.
- The faculty members are involved in the overall development of the students by organizing student-centric events.
- The quality of research is maintained by publishing papers in peer reviewed journal, motivating research students to participate in State, National as well as International symposia/conferences and also taking efforts by forwarding proposals for procuring necessary funds from various funding agencies like UGC, DST, DBT, ICMR, etc. The Director and the faculty meet regularly in designing and implementation of quality, plans and policy.
- Recently, Local Advisory Committee has been established for the Institute by the Government of Maharashtra, which in its first meeting, forwarded various suggestions regarding administrative, financial, educational and student centric activities leading to uplift the Institute. The same will be implemented as well.

6.1.3 What is the involvement of the leadership in ensuring:

- **The policy statements and action plans for fulfillment of the stated mission**
- **Formulation of action plans for all operations and incorporation of the same into the institutional strategic plan**
- **Interaction with stakeholders**
- **Proper support for policy and planning through need analysis, research inputs and consultations with the stakeholders**
- **Reinforcing the culture of excellence**
- **Champion organizational change**

- The list of action plans for all academic and other activities and Institutional strategic plan for their implementation is designed and put forth by the Director for discussion in the Staff Council meeting on the opening day of every academic year. The Institutes' Local Advisory Committee (LAC) has been established recently. Henceforth, the formulation of action plan and its strategic implementation for fulfillment of stated mission will be carried out by the LAC.
- The Director and the respective Heads of the Departments ensure the standard of teaching and research through regular feedback from students and parents.
- The Academic Calendar is prepared by Heads of the Departments in consultation with the Department staff and submitted to the Director for approval. After approval, all faculty members of the respective departments together design an action plan for the smooth operation of curricular, co- and extra-curricular activities during the academic year.
- Parents-Teachers Meets are arranged at the departmental level to appraise the parents about the performance of their wards and feedback from the parents is taken.
- Culture of excellence in the Institute is reinforced by encouraging the staff and students
 - ▶ to undertake research projects in the frontier areas of science and technology,
 - ▶ to publish research findings in peer reviewed journals,
 - ▶ to participate in State, National and International Conferences, workshops and training programs
 - ▶ to conduct program for nurturing scientific temper
 - ▶ to organize field visits, study tours, mine trainings etc.
 - ▶ to organize interactive sessions/dialogue meet with eminent scientists, alumni, industrial officials, social activists etc.
 - ▶ to encourage teachers to go abroad for participation in training program, collaborative research activities and conferences
 - ▶ to mobilize students to participate in industrial training programs, soft skills training, conferences, seminars, poster exhibitions and community activities etc.
 - ▶ to promote establishment of industry-institute advisory forum for students empowerment and Industry- Institute mutual benefits under an innovative program **STEP-IN (STudents EmPowerment INitiative)**
 - ▶ to give free hand in pursuing research program leading to Ph.D. degree
 - ▶ to create awareness about intellectual property rights and motivate the staff towards filing of patents
 - ▶ to establish Placement and Training Cell

6.1.4 What are the procedures adopted by the institution to monitor and evaluate policies and plans of the institution for effective implementation and improvement from time to time?

The Institute has constituted various committees for effective implementation of policies and plans. Regular meetings/visits are made by the Director to various departments to monitor the academic activities. Recently the Government has

constituted a Local Advisory Committee to advice on various academic and non-academic matters towards improvement of the Institute.

6.1.5 Give details of the academic leadership provided to the faculty by the top management?

Faculty members are encouraged to participate in various academic activities like syllabus restructuring, meetings of Board of Studies, Research and Recognition, monitoring educational institutions through Local Inspection Committee, staff selection (as government nominees) and staff promotions (CAS interviews). They are also encouraged to implement industry-institute interfacing, skill development initiatives, conservation of material, architectural and natural heritage for the sake of posterity, organizing campus interviews for students, alumni lecture series, science day program and various scientific-academic programs for socio-economic up-lift of student community.

6.1.6 How does the college groom leadership at various levels?

Leadership at Students' Level:

- The student's council is elected through prescribed election procedure of University. The representatives from every class (C.R.), NSS, sports, cultural, two ladies representatives are nominated by Director based on age and credentials at academic, co- and extra-curricular level as evidenced from the documents. All nominated members of the council elect one amongst them as the General Secretary (G.S.). The constituted student council is encouraged to organize various student-centric activities with the help of student volunteers.
- The Ladies Representative plays a key role in navigating the participation of girl students in various activities.
- Under the guidance and supervision of Gymkhana Committee, the Sports Secretary organizes various sports events.
- The NSS activities are spearheaded by the Program Officer and NSS representative.
- Students are groomed to inculcate problem solving/solution finding and leadership skills.
- Alumni act as Role Models to encourage the existing students with their mentoring guidance.

Leadership at Teachers' Level:

- Heads of various Departments look after the administration of their Department and assign specific tasks to the faculty members.
- The Institute also has various committees like Admission Committee, Store Committee, Library Committee, UGC committee, etc. at departmental as well as Institutional levels. All these committees perform their duties independently under the supervision and guidance of the Director.
- Leadership qualities inculcated in teachers through such exposure is reflected in many of our teachers being offered additional administrative/academic assignments from higher authorities, viz.
 - ▶ Prof. R. A. Satpute worked as member of CAS meetings and promotion

- meetings,
- ▶ Dr. R. R. Deshpande worked as Co-ordinator of Committee constituted by DHE, Pune for scrutinizing proposals under Career Advancement Scheme,
 - ▶ Dr. S. M. Deshpande is working as NSS Coordinator in the Institute.
- Faculty members from the Institute were selected/nominated on top administrative positions in various Institutions at local and regional level as exemplified below:
- ▶ Dr. S. P. Nanir as Principal/Director at Govt. College/Rajaram College at Kolhapur/ Institute of Science, Aurangabad;
 - ▶ Dr. K. G. Joshi and Dr. S. K. Markandeya as Director of Govt. Institute at Aurangabad;
 - ▶ Dr. Mrs. A. S. Vinchurkar as Joint Director, Higher Education, at Pune and Solapur;
 - ▶ Dr. S. G. Gupta as Director Pre-IAS training centre, Mumbai and In-charge Joint Director, Higher Education, Mumbai Region, and presently as Director, Govt. Institute of Forensic Science, Aurangabad,
 - ▶ Dr. R. R. Deshpande worked as Joint Director, Higher Education, Maharashtra State, Pune and also nominated on Management Council/Governing Council of various Deemed Universities and autonomous colleges and presently as In-charge Director, Govt. Institute of Science, Aurangabad.
- Faculty members of the Institute are working on various academic committees constituted by Dr. Babasaheb Ambedkar Marathwada University, viz. Board of Studies/Ad-hoc Boards in various subjects, Examination Committees, subject experts in interviews for selection of teaching faculty, University Affiliation Committees, etc.
- Faculty members are also invited as members of various committees/ resource persons by other Universities and Institutions.
- Faculty members are nominated on government inspection committees for infrastructural monitoring of private colleges.

6.1.7 How does the college delegate authority and provide operational autonomy to the departments/units of the institution and work towards decentralized governance system?

- The institute implements decentralized governance system in implementation of tasks.
- The Head of every Department in consultation with faculty members from respective Departments put forth the indent proposals for purchase of various equipment, chemicals and consumables.
- The consolidated proposal of all the Departments of the Institute is submitted to the Government for approval and financial assistance.

- The grants received from the Government are spent by the Director of the Institute by following prescribed Government procedures keeping in view the indented proposals of respective Department.
- Administrative tasks of establishment, accounts, scholarship and academics are executed through pre-verification by respective steering committee consisting of faculty members and non-teaching staff.

All the Heads of the Departments are delegated with certain tasks like admission, departmental administration, examination, internal evaluation, departmental upkeep autonomously as per centrally set procedures.

6.1.8 Does the college promote a culture of participative management? If ‘yes’, indicate the levels of participative management.

- The Secretary and Joint Secretary, Higher Education conduct meetings of the Directors to review the institutional progress. The Director of Higher Education coordinates these meetings and is regularly in contact with Director of the Institute to sort out various issues. The assessment of the Institute’s performance through Key Performance Indicators (KPI) is submitted by the Director to the DHE, Pune and discussed in the State Level Review Meetings.
- Meetings of the Head of Departments are conducted by the Director regularly to ensure the smooth functioning of the Institute.
- The Institute has a staff council consisting of all faculties which regularly meet to resolve various issues.
- The panel of all Heads along with certain nominated faculties undertake institutional tasks, both academic and administrative through discussions and resolutions. The Director is highly receptive in creating congenial atmosphere during these interactions. The decisions taken are unanimous. The academic and administrative contribution of every faculty member and office staff is credited with respect. The features, viz. accountability, transparency, continuous monitoring are the prime focus in this system.

6.2 Strategy Development and Deployment

6.2.1 Does the Institution have a formally stated quality policy? How is it developed, driven, deployed and reviewed?

The Institute’s formal policy statement is “Creation of skill based human resource with scientific excellence for the overall socio-economic development and global harmony”.

This policy was framed with the following goals in mind:

- To fulfil the backlog of higher education of Marathwada region of Maharashtra State in the emerging areas of science.
- To cater the needs of higher education and training in front-line areas of science, that will have strong vocational value and job potential.
- To generate human resources, so as to fulfill the local needs of industrial growth.
- To enable the students of Marathwada region to enter into national level competition in the field of Science and Technology.

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- To impart quality and value-based education.
- To help the students to discover and tap their fullest potential while becoming properly integrated personalities, who will emerge as responsible and productive citizens of India.
- To consciously gear all its academic activities to sustainable environmental practices encompassing land, water and its flora and fauna by adopting the dictum

“Om Shanti Pruthvi,

Om Shanti Rapa,

Om Shanti Vanaspataye”. -Rigveda

Meaning- May Peace and Harmony Prevail upon Earth, Water and Vegetation.

- To translate the technology from laboratory to society.
- To extend expertise by solving the local problems relating to society, agriculture and industries.
- To assess, create awareness, activate action programs and adopt advocacy with the help of science education.
- To undertake initiatives for organizing events nurturing multi-skill development.

The policy is driven through active participation of faculty and students in undertaking various academic, social and research activities. The students are assigned need-based research projects to cater the society at large. Students are given rich exposure to recent developments in the field through interactions with experts, alumni, scientists from research and academia, through educational tours, summer projects, lecture series, conferences, symposia, etc.

The Placement and Training Cell interacts with concerned industries/organizations for developing skill-based practical programs and enhancing their employability through campus and off-campus interviews.

The Institute strongly believes and practically implements Industry-Institute Interactive connectivity under STEP-IN.

These activities are put to work through strong encouragement, facility creation and delegation of the portfolios to different committees such as Research Coordination Committee, Science Day Celebration Committee, NSS committee, Placement and Training Cell, etc. The activities are monitored by the said committees under the supervision of the Director of the Institute and reviewed periodically for future planning.

6.2.2 Does the Institute have a perspective plan for development? If so, give the aspects considered for inclusion in the plan.

- The proposals for following civil constructions were submitted to and processed through the Government, the details of which are as indicated below:
 - Botanical garden
 - Renovation of laboratory buildings
 - Landscaping

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- The proposals for establishing courses, viz. fermentation technology and cytogenetics and laboratories for Remote Sensing and Bio Instrumentation were submitted to the state government.

Sr. No.	Proposal type	Year of submission	Amount (Rs.)
1	National Research Laboratory in Biological Sciences	2010-11	1470.95 lakhs
2	Setting up e-library	2010-11	51 lakhs
3	PG Diploma in Fermentation Technology	2011-12	78.12 lakhs
4	PG Diploma in GIS and Remote Sensing	2011-12	80 lakhs
5	Specializations in crop genetics	2011-12	1.25 crore
6	Setting up of Science City	2012-13	50 rores

- The Institute has received DST-FIST grant for procuring equipment, development of computer and networking facility, development of Smart Classroom and purchase of books.
- Research proposals were submitted by faculty members to funding agencies, viz. UGC and DST.

Type of Research Project	Funding agency	Budget sanctioned (Rs.)	Budget received (Rs.)
Minor	UGC	13,50,000	5,35,000
Major	UGC, DST	67,29,000	7,74,000
Students' Projects	DST-WOS-A	29,48,000	15,30,000

- Institute has initiated an innovative venture called “STEP-IN” (STudents’ EmPowerment INitiative) under which various student-centric activities are being implemented, such as:
 - ▶ Initiation to establish Industry-Institute Advisory Forum,
 - ▶ Various skill-development based modular employable skill programmes enhancing employability,
 - ▶ Alumni lecture series,
 - ▶ Paying tribute to National Leaders/Personalities on special days,
 - ▶ Visits to industrial establishments and research laboratories, hospitals, etc.
 - ▶ Organizing various programs in collaboration with industries including in-plant, on-the-job training programs,
 - ▶ Creation of awareness, assessment, action and advocacy programs to enable students and teachers to apply subject related knowledge to conserve material, architectural and natural heritage,
 - ▶ Plan and implement campus placement for student employment, training in soft skills,

- ▶ Guidance in National and Global Level competitive examinations, viz. NET, SET, GRE, TOEFL, GATE, etc. coaching to enable students to face future challenges.

6.2.3 Describe the internal organizational structure and decision making processes.

- The Institute is administered by the Department of Higher Education (DHE), Government of Maharashtra through Directorate of Higher Education, Government of Maharashtra, Pune.
- The Institute is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (BAMU) and follows academic policies laid down by the affiliating University and Government of Maharashtra.
- The Institute is headed by the Director, who is in entire control of academic and financial matters, who administers the Institute with the help of Heads of the Departments and staff members of the establishment, academic, accounts, stores sections and the library.
- For efficient internal co-ordination and monitoring of different activities effectively, various committees are constituted.
- Meetings of Heads of the Departments and staff common room meetings are conducted regularly to discuss and decide the academic, administrative and financial issues.
- For all other matters concerning organization and management, the Local Advisory Committee (LAC) constituted by the Government of Maharashtra ensures the smooth implementation of various programmes in the Institute.
- Annual budget is prepared and approved by Local Advisory Committee which is then sanctioned by the Higher Authorities at Government level.
- In accordance with budgetary provisions, purchases of Department, Library and Hostel are executed by the Director of the Institute in co-ordination with the purchase committee.
- The proposed infrastructural development according to the needs of the Departments and Institute as a whole is indented to the Government along with design and budget estimate prepared by the Public Works Department (PWD), Aurangabad Division, and Maharashtra State.
- The budget provisions made by the State Government for infrastructural development are transferred to and utilized by PWD for executing the said erections.
- The decisions regarding recruitment of teaching and non-teaching staff are made at the Government level through Maharashtra Public Service Commission (MPSC) and the Directorate of Higher Education.
- The appointments of visiting faculty and faculty on Clock-Hour Basis is approved by the Director, Govt. Institute of Science, Aurangabad on recommendations of the Heads of the Departments.

A schematic of the Organizational Structure of Government Institute of Science, Aurangabad is given below:



6.2.4 Give a broad description of the quality improvement strategies of the institution for each of the following

- **Teaching & Learning**
- **Research & Development**
- **Community engagement**
- **Human resource management**
- **Industry interaction**

Teaching and Learning

- The infrastructural facilities (class rooms, laboratories, girls’ common room, wash rooms, staff rooms, seminar halls, etc.) in every Department are in tune with norms prescribed by the UGC. In addition, the Departments have basic to advanced infrastructural facilities such as ICT facilities, laboratory equipment, Departmental library, meeting rooms, special instrumentation room, inoculation room, chemical rooms, Departmental stores room, etc. in order to ensure hassle-free and effective teaching-learning atmosphere. The Institute is connected through Virtual Classroom Network with its sister Institutes in Mumbai and Nagpur. The provision for ICT enabled advanced audio-visual tools, interactive board etc. are being procured and erected under DST-FIST program.
- Institute also achieves quality improvement by organizing lectures and seminars for teachers and students by eminent alumni, technical experts, academicians and administrators from industries/organizations.

Research and Development

- Teachers are provided with essential laboratory and library facilities for upgrading their knowledge and carrying out research. They are also encouraged to seek funds from various funding agencies and interact with scientific community through presentation of their research work at conferences, seminars, symposia and workshops.
- Teachers are encouraged to participate in training programs which help in grooming their academic and administrative skills.
- The Institute encourages faculty members to visit foreign countries for academic and research accomplishment and for presenting their research work in International Conferences abroad and recommends names of such faculty members to the Department of Higher Education, Pune for Government permissions.
- Online subscription of books and journals is made available through UGC-INFLIBNET to keep the academia abreast of latest literature.

Community engagement and consultancy services

- The NSS unit of the Institute organizes various activities. These activities aim at the inculcation of social concern in the minds of the students especially for the community development, women empowerment, spread of literacy, promotion of peace & harmony and environmental awareness.
- Department of Geology helps local farmers by providing services related to ground water survey and analysis of water samples.
- Department of Botany helps local community and farmers in the identification of plant and microbial species.
- Department of Microbiology provides consultancy for the identification of microbial cultures and provides useful cultures to colleges and other institutions.
- Department of Biophysics provides gamma irradiation services to the industrial organizations and researchers from other organizations.
- The library offers facility of referencing to the students of other colleges.

Human resource management

- Teachers are motivated to enhance their qualities through attending refresher courses, orientation programs, departmental training programs, summer schools, administrative training, short-term training programs, etc. which helps in grooming up their academic and administrative skills.
- Teachers are entrusted with certain duties and responsibilities in addition to the regular teaching and research activities which has resulted in honing their multitasking abilities. Accordingly various committees like Women Grievance Redressal Cell, staff and student grievance redressal cell, anti-ragging committee, Placement & Training Cell, Student Counseling Cell, and Admission Committee, Student Council Committee, Affiliation committee, Prospectus committee, Purchase committee, Scholarship committee, Hostel committee etc. have become instrumental with the help of faculty.
- The non-teaching staff is motivated to attend short term training programs such as those related to the use of computers, etc. They are encouraged to make use of computers and internet facility for administrative work.

Industry interaction

- The Institute interacts fruitfully with industries through Placement & Training Cell and consultancy-extension services. This has resulted in significant number of students getting recruited in industries through on-campus and off-campus interviews.
- The Institute regularly invites experts from industries for invited talks and academic interactions with students and faculty members so as to tune up the human resource with present trends in the industrial sectors.
- The alumni working in various industries share their experiences with the students of the Institute and guide them in building the career.
- Educational tours/industrial visits are organized for exposing the students to the latest industry trends.
- The Institute encourages and recommends M.Sc. Part I students to participate in Summer Projects in industrial units during summer vacations. This helps enriching their exposure to in-plant conditions and enhances their prospects in employment.
- The Institute has designed Skill Development Modules based on requirement of the industries to create skilled manpower customized to job requirements in the industries.
- Suggestions from industry are invited and included during revisions in the curricula.
- Efforts are being taken to initiate the constitution of an Industry-Institute Advisory Forum under STEP-IN program in order to navigate the industry interactions.

6.2.5 How does the Head of the institution ensure that adequate information (from feedback and personal contacts etc.) is available for the top management and the stakeholders, to review the activities of the institution?

- The various committees interact with the Director to apprise him of their activities executed.
- The Director conducts regular meetings with the Heads of all Departments to discuss and review the activities of the Departments.
- The Staff Council meetings are held twice a semester to discuss various academic and developmental issues.
- The Student Council regularly meets the Director to resolve the student related issues.
- The Institute has its own website which is updated regularly. The notices regarding admissions, announcements, etc. are continuously updated. The stake holders are kept informed about the developments in the Institute through the website.
- The Director in consultation with faculty members compiles Quality Report of the Institute based on Key Performance Indicators which is submitted to the DHE, Pune for perusal.
- An annual magazine of the Institute portrays the various curricular, co-curricular and extracurricular activities as well as achievements of the students and staff.
- An annual report regarding academic and research activities is submitted to the affiliating University for publication in the Annual Report of the University.

- Regular updates pertaining to academic, research, financial and other administrative activities of the Institute are submitted to the Director of Higher Education, Pune and Joint Secretary, Higher Education, Mantralaya, Mumbai during common meetings.

6.2.6 How does the management encourage and support involvement of the staff in improving the effectiveness and efficiency of the institutional processes?

The members of teaching staff are entrusted with certain duties and responsibilities in addition to the regular teaching and research activities. The efficiency and effectiveness of various institutional activities has improved due to participation of faculty members in various committees such as Women Grievance Redressal Committee, staff and student grievance redressal cell, anti-ragging committee, Placement & Training Cell, Student Counselling Cell, Admission Committee, Student Council Committee, Affiliation committee, Prospectus committee, Purchase committee, Scholarship committee, Hostel committee, Cultural Committee, etc.

The teaching and non-teaching staff members are motivated to enhance their administrative qualities through attending administrative training, short-term training programs, etc.

The Institute maintains an atmosphere conducive to good teaching-learning and research activities. Faculty members are provided infrastructural and laboratory facilities to pursue their research objectives. They are encouraged to upgrade their knowledge by participating in various academic and research programmes at International and National level. The Institute encourages faculty members to visit Foreign countries for academic and research accomplishment and for presenting their research work in International Conferences abroad and recommends names of such faculty members to the Department of Higher Education, Pune for Government permissions.

6.2.7 Enumerate the resolutions made by the Management Council in the last year and the status of implementation of such resolutions.

The Local Advisory Committee (LAC) for Institute was recently constituted and hence involvement of LAC in deciding the resolutions is yet to start. However, the general trend followed by the Institute about communicating the resolutions to the management is as follows:

- ▶ A steering committee consisting of all Heads of the Departments, librarian and the concerned Senior Office Staff meet at specified times to discuss the issues of overall development of the Institute and the budget. The decisions taken in these meetings are communicated to the Government (Management) through Director of Higher Education, Pune as per Government norms. The necessary sanctions at Government level are appropriately descended through Director of Higher Education, Pune to be received at the Institute.
- ▶ The Director of the Institute as per the Govt. sanction orders executes the necessary development plans.
- ▶ The construction component of basic infrastructure is further executed by PWD, Aurangabad Region, and Govt. of Maharashtra.

- ▶ The academic matters resolved in these meetings are first processed through affiliating University and then sent to higher authorities in the Govt. for further necessary permissions.

6.2.8 Does the affiliating university make a provision for according the status of autonomy to an affiliated institution? If ‘yes’, what are the efforts made by the institution in obtaining autonomy?

Yes, a proposal for Autonomy was submitted to the DHE, Pune.

6.2.9 How does the Institution ensure that grievances/complaints are promptly attended to and resolved effectively? Is there a mechanism to analyze the nature of grievances for promoting better stakeholder relationship?

The Institute has constituted Grievance Redressal Cell for students as well as staff members. In order to address the problems of girl students and female staff members, a separate Women’s Grievance Redressal Cell named as the “*Vishakha Samiti*” has been constituted. The institute has constituted Anti-ragging Committee to prevent ragging incidences. These committees promptly attend to the grievances of the students and staff members, analyze the nature of the grievances and resolve the problems amicably. In addition, the girl students as well as female staff members at the Institute are assured of complete support in case of any sexual harassment.

6.2.10 During the last four years, had there been any instances of court cases filed by and against the institute? Provide details on the issues and decisions of the courts on these?

Yes. The following court cases were filed against the Institute and the State Government administration:

1. Mr. Raju Rengade - regarding regularization and permanency benefits in employment.
2. Mr. Ishwar T. Thakur - regarding regularization and permanency benefits in employment.

The cases are awaiting decision from Hon’ble Court.

6.2.11 Does the Institution have a mechanism for analyzing student feedback on institutional performance? If ‘yes’, what was the outcome and response of the institution to such an effort?

Yes. The Institute takes the feedback from the students of all departments regarding academic deliberations. The feedback is analyzed at Departmental and Institute levels. Faculty members are given necessary suggestions and motivation to enhance the effectiveness of teaching-learning process.

6.3 Faculty Empowerment Strategies

6.3.1 What are the efforts made by the institution to enhance the professional development to fits teaching and nonteaching staff?

- The Institute has a staff council consisting of faculty members which meets at regular intervals to discuss about the plans and outcome of various activities. Professional developments and achievements of the faculty are admired.

- Faculty members are encouraged to organize seminars, conferences, workshops, skill development programs, etc. and also contribute for academic committees of the affiliating University and selection/promotion committees of Government and non-government organizations.
- The Institute runs a financial Co-operative Society of its employees as per Government norms. All the staff members (teaching and non-teaching) are share-holders of the society. The society disburses emergency loans and long-term loans to the employees at low rates of interest. Every year, based on the total business of the society, attractive dividend is distributed amongst the share-holders.
- The faculty, students and the office staff participate actively in cultural events like Annual Social Gathering, conferences, Science Day Celebrations, sports activities, etc. to create congenial atmosphere.

6.3.2 What are the strategies adopted by the institution for faculty empowerment through training, retraining and motivating the employees for the roles and responsibility they perform?

- Teachers are motivated to enhance their qualities through attending refresher courses, orientation programs, Departmental training programs, summer schools, administrative training, short-term training programs, etc. which helps in grooming up their academic and administrative skills.
- Teachers are entrusted with certain duties and responsibilities in addition to the regular teaching and research activities which has resulted in honing their multitasking abilities. Accordingly various committees like Woman's Grievance Redressal, staff and student grievance redressal cell, anti-ragging committee, Placement & Training Cell, Student Counselling Cell, and Admission Committee, Student Council Committee, Affiliation committee, Prospectus committee, Purchase committee, Scholarship committee, Hostel committee etc. have become instrumental with the help of faculty.
- The non-teaching staff is motivated to attend short term training programs such as those related to the use of computers, etc.

6.3.3 Provide details on the performance appraisal system of the staff to evaluate and ensure that information on multiple activities is appropriately captured and considered for better appraisal.

At the end of each academic year, the teachers are required to fill self-appraisal forms consisting of performance of engaging lectures, performance of attendance of the students, performance of examination results and other performances, viz. classroom planning and control in theory lectures and laboratory practical sessions, students' guidance and counselling, assessment and revaluation, curriculum/learning resources development, seminars/training, co-curricular activities, resource mobilization, personal academic achievement, managerial and administrative skill, interaction with external environment.

The self-appraisal reports are evaluated by the Heads of the Departments followed by evaluation by the Director. The forms are then forwarded to the Director of Higher Education (DHE) for further remarks and processing. The photocopies of these evaluation forms after complete processing are communicated in confidence to the concerned persons.

6.3.4 What is the outcome of the review of the performance appraisal reports by the management and the major decisions taken? How are they communicated to the appropriate stakeholders?

After the processing of the performance appraisal reports, the remarks in the grades, viz. "A⁺ outstanding", "A very good", "B⁺ positively good", "B good" and "B⁻ average", "C below average" are communicated to the concerned staff members based on their performances. The adverse remarks are also conveyed wherever applicable. This helps to encourage and improve the performance of the teacher. The confidential report based on the Self-Appraisal is also used while considering the placement and promotion of the concerned staff member.

6.3.5 What are the welfare schemes available for teaching and non-teaching staff? What percentage of staff have availed the benefit of such schemes in the last four years?

- The Institute runs a financial Co-operative Society of its employees as per Government norms. All the staff members (teaching and non-teaching) are shareholders of the society. The society disburses emergency loans and long-term loans to the employees at low rates of interest. Every year based on the total business of the society, attractive dividend is distributed amongst the shareholders.
- The non-teaching staff avail Government facilities such as on-campus residential facility. Medical facilities for teaching and non-teaching staff are provided in Government hospital in the vicinity of the Institute campus. Special leave is granted to the staff to attend meditation camp (Vipashyana) at Igatpuri, Nasik and other places. Festival advance and Leave Travel Concession (LTC) for touring in Maharashtra (once in four years) is given to the faculty members. Vehicle loan, home loan, and computer loan facilities are made available for the staff members.

6.3.6 What are the measures taken by the Institution for attracting and retaining eminent faculty?

- Recruitments for faculty positions are made by Government of Maharashtra through the Maharashtra Public Service Commission (MPSC) as per the Government rules. The vacancies for different faculty positions are advertised in all leading newspapers as well as the MPSC website. Recruitments are made strictly on the basis of eligibility criteria and academic credentials, ensuring selection of right candidates. Once appointed, the faculty members enjoy all Government facilities and privileges.
- The Institute maintains a friendly and congenial atmosphere nurturing the academic and professional development of faculty members.
- The Institute invites eminent persons and industry experts for delivering guest lectures. Strong academic relations with these experts are maintained in order to ensure long-term association and benefits to the Institute.

6.4 Financial Management and Resource Mobilization

6.4.1 What is the institutional mechanism to monitor effective and efficient use of available financial resources?

- The monitoring of available financial resources is done by the Director of the Institute with the assistance of a Purchase Committee comprising of Heads of

the academic departments along with the administrative staff from stores and accounts sections.

- All financial resources are made available for the Institute by the State Government under the Plan and Non-plan Budgets.
- The Plan Budget includes provision for purchase of new machinery/equipment, library resources, administrative facilities, miscellaneous departmental requirements.
- The non-plan component of the budget includes salary, RRT, travel allowance, material supplies, water, electricity, telephone, publications, office stationary, spares/repairs of machines/equipment.
- The funds received from various funding agencies like UGC, DST, etc. for projects are under the control of the Director in co-ordination with the Department Heads and Principal Investigators.
- Each Departmental requisition is processed by the Central Stores in consultation with respective Head of the Departments and the Director as per their need and priority.
- The process of purchase is done by the central store as per the Government rules and regulation.
- Utilization certificate of each project duly certified by Chartered Accountant is submitted to concerned authority along with expenditure statement.

6.4.2 What are the institutional mechanisms for internal and external audit? When was the last audit done and what are the major audit objections? Provide the details on compliance.

- The internal audit of this Institute is done by Joint Director, Higher Education, Aurangabad Region, Aurangabad. The external audit is done by Treasury Officer, Aurangabad and Accountant General, Nagpur.
- The last audit was done in the month of April-May 2014 by Treasury Officer, Aurangabad.

6.4.3 What are the major sources of institutional receipts/funding and how is the deficit managed? Provide audited income and expenditure statement of academic and administrative activities of the previous four years and the reserve fund/corpus available with Institutions, if any.

- Institute gets all major funds from the State Government. All non-government fees received from students such as admission fees, University fees, hostel fees are maintained in Personal Ledger Account (PLA) which is maintained at the Treasury under the supervision of the Director. The month-wise statement reconciliation is done by Treasury Office regularly. The deficit, if any is communicated to the Director, Higher Education, Pune and the same is managed by the Government as per prescribed rules and regulations. A separate cash book is maintained at the Institute for Government and Non-Government expenditure.
- The funds received from UGC/DST for research and development projects are maintained in a separate bank account and accordingly a cash book is maintained.

6.4.4 Give details on the efforts made by the institution in securing additional funding and the utilization of the same (if any).

- In addition to funding from Government, the Institute has put forth the proposals for funding from UGC, DST and Ministry of Environment and Forests at central government level and from Rajiv Gandhi Council for Science and Technology, Government of Maharashtra. The Institute received grant of Rs. 12.26 Lakh under XI plan (2007-2012) from UGC and Rs. 50 lakhs from DST under FIST Scheme for the period (2012-2017).
- The faculty members of the Institute have received financial assistance for execution of major and minor research projects funded by the agencies like UGC and DST.
- Institute also receives grants from various funding agencies for organizing Conferences/seminars and Science Day Programs.
- The Marathwada Statutory Development Board, Aurangabad has sanctioned Rs. 5 Lakh for the purpose of purchasing remote sensing software for Geographical Information System in the Geology Department and for extending it to the needy people at the regional level.

6.5 Internal Quality Assurance System (IQAS)

6.5.1 Internal Quality Assurance Cell (IQAC)

a. Has the institution established an Internal Quality Assurance Cell (IQAC)? If 'yes', what is the institutional policy with regard to quality assurance and how has it contributed in institutionalizing the quality assurance processes?

Yes. The Institute constituted IQAC on 15th January 2005 post accreditation. IQAC is constituted as per the norms prescribed by NAAC. The objectives and procedures for ascertaining quality assurance are according to the instructions displayed on the NAAC website from time to time. The annual quality assurance reports and report of Key Performance Indicators are carefully examined. Necessary nurturing and strengthening actions are taken in every Department to curb weaknesses and further the innovativeness.

b. How many decisions of the IQAC have been approved by the management/authorities for implementation and how many of them were actually implemented?

Recommendations by the IQAC, viz. filling up of the vacant posts of Associate Professors and Assistant Professors, providing internet facility to the students free of cost, water purification system and water coolers have been actually implemented.

c. Does the IQAC have external members on its committee? If so, mention any significant contribution made by them.

Yes, the external member has been in IQAC committee in July 2014. He has actively contributed in functioning of IQAC.

d. How do students and alumni contribute to the effective functioning of the IQAC?

- Students contribute for effective functioning of IQAC through their requirements and suggestions

- Institute invites alumni for interactive sessions with the students in terms of knowledge sharing and career prospects. The alumni have contributed significantly to promote research culture in the Institute by offering their expertise. They strive to orient students towards work and research culture through workshops and industrial visits.
- Alumni of Botany Department donated a sum of Rs. 80,000/- to host a prize for University Rank Holder in M.Sc. Botany from Institute of Science.

e. How does the IQAC communicate and engage staff from different constituents of the institution?

The IQAC holds meeting of its members to plan the strategies for quality improvement and maintenance. The effective steps in this direction are communicated to the various committees and office staff for implementation.

6.5.2 Does the institution have an integrated framework for Quality assurance of the academic and administrative activities? If 'yes', give details on its operationalization.

The quality assurance of the administrative matters is ensured through integrated activities of various committees under the guidance of Director. IQAC is appraised of the academic activities of staff and students in every Department. Suggestions given by IQAC regarding quality enhancement are implemented at Department level.

6.5.3 Does the institution provide training to its staff for effective implementation of the Quality Assurance procedures? If 'yes', give details enumerating its impact.

The IQAC narrates the quality measures and procedures prescribed, from time to time, by NAAC during IQAC meetings. The quality indicators decided through discussions are implemented in the work culture. This helps to create systematization of procedures and congenial atmosphere.

6.5.4 Does the institution undertake Academic Audit or other external review of the academic provisions? If 'yes', how are the outcomes used to improve the institutional activities?

Yes.

- Performance related to academic and administrative avenue is reviewed twice a year by a State Level Committee (Sahvichar Sabha) under the Chairmanship of Joint Secretary, Higher Education, Govt. of Maharashtra and coordinated by Director of Higher Education, Govt. of Maharashtra. The discussion and suggestions of the meetings are communicated by the Director of the Institute in staff council meetings so as to respond through work actions.
- The affiliation committee of the affiliating University executes academic and administrative audit of the Institute as per the norms of the UGC. The report consisting of evaluated marks and remarks, if any, are communicated to the Institute. The necessary fulfillment on the basis of the remarks is practically undertaken in the purview of prescribed norms of Govt. of Maharashtra.

6.5.5 How are the internal quality assurance mechanisms aligned with the requirements of the relevant external quality assurance agencies/ regulatory authorities?

The directives given by external regulatory authorities during biannual meetings (Sahvichar Sabha) with respect to academic and administrative quality are followed precisely in conjunction with the respective regulatory norms prescribed by NAAC so as to maintain the internal quality.

6.5.6 What institutional mechanisms are in place to continuously review the teaching learning process? Give details of its structure, methodologies of operations and outcome?

The teaching-learning process is critically monitored by IQAC through the following:

- Academic Calendar of every Department is prepared at the commencement of the academic year
- The Time Table for every Department is set in uniform timings
- The teaching plan is submitted by each faculty member at the commencement of the year and teaching record is kept throughout the year.
- The continuous internal assessment is effectively undertaken so as to nurture the understanding by the students.
- The students are given free access to surf the internet for online lectures, notes, e-books, journals, concept notes, animations, etc.
- The benefit of websites involving virtual labs is effectively exploited.
- Student feedback regarding teaching quality is taken and steps are taken to fill up the gaps in teaching-learning activity.
- In addition to academia, workshops on effective communication skills and personality grooming are organized to empower the students with strong interactive capabilities.
- The feeling of social responsibility is inculcated in the students through NSS camps, annual social gathering and student council formation.

6.5.7 How does the institution communicate its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders?

Institute communicates its quality assurance policies, mechanisms and outcomes to the various internal and external stakeholders through website, advertisement, magazine, prospectus and by conducting meetings with alumni, students, parents, staff and management.

Any other relevant information regarding Governance Leadership and Management which the college would like to include.

Government as a management renders necessary suggestions, schemes that help the smooth functioning and governance of the Institute. These include the directives circulated by DHE, Pune submission of proposals for planned expenditure on expansion, renovation, up-gradation of laboratories by providing substantial grant.

Evaluative observations (first cycle) and quality sustenance/ enhancement measures.

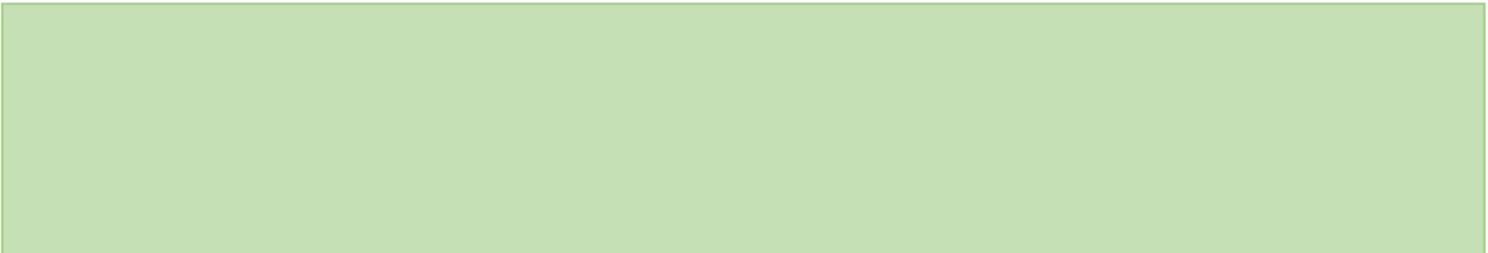
- Internet facility is made available in all the departments and is accessed by students and faculty by free of charge.

CRITERIA-VI GOVERNANCE, LEADERSHIP AND MANAGEMENT.....

- Due to extensive availability of mobiles with the students, landline telephone connection does not become necessary. However, landline telephone connection is made to the students Rector's quarter.
- New recruitments of the faculty have been made to certain teaching post like Professor, Associate Professor and Assistant Professors within the institute.
- Institute has developed the website www.inosca.org.
- Institute has established training and placement cell for arranging campus interviews.



CRITERIA VII: INNOVATIONS & BEST PRACTICES



CRITERIA VII: INNOVATIONS AND BEST PRACTICES

7.1 Environment Consciousness

- The Institute campus is situated in picturesque surroundings with lot of greenery and against the backdrop of the famous Aurangabad Caves. The adjoining lush green campus of the Dr. Babasaheb Ambedkar Marathwada University provides additional environ-friendly background to our campus.
- A large number of bird and animal species including peacocks, wood peckers, sunbirds, golden oriole, monkeys, rabbits, etc. are frequently spotted in the Institute campus.
- The Institute has preserved the green areas of the campus while ensuring neatness and cleanliness. The institute campus is spread over an area of 27.56 acres and has more than 250 plants belonging to 27 tree species, 8 grass species, 6 climbers. In addition, various herbs and shrubs appear during rainy season. Cryptogamic flora (algae, fungi, bryophytes), are spotted during Monsoon and winter.
- The department buildings erected towards one end of the campus are well separated from each other with ample of space between them to ensure good ventilation and lightening in the buildings.
- The landscaping project is undertaken by Public Works Department, Aurangabad of the State Government for enriching the beauty of the campus.
- The Institute is located far away from the busy city of Aurangabad in a pollution-free area with very low traffic. The atmosphere is peaceful and tranquil and thus conducive to higher learning.
- The Institute has maintained separate Geology and Botany Museums that have a huge collection of precious material on display. In addition the Botany Department has a nursery of medicinal plants and a green house. A major project has been proposed to the Ministry and Environment and Forest, Govt. of India by the Botany Department for preservation of rare and medicinal trees, for which part of the Institute land is earmarked.
- The campus waste is converted into Organic Manure through composting and vermin-culture by the Department of Botany and is used for gardening and *in-campus* plantation.
- The Microbiology Department conducted numerous community programs within and out of Aurangabad city to create awareness about Solid Waste Disposal. Research projects in the Microbiology Department are aimed towards treatment of toxic and hazardous industrial wastes using microbial and nanotechnology based methods. The faculty members have carried out extensive work on the biodegradation and conservation of historical monuments viz. Ajanta and Aurangabad Caves.
- The Geology Department routinely carries out analysis of water both within the Institute as well as in the local community in order to ensure a healthy community and environment.
- The NSS unit of the Institute carries out various environment related activities such as Tree Plantation within and out of the Institute campus, Street Plays, construction of check dam for water conservation, etc.
- The Institute has adopted several practices for energy conservation such as use of power saving devices, solar equipment, etc.

CRITERIA-VII INNOVATIONS AND BEST PRACTICES.....

- The Institute organizes guest lectures and poster presentations to stress the important environmental issues and the need to conserve biodiversity and the environment. The programs also educate the students about the methods of waste treatment and disposal, conservation of biodiversity and use of green methods and products.

All these aspects point towards the environmental consciousness of the Institute.

7.1.1 Does the Institute conduct a Green Audit of its campus and facilities?

- The Institute has not carried out Green Audit by a Government appointed regulatory authority. However, monitoring and numbering of all the trees within the campus with respect to number of species and number of trees within each species are carried out by the Department of Botany.
- The institute campus is spread over an area of 27.56 acres and has more than 250 plants belonging to 27 tree species, 8 grass species, 6 climbers. In addition, various herbs and shrubs appears during rainy season. Cryptogamic flora (algae, fungi, bryophytes), are spotted during Monsoon and winter.

7.1.2 What are the initiatives taken by the college to make the campus eco-friendly?

- **Energy conservation**
- **Use of renewable energy**
- **Water harvesting**
- **Check dam construction**
- **Efforts for Carbon neutrality**
- **Plantation**
- **Hazardous waste management**
- **e-waste management**

Energy conservation:

- The Institute has adopted several practices for energy conservation such as minimizing use of energy intensive devices, use of power saving devices, solar equipment and pooling the work elements that are energy-intensive.
- The Institute has cultivated the practice of power saving for illumination purposes, computer monitors and energy saving air conditioners/refrigerators, etc. The fans and lights are put on only when required.
- In the Department of Microbiology, the autoclave, ovens, hot plates, etc. are put on by authorized personnel or students only after all material is pooled and repetitious use of the instruments is avoided.
- The Department of Biophysics uses solar power operated water distillation unit to save energy.
- Solar water heater is installed in the Boys Hostel to provide hot water to the students.
- The Institute organizes guest lectures and poster presentations to stress the important environmental issues and the need to conserve biodiversity, energy and the environment.

Use of renewable energy:

- The Department of Biophysics uses solar power operated water distillation unit to save energy. The distilled water is provided to all the departments within the institute.
- Solar water heater is installed in the Boys Hostel to provide hot water to the students.

Water Harvesting and Check Dam Construction:

- The NSS unit of the Institute has constructed “*Vanarai Bandhara*” (check dam) in order to prevent wastage of water. This has resulted in significant rise in the water level due to recharge of the wells in the campus on which the boys’ and girls’ hostels are dependent for washing and other purposes.

Efforts for Carbon neutrality:

- The Institute staff makes minimal use of paper and green-house gas emitting devices. The Institute is about to install e-governance system in order to have paperless office. Minimization of paper is an attempt to reduce the cutting down of trees for paper manufacturing.
- The Institute encourages new tree plantation within the campus and also in the surrounding areas. The NSS unit of the Institute carried out tree plantation on “*Hanuman Tekdi*”, a small hillock in the vicinity, which was barren.

Plantation:

- The Institute has carried out tree plantation within the campus and also in the surrounding areas. The NSS unit of the Institute carried out tree plantation on “*Hanuman Tekdi*”, a small hillock in the vicinity, which was barren.
- The faculty members of Botany Department assign the task of numbering the tree to the students as a part of practical/project work.
- The department has planted a number of rare and endangered medicinal plants in the Botanical Garden and in the campus.

Hazardous waste management:

- Each department of the Institute ensures proper disposal of the potentially hazardous material/waste generated in the laboratories.
- The Microbiology, Biotechnology, Biophysics and Botany Departments sterilize all waste microbial cultures by autoclaving prior to disposal.
- Chemicals such as polyacrylamide and other hazardous chemicals are disposed using proper care.
- Faculty members of the Institute carry out community awareness program related to solid waste disposal. Such programs have been conducted across the state and other states as well and people are encouraged to grow flowering, fruit plants and mushrooms on household/industrial waste material.

e-waste management:

- Electronic instruments and computers are used with great care in order to prevent break down of the instruments. This minimizes the generation of e-waste. Instruments beyond repairs are being processed for write-off procedures as per the Government norms.

7.2 Innovations :

7.2.1 Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the college.

The Institute has implemented following innovations during the last four years:

- Effective internal assessment system since 2003 consisting of tutorials, seminars and their evaluation by teachers followed by reciprocating remarks by the students has been implemented in department of Biophysics. This system has been incorporated into university curriculum.
- Inculcation and nurturing the research aptitude via introduction of independent paper on Research Methodology and Communication Skills and one mini-project per semester per student. Effective practice for review writing, method standardization, data analysis, etc. is practiced regularly in department of Biophysics.
- Visiting faculty and alumni are invited in the Institute for expert lectures.
- In-plant training/demonstration in hospitals, visits to industry and research organizations, field study, participation in conferences, summer projects are regularly encouraged.
- Guidance for the NET/SET and other competitive examinations.
- Emphasis on the utility of e-resources, viz. e-books, multimedia presentations, PowerPoint presentations, informal/concept notes, reviews, protocols, virtual presentations, use of software such as Global Mapping, Surfer, PAST, bioinformatics based tools- sequence/structure comparison, molecular modeling, viewing, docking, etc.
- Library orientation has been regularly practiced to nurture students for effective use of library resources. The extended hours of reading room facility is provided to the students during the pre-examination days.
- User awareness program and book exhibitions are organized for stimulating extensive use of library.
- Health camps are organized for free health checkups and creating health awareness amongst the students.
- Department of Biophysics initiated subjective and practical training in Electrophysiology, a specialization at M.Sc. second year. A software based equipment “LAB TUTOR”AD Instruments, Australia is purchased and utilized to perform the experiments.
- Students are provided with e-resources for academic purposes.

7.3 Best Practices:

7.3.1 Elaborate on any two best practices as per the annexed format which have contributed to the achievement of the Institutional Objectives and/or contributed to the Quality improvement of the core activities of the college.

Best Practice 1

1. Title of the Practice

“Experiential Training for Overall Development”

2. Goal

The Institute nurtures the students in highly interdisciplinary areas of life/biosciences and Earth sciences. Hence, it is essential that in addition to their classroom and laboratory training in the concerned subjects, the students should have an exposure to real world/onsite scenarios to develop integrative approach/strategy and imbibe application oriented approach. The Institute therefore encourages experiential training through arranging various activities, viz. summer projects, industrial trainings, independent handling of research projects, self-designed seminars, participation in National and International conferences, field visits, mine training, hospital demonstrations, industry/institute visits, etc. Competitive exam skill development initiatives and guidance by alumni/invited experts prepare the students for qualifying National level competitive tests.

3. The Context

The students admitted in the Institute are mostly from educationally under privileged Marathwada region. They are unaware of their in-built talent and skills. Due to the lack of academic exposure they cannot decide about their career goals and the utility of the subject in which they are trained. Moreover, the students are reluctant in opting the academic career through National/Global level competitive examinations. The Institute has developed extensive pre-admission counseling mechanism to reduce/remove the fear and phobia about higher studies and assist in choice of subject at M.Sc. level. Mere classroom teaching does not effectively eliminate the senile attitude towards their career honing. Therefore, the Institute has seriously addressed this problem by designing multi-directional approach that caters self-learning; developing interest, using interdisciplinary, integrative and object-oriented strategy in learning; broadening of knowledge grasp; analyzing situations and inculcating problem solving/solution finding attitude.

4. The Practice

- Explaining concepts orally to audience facilitates a deeper understanding of the subject. Knowledge dissemination always catalyzes the knowledge grasp. Keeping this in mind, the Institute motivates the students to design and deliver information/concept-based seminars during their curriculum. The display of synopsis, presentation skeleton, overall organization of the seminar events, evaluative feedback/interactive discussion is completely managed by the students which self-mentor their leadership qualities.
- The linkage between classroom learning and field-experience is established through regular visits to industries, research institutes, hospitals, mines, field visits, etc. Here, the students explore new dimensions in the practical

application of the subject knowledge. Exhaustive interactions on varied queries by the students with field experts stimulate thirst for learning.

- The Institute strongly believes in enrichment of teaching-learning process using research based approach in concerned subjects. As a consequence the students are allotted with mini-research projects as a part of academic curriculum. Students develop research aptitude by familiarizing with research methodology, analytical tools, data analysis, interpretation skills and presentation skills while implementing these projects independently.
- Students are motivated to undertake summer projects/in-plant training in various organizations/industries/research laboratories outside the Institute, to give them first-hand experience of the organizational settings. They get familiarized with latest trends, quality principles, processing techniques, instrumentation, need for documentation and documentation procedures.
- Students participate enthusiastically in National and International conferences, present research papers/posters, interact with the scientific community and develop contacts that may be useful in their future endeavors. This helps in building up their confidence, will-power and morale.
- Real life/on-site experiences shared by the invited experts, faculties, scientists, entrepreneurs, industry personnel and our alumni with our students culminate in imbibing ethical values and personality traits viz. pride towards the Institute, down-to-earth analytical approach, methodologically buffered strategy, descriptive & illustrative approach.
- Exam skill and experience sharing by alumni who have successfully qualified the competitive examinations developed a positive attitude amongst the students. Students have since then opted enthusiastically to appear in the NET/SET/GATE and other competitive examinations.
- Institute has effectively utilized the faculty, available infrastructure, library resources, and contacts with alumni, academic and professional linkages for implementation of these practices.

5. Evidence of Success

- Seminars presentations have enriched the qualities within the students, viz. gathering the information, designing the talk/presentation, preparing the display slides using computers, co-assisting the presentations with animations, simulating examples.
- Students acquired boldness, confidence, clarity of thoughts, integrating information and logic of bridging the concepts, communication skills, analyzing the questions raised and giving appropriate answers.
- Students learnt effective use of audio-visual devices and white-board.
- As a result students have confidently presented papers in conferences and interacted with scientific community.
- The knowledge acquired through field exposures, summer projects and research projects could successfully amalgamate the theoretical concepts with practical utility which further assisted them in diagnosing and curing the problems/challenges faced in actual work environment.
- As a result students had a chance to be in vicinity with National and Global experts in research laboratories/industries from whom they could build their personality and contribute significantly to the growth of their organizations. The coveted positions held by alumni highlight the result of these efforts.

CRITERIA-VII INNOVATIONS AND BEST PRACTICES.....

- Moral boosting lectures by alumni/invited experts sharing real life/on-job experiences has thoroughly revolutionized the students' mind with strong will to undertake/handle tough challenging situations.
The students visualize & follow these mentors as their Role Models which has resulted in boosting the placement percentage within last couple of years.
- The in-house coaching for competitive examinations has yielded success to several students in opting and tackling the National level competitive examinations.

6. Problems Encountered and Resources Required

- The weak academic background and fear within the students poses challenge for the mentoring process. The challenge is further enhanced in case of the economically weaker sections of the students. The strong counseling with little financial assistance at the personal level circumvents these difficulties to certain extent favoring the mentoring process.
- The weak communication abilities consequently leading to shyness within the students was another hurdle in the teaching-learning. The faculty members devoted extra time in building up the communication ability and curb the shyness. The family-like and congenial atmosphere maintained within the Institute further catalyzes the mentoring process.
- Owing to low budgetary provisions, the Institute cannot support economically weaker students for participating in out-station co- and extra-curricular activities. Separate provisions of finances would certainly boost the participation.
- Student-centric activities enlisted in the "Goals" above, if supported with additional financial assistance, can capture momentum and can be extended to needy students from other Institutions as well.

7. Contact Details

Name of the Director: Dr. R. R. Deshpande

Name of the Institution: Government Institute of Science

City: Aurangabad

Pin Code: 431004

Accredited Status: B++ (2004)

Work Phone: +91-240-2400586

Website: www.inosca.org

Mobile: +91-9823867880

Fax: +91-240-2400103

email: director@inosca.org

Best Practice 2

1. Title of the Practice :

“Nurturing value-based education, social responsibilities and good citizenry”

2. Goal

With an aim of carving value based education and social awareness amongst the students and faculty extension and information dissemination to the community, the Institute has launched various programs, viz. women empowerment program; “*Jagar Janivancha*”; special day programs; blood donation camps; awareness and conservation programs for clean and green environment inclusive of water conservation and eco-friendly aspects- tree plantation, check dam construction, solid waste treatment and nutrient recycling; inculcation of value based education, socio-sensitivity, and faculty extension services like soil analysis, ground water exploration and testing, gamma irradiation, providing microbial cultures as well as popularization of science; voter awareness campaigns etc.

3. The Context

The Institute being a Post Graduate and Research Organization caters the academic needs of the region. In addition to academics, the societal components also expect creation of sensible human resource with high human values and sensitivity towards social climate as well as science-based extension services. In order to bridge the gap between academic training and the societal expectations, the Institute has structured multi-faceted programs that cater socio-sensitivity, environmental awareness and ethical values. In addition, the Institute takes the responsibility to extend the available facilities and expertise to community welfare and nurture scientific temper amongst the community through science popularization programs.

4. The Practice

- Conserving the green areas of the Institute campus to preserve and protect the large number of bird and animal species while ensuring neat, clean and green environment.
- The campus waste is converted into Organic Manure through composting and vermin-culture and is used for gardening and *in-campus* plantation.
- The Institute has conducted numerous community programs within and out of Aurangabad city to create awareness about Organic Waste Disposal under CLEAN India (Community Lead Environment Action Network) of Development Alternatives, New Delhi supported by European Commission, Central Pollution Control Board in association with Bharatiya Vidya Bhavan, Aurangabad.
- Research projects are undertaken with the view towards remedial treatment of toxic and hazardous industrial wastes using microbial and nanotechnology based methods.
- The faculty members have created awareness about biodeterioration and conservation of historical monuments by organizing workshop and lectures.
- The Institute provides extension services to the community for ground water exploration and analysis of water for potability and agricultural use to ensure a healthy community and environment.
- Under the umbrella of the NSS, Institute carries out various environment related activities such as Tree Plantation within and out of the Institute campus, street plays, construction of check dam for water conservation, etc.

The Institute has adopted several practices for energy conservation such as use of power saving devices, solar equipment, etc. The Institute organizes guest lectures and poster presentations to stress the important environmental issues and the need to conserve energy, biodiversity and the environment.

- The Institute runs programs such as adoption of villages for tree plantation advocating avoidance of using of pesticides, using organic manure, lectures by experts for rain water harvesting, etc.
- The NSS unit also organizes blood donation and health awareness camps.
- Students voluntarily participated in Disaster Management Relief Fund by fully donating Annual Gathering funds to Tsunami Victims.
- “*Jagar Janiwancha*”, a special lecture series aimed towards inculcating sensitivity and courageous attitude to address societal problems and illiteracy among women was organized by the Institute.
- Enrichment of managerial qualities amongst women was the main aim in hosting a week-long workshop on Women Empowerment under the aegis of UGC.
- In order to pay tributes to National personalities and inculcate the feeling of National Pride and social responsibility, special day programs are organized.
- The Institute extends some facilities and scientific expertise to community. These facilities include soil analysis, ground water exploration and testing, gamma irradiation and supply of microbial cultures to college teachers, researchers and industry.
- The Institute being scientific avenue, dissemination of scientific information to the masses is practiced through mass communication media (radio talks), newspaper articles and organizing National Science Day programs and contribution of faculties as resource persons.
- The Institute actively participates in launching Voter Awareness Campaign at the time of general elections.

5. Evidence of Success

- The overall environmental awareness and a strong eco-friendly attitude were imbibed amongst the students. Students could learn composting method and conservation practices for keeping the environment clean and green.
- The Institute received appreciation for the effective implementation of solid waste disposal methods, preservation of cultural heritage and city farming programs organized in community places such as jails, temples, co-operative housing societies, schools, etc.
- The research papers published and presented in scientific congregations have provided additional information content in terms of environmental remediation. Students were equipped with the tools and techniques to develop sustainable and eco-friendly processes and products.
- The community was benefitted through the extension services.
- Tree plantation, check dam construction and CCT activities have created awareness about soil and water conservation.
- The Institute successfully conveyed the importance of avoiding pesticides, use of organic manure and rain water harvesting to the villagers under village adoption programs.
- The awareness about health and precious lives was effectively conveyed through health awareness and blood donation camps.

CRITERIA-VII INNOVATIONS AND BEST PRACTICES.....

- Women empowerment program, special day programs, “*Jagar Janiwancha*” and voters awareness campaign have conveyed the message of gender equality, support and respect for women, National pride and social rights and responsibility.
- The Institute has profoundly contributed in popularization of science through various activities and expert lectures benefitting the schools, colleges and general public.

6. Problems Encountered and Resources Required

- The students and faculty members being engaged full-time in lectures, practical, projects and mentoring for research due to semester curriculum, the major limitation to the implementation of these extra-curricular activities is time availability.
- Lack of financial aid for village adoption and other community services was another major obstacle in implementation of these programs.
- Non-availability of sufficient staff for further widespread implementation of these endeavors is another hurdle.

7. Contact Details

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Fax: +91-240-2400103

email: director@inosca.org



EVALUATIVE REPORTS OF THE DEPARTMENTS



DEPARTMENT OF MICROBIOLOGY

EVALUATIVE REPORT

1. **Name of the Department** : **DEPARTMENT OF MICROBIOLOGY**
2. **Year of Establishment** : 1976
3. **Names of Programmes/Courses offered (UG,PG,M.Phil.,Ph.D., Integrated Masters;Integrated Ph.D., etc.)** : M.Sc. (Microbiology)
Ph.D. (Microbiology)
4. **Names of Interdisciplinary courses and the departments /units involved** : Nil
5. **Annual/Semester/choice based credit system (programme wise)** : Semester Pattern
6. **Participation of the department in the courses offered by other departments** : Nil
7. **Courses in collaboration with other Universities, Industries, foreign Institutions, etc.** : Nil
8. **Details of courses/programmers discontinued (if any) with reasons** : Nil
9. **Number of teaching posts**

Designation	Sanctioned	Filled
Professors	01	-
Associate Professors	02	01
Asst. Professors	05	05

10 Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name of Faculty	Qualification	Designation	Specialization	Experience (Years)	No. of Ph.D students guided for last four years
Dr.R.R. Deshpande	M.Sc. Ph.D.	Associate Professor & In-charge Director	Microbiology	35	-
Dr.A.V.Pethkar	M.Sc. Ph.D.	Associate Professor	Microbiology	10	01
Dr.(Mrs) S.M. Dharmadhikari	M.Sc. Ph.D.	Associate Professor	Microbiology	27	09
Dr.(Mrs) S.A.Peshwe	M.Sc. Ph.D.	Associate Professor	Microbiology	17	08
Dr.A.G.Jadhav	M.Sc. Ph.D., PGADB	Assistant Professor	Microbiology	10	-
Dr. Smt. J.J.Bhuktar	M.Sc. Ph.D.	Assistant Professor	Microbiology	08	-

11. List of senior visiting faculty

Sr. No.	Name of Visiting Faculty	Address
1	Mr.Shrikrushna Pimple	Assistant Manager,Ajanta Pharma,Aurangabad
2	Dr.Sadhana Shahi	Associate Professor,Govt.Pharmacy College,Aurangabad
3	Ms. Priya Puthan	Director, "Dhyeya" consultancy, Aurangabad.
4	Dr.Mrs. Chitra Kulkarni	Associate Professor,Govt.Pharmacy College,Karad
5	Dr. Somani	Associate Professor,Govt.Pharmacy College,Karad
6	Dr.Shrikant Kulkarni	Manager, Wockhardt Biotech, Aurangabad
7	Dr.P.R.Puranik	Associate Professor,Department of Biotechnology,School of Life Science,NMU,Jalgaon

12 Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty.

Lectures- 18.75%

Practicals- 39.58%

13 Student –Teacher Ratio (programme wise)

M.Sc.:	6.6: 1
Ph.D	4.6 : 1

14 Number of academic support staff (technical) and administrative staff; sanctioned and Filled

Post	Sanctioned	Filled
Laboratory Assistant	00	00
Laboratory Attendant	01	01

15. Qualifications of teaching faculty with D.Sc. /D.Litt. /Ph.D./M.Phil./PG.

Sr.No	Name of Faculty	Qualification
1	Dr.R.R.Deshpande	M.Sc. Ph.D
2	Dr.A.V.Pethkar	M.Sc. Ph.D
3	Dr.(Mrs) S.M.Dharmadhikari	M.Sc. Ph.D
4	Dr.(Mrs) S.A.Peshwe	M.Sc. Ph.D
5	Dr.A.G.Jadhav	M.Sc. Ph.D
6	Dr.Smt.J.J.Bhuktar	M.Sc. Ph.D

16 . Number of faculty with ongoing projects from.

a) National

Sr. No.	Name of Faculty	Funding Agency	Santiond Funds
1	Dr. (Mrs) S. M. Dharmadhikari (Mentor)	SERC-DST-WOS-A	13,00,000
2	Dr.(Mrs) S.A.Peshwe (Mentor)	SERC-DST-WOS-A	13,00,000
3	Dr. A. G. Jadhav (Principal Investigator)	SERC-DST, New Delhi	12,00,000
4	Dr. Smt. J.J. Bhuktar (Principal Investigator)	SERC-DST, New Delhi	12,00,000
5	Dr.Smt. J. J. Bhuktar (Principal Investigator)	UGC-WRO,Pune	1,90,000

b) International funding agencies and grants received: Nil

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received:

DST-FIST : Rs. 50,00,000

DST : Rs. 50,00,000

UGC : Rs. 1,90,000

Total : Rs.1, 01, 90,000/-

18. Research Centre/facility recognized by the University: Yes

19. Publications:

a)Publication per faculty (last five years)

Number of papers published in peer reviewed journals (national / International) by faculty and students : **40**

Details of Publications

Sr. No.	Faculty member	Title of Research Paper	Details of Journal/Book	Year of publication
1.	Dr(Mrs) S.M. Dharmadhikari	Multiple antibiotic Resistance indexing and extended spectrum β Lactamases detection in urinary pathogens	Bionano Frontier 4 (1) 43-46.	2010
2	Dr(Mrs) S.M. Dharmadhikari	Isolation and Screening of Benzonitrile Degrading Actinomycetes	Bionano Frontier 4 (1) 53-57	2010
3	Dr.(Mrs)S.A. Peshwe	“Statistical Screening of process variables for the production of fungal L-asparaginase” 18-21	Proceedings of BIO-CHEMCON-2010. National Conference on Emerging Trends in chemical Engineering and Biotechnology, held at Priyadarshini Institute of Engineering & Technology, Nagpur.	2010
4	Dr (Mrs) S.M. Dharmadhikari	Isolation and Screening of Actinomycetes Producing alkaline Thermostable Xylanase.	Journal of Microbial World 13(1) 7-13.	2011
5	Dr (Mrs) S.M. Dharmadhikari	Isolation and Screening of benzonitrile degrading bacteria,	Journal of Microbial World 13(1), 78-84.	2011

6	Dr (Mrs) S.M. Dharmadhikari	Application of Statistical Model for enhanced production of xylanase by thermophilic alkali tolerant actinomycete Sp.	Bionano Frontier 4(2), 221-223. (IF 0.031)	2011
8	Dr(Mrs) S.M. Dharmadhikari	Studies on Bacterial Biodegradation of Benzonitrile.	Journal of TIDEE, 10(2) 171-176.	2011
9	Dr(Mrs) S.M. Dharmadhikari	Study of antimicrobial activity of <i>Tinospora cordifolia</i> with reference to ESBL producing urinary pathogens.	International Journal of Biotechnology and Biosciences 1(4), 480-485	2011
10	Dr(Mrs) S.M. Dharmadhikari	Isolation and Screening of Fungi producing glucose oxidase .	International Journal of Biotechnology and Biosciences -1(4) ,ISSN 2231-0304	2011
11	Dr. J. J. Bhuktar	Comparative Study on Decolorization of DNB by Pure Culture (IE1 and C1) and Their Consortium.	Bionanofrontier. 4((2):228-233. ISSN-0974-0678. (IF 0.031)	2011
12	Dr. J. J. Bhuktar	Microbiological Evaluation of Phosphate solubilizing <i>A. niger</i> for the Application as Bioinoculant.	International Journal of Biotechnology and Biosciences. 1 (2): 204-213. ISSN-2231-0304	2011
13	Dr. J. J. Bhuktar	Studies on Microbial Decolorization and Degradation of DB71 and RB5 Dye by Bacterial Isolate IE1.	International Journal of Biotechnology and Biosciences.1(4):437-443.ISSN-2231-0304	2011
14	Dr.(Mrs)S.A. Peshwe	“Production, Purification and characterization of fungal L-Asparaginase”	Bionano Frontier. An International Journal of Science & Technology Vol 4(1):162-167. (Impact factor 0.045)	2011
15	Dr(Mrs) S.A. Peshwe	Screening and Characterization of microbial L-asparaginase producers” Microbiologists Society.	Journal of Microbial World 13(1):68-73.	2011
16	Dr (Mrs) S.A. Peshwe	Process Optimization for the Production of Fungal L-Asparaginase”	International journal of Biotechnology and Biosciences: 1(4):458-462	2011
17	Dr (Mrs) S.A.	Antimicrobial	International Journal of Biotechnology	2011

	Peshwe	Susceptibility Pattern among Methicillin-Resistant <i>Staphylococcus</i> isolates in Aurangabad'	and Biosciences: 1(4): 486-489	
18	Dr. A. G. Jadhav	Isolation and identification of halotolerant bacteria from saline soil of Akola	J Microbial World, ISSN 0972 – 1487, 13(1), 18-21.	2011
19	Dr. A. G. Jadhav`	Characterization of salt tolerant <i>Bacillus licheniformis</i> from saline soil of akola and its industrial importance	Bionano Frontier, Vol 4(2) 203 – 205, ISSN 094 – 0678	2011
20	Dr. A. V. Pethkar	A microbiological process for combined bioelectricity production and wastewater treatment using <i>Staphyllococcus</i> sp.	Journal of Environmental Research and Development, 6 (3A): 594-600. IF: 0.609, [ISSN: 0973-6921].	2012
21	Dr. A. V. Pethkar	Standardization of a rapid and inexpensive in-vitro cytotoxicity assay.	Journal of Environmental Research and Development, 6 (3A): 645- 652. IF: 0.609. [ISSN: 0973-6921].	2012
22	Dr. A. V. Pethkar	<i>Stenotrophomonas koreensis</i> , a novel biosurfactant producer for abatement of heavy metals from the environment.	African Journal of Microbiology Research, 6 (24): 5173-5178. IF: 0.533 . [ISSN: 1996-0808].	2012
23	Dr(Mrs) S.M. Dharmadhikari	Biphasic acid treatment of debarked cotton stalk: one novel approach towards bioethanol production.	International J of Current Research, 4(2), 083-087.	2012
24	Dr(Mrs) S.M. Dharmadhikari	Optimisation of Pre-treatment and Enzymatic Hydrolysis of Cotton Stalk.	Journal of Pure and Applied Microbiology 6 (3), (IF = 0.065).	2012
25	Dr(Mrs) S.A. Peshwe	“Characterization os alkaline protease enzyme from alkaliphilic <i>Bacillus</i> sp. isolated from Lonar	Bionano Frontier Jan-June 2012: 26-27 (Impact factor 0.045)	2012

		Lake and its compatibility with commercial detergents.		
26	Dr(Mrs) S.A. Peshwe	Optimization of Lipase production by <i>Pseudomonas</i> sp. in submerged batch process in shake flask culture.	Science Research Reporter 2(1): 46-50.	2012
27	Dr. A. G. Jadhav	Remediation of textile industry waste water using immobilized <i>Aspergillus terreus</i>	Eur. J of Expt. Biol, ISSN: 2248 – 9215, CODEN (USA): EJEBAU	2012
28	Dr. A. V. Pethkar	Biopolymer stabilized iron sulfide nanoparticles for removal of Acid Black 1 dye.	In: A. Bansal and Tated (eds.) Engineering Applications of Nanomaterials and Nanotechnology, Materials Science Forum, Vol. 757, Trans Tech Publications, Switzerland, pp 285-293. [ISSN: 1662-9752].	2013
29	Dr(Mrs) S.M. Dharmadhikari	Screening, production, purification and characterization of beta-lactamase from uropathogenic E.coli.	European Journal of Experimental Biology, 3(1):434-442	2013
30	Dr(Mrs) S.M. Dharmadhikari	Screening and culture of <i>A.niger</i> for production of GOX.	IJAR 3(6) June2013 ISSN-2249-555x (IF-0.8215)	2013
31	Dr(Mrs) S.M. Dharmadhikari	Strain Improvement of <i>A.niger</i> for enhanced production of GOX	Bionano Frontier. 6,(2) (IF 0.031)	2013
32	Dr(Mrs) S.A.Peshwe	“Screening and optimization of growth conditions of <i>p</i> -Nirtophenol degrading bacteria”.	Bionano Frontier Jan-June 2013: 29-32. (Impact factor 0.045)	2013
34	Dr(Mrs) S.A. Peshwe	Biodegradation Of P-Nitro Phenol by an actinomycete”	Indian Journal of Applied Research 3(6): 241-243. (Impact factor 0.862)	2013
35	Dr(Mrs) S.A. Peshwe	Isolation and characterization of new anti-MRSA producing actinomycete”	Indian Journal of Applied Research 3(6): 433-436. (Impact factor 0.862)	2013
36	Dr. A. G. Jadhav	Prediction of temperature factors from	Bioinformation ISSN 0973-2063 (online) 0973-8894 (print)	2013

		protein sequence		
37	Dr. A. G. Jadhav	Isolation and characterization of benzoate, salicylic acid degrading bacteria from saline soil	Bionano frontier ISSN 094 – 0678	2013
38	Dr. A. G. Jadhav	Salt tolerant protease produced by an aerobic species belonging to the <i>Bacillus</i> genus isolated from saline soil.	International J Science and Research Publication ISSN 2250-3153	2013
39	Dr. A. G. Jadhav	Salt tolerance and K accumulation in moderately halophilic bacteria belonging to <i>Halomonas</i> genus isolated from saline soil of Akola	International Journal of Biotechnology and Biosciences ISSN 2319 – 7730 EISSN 2319 – 7749	2013
40	Dr(Mrs) S.M. Dharmadhikari	Optimisation of detoxification with over liming and charcoal treatment for increasing the fermentability of cotton stalk hydrolysate	Indian Journal of Applied Research 04(07), IF 2.1652 ISSN-2249-555X, pp 8-10.	2014

b) Number of publications listed in International Database(For e.g.: Web of Science, Scopus, And Humanities International Complete, Dare Database- International Social Sciences Directory, EBSCO host, etc.) : **35**

c) Monographs : NIL

d) Chapter in Books : Nil

e) Books edited : NIL

f) Books with ISBN/ISSN numbers with details of Publishers

1. **Dr. Ajay Jadhav, Dr. Ulhas Patil, Dr. Ketan Narkhede, and Dipmala Bhandari,** A text Book of **Principles of Microbiology** (111. Elementary Microbiology, 121. Microscopy and basics biochemistry, FY B. Sc. Semester I Paper I and II) **ISBN 81-7815-031-X**, Publisher: VRINDA PUBLICATIONS, Jalgaon.
2. **Dr. Ajay Jadhav ,Dr. Ulhas Patil, Dr. Ketan Narkhede, and Dipmala Bhandari,** A text Book of Principles of Microbiology (121. Cell biology of Microbiology 122. Methods in microbiology) **ISBN 81-7815-032-8**, Publisher: VRINDA PUBLICATIONS, Jalgaon.

20 Areas of consultancy and income generated:

Areas of consultancy:

- Microbiological analysis of contaminants from food beverages and pharma industries.
- Antimicrobial susceptibility tests.
- Potability of water.
- Effluent analysis.
- Provision of Microbial culture collection

Income generated

Sr. No.	Consultancy Offered	Resource generated (Rs.)	Year
1.	Bacterial cultures provided to local colleges Viz. Govt. College of Pharmacy, Dept. of Environmental Science, Dr. BAMU,	Free of cost	2013-14
2.	Supply of microbial cultures to students and affiliated colleges of Dr. BAMU.	Free of cost	2012-13
3.	Microbiological analysis of pharma products.	3000	2013-14

21. Faculty as members in

a) National committees

➤ Dr. R.R.Deshpande

- Life Member and Hon. Secretary, Bharatiya Vidya Bhavan, Aurangabad Kendra,
- Coordinator-, Association of World Citizens,
- Life member Indian National Trust for Art and Cultural Heritage (INTACH)
- Appointed as Joint Director Higher Education (Additional Charge), Maharashtra State by Director of Higher Education, Government of Maharashtra.
- Nominated as member Board of management of Gokhale Institute of Politics and economics (Deemed University) by Director of Higher education, Govt. of Maharashtra for 2006-2013.
- Nominated as Government nominee on the governing body of Kaivalya Dhama Sanyal Lonavala by Director of Higher education, Govt. of Maharashtra for 2009-2011.
- Nominated member Secretary on Career Advancement schemes constituted by Govt. of Maharashtra for placement of teachers of Government colleges and Institutes of Maharashtra State for 2009-2011.

- Authorized by Government of Maharashtra Department of higher and technical education to file 42 leave petitions in Hon'ble Supreme Court, New Delhi during 2009-2013.
- Appointed as a member of screening committee for State level awards bestowed by Govt. Of Maharashtra during 2009-2011
- Nominated as member Board of management of Gokhale Institute of Politics and economics (Deemed University) by Director of Higher education, Govt. of Maharashtra for 2006-2013
- Member – Adhoc Board of Nanotechnology, of Dr Bababsaheb Ambedkar Marathwada Univ.
- Dr. Mrs S.A. Peshwe, Dr. Mrs S.M. Dharmadhikari, Dr. A. V. Pethkar are life members of Association of Microbiologists of India.
- Dr.R.R.Deshpande, Dr. Mrs S.A. Peshwe, Dr. Mrs S.M. Dharmadhikari, Dr. A. V. Pethkar , Dr. A. G. Jadhav and Dr. (Mrs.) J. J. Bhuktar are life members of Microbiologists Society, India.
- Dr. (Mrs.) S. M. Dharmadhikari is Life Member of Society of Human Genetics
- Dr. A. V Pethkar is Life Member of Association of Microbiologists of India and Fellow Member of JERAD.
- Dr. Mrs S. M. Dharmadhikari and Dr. A. G. Jadhav is life member of Biotech Research Society of India.

b) International Committees : Nil

c) Editorial Boards

Sr. No.	Faculty member	Designation	Name of Journal
1	Dr. A. V. Pethkar	Editorial Advisor	Journal of Environmental Research and Development
2	Dr. (Mrs.) S. M. Dharmadhikari	Editorial member	Journal of Microbial World
3	Dr. (Mrs.) S. A. Peshwe	Editorial member	Shodhankan

22 Student projects:

- a) **Percentage of students who have done in-house projects including inter departmental/programme : NIL**
- b) **Percentage of students placed for projects in organizations outside the institution.i.e.in Research laboratories/Industry/other agencies: Nil**

23. Awards/ Recognitions received by faculty and students

1) **Dr.R.R. Deshpande**

- Advisor for Ajanta and Ellora Development Plan during 1991-93.
- Chief Co-ordinator of CLEAN India programme of Development Alternatives, New Delhi supported by European Commission and Central Pollution Control Board and Foundation Ensemble, France implemented by Bharatiya Vidya Bhavan, Aurangabad Centre
- Advisor- DBT Science College- Vidya Pratishtan's Arts Commerce and Science College, Baramati under DBT-Star College scheme
- Chairman, DST-DSIR Project Review Committee constituted by DST-DSIR, Government of India, New Delhi on project sanctioned to Nirmal Seeds Pvt. Ltd., Pachora, Dist. Jalgaon.
- Invited as Expert on Indo-Belgium workshop on Biodeterioration and Conservation of Monuments held at Chennai organized by Archeological Survey of India New Delhi and Janssen Pharmaceuticals, Belgium.

2) **Dr. Mrs. S. M. Dharmadhikari**

- Appointed as members of co-ordination committee for XI plan UGC.
- Appointed as a co-ordinator for NET-SET Guidance Cell under UGC XI plan.
- Nominated as member of Board of Studies in Microbiology, Member of 32-5 and Member of Faculty of Science of Dr. Babasaheb Ambedkar Marathwada University.
- Participated and presented research paper entitled "Characterization and Regulation of Glucose oxidase of *Aspergillus niger* FC-405-2 at Two days International Conference (BTBT-2013) held at Rajiv Gandhi Science Centre, Mauritius during 11th and 12th November 2013.
- Appointed as Chairperson and Jury in Technical session IV A of Two days International Conference (BTBT-2013) held at Rajiv Gandhi Science Centre, Mauritius during 11th and 12th November 2013.

3) **Dr. Mrs. S. A. Peshwe**

- Appointed as members of co-ordination committee for XI plan UGC.
- Appointed as a member of NET-SET Guidance Cell under UGC XI plan.
- worked as Member of organizing committee in SAM workshop sponsored by UGC
- Worked as Member of organizing committee in National Level conference organized by Geology Dept. Of Govt. Institute of Science.
- Worked as member of organizing committee in International Conference on BTBT organized by Dr Babasaheb Ambedkar Marathwada University subcampus, Osmanabad and Microbiology Society of India.
- Participated and presented research paper entitled 'Statistical Optimization of Immobilization Conditions for the Production of Anti-MRSA antibiotic' at Two days International Conference (BTBT-2013) held at Rajiv Gandhi Science Centre, Mauritius during 11th and 12th November 2013.

- Appointed as Chairperson in Technical session IV A of Two days International Conference (BTBT-2013) held at Rajiv Gandhi Science Centre, Mauritius during 11th and 12th November 2013.

4) **Dr. A. V. Pethkar**

- Invited as session chairman in the 5th International Congress of Environmental Research, ICER-2012 (22-24 Nov. 2012), Organized by Journal of Environmental Research and Development, Bhopal, India and Socioeconomic Research Centre, UMT, Terengganu, Malaysia, at University Malaysia Terengganu, Kuala Terengganu, Malaysia. Presented two Research Papers
- Delivered virtual presentation entitled “Bionanotechnology- concepts and applications” organized by Microbiologist Society (www.emicrobiovision.org), Osmanabad on March 5, 2013.
- Invited as Visiting Professor in KTHM College, Nashik during March to May 2013 to deliver 24 week-end lectures on Nanobiotechnology
- Awarded the Best Poster Presentation award in the International Congress of Environmental Research ICER-13 held at Maulana Azad College, Aurangabad in December 2013.
- Invited as Session Chairman in the International Congress of Environmental Research ICER-13 held at Maulana Azad College, Aurangabad in December 2013.
- Invited as Member, Editorial Advisory Committee, Journal of Environmental Research and Development (JERAD) published by G. Seed, Bhopal (Impact Factor 0.609).
- Invited as Judge for evaluation of Poster Presentations, 31 January, 2014, 4th National Conference on Research Avenues and Advances in Biotechnology, 30-31st January, 2014, Organized by Moolji Jaitha College, Jalgaon and Post Graduate College of Science, Technology and Research, Jalgaon, at Moolji Jaitha College, Jalgaon.

5) **Dr. A. G. Jadhav**

- Awarded degree of Doctor of Philosophy in Microbiology of SGB Amravati University.
- Appointed as a member of Networking Resources under UGC XI plan.
- Appointed as editor of student’s magazine.
- Worked as Member of organizing committee in National Level conference organized by Geology Dept. Of Govt. Institute of Science.
- Worked as member of organizing committee in International Conference on BTBT organized by Dr Babasaheb Ambedkar Marathwada University subcampus, Osmanabad and Microbiology Society of India.
- worked as a member of organizing committee of Applied Aspects of Life Sciences at Deogiri College, Aurangabad

6) **Dr.Smt.J.J.Bhuktar**

- Awarded degree of Doctor of Philosophy in Microbiology of SRTMU University Nanded.
- Worked as member of organizing committee in International Conference on BTBT organized by Dr Babasaheb Ambedkar Marathwada University subcampus, Osmanabad and Microbiology Society of India.

Student achievements:

- Two Research students of this department have sanctioned DST-WOS-A fellowship from DST.
- Ten students awarded degree of Doctor of Philosophy of Dr.Babasaheb Ambedkar Marathwada University
- Ten research students presented research papers in the International Conference on Biotechnology for Better Tomorrow (BTBT) organized by Dr. Babasaheb Ambedkar Marathwada University, sub-campus Osmanabad and Microbiologist Society of India.
- Two research students of Microbiology Department were awarded with Best Paper Presentation in International Conference on BTBT organized by Dr Babasaheb Ambedkar Marathwada University subcampus, Osmanabad and Microbiology Society of India.
- Ms. Vaishali Ajane, Research student, was selected as Senior Research Fellow by Rajiv Gandhi Research Fellowship, UGC – New Delhi
- Two students of Microbiology Department participated in Scratch Your Brain Competition organized by Institute of Science, Mumbai and won the first Prize.
- One student of Microbiology Department participated in One day state level seminar on ‘Environment Climate Change and Its Impact on Biodiversity’ organized by Department of Zoology, Mrs. K. S. K. College, Beed and won the first prize.
- Three students of Microbiology Department participated in One day regional level seminar on ‘Biotechnology -2020’ organized Department of Microbiology, Yogeshwari College, Ambajogai in association with Microbiologists Society, India and won the third prize.
- Two students of Microbiology Department participated in debate competition organized by Department of Microbiology, DSM college, Parbhani on ‘Natural Disaster – Truly Natural / Manmade’ in association with Microbiologists Society, India and got the consolation prize.
- Ms. V.S. Gothoskar, research student of Microbiology Department was awarded the First prize in the National conference on Biotechnology organized by College of Engineering, Pune for research paper presentation.
- Students of M.Sc. Part II, Microbiology participated in Science Day celebrations, poster presentation at Dyanopasak Mahavidyalaya, Parbhani
- Students of M.Sc. Part II, Microbiology also participated in one day seminar at Patoda and were awarded 2nd prize.

24. List of eminent academicians and scientists/ visitors to the department: (2013-14)

Sr. No.	Name Of the Guest	Designation
1.	Dr. Jayant Bhogale,	Managing Director, Microbax Industries Hyderabad
2.	Mr. Dattatray Savant	Assistant Manager, Wockhardt
3	Mr. Shyam Deshpande	District Collector, Jalana
4.	Mrs. Mukti Panse	Associate Professor, DY Patil College, Pune
5.	Mr. Shrikrushna Pimple	Asstt. Manager, Ajanta Pharma, Aurangabad
6	Dr. Dilip R. Peshwe	Head, Metallurgy Dept. VNIT, Nagpur
7	Mr. Berni Meyer,	American Gandhi, USA
8	Mr. Larry Kerschner,	Environmentalist, Vietnam
9	Mr. Shrikant Kulkarni,	Scientist, Wockhardt Laboratories Ltd, Aurangabad.
10	Dr. Neelam Arora,	Manager QC, Atra Pharma Ltd, Aurangabad

25. Seminars/ Conferences/Workshops organized and the source of funding

a)National : Submitted proposal for National Conference to UGC Western regional office, Pune.

b)International : Nil

- Organized two workshops on Revised Syllabus funded by Dr.Babasaheb Ambedkar Marathwada University
- Organized one day Seminar on 'IPR and Patenting funded by UGC in XI plan Departmental Developmental assistance
- Organized two days 'Teacher training programme' funded by UGC in XI plan Departmental Developmental Assistance.
- Department of Microbiology in association with Department of Geology organized two days workshop on 'NET/SET Examination' preparation funded by
- UGC under merged scheme in XI plan.

26. Student profile programme/course wise:

Year	Applications received	Selected	Pass percentage
2010-11	50	20	95
2011-12	49	20	99
2012-13	94	20	90.1
2013-2014	81	20	90

2014-15	79	20	100
Average Performance	94%		

27. Diversity of Students (2014-15)

Name of the Course	% of students from the same state	% of students from other States	% of students from other country
M.Sc	100	00	00

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.? (2011-14)

Sr. No	Name of Examination	Number of Students passed
1	NET	1
2	SLET	4
3	GATE	2
4	Civil Service	-
5	Defense services	-

29. Student progression: (2010-2014)

Student progression	Against %enrolled
UG to PG	NA
PG to M.Phil.	NA
PG to Ph.D.	25%
Ph.D. to Post-Doctoral	
Employed	80%
Campus selection	10
Entrepreneurship /Self-employment	-

30. Details of Infrastructural facilities:

a) **Library:** Departmental Library facility for students with ninety three books prescribed by University and books for competitive exams relating to the subject. Central enriched library facility with e-Book and e-Journals.

- b) **Internet facilities for Staff and Students:** Separate LAN connection for the Departmental internet facility
- c) **Class rooms with ICT facility:** Class room is provided with LCD and smart classroom is under preparation.
- d) **Laboratories:** Independent laboratories for M.Sc part I & II and Research with Separate Instrumentation room equipped with Instruments and Inoculation Chamber.

31. Number of students receiving financial assistance from college, university, government or other agencies: (2014-15)

Sr. No	Name of Scholarship	Number of Students benefitted
1	GOI	17
2	Minority	01
3	EBC	05
4	PTC	01

32. Details on student enrichment programmers (special lectures / workshops / seminar) with external experts:

- Organization of Two Days workshop on NET/SET coaching for SC, ST, OBC & Minority students funded by UGC under XI plan merged scheme.
- Organization of Seminar on IPR and Patenting funded by UGC under XI plan Departmental Developmental Assistance.
- Organized GISA initiated alumina lecture series by inviting department alumina to share their experiences,

33 Teaching method adopted to improve student learning:

- Regular Class room lectures (Four lectures/ Paper/week)
- Audio visual aids like the interactive panel, LCD projector used for lecture.
- Group Discussions, Questionary method
- Regular practical sessions.(Six periods/session/paper/week)
- Tutorials , Student Seminar (One seminar/Student/Semester)
- Encouragement and Free accessibility to use e –resource viz. e-books review articles , technical information manuals, practical protocols, illustrative notes , power point presentations, slide shows video lectures, animations etc. for ready references
- Formal and informal interactions and discussions on academic topics/queries.
- Informal sessions for guiding study techniques
- Regular library referencing assignments for effective exposures for library resources.
- Allotment of Compulsory Project of 100 marks in IV semester.

34 Participation in Institutional Social Responsibility (ISR) and Extension activities:

Participation of Staff and Students of our department in various extracurricular activities which promotes in building Institution-neighborhood-community network conducted under various programs.

○ NSS activities

- Participation in ‘Swachhata Abiyan’ on the occasion of Mahatma Gandhi Jayanti.
- Active participation in Health checkup and Blood donation camp.
- Participation in rallies creating awareness about Polio and AIDS
- Participation in Street plays through which the awareness about science is spread door to door within community.
- Various beneficial activities have been carried out in and around villages viz. organization of seminars, farmer meet, Swachhata Abiyan etc. with active participation of students.
- Cleaning the campus within and around the Institute along with NSS volunteers.
- Participation in Slogan and Poster Competition on the theme of energy conservation to create its awareness.
- Tree plantation activity involving faculty and students.
- Active involvement of students in The action Project on Solid Waste management involved prison- in mates and common persons.
- Involvement in construction of check dams (*Vanarai Bandhara*) and CCT around the villages with active involvement of villagers.

○ Other activities

- Students have actively participation in program of “*Jagar Janivaanvecha*” which was initiated by Ministry of Higher and Technical Education, Government of Maharashtra
- Students take *suo-motto* initiative and leadership role and organised various activities like Welcome and Farewell events and Teachers’ Day. They planned and executed such activities under the guidance of faculty of departments.
- Students are actively involved in organization of National Environmental Day, Annual social gathering. By taking leadership role and group involvement they have organized various events viz. Science and Technology Exhibition, Poster Competition, Slogan competition, Debate, Seminars, different cultural programmes etc.
- **Organization of various programs under STEPIN–**
- Students EmPowerment INitiative specifically designed for students’ overall growth leading to make them good citizens. Student-centric activities are organized under this initiative as listed hereunder:

- Created awareness of Voting Rights of the individuals amongst the students and staff through SVEEP (Systematic Voters Education and Electoral Participation) by taking oath for Parliamentary Elections and students participated in various competitions viz. Rangoli, Drawing, Painting, Debate, Essay and Sports and awareness rally through “*Matadan Jagriti Abhiyan*” for the State Assembly Elections.

35. SWOC analysis of the department and Future plans:

Strengths:

- Young, committed, qualified and experienced staff having excellent coordination with industries and Institutions.
- STEP-In Implementing student-centric activities leading to overall development of students.
- Designing and implementing practical based training to equip students for employment.
- Designing of need based curriculum after interacting with alumina, industrial officials and other subject related concerns.
- Strong industry-Institute coordination.
- Organizing In-Plant Training, Summer Training, workshops, Skill Development programme, Seminars etc. in association with Industries.
- Functional Placement and Training Cell .
- GISA initiative alumina interaction for promotion of students
- The students are encouraged for participating in National/ International conferences, workshops and symposia
- Recognized Research Centre:
Highlighted Research activities
 1. Twenty one Students awarded Ph.D. Degree.
 2. Twenty five Students are perusing Ph.D
 3. Seven projects are completed and presently four Major research Project and One Minor Research project is in progress.
 4. There are **forty Research paper** published in last five years.
- Employment through placement cell and other efforts.

Weaknesses:

- The housekeeping within the department is affected due to abolishment of the nonteaching posts (laboratory staff) , resulting in overburdening the teaching staff , hampering their own research work.
- Financial aid provided for chemicals and glassware is inadequate.
- No separate provision for purchase of chemicals and glassware for research.
- Existing space is inadequate for allotting research laboratories to individual guides.

Opportunities:

- Faculty will develop profile in upward direction by completing their Post Doctoral Research.
 - Opportunities will be broaden for students to expand their carrier.
 - Empowerment of the students from under privileged Marathwada region in the advance branches of Microbiology like Recombinant Genetic Engineering, Microbial Genomics and Proteomics, Immunology, Fermentation Technology, Nano biotechnology, Medial Microbial Technology conquer over national/global challenges.
 - Inculcation of multi-skills in emerging biosciences/medical sciences.
 - Developing consultancy services in emerging field to provide extension services and generate resources.
 - Nurturing and Providing direction to hidden talent of the students.
 - With a provision of additional teaching staff and filling up vacant teaching and nonteaching posts, a training in novel specializations like Nano biotechnology, Nano medicine, Environmental microbial technology, Genetic engineering instrumentation, and Bioengineering can be effectively initiated.

Challenges:

- Enrichment of research in the department through collaborations with higher research institute.
- Establishment of Sophisticated Instrumentation laboratory with availability of state-of-art instrumental, procedural and computational facility.
- Paucity of funds for infrastructure expansion.
- Efforts to develop Centre of Excellence

Future Plans

- Establishment of Regional Research Laboratory and Strengthens the Research Development of Analytical Microbiology Centre to cater the need of the Industry and community.
- Creation of Microbial Culture Identification facility
- Designing, blending and implementing Skill Development programs –Solid Waste Development through city farming etc. for example Industrial Sterilization, Microbial Limit Tests, Microbiological Analysis of water for potability and Industrial use as well, HACCP Training for Food and Pharmaceutical Industries, Analytical Microbiology for Archeological Chemist etc.
- Establishment of Solid Waste Disposal workshop centre in association with Industries under Public-Private Partnership.
- To provider consultancy services to the Industries and Institutions
- To create awareness, assessment, action and advocacy programs in bio-deterioration and conservation of material, architectural and natural heritage.
- To establish strong Community Led Environment Action Network i.e. CLEAN India program for cleaner and greener neighborhood.

DEPARTMENT OF BIOTECHNOLOGY

EVALUATIVE REPORT

1. **Name of the department** : DEPARTMENT OF BIOTECHNOLOGY
2. **Year of Establishment** : 1997
3. **Names of Programmes /Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):** : M.Sc.(Biotechnology)
Ph.D. .(Biotechnology)
4. **Names of Interdisciplinary courses and the departments/ units involved:** : NIL
5. **Annual/ semester/choice based credit system (programmewise)** : Semester Pattern
6. **Participation of the department in the courses offered by other departments.** : NIL
7. **Courses in collaboration with other: NIL universities, industries, foreign institutions, etc.:**
8. **Details of courses/programmers discontinued (if any) with reasons:** NIL
9. **Number of teaching posts**

Designation	Sanctioned	Filled
Professors	01	01
Associate Professors	02	00
Asst. Professors	05	04 + 01 (on contract basis)

10. **Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)**

Name	Qualification	Designation	Specialization	No. of years of experience	No. of Ph.D. Students guided.
Prof Dr. R. A. Satpute	M.Sc., Ph.D. SET	Professor	Cytogenetics	20	07

Mr. H.P. Panakkal	M.Sc., NET	Assistant Professor	Biotechnology	10	--
Mr. I. R.Gupta	M.Sc. NET	Assistant Professor	Biotechnology	05	--
Dr. Mrs. M. S. Patil	M.Sc. Ph.D.	Assistant Professor	Biotechnology	6.5	--
Mr. R. P. Bhagat	M.Sc. NET, GATE.	Assistant Professor	Biotechnology	04	--
Ms. A.D. Naik	M.Sc. NET	Assistant Professor (contract basis)	Biotechnology	10	--

11. List of senior visiting faculty.

1. Dr. R.T. Mahajan, Professor and Head, Department of Zoology, MJ College, Jalgaon
2. Dr. A. M. Mungikar, Retd. Professor and Head, Department of Botany, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

12. Percentage of lectures delivered and practical classes handled by temporary faculty.

- a) Lectures : 10 %
- b) Practical's : 10 %

13. Student–Teacher Ratio (programmewise)

- a) M.Sc.: 6.6: 1
- b) Ph.D.: 8: 1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Post	Sanctioned	Filled
LaboratoryAssistant	00	00
LaboratoryAttendant	01	01

15. Qualifications of teaching faculty with D.Sc. /D.Litt. /Ph.D./M.Phil./P.G.

Sr. No.	Name of Faculty	Qualification
1	Prof Dr. R. A. Satpute	M.Sc., Ph.D. SET
2	Mr. H.P.Panakkal	M.Sc. NET
3	Mr. R.P. Bhagat	M.Sc. NET, GATE
4	Mr. I.R.Gupta	M.Sc. NET
5	Dr. Mrs. M. S. Patil	M.Sc. Ph.D.
6	Mrs. A.D.Naik	M.Sc. NET

16. Number of faculty with ongoing projects from funding agencies and grants received:

- a) National: NIL
b) International: NIL

17. Departmental projects funded by DST-FIST; UGC, DBT, I CSSR, etc. and total grants received: NIL

18. Research Centre/facility recognized by the University: Yes

19. Publications:

a) Publication per faculty.

Number of papers published in peer reviewed journals (national /international) by faculty and students.

Number of publications listed in International Database (For e.g.: Web of Science, Scopus, and Humanities, International, Complete, Dare Database- International Social Sciences Directory, EBSCO host, etc.)

Monographs

Chapter in Books

Books edited

Books with ISBN/ISSN numbers with details of publishers

Citation Index, SNIP, SJR, Impact factor, H-index

Sr.No	Name of Faculty	Total Number of publications o.ofPublications	Number of papers published in peer reviewed journals		No. publication listed in database	Monographs	Chapter in Books	Books Edited	Books withISBNNo.	Citation Index	SNIP	SJR	Impact factor	h- index
			National	International										
1	Prof. Dr. R. A. Satpute	20	18	02	-	-	04	-	-	-	-	-	3.52	-
2.	Mr. H. P. Panakkal	--	--	--	--	--	--	--	--	-	--	-	-	-
3.	Mr. R. P. Bhagat	03	02	01										
4.	Mr. I. R. Gupta	07	00	07			04						18.66	
5.	Dr. Mrs. M.S. Patil	07	04	03	-	-	01	02	-	-	-	-	2.78	-
6	Ms. A.D. Naik	02	-	02										

20. Areas of consultancy and income generated:**Areas of consultancy: Laboratory facilities**

Sr. No.	Consultancy Offered	Resource generated (Rs.)	Year
1.	PCR amplification	Free of cost	2012-13

21. Faculty as members ina) **National committees** b) **International Committees** c) **Editorial Board**

NIL

22. Student projectsa) **Percentage of students who have done in-house projects including interdepartmental/programme - 100%**

All the admitted M.Sc. II year students have dissertation/ project in their curriculum.

b) **Percentage of students placed for projects in organizations outside the institution i.e.in Research laboratories/Industry/other agencies: NIL****23. Awards/ Recognitions received by faculty and student**

Prof R.A. Satpute is

1. Member of Local Management Council, Institute of Science, Aurangabad. 2. Member in Board of Studies (Botany), Dr. Babasaheb Ambedkar Marathawada University, Aurangabad – 2009.
3. Member in Promotion committee under Joint Director, Higher education Aurangabad region-2010 till date.
4. Member in UGC NET/SLET Guidance cell.

24. List of eminent academicians and scientists/ visitors to the department:

Sr. No	Name	Designation	Year
1	Mr.Gautam Runwal	Researcher, Cambridge University, USA	2012-13
2	Mr. Abhijit Survase	Researcher, Queens land Alliance for Agriculture and Food Innovation Institute. Austrelia	2012-13
3	Mr. Madan Junghare	Researcher, Konztlit University, Germany	2013-14

25. Seminars/ Conferences/Workshops organized and the source of funding -a) **National-NIL**b) **International: NIL**

26. Student profile programme/coursewise:

Year	Applications received	Selected	Pass percentage
2010-11	102	21	100
2011-12	124	20	100
2012-13	127	21	100
2013-2014	137	21	100
2014-15	126	20	100

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	% of students from abroad
Biotechnology	80	20	NIL

28. How many students have cleared national and state competitive examinations such as NET,SET, GATE, Civil services, Defense services, etc.?

Name of exam	No. Of students qualified in last 03 yrs.
CSIR UGC NET	02
ICMR NET	01
DBT JRF	01
SET	02
GATE	06
Civil services	01

29. Student progression:

Student progression	%
UG to PG	NA
PGtoM.Phil.	0
PGtoPh.D.	10
Employed	
• Campus selection	20
• Other than campus recruitment	35

30. Details of Infrastructural facilities:

- Library:** Students of the department uses central library facility.
- Internet facilities for Staff and Students:** Separate LAN connection for the Departmental internet facility

c) **Class rooms with ICT facility**-Computer facility along with LCD Projector, Scanner, printer is available.

d) **Laboratories:** 02 laboratories for PG students and research.

31. Number of students receiving financial assistance from college, university, government or other agencies:

	No. Of students	Funding agency
PG Students	24	Government Scholarship (minority, Eklavya)
Ph .D students	01	Moulana Azad Minority fellowship

32. Details on student enrichment programmers (special lectures / workshops / seminar) with external experts:

Sr. no	Name	Designation	Year
1.	Mr. Ravi Dhande	Assistant Professor	2012-13
2.	Dr. R.T. Mahajan	Professor	2012-13
3.	Dr. A. M. Mungikar	Retired professor	2012-13, 2013-14

33. Teaching method adopted to improve student learning:

Audiovisual aids like the interactive panel ,LCD projector are used for lecture.

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

Participation in NSS, Voter awareness campaign etc.

35. SWOC analysis of the department and Future plans:

Strengths:

- I. Young Dynamic & Qualified regular teaching staff.
- II. Separate classrooms and well equipped practical laboratory for 1st and 2nd year students.
- III. Central Computing facility under DST-FIST programme.
- IV. Stable and high demand ratio for the course.

Weaknesses:

- I. Shortage of funding- Non availability of grants for purchase of sophisticated equipment.
- II. Inadequate laboratory staff.

Opportunities:

- I. Several opportunities to avail research project from various funding agencies.
- II. Good placement of students of students in industries, research institutes and government sectors.

Challenges:

- I. Department faces difficulties in development due to constrain in finances, man power (non-teaching staff) and also space.
- II. Placement of maximum students for summer trainings

Future Plans:

- I. To avail research guide recognition by all teaching staff of department.
- II. Department aims to increase research funding.
- III. To establish cell culturing and nano biotechnology facility.
- IV. To implement skill development programmes, to enhance students employment.
- V. To establish smart classrooms to make teaching learning process most effective.

DEPARTMENT OF BOTANY
EVALUATIVE REPORT

1. **Name of the Department** : Botany
2. **Year of Establishment** : 1974
3. **Names of Programs/ Courses offered (PG, Ph.D.,)** : M.Sc. (Botany)
Ph.D. (Botany)
4. **Names of Interdisciplinary courses and the departments/ units involved** : NA
5. **Annual/ semester_/choice based credit system (programmewise)** : Semester
6. **Participation of the department in the courses offered by other departments** : Nil
7. **Courses in collaboration with other universities, industries, foreign institutions, etc** : NA
8. **Details of courses/programmers discontinued (if any) with reasons** : NA
9. **Number of Teaching posts**

Designation	Sanctioned	Filled	Vacant
Professors	01	01	-
Associate Professors	02	01	01
Asst. Professors	05	00	05

10 Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name	Qualification	Designation	Specialization	Experience in Years	No. of Ph.D. Students guided for the last 4 years
Prof. Sahera Nasreen	M. Sc., Ph. D.	Professor and Head	Applied Mycology and Plant Pathology	28	06
Dr. Abhay Salve	M. Sc., M. Phil., Ph. D.	Associate Professor	Phycology and Plant Ecology	10	Nil

11 List of senior visiting faculty.

- Prof. L. V. Gangavane
- Prin. Dr. S. P. Nanir
- Prof. D. S. Mukadam
- Prof. P. B. Papdiwal
- Prof. A. M. Mungikar
- Prof. Arvind Dhabe
- Prof. C. Manoharacharya
- Dr. Chetna Sonkamble

12 Percentage of lectures delivered and practical classes handled (programwise) by temporary faculty.

- Lectures- 78%
- Practicals-81%

13 Student –Teacher Ratio (programwise)

- M.Sc. : 20: 01
- Ph.D. 08: 01

14 Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Post	Sanctioned	Filled
Laboratory Assistant	01	00
Laboratory Attendant	01	01

15 Qualifications of teaching faculty with D.Sc. /D.Litt. /Ph.D. /M.Phil./PG.

Name	Qualification
Prof. Sahera Nasreen	M. Sc., Ph. D.
Dr. Abhay Salve	M. Sc., M. Phil., PH. D.

16 Number of faculty with ongoing projects from.

a) National: (01)

b) International funding agencies and grants received: Nil

17 Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received:

Completed projects/consultancies

Sr. No.	Titles	Agency	Period	Grants/Amounts Mobilized (Rs. Lakh)	Remarks
1)	Biological Control of Leafy Vegetable Diseases	UGC	2011-12	20,000/-	Completed
2)	Biodegradation of pesticides through soil microorganism	UGC	2013-14	1,50,000/-	On going

18 Research Centre/facility recognized by the University: Yes

19 Publications: LIST OF PUBLICATION last five years

SN.	Name of Faculty	No. of Publications	Number of papers published in peer reviewed		Number of publications	Listed in International Monographs	Chapter in Books	Books Edited	Books with ISBN No.	Citation Index	SNIP	SJR	Impact factor	h-index
			National	International										
1	Prof. Sahera Nasreen	44				Nil	01	02	02					
2	Dr. Abhay Salve	13	09	04		Nil	00	00	00					

a) Prof. Sahera Nasreen

Sr No.	Year of publication	Title of Paper	Name of journal with ISSN No.	Name of Author	Citation Index	Impact Factor
1	2010	Mycotoxic effect of <i>Trichoderma</i> species against phytopathogenic fungi <i>in vitro</i> . 2010, 7(1): 16-17.	Bioinfolet ISSN – 0973-1431	Sahera Nasreen, Zafar Khan.		0.06
2	2010	Susceptibility of kharif season crop plants to phytopathogenic mycoflora. 2010. 12(1)	Journal of Microbial World ISSN – 0972 - 1487	Sahera Nasreen		-
3	2010	Efficacy of some fungicide against antracnose on mungbean caused by <i>Collectrotricum lindumuthanium</i> . 2010. 5(1)72-73.	International Journal of Plant Science ISSN – 0973 - 1547	Sahera Nasreen, Ashfaque M Khan, Zafar S Khan.	3192	2.364
4	2010	Mycotoxic effect of plants against <i>Collectrotrichum capsici</i> the pathogen of Anthrogracnose of Chilli.2010. Vol 4(2) : 929-930.	Journal of Pure and Applied Microbiology ISSN – 0973 - 7510	Sahera Nasreen, Zafar S Khan.		1.5
5	2010	Areobiological spores in two different seasons over Bajara and Jawar field.2010. 10 (2) : 679-680	Plant Archives ISSN – 0972-5210	Sahera Nasreen, Suman A Khedkar.		-
6	2010	Chemical composition and antimicrobial activity of angiospermic plants. 2010.. 6(1): 56-61.	Middle-East Journal of Scientific Research ISSN – 1990-9233	Sahera Nasreen, Zafar S Khan, Vishal N Shinde, Nilesh P Bhosle.		1.312
7	2010	Screening of some plants for their	Life Science Bulletin	Sahera Nasreen,		-

		antifungal activity against plant pathogenic fungi. 2010. 7(1): 11-12.	ISSN – 0973-5433	Zafar S Khan, Shafikh M Shaikh.		
8	2010	Antibacterial activity of some medicinal plants.2010.4(1):393-396.	Journal of Pure and Applied Microbiology ISSN– 0973-7510	Sahera Nasreen, Zafar S Khan.		1.5
9	2010	Evaluation of bioagents against the infection of green mould (<i>Trichoderma spp.</i>) in <i>Pleurotus sajou-caju</i> cultivation. 2010.	International Journal of plant pathology. ISSN-1996 - 0719	Sahera Nasreen, Shaiesta Shah.		1.2
10	2011	Fungicidal efficacy on Mycosis control of five leafy vegetable diseases.2011.2(3):52-57.	Indian Journal of Scientific Research ISSN-0976-2876	Sahera Nasreen, Vishal N Shinde.		-
11	2011	Mycosis control of leafy vegetables by chemotherapy.2011,3(6):26-29	Journal of Ecobiotechnology ISSN-2077-0464	Sahera Nasreen, Vishal N Shinde, Zafar S Khan.		-
12	2011	Influence of temperature and culture media on growth of <i>C. lindemuthianum</i> (sacc. & magn.) briosi and cav.2011.8(322-323)	Bioinfolet ISSN – 0973-1431	Sahera Nasreen, Ashfaque M Khan.		0.06
13	2011	Antifungal activity and chemical profile of five medicinal plants. 2011 (2) 5-10	Animal of Pharmacy and Pharmaceutical Sciences. ISSN-0976-125x	Sahera Nasreen, Vishal N Shinde.		0.076
14	2011	Antifungal activity of essential oil isolated from plants. 2011,vol-10(159-164).	Chiang mai university journal of natural science. ISSN- 1685-	Sahera Nasreen, Zafar S Khan, Vishal N		0.033

			1994	Shinde, Shafikh M Shaikh.		
15	2011	Influence of temperature and culture media of growth <i>Collectrichum lindemuthianum</i> (Sacc. And Magn.) Briosi and Cav.	Bioinfolet ISSN – 0973-1431	Sahera Nasreen and Ashfaque M. Khan.		0.06
16	2012	Microbial remediation of Cypermethrin-25 EC	Journal of Air, Water and Soil Pollution	Sahera Nasreen and Nilesh Bhosle		2.5
17	2012	Screening and production of extra cellular feather degrading enzyme from Bacteria.	Indian journal of life sciences	Sahera Nasreen and Areeb Inamdar.		
18	2012	The Myxomycetes of South –East of Maharashtra	Bionano frontier	Sahera Nasreen, Ramesh Tembhur ne and S.P. Nanir	ISSN 0974-0678	
19	2013	The Myxomycetes of South-East Maharashtra India.	Internatinal Journal of Advanced Research	Sahera Nasreen, Ramesh Tembhur ne and S.P. Nanir	ISSN no 2320-5407 Vol.1 issue 7	
20	2013	New Four species of the Myxomycetes South-East Region of Maharashtra	International Journal of Medicine and Biomedical Research	Sahera Nasreen, Ramesh Tembhur ne and S.P. Nanir	Vol.2 issue 1	

21	2013	The Myxomycetes of South-East Maharashtra India. paper XVII	American Journal of Life Sciences	Sahera Nasreen, Ramesh Tembhurne and S.P. Nanir	Issue 15	
22	2013	The Myxomycetes of South-East Maharashtra (India)-V	Bionano Frontier	Sahera Nasreen, Ramesh Tembhurne and S.P. Nanir		
23	2013	In vitro analysis of phytochemical constituents in Allium and Curcuma against four plant pathogenic fungi	Asian academic Research journal of multidisciplinary	Shaikh Farha And Sahera Nasreen.	Volume 1 Issue 12	2.015
24	2013	Biocontrol Efficacy of Tricoderma Koningii Against Some Plant Pathogenic Fungi.	Indian Journal Of Scientific Research	Shaikh Farha And Sahera Nasreen.	Vol 2	0.8
25	2013	Biocontrol Efficacy of Fusarium Spp Against Some Plant Pathogenic Fungi.	Indian Journal Of Research	Shaikh Farha And Sahera Nasreen.	Vol 1	1.02
26	2013	Remediation of Cypermethrin-25 EC by Microorganisms.	European Journal of Experimental Biology	Nilesh P Bhosle And Sahera Nasreen	-	2.08
27	2013	Free radical scavenging activity in <i>Santalum album</i> L. leaves	International Journal in Adv Pharm medicine & bioallied Sci.	Yahyakh an and Sahera Nasreen	Vol.1	0.8

28	2014	Amylase inhibition of <i>Tribolium castaneum</i> and <i>Helicoverpa armigera</i> by plant defensins .	International Journal in Adv Pharm medicine & bioallied Sci.	Sahera Nasreen and Areeb Inamdar	Vol 2 issue 1 43-45	0.8
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Articles/chapters published in books:

	Titles with page No.	Book title, editor & publisher	ISSN/ISBN No.	No. of authors	Whether you are the main author
	Research in Aerobiology	Sahitya Sagar, 128-23, R, Ravindra Nagar, Yashoda Nagar, Kanpur.	ISBN – 978-81-920352-2-2	One	Yes
	Antimicrobial agents from Plants	Lambert Academic publication	ISBN-978-3-659-45969-6	Two	Yes

Lead Lectures delivered :-

Sr. No.	Title of Lecture or Academic Session	Title of Conference / Seminar	Organized by	Whether International / National
1	Commission for Scientific and Technology Terminology	Ministry Of Human Resource Development Dept. of Higher Education	Shrivardhan	National
2	Pesticide Degradation through Soil Microorganisms	Recent trends in Biotechnological application for Sustainable Development of Agriculture	Govt. College of Arts and Science, Aurangabad	National
3	Pesticide managements through biological	Women's World Congress	Hyderabad	International

4	Conservation of Marine Biodiversity	Recent Trends in the conservation of Marine Biodiversity	Shrivardhan	National
5	Modern Agriculture and its effect	Recent Advances in Plant Sciences	SCW degree and P. G. College, Kottagudum, dist. Telangana	National

Dr. Abhay Salve

List of publication last five years

- 1) **Salve A. N.** , Padul M. V., Patil M. T. and Choure R. G. (2010) Conservation and exploitation of medicinal potent plant *Gloriosa superba* L. *Asian J. Exp. Biol Sci.* **Spl.** 171-173
- 2) Patil M. T., Padul, M. V, Choure, R. G*. and **Salve, A. N** *In vitro* shooting and callusing in medicinally potent plant –*Withania somnifera* (L.) Dunal. *Flora and Faun Spl.* Issue 116-118
- 3) Jadhav Umesh, Sudhir Kadu, Nilesh Thokal, Manohar Padul, Vishal Dawkar, Ashok Chougule, **Abhay Salve** and Manoj Patil (2011) Degradation of tannic acid by cold adapted *Klebsiella* sp. NACASCA1 and phytotoxicity assessment of tannic acid and its degradation products. *Environ. Sci. Pollut. Res.* **18**:1129–1138.
- 4) Padul M. V., Patil M. T., Chougale A. D. Zambare V. P., Patil R. M., Ghule R. B., Naikwade S. V., Garad A. S., Shaikh F. K., Gadge P. P. Shinde K. D., Dama L. B. and **Salve A. N.** (2012) In vitro screening of proteinase inhibitors (trypsin, chymotrypsin and *helicoverpa* gut proteinase inhibitors) in different plant tissue extracts. *Trends in Biotechnological research Vol. 1 (1) pp* 7-14.
- 5) Medhe S. R., Takankhar V. G and **Salve A. N.** (2012) Correlation of chemical properties, secondary nutrients and micronutrient anions from the soils of Chakur tahisil of Latur district, Maharashtra. *Trends in Life science Vol 1(2) pp* **34 – 40.**
- 6) Jadhav, U.^{1*}, Salve, S.², Dhawale, R.², Padul, M.³, Dawkar, V.⁴, Chougale, A.⁵, Waghmode, T.⁶, **Salve, A.**⁷, Patil, M.⁸ (2013) Use of Partially Purified Banana Peel Polyphenol Oxidase in the Degradation of Various Phenolic Compounds and Textile Dye Blue 2RNL. *Textiles and Light Industrial Science and Technology (TLIST) Vol. 2 (1):*27-35. www.tlist-journal.org.
- 7) Sonali P. Patil, **Abhay N. Salve** and Vijay B. Baladhye (2013) Proteomic profiling of *caralluma fimbriata* cell wall during drought condition. *International Jour. of Pharma and Biosciences* July (4) 3 : B 385-395.

- 8) Jadhav, U., Dhawale, R., Padul, M., Dawkar, V., Chougale, A., Salve, A., Patil, M. Phytotoxic effect of synthetic textile dye effluent on growth of five plant species *Acta Physiologiae Plantarum* (Communicated).

20 Areas of consultancy and income generated:

Areas of consultancy: Fungal Culture, Algal Culture, Microphotography, Analysis and identification of Plants samples

21 Faculty as members in

Prof. Sahera Nasreen

- a) National committees : 02
 b) International Committees : 00
 c) Editorial Boards : 02

1. Journal of Basic and Applied Sciences
2. Journal of International Journal of Scientific Research

Dr. Abhay Salve

- a) National committees : 02
 1. Krishnamurthy Institute of Algology, Chennai
 2. Indian Science Congress Association, Kolkata

22 Student projects:

- a) Prof. Sahera Nasreen : 35
 b) Dr. Abhay Salve : 27

a) Percentage of students who have done in-house projects including interdepartmental / program

Sr. no.	Name	Project	Duration
1	Bhagyashri Jadhav, Pravin Ghode, Ashwini Thore, Smita Antarwalikar, Mangesh Kharate, Amer Saudagar, Rohit Mane, Rakesh Jangam, Mahadev Ambhure, Avijit Mandal	Floristic studies of Aurangabad Caves	2012-14
2	Shital Yadav, Lata Tupe, Priyanka Tupe, Kavita Pohalkar, Priyanka Velhal,	Antimicrobial activities of some selected medicinal plants	2012-13

3	Priyanka Tupe, Priyanka Velhal, Lata Tupe, Shital Yadav	Mushroom diversity of Aurangabad region	2013-14
4	Haquiqut, Arshi, Farhana Jabin, Hase Vijeyata, Seema Sath,	Cryptogamic flora of Aurangabad caves	2013-14
5	Yahya Pathan , Digambar Pawar,	Isolation and Identification of soil microflora of Aurangabad Caves	2013-15
6	Mangesh Kharate, Balu Ghavane,	Effect of local medicinal plants on plant pathogenic flora	2013-14

b) Percentage of students placed for projects in organizations outside the institution.i.e.in Research laboratories/Industry/other agencies:

23 Awards/ Recognitions received by faculty and students

Prof. Dr. Sahera Nasreen

Sr. No.	Awards Received	Received Form
1.	Jewel of India Award	Indian Solidarity Council
2.	Rashtriya vidhya Saraswati Pushkar	International Institute of Education and Managements.
3.	National educational Excellence Awards	International Business Council
4.	Eminent Citizen of India Awards	National And International Compendium
5.	Best Educationist Award	International institute of education & management, New Delhi.

24 List of eminent academicians and scientists/ visitors to the department:

Sr. no	Name	Designation	Year
1.	Mr. Bhale S. N.	Production Manager	2014
2.	Mr. Mali P. V.	Scientist	2013
3.	Dr. Kazi M. A.	Scientist	2014
4.	Prin. Dr. Apparao B. J.	Principal, Jijamata	2014
5.	Prin. Dr. Khemnar A. S.	Director, Institute of	2014
6.	Prof. C. Mahonaracharya	Emeritus Professor	2013

7.	Prof. L. V. Gangavane	Emeritus Professor	2013
8.	Prin. Dr. S. P. Nanir	Former Director of Institute	2014
9.	Prof. D. S. Mukadam	Director, Green Gold Seeds	2014
10.	Prof. P. B. Papdiwal	Professor	2014
11.	Prof. A. M . Mungikar	Professor	2014
12.	Prof. Arvind Dhabe	Professor & Head, Dept. of Botany, Aurangabad	2014
13.	Dr. Chetna Sonkamble	Director, Student Welfare Dr. BAMU, Aurangabad	
14.	Dr. P. G. Reddy	Principal, PVP college, Satral	
15.	Dr. S. M. Malode	Head, Dept of Botany, VMV	
16.	Dr. D. U. Gawai	Head, Life Science, SRTMU	

25 Seminars/ Conferences/Workshops organized and the source of funding

a) National :

Sr. No.	Programme	Funding Agency	Duration
1.	SAM women Workshop for development of women staff at higher level.	UGC- New Delhi	One week
2.	WMSEM	UGC- New Delhi	One week
3	National conference on Biodiversity	UGC- New Delhi	Two Days
4	Skill development program for students	UGC- XI th Plan	Two days
5	Gender sensitization and equal opportunity for women	UGC- XI th Plan	Three days

b) International: Nil

26 Student profile programme/coursewise:

Year	Applications Received	Selected	Pass percentage
2010-11	20	09	77.5%
2011-12	20	20	80.0%
2012-13	71	21	83.00%
2013-14	44	20	90.00%
2014-15	76	20	Nil

27 Diversity of Students

Year	Name of the Course M. Sc. Botany	% of students from the same state	% of students from other States	% of students from
2011-12	20	100%	Nil	Nil
2012-13	21	105%	Nil	Nil
2013-14	21	105%	Nil	Nil
2014-15	20	100%	Nil	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

29 Student progression:

Student progression	Against %enrolled
UG to PG	NA
PG to M.Phil.	01
PG to Ph.D.	12%
Ph.D. to Post-Doctoral	Nil
Employed	80%
Campus selection	---
Entrepreneurship /Self-employment	10%

30 Details of Infrastructural facilities:

- Library:** Departmental Library facility for students with ninety three books prescribed by University and books for competitive exams relating to the subject
- Internet facilities for Staff and Students:** Separate LAN connection for the Departmental internet facility
- Class rooms with ICT facility:** One class room fitted with LCD projection system and connected with internet facility which is available to the M. Sc. I & II, research students and faculty members.
- Laboratories:** Well equipped laboratories separate for M. Sc and research. Inverted microscope photography unit, mycology, herbarium, museum and tissue culture laboratory available in the Department.

31 Number of students receiving financial assistance from college, university, government or other agencies:

Year	Central Govt. Scholarship					PMS	State. Govt	Eklavya	EBC
	SC	ST	NT	OBC	SBC				
2010-11	04	-		1	-	-	-	-	-
2011-12	03	-	03	02	-	-	-	-	02
2012-13	02	01	01	02	-	01	-	03	02
2013-2014	02	01	01	02	-	01	-	03	03
2014-15	1	02	1	-	-	-	-	-	-

32 Details on student enrichment programmers (special lectures / workshops / seminar) with external experts:

Special lectures organized in addition to curricula for enrichment of prescribed syllabi. Details are as;

Sr. no	Name	Designation	Year
1.	Mr. Bhale S. N.	Production Manager	2014
2.	Mr. Mali P. V.	Scientist	2013
3.	Dr. Kazi M. A.	Scientist	2014
4.	Prof. L. V. Gangavane	Emeritus Professor	2013
5.	Prin. Dr. S. P. Nanir	Former Director of Institute	2014
6.	Prof. D. S. Mukadam	Director, Green Gold Seeds	2014
7.	Prof. P. B. Papdiwal	Professor	2014
8.	Prof. A. M. Mungikar	Professor	2014
9.	Prof. Arvind Dhabe	Professor & Head, Dept. of	2014
10.	Dr. Chetna Sonkamble	Director, Student Welfare Dr. BAMU, Aurangabad	2014

33 Teaching method adopted to improve student learning:

Along with chalk and board, models, audio visual aids such as interactive panel, LCD projector, OHP are being regularly used during the lectures as well as practical's. Regular field visits were carried out at various places of botanical interests such as

- Rajaji National Park Dehradun

- Forest research Institute – Dehradun
- Botanical Survey of India- Dehradun
- Kepty Fall Forest – Massuri
- Gautal Reserved Forest
- Bhandardar
- Lonar Carter Lake
- Himayat Bag
- Bajra Research Center –Aurangabad
- Bijo Sheetal Foundation
- Nirmal Seeds – Pachora
- Nath Seeds – Aurangabad
- Agriculture Research Cenetr – Badnapur
- Agriculture University – Pune
- Hindustan Antibiotics, Pune
- Maharashtra Distillery
- Shrivardhan, Harihershwar

34 Participation in Institutional Social Responsibility (ISR) and Extension activities:

The students from the Department actively Participates in the NSS Camps as well as two workshops were conducted by the department on social awareness among the backward communities, as well as gender sensitizations and women equity.

35. SWOC analysis of the department and Future plans:

Strengths:

- Student centric curriculum planning and implementation
- Only Department having Applied mycology and Ethano-botany and pharmacognosy specializations in affiliated university
- Academic and Research oriented atmosphere
- Sufficient infrastructure with equipped essential instrumentation
- Special efforts for focused field based curricula implementation

Weaknesses:

- Insufficient man power
- Lesser funding for academic upgradation
- Modernization/ upgradation of laboratories
- Lack of funding for in house projects

Opportunities:

- Department has opportunity to establish Interdisciplinary activities for academic and also in research.

Challenges:

- Filling of vacant position, getting more funds to enable for maintaining and improving department position in current completion so as to attract the student.

Future Plans

- Raising rare, endangered and endemic plants garden.
- Modernization of the exiting laboratories.
- Increase in the research funding.
- Establishment of Phycology laboratory.

DEPARTMENT OF GEOLOGY

EVALUATIVE REPORT

1. **Name of the Department:** DEPARTMENT OF GEOLOGY
2. **Year of Establishment:** 1984
3. **Names of Programmes/Courses offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.):**
 - M.Sc.(Geology)
 - Ph.D. (Geology)
4. **Names of Interdisciplinary courses and the departments/units involved:**
Nil
5. **Annual/ semester/choice based credit system (programmewise):**
Semester Pattern
6. **Participation of the department in the courses offered by other departments:**
Nil
7. **Courses in collaboration with other universities, industries, foreign institutions, etc.:**
Nil
8. **Details of courses/programmers discontinued (if any)with reasons:**
Nil
9. **Number of teaching posts**

Designation	Sanctioned	Filled
Professor	01	-
Associate Professor	02	02
Asst. Professors	03	02

**10 Faculty profile with name, qualification, designation, specialization,
(D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)**

Name of Faculty	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. Students guided for the last 4 years
Dr. S. M. Deshpande	M. Sc Ph. D	Associate Professor	Hydrogeology, Environmental geology	18	01 awarded 07 working
Dr. K. M Wanjarwadkar	M. Sc Ph. D	Associate Professor	Palaeontology	03	--
Dr. M.A. Sonar	M. Sc Ph. D	Assistant Professor	Palaeontology	08	01 awarded 04 working
Dr. A. N. Dongre	M. Sc Ph. D	Assistant Professor	Petrology	07	--

11. List of senior visiting faculty.

- Dr. S .M. Masoom
- Mr. P.D. Shinde
- Mr. M.S. Jaiswal

12. Percentage of lectures delivered and practical classes handled (programwise) by temporary faculty.

Lectures- 34.38%
Practicals-68.75%

13. Student –Teacher Ratio (programwise)

M.Sc. - 1:10
Ph.D . - 1: 3.7

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled:

Post	Sanctioned	Filled
Laboratory Assistant	--	--
Laboratory Attendant	01	01

15. Qualifications of teaching faculty with D.Sc. /D.Litt. /Ph.D./M.Phil./PG.

Name of Faculty Member	Designation	Highest Qualification
Dr. S. M. Deshpande	Associate Professor and Head	Ph. D.
Dr. K.M. Wanjarwadkar	Associate Professor	Ph.D.
Dr. M. A. Sonar	Assistant Professor	Ph. D.
Dr. A. N. Dongre	Assistant Professor	Ph. D.

16. Number of faculty with ongoing projects from.

a) National:

Name of the Investigator	Title of the project and duration	Amount sanctioned	Funding Agency
Dr. S. M. Deshpande	Hydrogeochemistry of fluoride contaminated groundwater from Rajura and Korpana area of Chandrapur	Rs.3,00,000/-	SERC-DST
Dr. A. N. Dongre	Petrological, Geochemical and Geochronological studies of kimberlites of Timmasamudram kimberlite Cluster, Wajrakarur kimberlite field, Eastern Dharwar craton, Southern India	Rs.17,88,000/-	DST FAST TRACK Scheme for Young Scientist
Dr. M. A. Sonar	Fossil Bryozoa from tertiary sediments of Kutchch and its bearings on depositional environment	Rs.14,00,000/-	SERC- DST
Dr. S. M. Deshpande	Geochemistry and Genesis of fluoride contaminated groundwater from parts of Warora Tehsil, Chandrapur district, Maharashtra	Rs.7,91,300/-	UGC, New Delhi
Dr. A. N. Dongre	Petrology of Timmasamudram Kimberlite Cluster, Eastern Dharwar Craton, Southern India	Rs.2,00,000/-	UGC, WRO, Pune
Dr. S. M. Deshpande	Environmental impact assessment of Aurangabad township with emphasis on SPM , ground water quality and noise studies	Rs.1,65,000/-	UGC, WRO, Pune

b) International funding agencies and grants received:

NIL

17. Departmental projects funded by DST-FIST; UGC, DBT, ICSSR, etc. and total grants received:

DST: 34.88 Lakhs

UGC: Major- 7.91 lakhs

Minor- 3.65 lakhs

Marathwada Statutory Board- 5.0 Lakhs

18. Research Centre/facility recognized by the University: Yes**19. Publications:****a) Publication per faculty****b)**

Sr. No	Name of Faculty	Type of Publications	Name of Journal	Impact factor	ISSN No.
1	Dr. S. M. Deshpande	National	<i>Gondwana. Geological Magazine</i> vol. 26 (2),pp.157-162	-	ISSN: 0970-261X
2	Dr. S. M. Deshpande	International	Int. Jour. of Environment & Earth Sciences vol.1 (1), 19-25	-	0976-741X
3	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science And Technology, vol. 1 (3), 91-95.	1.20 68	2249-8109
4	Dr. S. M. Deshpande	International	<i>Bionano Frontier</i> Jour. of Inter. Soc. of Sci. & Tech, vol.4 (1) 157-161	0.045	ISSN 0974-0678
5	Dr. S. M. Deshpande	National	Journal (MEJ), Vol. 12, No.6 pp 28-30	-	
6	Dr. S. M. Deshpande	National	Jour. of Applied Geochemistry Vol. 1. pp.10-15.	-	0972-1967
7	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology. Vol.4, pp:120-124.	1.20 68	2249-8109
8	Dr. S. M. Deshpande	International	International Journal of Environment and Earth Sciences. Vol. 1, pp. 36-49.	-	0976-741X
9	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology, vol.3 (1), 91-95.	1.20 68	2249-8109
10	Dr. S. M. Deshpande	National	Res. Jour. Chem. Sci., vol. 2(1), 25-31.	-	0972-0626
11	Dr. S. M. Deshpande	National	Jour. of Applied Geochemistry, 15, pp.: 201-212.	-	0972-1967
12	Dr. S. M. Deshpande	International	International Journal of Recent Trends in Science and Technology, Vol. 11, No.1, Pp105-108.	1.20 68	2249-8109

13	Dr. S. M. Deshpande	National	Gondwana Geological Magazine Vol. 14, pp. 177-185.	-	ISSN: 0970-261X
14	Dr. S. M. Deshpande	National	Gondwana Geological Magazine Vol 14, pp. 167-176.	-	ISSN: 0970-261X
15	Dr. K. M. Wanjarwadkar	International	Journal of Geological Society of India. Vol. 81(4), PP. 549-555.	0.513	ISSN: 0016-7622
16	Dr. M. A. Sonar	International	Journal of Geological Society of India 81, 665-676	0.513	ISSN: 0016-7622
17	Dr. M. A. Sonar	National	Journal of Paleontological Society of India 58, 195-203	-	ISSN: 0552-9630
18	Dr. M. A. Sonar	National	Journal of Earth System Science, 122, 149-161	0.95	ISSN: 0253- 4126
19	Dr. M. A. Sonar	National	Journal of Paleontological Society of India 58, 195-203	-	ISSN: 0552-9360
20	Dr. A. N. Dongare	International	Geochemical Journal, v. 45, pp. 79-85.	1.942	ISSN 1880 -5973
21	Dr. A. N. Dongare	National	Journal of the Geological Society of India, v. 82, pp. 485-494.	0.513	ISSN: 0016-7622
22	Dr. A. N. Dongare	International	Lithos, v. 196, pp. 150-168.	3.691	ISSN: 0024-4937
23	Dr. A. N. Dongare	International	Geochemical Journal (in press).	1.942	ISSN: 1880 -5973
24	Dr. A. N. Dongare	International	<i>Journal of Asian Earth Sciences (under review)</i>	2.301	ISSN- 13679120
25	Dr. A. N. Dongare	National	Gondwana Geological Magazine, Special Publication no. 13, pp.25- 36.	-	ISSN: 0970-261X

c) Number of papers published in peer reviewed journals (national / international) by faculty and students-

National: 12

International: 13

d) Number of publications listed in International Database (Fore.g.: Web of Science, Scopus, And Humanities International Complete, Dare Database- International Social Sciences Directory, EBSCO host, etc.)- 13

e) Monographs : Nil

f) Chapter in Books: Nil

g) Books edited: 02

1. Malpe, D. B., Deshpande, S.M. and Dongre A.N. (Eds.) (2011). Recent Developments in Groundwater Research in India, Gondwana Geological Magazine, Special Issue, vol. 26(2), 189p. (ISSN:0970-261X)
2. Dongre, A.N., Malpe, D.B. and Deshpande, S.M. (Eds.) (2012). Recent Developments in Researches on Geology and Mineral Resources of India. *Gondwana Geological Magazine*, Spl. Publ. no. 13, 197p.) (ISSN:0970-261X)

20. Areas of consultancy and income generated:

Areas of consultancy: Groundwater Explorations and Quality- Rs. 45000

21. Faculty as members in :

a) National committees

➤ **Dr. S. M. Deshpande**

Member, Ad-hoc Board in Geology, Dr. BAMU, Aurangabad
Member, RRC in Geology, Dr. BAMU, Aurangabad
Member, Ad-hoc Board of Studies in Geology, SRTMU, Nanded
Member, Ad-hoc Board of Studies in Geology, NMU, Jalgaon
Chairman, Board of Examination in Geology, Dr. BAMU, Aurangabad
Member, Board of Examination in Geology, SRTMU, Nanded
Member, Board of Examination in Geology, NMU, Jalgaon
Member, Board of Examination in Geology, Shivaji University Kolhapur
Member, Board of Examination in Geology, Solapur University, Solapur
Member, Board of Examination in Geology, RTM University, Nagpur

➤ **Dr. K.M. Wanjarwadkar**

Member Board of Examination in Geology, RTM University, Nagpur
Member Board of Examination in Geology, SRTMU, Nanded

➤ **Dr. M. A. Sonar**

Member Board of Examination in Geology, NMU, Jalgaon
Member Board of Examination in Geology, RTM University, Nagpur

➤ **Dr. A. N. Dongre**

Member Board of Examination in Geology, Dr. BAMU, Aurangabad
Member Board of Examination in Geology, SRTMU, Nanded
Member Board of Examination in Geology, NMU, Jalgaon
Member Board of Examination in Geology, Shivaji University Kolhapur
Member Board of Examination in Geology, RTM University, Nagpur

b) International Committees- Nil

c) Editorial Boards:

➤ **Dr. S.M. Deshpande -**

BIONANO FRONTIER International Journal
International Journal of Recent Trends in Science And Technology

22. Student projects:

a) **Percentage of students who have done in-house projects including inter departmental/programme:**

Every year 30% students of M. Sc IInd year are opting for dissertation as optional paper.

b) **Percentage of students placed for projects in organizations outside the institution, i.e.in Research laboratories/Industry/other agencies:**

Every year 25% of M. Sc Ist year students are being sent to for project work in Research laboratories/Industry/other agencies.

23. Awards/ Recognitions received by faculty and students:

➤ **Dr. S.M. Deshpande –**

- Invited as Resource Person for *Refresher Courses* at Academic Staff College, Br. Babasheb Ambedkar Marathwada University, Aurnagabad.
- Invited as Resource Person for –Key Note address of National Conference at Padma Bhushan Vasnt dada Patil College, Patoda, Dist. Beed.
- Invited as Resource Person for –Key Note address of National Conference at Loyala Degree College (YSRR), Pulivendla, Andhra Pradesh.
- Invited as Chairperson for a Technical Session of national Conference- Environmental Surveillance for Natural Resource Management, at School of Environmental and Earth Sciences, North Maharashtra Univ., Jalgaon and RTM Univ. Nagpur.
- Invited as Resource Person for –Key Note address of National Conference at Katruwar College, Manwat. Dist. Parbhani.
- Member of Advisory Board of various National Conferences.

➤ **Dr. K.M. wanjarwadkar-**

- Invited as Resource Person for DST-INPIRE Camp at New Arts and Science College, Parner.
- Invited as Chairperson for a Technical Session of International Conference, Furguson College, Pune.
- Member of Advisory Board of International Conference, Pune.

➤ **Dr. M.A. Sonar**

- Regional Member of Geo- Olympiad, organized by Geological Society of India.

➤ **Dr A. N. Dongre**

- Received **Young Researcher Award- 2009** (National Geo-science Award *old National Mineral Award*) given by **Government of India, Ministry of Mines** for carrying research on south Indian kimberlites.
- Received two years (26.10.2014-26.10.2016) Post-Doctoral research fellowship from Johannesburg University, Johannesburg, South Africa.
- Mr. Sagne Rituraj Bhanudasrao of Msc. II nd Year Geology received Best Research Paper presentation award in GEO-YOUTH held at Dept. of Geology, Udaipur, Rajasthan.
- Mr. Mr. Diwate Pranay Rameshwarrao of Msc. IInd Year Geology received DST-INSPIRE fellowship for pursuing doctoral research.

24. List of eminent academicians and scientists/ visitors to the department: (2013-14)

Sr.	Name	Designation	Year
1.	Dr. D.B. Panaskar	Director, BCUD SRTMU, Nanded	2014
2.	Dr. S.N. Patil	Professor, NMU, Jalgaon	2014
3.	Dr.Prabhakar	Professor, Solapur University, Solapur University	2014

25. Seminars/ Conferences/Workshops organized and the source of funding

- a) **National:** 01- National Conference on –“ Recent Developments in Geology , Mineral and Groundwater Resources of India”- 2011.

30. Details of Infrastructural facilities:

- a) **Library:** Departmental Library facility for students with One Hundred Twenty Five books prescribed by University and books for competitive exams relating to the subject
- b) **Internet facilities for Staff and Students:** Separate LAN connection for the Departmental internet facility
- c) **Class rooms-** with ICT facility
- d) **Laboratories:** Well-equipped laboratories such as hydro geology, paleontology, petrology and advanced petrology, thin section preparation, geotechnical, remote sensing and computer.

31. Number of students receiving financial assistance from college, university, government or other agencies: 2013-14

GOI	SC	ST	VJNT	SBC	OBC
	02	01	04	01	16

32. Details on student enrichment programmers (special lectures / workshops / seminar) with external experts:

Conference / workshop / seminar	Organized by	Invited Speakers	Year of Organisation
Organization of National Conference on - Recent Developments in Geology and Mineral Resources of India	Post Graduate Department of Geology.	Dr. D.B. Yedekar Ex. Vice Chancellor, SRTMU, Nanded; Prof. N.J. Pawar, Vice Chancellor, Shivaji Univ. Kolhapur; Dr. N.V. Chalpatirao, BHU, Varanasi; Prof. Talat Ahmad, Delhi Univ.	2010-11
Organized various lectures of eminent faculties under UGC XI plan NET/SET coaching for SC/ST/OBC/Minorities.	Post Graduate Departments of Geology	i) Dr. D.C. Meshram, ii) Dr M.V. Baride iii) Prof. P.P. Kundal iv) Dr. A .M. Varde v) Dr. Parijat Roy vi) Prof. S.J. Sangode vii) Prof. D.B. Malpe viii) Dr. S.N. Patil ix) Prof. S.C. Patel x) Dr. Y.A. Murkute	2011-12
Organized various lectures of eminent faculties under UGC XI plan Career Counseling Scheme	Post Graduate Departments of Geology	Mr. P.U. Terkar Mr. P.D. Shinde Mr. Bagchi Mr. James Jacob Mr. Stephen Baker	2011-12 onwards

33. Teaching method adopted to improve student learning:

Audio visual aids like the interactive panel, LCD projector used for lecture.

34. Participation in Institutional Social Responsibility (ISR) and

Extension activities:

Students of the Department actively Participate in various NSS programs.

Faculties of the Department extending their expertise to ASC and other organizations.

35. SWOC analysis of the department and Future plans:

Strengths:

- Young, dynamic and qualified faculties.
- Research in frontline, emerging areas of the subject.
- All faculties with Ph. D.
- Highest number of research guide in the subject in affiliated university
- Student centric academic planning and implementation
- Career oriented curricula and guidance
- Instrumentation facilities open for all students, researcher of Institute and other organization.
- Groundwater exploration consultancy to particularly farmers as science for the use of society.

Weaknesses:

- Laboratory staff.
- Vacant faculty positions.
- Lesser funding from governing authority.
- Insufficient amount for in house fellowships for performing research.

Opportunities:

Department has opportunity to promote and establish research of socioeconomic impact such as water conservation and quality, also in advance petrology.

Challenges:

To bring the Department at national and international level by inculcating advance/ recent application based curricula for the elevation of student.

Future Plans:

- Modernization of laboratories in particular about furniture.
- Establishing remote sensing and GIS laboratory
- Increase in campus placement percentage.
- Increase in research funding
- Establishing new collaboration for student centric activity viz. dissertation/training.

DEPARTMENT OF BIOPHYSICS

Evaluative Report

1. **Name of the department** : Department of Biophysics
2. **Year of Establishment** : DECEMBER 1979
3. **Names of Programmes/ Courses Offered (UG, PG, M. Phil., Ph.D., Integrated Masters; Integrated Ph.D., etc.)** : M.Sc. [Biophysics] since June 1980
PhD [Biophysics] since June 1987
4. **Names of Interdisciplinary courses and the departments/units involved** : Biophysics itself is an Interdisciplinary course
5. **Annual/semester/choice based credit system (programme wise)** : Semester System (Four semesters)
6. **Participation of the department in the courses offered by other departments** : Nil
7. **Courses in collaboration with other universities, industries, foreign institutions, etc.** : Nil
8. **Details of courses/programmes discontinued (if any) with reasons** : Nil
9. **Number of Teaching posts**

Teaching Posts	Sanctioned	Filled
Professors	Nil	Nil
Associate Professors	Two	Nil
Asst. Professors	Three	Three

10. Faculty profile with name, qualification, designation, specialization, (D.Sc./D.Litt. /Ph.D. / M. Phil. etc.,)

Name of the Faculty	Qualification	Designation	Specialization	Experience	No. of Ph.D. Student guided for the last 4
Mr. Satish G Kulkarni	M.Sc., Diploma in Info. Tech.(C-DAC)	Associate Professor	Biophysics	32 yrs	Nil
Mrs. Vaishali N. Wadekar	M.Sc. SET	Assistant Professor	Biophysics	16 yrs	Nil
Dr. Mrs. Aruna S.Vinchurkar*	M.Sc. Ph.D.	Associate Professor	Biophysics	32 yrs	Three
Ms. Shivani D Dharwadkar	M.Sc. NET, GATE	Lecturer CHB	Biotechnology	2 yrs	Nil
Mr. Jagdish G Paithankar Alumnus	M.Sc. NET, GATE	Lecturer CHB	Biophysics	1 yr	Nil
Mrs.Snehal R Nandode- Waichal	M.Sc. NET,	Lecturer CHB	Bioinformatics	1 yr	Nil
Ms. Gopika S.Nigam	M.Sc. GATE	Lecturer CHB	Bioinformatics	1 yr	Nil

*Presently deputed as Joint Director, Higher Education , at Solapur

11. List of senior visiting faculty

Name of the Faculty	Qualification	Designation	Specialization	Experience
Dr. Ayub Pathan	M.Sc. Ph.D.	Asso. Prof.	Physics	29 yrs
Dr. Ashok V Kulkarni Alumnus	M.Sc. Ph.D.	Asst. Prof.	Biophysics	13 yrs
Mr. Chaitanya C Chinawale Alumnus	M.Sc.	Asst. Prof.	Biophysics	10 yrs

12. Percentage of lectures delivered and Practical classes handled

(Programme-wise) by temporary faculty : 76.56%

13. Student -Teacher Ratio (programme-wise) : 20:1

14. Number of academic support staff (technical) and administrative staff; sanctioned and filled : Nil

**15. Qualifications of teaching faculty with DSc/ D.Litt./ Ph.D./ MPhil / PG. PG :- Two
Ph.D. :- One**

16. Number of faculty with ongoing projects from a) National b) International funding agencies and grants received : Nil

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received : Nil

18. Research Centre /facility recognized by the University
The department is permanently affiliated to Dr Babasaheb Ambedkar Marathwada University, Aurangabad and is recognized by affiliating university as research centre for Ph.D. in Biophysics.

19. Publications:

* a) Publication per faculty :

- Dr. (Mrs.)Aruna S.Vinchurkar. : Nine
- Mr. Satish G. Kulkarni. : Nil
- Mrs. Vaishali N. Wadekar. : Nil

* Number of papers published in peer reviewed journals (national / international) by faculty and students

Sr. No	Authors and Title of the publication	Name of the Journal	Month and year of publication
1	Khobragade C.N., Bhande R. M., Bhande R. G., Vinchurkar A. S. Enterobacter cloacae strain RMB-1 16S ribosomal RNA Gene, partial sequence.	URL: NCBI.	2010
2	Khobragade C.N., Bhande R. M., Bhande R. G., Lokare M., Vinchurkar A. S. Enterobacter cloacae strain CNK-7, 16S ribosomal RNA gene, partial sequence. URL: NCBI. 2010.	URL: NCBI. IF.1.295	2010
3	Jessy Marrial , P.M Dongre, Rahul Jawale Vishwajit Kamble A.S Vinchurkar ' D.C Kothare. (2010). Assessment of susceptibility of various microorganisms to the silver Nano Particles. 3(2): 145-147.	Bionano Frontier. IF.0.233	2010
4	PM Dongre, MRS A.S Vinchurkar . Jessy Marrial, Neutralization of snake venom action by phenothiazine drugs and their virtual pharma cophore modeling study''	Bionano Frontier IF.0.233	2010
5	Khobragade C.N., Supria Bidkar, Ragini G. Babade, Aruna S. Vinchurkar. Comparative Structural Modeling and docking studies of oxalate oxidase: possible implication in Enzyme supplementation therapy for urolithiasia. 48:466-473.	International Journal of Biological Macromolecules IF.2.453	2011
6	Ravangave L. S., S. U. Hisvankar, Vinchurkar A. S. Effect of Doping Concentration of EU ³⁺ ions of LAF ₃ : Eu of Luminescence properties. 4(2) : 188-190.	Bionano Frounter. IF 0.233	2011

7	Jawale C. S., Vinchurkar A.S. , Dama L. B., PawarKishor., Dama S.B. and Shaikh Yasmin. <i>Cestrum nocturnum</i> (l) a prospective piscicide for control of predatory fish <i>Channa punctatus</i> (BLOCH.). 1(1): 14-17	Trends in Fisheries Research IF. 0.231	2012
8	Tembhurkar V.R., Joshi S.V., Dama L.B., Vinchurkar A. S. , Singh P.P., Pawase S.R. and Nighute S.B. Random mutagenesis stimulated overproduction of citric acid by <i>Aspergillus niger</i> 1(2): 53-57.	DAV International journal of Science IF. 0.378	2012
9	Jawale C. S., Vinchurkar A. S. , Dama L. B. and Dama S.B. Prevalence of Ixodid ticks in post Acaricide treated cattle and buffaloes at Sinner District Nashik (M.S) India. 1(1): 20-24.	Trends in Parasitology Research IF. 5.144	2012

- * **Number of publications listed in International Database : Two**
(For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)

* **Monographs : Nil**

* **Chapter in Books : Nil**

* **Books Edited : Nil**

* **Books with ISBN/ISSN numbers with details of publishers**

Sr. No	Name of the Book	Publisher	ISBN/ISSN
1	Electrophysiological Characterization of Snake Venoms	LAMBERT Academy Publishing	ISBN: 978.3.659.39223.8
2	Neutralization of snake venom by physical agents	LAMBERT Academy Publishing	ISBN: 978.3.659. 43991.9
3	Neutralization of snake venom by Chemical agents	LAMBERT Academy Publishing	ISBN: 978.3.659.44523.1
4	Snake venoms :A physiological and Pharmacological study	LAMBERT Academy Publishing	ISBN: 978.3.659.44825.6
5	Trends in Biotechnology Research	Published online at http://www.sciencejournal.in	International Peer reviewed Journal
6	Trends in Life Sciences	Published online at http://www.sciencejournal.in	ISSN: 2319-4731 (Print) ISSN: 2319-5037(Online)

7	DAV International Journal of Science	Published online at http://www.davjournal.org	ISSN: 2277-5536 (Print)ISSN: 2277-5641(Online)
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20. Areas of consultancy and income generated

The department offers consultancy in

1. Exposure to /Irradiation with Gamma rays using radioactive source Cobalt-60
And Income generated in Rs.22000/- within last 10 years
2. Spectroscopic ,viscometric, biochemical, electrophysiological analysis
3. Photo-physical quality assurance of films

21. Faculty as members in a) National Committees b) International Committees c) Editorial Board.:

- **Mr.S.G.Kulkarni :**
 - Chairman, Ad-hoc Board for Biophysics and member Research Recognition Committee for Biophysics , Dr.Babasaheb Ambedkar Marathwada University, Aurangabad.
 - Member, Syllabus framing committee in Biophysics, Swami Ramanand Teerth Marathwada University, Nanded.
 - Academic Coordinator Aurangabad district, National Bal Vigyan Congress, Dept. of Science and Technology, Govt. of India.
- **Dr.(Mrs.)A.S.Vinchurkar** has worked on the Statutory Authorities/forums of a university such as Board of Studies, Academic Council, Management Council or Executive Council of Board of Management Senate, etc.:

Sr. No.	University/ Institution	Statutory forum /authority and position	From	To	Total years
1	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Elected Member of Senate	2000	2005	5 years
2	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Elected Member of Management Council.	2000	2005	5 years
3	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Elected Member of Standing Committee.	2000	2005	5 years
4	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Elected Member of Grievance Committee.	2000	2005	5 years
5	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Elected Member of Finance and Accounts Committee.	2000	2005	5 years
6	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Member of statutes and ordinances review and draft committee.	2000	2002	2 years

7	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Member of Committee for increasing the income and tapping new resources.	2000	2002	2 years
8	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Member on Committee for connecting the university with affiliated colleges by LAN/VAN Work	2000	2002	2 years
9	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Member of Committee for establishing Rajashri Shahu Maharaj and Dr. Babasaheb Ambedkar Research Centre.	2000	2002	2 Years
10	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Member on Mahatma Phule Pratishthan Committee.	2000	2002	2 Years
11	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Committee Member to fixing honorarium of all employees.	2000	2002	2 Years
12	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Committee Member for implementation of decision taken by Management Council.	2000	2005	5 Years
13	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Chairman "Women Cell"	2000	2005	5 Years
14	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Chairman "Women Study Centre"	2000	2005	5 Years
15	Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.	Chairman Women charter	2000	2005	5 Years
16	University of Pune, Pune	Member of Management Council.	2004	2006	2 Years
17	University of Pune, Pune	Member of Standing Committee B.C. Cell.	2004	2006	2 Years
18	University of Pune, Pune	Directors nominee on SET examination committee	2004	2006	2 Years
19	University of Pune, Pune	Moderation Committee.	2004	2006	2 Years
20	University of Pune, Pune	Steering Committee.	2004	2006	2 Years
21	Tilak Vidhyapith, Pune.	Directors nominee on Management council.	2004	2006	2 Years
22	Deccan University, Pune.	Member of Management Council.	2004	2006	2 Years
23	Yashwantrao Chavan Open University, Nasik.	Member of Management Council.	2004	2006	2 Years
24	Yashwantrao Chavan Open University, Nasik.	Member of Finance and Accounts Committee.	2004	2006	2 Years
25	Yashwantrao Chavan Open University, Nasik.	Director's nominees on Management council.	2004	2006	2 Years

26	All Non Agricultural universities in Maharashtra State	Directors Nominee During the tenure as a Joint Director, Higher Education, Maharashtra State (State Level Post)	2002	2004	2 Years
27	Solapur University, Solapur	As a Joint Director, Member of Management Council	2012	Onwards	9 Months
28	Solapur University, Solapur	As a Joint Director, Member of Senate	2012	Onwards	9 Months
29	Solapur University, Solapur	As a Joint Director, Member of Finance and Accounts	2012	Onwards	9 Months
30	Solapur University, Solapur	As a Joint Director, Member of Examination Committee	2012	Onwards	9 Months
31	Solapur University, Solapur	As a Joint Director, Member of Selection Committee	2012	Onwards	9 Months
32	Solapur University, Solapur	As a Joint Director, Member of Management Council	2012	Onwards	9 Months
33	Solapur University, Solapur	Directors Nominee for Research Committee	2012	Onwards	9 Months
34	Solapur University, Solapur	As a Joint Director, Member of LIC Committee	2012	Onwards	9 Months

22. Student projects

a) Percentage of students who have done in-house projects including inter departmental/programme 50%

b) Percentage of students placed for projects in organizations outside the institution i.e. in Research laboratories/Industry/ other agencies : 12%

Sr. No.	Name of the Student	Title of the Project.	In-house/ outside
1	Ms. Priyanka B. Khapale.	“ Phylogenetic Prediction of Aurora Kinase”: (April, 2013)	In-house
2	Ms. Sneha S. Wasankar.	“Effect of wet Spices on Enzyme Activity and Kinetic Parameters” (April, 2013)	In-house
3	Ms. Anuja R. Rajhans.	“ Molecular Modelling Methods” (April, 2013)	In-house
4	Ms. Rashmi D. Pardeshi	“Rhizobium upcoming biofertilizer Methods” (April, 2013)	In-house
5.	Mr. Tanaji S. Dhodake	“Biosensors”(April 2013)	In-house
6.	Ms. Vaishali Richariya	“ Isolation of proteins from RBC membrane”(April, 2013)	In-house
7.	Mr. Vishnu A. Katare	“ Milk Analysis Methods” April, 2012)	In-house
8.	Ms. Neethmol .P.S.	“ Tobacco : The silent Killer – A Review” April, 2012)	In-house
9.	Ms. Sneha S. Wasankar.	“Kitch Medicinal INgradient : Indian Spices- A Review ”(April, 2012)	In-house

10	Ms. Sneha S. Wasankar.	“Effect of Spices on Digestive Enzyme alpha amylase”(April,2012)	In-house
11	Ms. Shabnum Surendran	“ Methods of Standarization of Protein Estimation”(April 2012)	In-house
12	Ms. Shabnum Surendran	“Effect of Vitamin C as a Radioprotectant in case ofRBC membrane ”(April,2013)	In-house
13	Ms. Neethmol .P.S.	“ Effect of smokless tobacco products on salivary alpha amylase” April,2013)	In-house
14	Ms. Neethmol .P.S.	“ Effect of Tobacco on Digestive enzyme-alpha amylase ” April,2012)	In-house
15	Ms. Sneha S. Wasankar.	“Effect of Dry Spices on Enzyme Activity and Kinetic Parameters” (April,2013)	In-house
16	Mr. Vishnu A.Katara	“ Skin Grafting” April,2013)	Outside
17	Mr. Vishnu A.Katara	“ Meek Micrografting Techniques ” April,2012)	Outside

23. Awards / Recognitions received by faculty and students

Student Awards/ Recognitions :

- **Dr.Indrani Sen-Dutta** Student of this department received “ **DBT-Young Scientist Award 2013**” for contribution in **Stem Cell Research**.
- **Dr. Indrani Sen-Dutta** selected as Faculty at National Institute of Mental Health and allied Sciences, Bengaluru,Karnataka.
- **Mr. Mahesh Chandak** has been awarded PhD. in Protein structure from Japan 2013.
- **Ms. Shardha Mulange** MSc II of the department awarded INSPRE Fellowship–Aug, 2012
- **Mr. Prashant Deshmukh** qualified the entrance examination with rank First of NIMHANS, Bangalore & joined as a research fellow,2012
- **Mr. Ajay Irmale** qualified the entrance exam with with rank Third of NIMHANS, Bangalore & joined as a research fellow, 2012
- **Mr. Vyankatesh Jadhav** MSc II awarded INSPIRE Fellowship -2013 by DST, Govt. of India.
- **Mr. Vyankatesh Jadhav** MSc II of the department qualified UGC NET-Dec 2012.
- **Mr. Ravi Kale** , was selected for doctoral research fellowship in Biophotonics at Czech Republic.2013
- **Mr.Nilesh Kakade** qualified NET-JRF December 2013
- **Mr.Nilesh Kakade** qualified GATE 2013
- **Mr. Nilesh Kakade** qualified SET,2013
- **Mr. Shrikant L.Patil** awarded PhD in Radiobiology, from Magalore university ,Karnataka.2013.

- **Mr. Jagdish Paithankar** was selected for Doctoral fellowship at Department of Applied Zoology, Mangalore University Mangalore, Karnataka, 2014.

Faculty Awards/Recognitions :

- **S.G.Kulkarni** was Chief Guest for inauguration of study forum **DISHA** at MGM Institute of Bioscience & Technology, Aurangabad, and delivered inaugural key note lecture on “Opportunities in Biosciences”.
- **S.G.Kulkarni** is invited to delivered the talk in Seminar on Integration of Methods of Teaching and Research in Biophysics at UG & PG level to be held on 11th Feb.2014. at All India Institute of Medical Sciences,(AIIMS), New Delhi.
- **Mrs. V.N. Wadekar**, Assistant Professor , has been selected as a summer teacher fellow (SRF-2013) of Indian Science Academies, Bangalore, Delhi & Allahabad. The project was successfully completed at IISER, Pune during May 2- June 29, 2013. and was highly appreciated & rewarded .
- **Mrs. V.N.Wadekar**, was awarded by Indian Academy of Sciences for successful completion of Summer research project. The award includes Complementary copy of Academic publication “ Lilavati’s Daughters” , complimentary one year subscription of Academy journal on science education ‘Resonance’ and a web page on Science Academies’ website.
- **Dr. (Mrs.)A.S.Vinchurkar chaired the sessions at**
 - National Symposium on Frontier of Biophysics, Biotechnology and Bioinformatics January 13-16, 2013.
 - UGC-Sponsored National Conference on “Recent Trends in Emerging Infectious Diseases and Environmental Pollution” Organized by Department of Zoology, D.B.F. Dayanand College of Arts and Science, Solapur, January 31st and February 1st, 2013.
 - UGC-Sponsored National Conference on Physics of Nanomaterials Applications (NCPNA-2012) December, 14th-15th 2012.

24. List of eminent academicians and scientists / visitors to the department :

- **Prof. Pandit B. Vidyasagar. :** Professor of Biophysics , Dept. of Physics, Pune University Pune; presently Vice –Chancellor , SRTM University, Nanded.MS.
- **Dr. (Mrs) Urmila Kulkarni- Kale:** Information Scientist ,Centre of excellence Bioinformatics ,Pune University Campus, Pune.
- **Dr. Rajendra Joshi :** Director, BRAF, C-DAC, Pune.

25. Seminars/ Conferences/Workshops organized & the source of funding

a) National b) International :

- **Dr. C.V.Raman Lecture Series** was organized on the occasion of **National Science Day-2014** under the aegis of Dr Babasaheb Ambedkar Marathwada University, Aurangabad. The event included the series of lectures by experts from different organizations/industry.

26. Student profile programme/course wise:

Name of the Course/program (refer question no. 4)	Year	Class	Applications received	Selected	Enrolled		Pass %
					Male	Female	
M.Sc. Biophysics	2010-11	MSc I	53	12	06	06	100%
		MSc II	09	09	03	06	89%
	2011-12	MSc I	33	20	05	06	100%
		MSc II	10	08	03	05	100%
	2012-13	MSc I	43	20	08	09	100%
		MSc II	08	08	02	05	83%
	2013-14	MSc I	74	20	09	09	100%
		MSc II	12	12	04	08	83%

27. Diversity of Students

Name of the Course	% of students from the same state	% of students from other States	Percentage of students from abroad
MSc Biophysics	86 %	14 %	Nil

28. How many students have cleared national and state competitive examinations such as NET, SLET, GATE, Civil services, Defense services, etc.?

- **Mr.Sachin Holkar** of the department qualified CSIR-UGC,NET-LS-Dec.2009
- **Mr.Sachin Holkar** of the department qualified GATE 2010
- **Ms. Shweta Shukla** of the department qualified GATE 2010
- **Mr.Sachin Holkar** of the department qualified CSIR-UGCNET-LS-Jun 2010
- **Mr.Sachin Holkar** of the department qualified CSIR-UGC-NET-LS Dec 2010
- **Mr.Jagadish Paithankar** of the department qualified GATE-2011
- **Mr. Bipin Khade.** qualified GATE-2011.
- **Mr.Sachin Holkar** of the department qualified CSIR –UGC ,NET –JRF 2011
- **Mr.Ajay Irmale** of the department qualified CSIR-UGC NET –LS 2011
- **Mr.Jagadish Paithankar** of the department qualified CSIR –UGC ,NET – JRF-2012 .
- **Ms. Shardha Mulange** MSc II of the department awarded INSPIRE fellowship–Aug, 2012

- **Mr. Prashant Deshmukh** qualified the entrance examination with rank First of NIMHANS, Bangalore & joined as a research fellow, 2012
- **Mr. Ajay Irmale** qualified the entrance exam with rank Third of NIMHANS, Bangalore & joined as a research fellow, 2012
- **Mr. Vyankatesh Jadhav** MSc II awarded INSPIRE Fellowship -2013 by DST, Govt. of India.
- **Mr. Vyankatesh Jadhav** MSc II of the department qualified UGC NET- Dec-2012.
- **Mr. Ravi Kale** , was selected for doctoral research fellowship in Biophotonics at Czech Republic. 2013
- **Mr. Nilesh Kakade** qualified NET-JRF December 2013
- **Mr. Nilesh Kakade** qualified GATE 2013
- **Mr. Nilesh Kakade** qualified SET, 2013
- **Mr. Jagdish Paithankar** was selected for Doctoral fellowship at Department Of Applied Zoology, Mangalore University Mangalore, Karnataka, 2014.
- **Ms. Deepali Rajput**. MSc I was selected at National level DBT institution, National Institute of Animal Biotechnology (NIAB) for 60 days summer project, May-June 2014

29. Student progression

Student progression	Against % enrolled
UG to PG	Not Applicable
PG to M.Phil.	30 %
PG to Ph.D.	40 %
Ph.D. to Post-Doctoral	50 %
Employed - Other than campus recruitment	80 %
Entrepreneurship/Self-employment	20 %

30. Details of Infrastructural facilities

- a) **Library:** Students and faculty refer central library resources for routine academics. Department has downloaded huge collection of e-resources viz. e-books review articles, technical information manuals, practical protocols , illustrative notes, power point presentations, slide shows video lectures, animations etc. for ready references.
- b) **Internet facilities for Staff & Students:** The department houses UGC- NRC under UGC XIth plan through which internet accessibility is offered using broad band internet connection. Department has adequate computers , manual switches, I/O ports and LAN for accessibility of internet in every room.
- c) **Class rooms with ICT facility :** Two spacious class rooms with adequate furniture , illumination and ventilation are available in the department . The department is equipped with DLP projector and screen. Because of internet accessibility in Class room the theory lectures are assisted with online information exchange/ presentation using projection facilities and laptops.

- d) Laboratories:** The department has two PG. laboratories , one instrumentation Laboratories, one research laboratory, one Electrophysiology laboratory, one Bioinformatics laboratory, one Radiation and Bioelectronics laboratory, having all necessary basic instruments , glassware, chemicals, computers etc. for effective experimentation.

Unique Facilities of the Department :

- Gamma Irradiation Facility (Gamma Chamber 900) – BARC ,Mumbai.
 - PC Based Thermo Luminescence Analyzer (Type TL 1007)- Nucleonix , Hyderabad .
 - Electrophysiological Data Acquisition System : Power Lab – Ad Instruments , Australia.
 - Ultrasonic source in multiple MHz range : Multi-frequency Ultrasonic Interferometer
- 31. Number of students receiving financial assistance from college, university, Government or other agencies**
- Approximately 60% of the admitted M.Sc. students every year receive Scholarship/ Free ship from government agencies.

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts

- The department has organized following expert lectures by alumni as Alumni Lecture Series. There was no funding from any agency
 - Dr.Ashok Kulkarni, Asso. Prof. in Biophysics from Medciti Institute of Medical Sciences, Hyderabad delivered series of expert lectures on Electrophysiology and NMR, ESR Spectroscopy organised under Alumni Lecture Series .
 - The expert lecture on Bioinformatics, by Dr. Urmila Kulkarni-Kale, Information Scientist, Centre for excellence in Bioinformatics, University of Pune organised under Alumni Lecture Series .
 - ‘Lecture Series on Electrophysiology’ by Dr A. V. Kulkarni, Asso Prof , Medciti Inst. Of Med. Sc. Hyderabad during September 2013
 - ‘Lecture Series on Medical Imaging & Biomechanics’ By Prof. Chaitanya Chinawale, Asst Prof. , C.U. Shah Medical College, Surendranagar, Gujarat during January 2014.

33. Teaching methods adopted to improve student learning :

- Regular Class room lectures (Four lectures/ Paper/week)
(60 lectures/paper/semester)
- Regular practical sessions.(Six periods/session/paper/week)
(15 practical sessions / paper/semester)
- Practical demonstrations in local hospitals and imaging centers .
- Tutorials (Five Tutorials/ paper/semester/student)
- Student Seminar (One seminar/Student/Semester)
- Encouragement and Free accessibility to use e –resource viz. e-books review articles , technical information manuals, practical protocols, illustrative notes , power point presentations, slide shows video lectures, animations etc. for ready references
- Formal and informal interactions and discussions on academic topics/queries.

- Informal sessions for guiding study techniques
- Regular library referencing assignments for effective exposures for library resources.
- Allotment of Compulsory Mini projects (One miniproject/semester/student)

34. Participation in Institutional Social Responsibility (ISR) and Extension activities:

- All the students of the department are actively participating in various programmes organized under NSS events , Student council activities , Equal opportunity events , Health awareness events , social awareness.
- . Tree Plantation programmes ,
- Adoption of villages to create awareness and implement water conservation methods like Nala Bunding, Vanarai Bandhara Continuous Contour Trenches ,Stone Plugs etc. at Gaondari Tanda, Tal. Aurangabad.
- Enrichment of civic sense and leadership qualities through student council activity. The student , Ms. Rashmi Rajput of MSc.second year participated in “Bhartiya Chhatrasansad 2014”at MIT ,Pune during Jan11-13,2014.

35. SWOC analysis of the department and Future plans

Strengths:

- Department is a unique centre, offering postgraduate and research degree in the most prosperous, interdisciplinary subject like Biophysics in Marathwada region.
- Exhaustive efforts supporting institute’s vision and mission with established policies.
- Experienced ,dedicated and dynamic staff
- Departmental staff contributed in designing curriculum at graduate and postgraduate level of affiliating and other universities.
- Departmental staff contributed effective implementation of framed syllabus.
- The only department in the jurisdiction of affiliating university. Thus enjoying a kind of autonomous status.
- Elaborate and Competent syllabus that is enriching and preparing the students for different national and global competitive examinations viz.NET, GATE, SET, GRE-TOFEL and other Entrance Examinations of Academic and Research organizations at National / International level which make them qualify these exams. successfully
- Participation of faculty at all levels of institutional governance, planning and advisory role
- Qualified temporary staff, those are updating themselves via participating in various conferences, seminars symposium and refresher courses etc.
- Frequent visits of Alumina serving/researching at coveted positions in academics and research organizations and their interactions with students boosts the morale and builds up the confidence, logical approach and knowledge.
- The students are encouraged for participating in National/ International conferences, workshops and symposia.

Weaknesses :

- Inadequacy of experienced teaching staff due to vacant teaching positions .

- The housekeeping within the department is affected due to abolishment of the nonteaching posts (laboratory staff), resulting in overburdening the teaching staff, hampering their own research work.
- The conservative mind set-up of the students and lack of awareness about the contents and prospects of the interdisciplinary subject like Biophysics during graduation and poor economic background is a constraint in enrolling, affects the admission percentage.

Opportunity :

- Empowerment of the students from under privileged Marathwada region in the interdisciplinary science like Biophysics to conquer over national/global challenges.
- Inculcation of multi-skills in emerging biosciences/medical sciences.
- Developing consultancy services in emerging field to provide extension services and generate resources.
- Nurturing and Providing direction to hidden talent of the students.
- With a provision of additional teaching staff and filling up vacant teaching and nonteaching posts, a training in novel specializations like Neurophysiology, Neurobiophysics, Nano biophysics, biomedical instrumentation, and Bioengineering can be effectively initiated.

Challenges :

- Awareness creation about the inter-disciplinary nature and the career opportunities in biosciences/medical sciences as a whole and Biophysics in particular
- Provision of Financial resources for widespread advertisement at national level attracting the deserving students.
- Enrichment of research in the department through collaborations with higher research institute.
- Establishment of Sophisticated Instrumentation laboratory with availability of state-of-art instrumental, procedural and computational facility.
- Paucity of funds for infrastructure Increase/expansion

Future Plans:

- To start DBT approved M.Sc. course in Neurosciences.
- To establish Center for Sophisticated Instrumentation providing state-of-art facilities in dry-lab & wet-lab experimentation.
- To provide bridge courses and Skill development courses in bio-and medico-related disciplines.
- To initiate Institute-Industry collaborations via establishing Industry-Institute Advisory Council.
- To initiate M.Sc. [by Research] course in Biophysics.
- To increase the infrastructure resources
- To establish modular lab furniture in the department.
- To interact further with alumni for academic and research collaborations.

POST ACCREDITATION INITIATIVES

The Institute has taken into consideration the suggestions and recommendations suggested in Peer Team Report during their visit on July 29-31 2004. Accordingly Institute has taken following initiatives.

CRITERIA I: Curricular Aspects

Institute has submitted the proposal for approval to the Director of Higher Education, Pune and Government of Maharashtra, seeking permission for initiation of short term training courses for PG and Ph.D students under Skill development Initiatives.

CRITERIA II: Teaching Learning Evaluation

- Two Professors, four associate Professors and Eight Assistant Professors have been recruited by the Government of Maharashtra to the vacant positions. Recruitment to remaining vacant posts of Professors and Associate Professors are being expedited at the Government level.
- Proposal for filling of adequate number of Non-teaching staff has been submitted to the Government and is being continuously follow up is taken.
- There is no provision for AMC as per the existing Government Procedure. However, The persuasions in this regard is being made at Government level for making separate financial resources for establishment of Annual maintenance contract so as to give an attention for day to day maintenance of equipment and computers. Moreover, Proposal for recruitment of Technical Assistant in every department and System analyst at Institute level is already submitted to the Government.

CRITERIA III: Research, Consultancy and Extension

- All the staff members in the Institute have received financial assistance under different Research Projects enriching the Researching atmosphere.
- Several staff members have been recognized as Research guides by affiliating University and some have been recognized by other Universities as well.
- There is a significant enhancement in the resource generation through consultancy.

CRITERIA IV: Physical Infrastructure and learning Resources

- As per the suggestion of the Peer team, Library computerization has been initiated and free Internet facility has been provided to the students.
- UGC-INFLIBNET facility has been subscribed by the Institute to make e-books and e-journal available for referencing.

CRITERIA V: Student support and Progression

- Institute has established Placement and Training cell which coordinates and directs the students through on- campus and off- campus placement activities, summer training and short term training programs in concerned organizations/industries.
- Institute has initiated the establishment of Industry- Institute Advisory Forum for establishing collaborative linkages with the Industries and other Institutions.

CRITERIA VI: Organization and Management

- Institute has initiated the purchase of necessary software's and creation of database for student and staff information.
- Government has already established a database of the staff linking financial disbursement of salaries (*Sevarth*).

CRITERIA VII: Healthy practices

Institute has continued its innovative and healthy practices viz. student empowerment activity through STEP-IN Program, Women empowerment programs, special day programs, Science Day celebrations, NSS activities, student mentoring for competitive examinations, Environment awareness and action programs.

OTHER RECOMMENDATIONS

- Institute has an established mechanism for self-appraisal of teaching staff evaluated by the Director and Director of Higher Education, Pune.
- The assessment of teachers is carried out on the basis of API (Academic Performance Indicators) and KPI (Key Performance Indicators), the design laid down by UGC and Government of Maharashtra.
- The Institute's overall performance is assessed in review meeting conducted by Joint Secretary of Higher Education Government of Maharashtra.
- The Institute has laid down WAN through which the computers are networked. Computational facilities in the Institute have been upgraded in all Departments, Library and Office. The free access to Internet is provided to the staff and Students.
- There is a significant enhancement in the resource generation through consultancy.
- The faculty is extending their expertise through consultancy, expert lectures, and advisors to Institutes and industries.
- Two Professors, four associate Professors and Eight Assistant Professors have been recruited by the Government of Maharashtra to the vacant positions. Recruitment to remaining vacant posts of Professors and Associate Professors are being expedited at the Government level.
- Renovation of certain buildings has been completed and for the remaining the proposals are submitted and are under process.
- Hostels have been maintained well by the supporting staff. A Lady assistant professor is made in-charge of the Girl's Hostel and stays on-campus. A Hostel committee s along with Hostel Superintendent monitors the overall functioning of the hostels.
- Due to extensive availability of mobile phones with the students separate landline connection is not provided in the Hostel Building. However, Landline connection is available with the Ladies hostel rector which is made available to the students in case of emergency.
- Adequate Parking and Sports facility is made available in the Institute.
- The Xerox machine facility and Internet connected computes with printer and scanner has been provided to the departments.

- NET/SET coaching schemes was effectively implemented under UGC XI Plan. In addition Faculty provides the guidance to students for preparing for competitive examinations.
- Institute has submitted the proposal for approval to the Director of Higher Education, Pune and Government of Maharashtra, seeking permission for initiation of short term training courses for PG and Ph.D. students under Skill development Initiatives.
- The intake capacity is increased in the Biophysics department.
- Library facility is made available for extended period during examination.
- Alumni activities have been strengthened in every department.
- Two MoU's have been signed by the Institute for academic interactions with University and colleges.
- Seminars and conferences have been conducted in the Institute.
- Institute has established Placement and Training cell which coordinates and directs the students through on- campus and off- campus placement activities, summer training and short term training programs in concerned organizations/industries.
- Hands-on training program for under graduate teachers was conducted. Faculties from all departments are invited to deliver lectures in refresher courses in academic staff Colleges



GOVERNMENT INSTITUTE OF SCIENCE

Nipat Niranjana Nagar, Aurangabad Caves Road, Aurangabad-431 004

☎: (0240) 2400586 , www.inosca.org, ✉: director@inosca.org

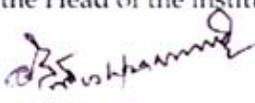
F. DECLARATION BY THE HEAD OF THE INSTITUTION

I certify that the data included in this Self-study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

Signature of the Head of the institution


Director
Govt. Institute of Science
Aurangabad.

Seal:



Place: Aurangabad

Date: 10.11.14



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Certificate of Compliance

(Affiliated/Constituent/Autonomous Colleges and Recognized Institutions)

This is to certify that Government Institute of Science, Aurangabad fulfils all norms

1. Stipulated by the affiliating University and/or
2. Regulatory Council/Body [such as UGC, NCTE, AICTE, MCI, DCI, BCI, etc] and
3. The affiliation and recognition [if applicable] is valid as on date.

In case the affiliation / recognition is conditional, then a detailed enclosure with regard to compliance of conditions by the institution will be sent.

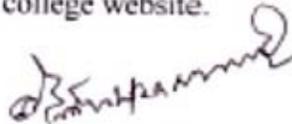
It is noted that NAAC's accreditation, if granted, shall stand cancelled automatically, once the institution loses its University affiliation or Recognition by the Regulatory Council, as the case may be.

In case the undertaking submitted by the institution is found to be false then the accreditation given by NAAC is liable to be withdrawn. It is also agreeable that the undertaking given to NAAC will be displayed on the college website.

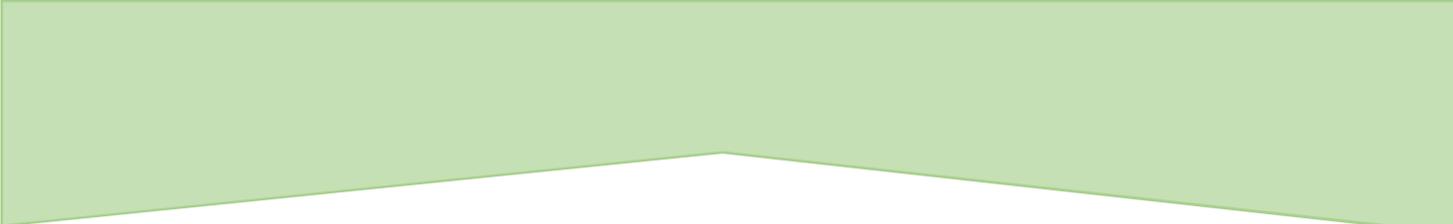
Date: 10.11.14

Place: Aurangabad




Dr. R R Deshpande

(Name and Signature with Office seal)



ANNEXURE



Dr. Babasaheb Ambedkar Marathwada University
AURANGABAD-431 004. (Maharashtra) (India)
NAAC Re-Accredited with 'A' Grade

Office
Telephones: 2403399, 2403400
Registrar: (Office) 2403333
(Resi.) 2400203
Fax : 0240-2403113, 2403335
Telegram : BAMUSITY
Web Site : www.bamu.net
E-mail : registrar@bamu.net



UNIVERSITY CAMPUS,
AURANGABAD-431 004
(Maharashtra) (INDIA).

Ref. No. ACAD/AFFIL/ SAR/2013-14/7208/15 Date: 29th May, 2014

To,
✓ The Director,
Government Institute of Science,
Nipat Niranjan Nagar,
Leni Road,
AURANGABAD.

Subject :- Regarding Affiliation from June 2013.
Reference :- Resolution of Academic Council dated 29-11-2013.

Sir,

With reference to your application / proposal regarding **Continuation of Affiliation** to your college for one academic year *i.e.*, from **June - 2013** the Board of College and University Development had appointed a Affiliation Committee to visit the college and submit its report. Accordingly the said Committee visited the college and submitted its report which was placed before the meeting of the Academic Council held on 29-11-2013 respectively for its consideration. The Academic Council as per provisions of Maharashtra Universities Act, 1994 Section (81) and (83) has accepted the recommendations of the Affiliation Committee. I am communicating herewith the above decision of the Academic Council regarding the Courses / Subjects to which Continuation of Affiliation has been granted mentioned in **Appendix - 'A'**.

P. T. O.

Appendix - 'A'

Sr. No.	Course Name / Subjects to which Affiliation has been granted from June 2013	Yearly Affiliation	Permanent Affiliation	No. of Divisions / Intake
Post Graduate Courses				
01	M.Sc. (Bio-Physics)	--	Permanent	one division of 20 students each
02	M.Sc. (Microbiology)	--	Permanent	
03	M.Sc. (Botany)	Yearly	--	
04	M.Sc. (Biotechnology)	Yearly	--	
05	M.Sc. (Geology)	Yearly	--	

This is for your information and further necessary action.

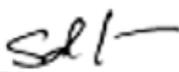
Yours faithfully,



Director,
Board of College and
University Development.

Copy forwarded with compliments to:-

- 1] The Joint Director, Higher Education, Aurangabad Region, Aurangabad for information and necessary action.
- 2] The Controller of Examinations, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for information and necessary action.
- 3] The Deputy Registrar, [Special Cell], Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for information and necessary action.
- 4] The Deputy Registrar, [PG Ph.D.], Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for information and necessary action.
- 5] The Deputy Registrar, [Eligibility], Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for information and necessary action.
- 6] The Deputy Registrar, [Non-Professional], Academic Section, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for information and necessary action.
- 7] The Managing Director, Maharashtra Knowledge Corporation Ltd., (MKCL), ICC Trade Tower, 5th Floor, A Wing, Senapati Bapat Road, Pune for information and necessary action.



Director,
Board of College and
University Development.

UNIVERSITY GRANTS COMMISSION
BHAIROJI SAHEB WAPAS MARG
MUMBAI

December, 1979.

No. F.8-66/78(CP)

5 JAN 1980

To —

The Registrar,
Marathwada University,
Aurangabad (M.S.)

Subj: - List of Colleges prepared under Section 2(f) of the UGC
Act, 1956 - inclusion of New Colleges in the -

Sir,

I am directed to refer to your letter No. STUGC/II/72-V/79/
24386 dated 19/21st September, 1979 on the above subject and to say
that the name of the following Institute has been included in the
above list under Govt. Colleges teaching upto Post-graduate Degree in

Name of the Institute	Year of Estab.
Institute of Science, Aurangabad. (on temporary affiliation upto June, 1980) Dr. P.V. Ranganekar.	16.8.1974

The above institute is not be eligible to receive assistance
from the U.G.C. and other central resources under Section 12(U) of the
U.G.C. Act.

Yours faithfully,

C.H. Rameshndran
C.H. Rameshndran
Under Secretary

Institute of Science

AU

Encl.

108

Date

10/1/80

Copy forwarded to :-

1. The Principal, Institute of Science, Aurangabad.
2. All Officers/Sections in the UGC Office.

J.C. Yehra
(J. C. Yehra)
For Secretary

+CP B+

U.G.C. file
90/10/1
90/10/1

Institute of Science
AURANGABAD

Record No.

Date

14927
9 SEP 1985

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002.

F.No. 8-73/81 (CP/VP)

September,
- Aug. 85

- 3 SEP 1985

To

The Registrar
Mara Gunda University
Aurangabad- 413004

Subj:- List of Colleges under Sec.2(f) of the U.G.C. Act, 1956.
Declaration of the Institute of Science Aurangabad fit to
receive assistance under Sec.12(B) of the U.G.C. Act, 1956
- regarding.

Sir,

I am directed to refer to your letter No. GDC/A/116/85-86/
2279-240 dated 22.5.85 on the subject noted above and to say that
the following college has now been declared fit for central assist-
ance in terms of the rules framed under Sec.12(B) of the U.G.C.
Act, 1956.

Name of the College.

Handwritten notes:
1. Institute of Science, Aurangabad.
2. 21/9/85
3. 21/9/85
4. 21/9/85

1. Institute of Science,
Aurangabad.

Yours faithfully,

Signature
(S.P. Gupta)
Under Secretary

Copy forwarded to:-

1. The Director, Institute of Science, Aurangabad.
2. All Officers/Section in U.G.C. Office.
3. Guard file.

Signature
(R.K. Durgale)
Section Officer



राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद
विश्वविद्यालय अनुदान आयोग का स्थापन संस्थान
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

*The Executive Committee of the
National Assessment and Accreditation Council
on the recommendation of the duly appointed
Peer Team is pleased to declare the*

Government of Maharashtra

Institute of Science

Xipatniranjan Nagar, Aurangabad

affiliated to Dr. Babasaheb Ambedkar Marathwada University, Maharashtra as

Accredited

at the B⁺⁺ level.

Date : September 16, 2004



Director

- This certification is valid for a period of Five years with effect from September 16, 2004
- An institutional score (%) in the range of 55-60 denotes C grade, 60-65-C⁺ grade, 65-70-C⁺ grade, 70-75- B grade, 75-80- B⁺ grade, 80-85-B⁺⁺ grade, 85-90- A grade, 90-95-A⁺ grade, 95-100-A⁺⁺ grade (upper limits exclusive)

MUCO

Peer Team Report

Institutional Accreditation

of

Government Institute of Science

Nipat Niranjana Nagar, Caves Road,

Aurangabad – 431 004

MAHARASHTRA

29- 31 July 2004

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL,
BANGALORE

✓

**Peer Team Report on the Institutional Accreditation of the Institute of
Science, Nipat Niranjan Nagar, Caves Road, Affiliated to
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
(M.S.) 431 001.**

SECTION :I PREFACE

Institute of Science, Aurangabad is a Maharashtra State Government Institute, managed by the Director of Higher Education, Pune. It is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. The Institute of Science, Aurangabad is also recognized Research Institute which offers unique subjects in science like Biophysics, Microbiology, Geology, Botany, Biotechnology and self finance courses like Information technology and Computer Science. It was established on 14th August 1974. Institute was accommodated in the building of Government College of Arts and Science, Kile Ark, Aurangabad up to 1990. From June 1990, it was shifted to the present site of 25 acres of Campus Area. The main objectives of the Institute were, to cater the need of higher education in the areas that will have strong vocational value and job potential. The Institute is a co-educational center offering Post Graduate and Research courses leading to Ph.D. degree.

The Institute is recognized under 2(f) on 5th January, 1980 and under 12(b) on 3rd September, 1985. It has 15 permanent and 03 temporary teaching faculties. The Institute also has 17 technical and 18 administrative staff members. There are 145 PG students and 21 Research student in the academic year 2004-2005. All the students are drawn from through out Marathwada region and around 10 % are from other States. The Institute offers 07 PG courses and offers 03 Ph.D. programmes. Among which five P.G. Programmes are aided programme. They are Microbiology, Biophysics, Botany, Geology and Biotechnology and the Computer Science and Information Technology are self finance courses. All the Ph.D. programmes are

31-7-2004

Government managed programmes. The support service available in the Institute includes Central Library, Sports facilities, Boys and Girls Hostels, NSS, Seminar Hall, Meeting Hall, Multi-purpose Hall etc.

The Institute volunteered to be assessed by NAAC, Bangalore and submitted its Self-Study Report in October, 2003 accordingly. The Peer Team was constituted by the NAAC to visit the Institution and validate the Self Study Report. The Peer Team consisted of Dr. C.K. Sharma, Former Vice Chancellor of Awadesh Pratap Singh University, Rewa, Madhya Pradesh as Chairperson ; Fr. Daniel Fernandes S.J., Principal, St. Joseph's College of Commerce, Bangalore, Karnataka; as the Member Coordinator and Dr. Bhadrayu, Director, Smt. C.R. Gardi Academic Staff College, Saurashtra University, Rajkot, Gujarat; as the Member. The Peer Team visited the Institute of Science, Aurangabad on 29th 30th and 31st July, 2004 (Three days).

The Peer Team examined in detail the performance of the Institution, its infrastructure, curricular and co-curricular programmes and other relevant aspects of its functioning. It interacted with different section of the Institution. During the three days, in-depth analysis of the performance was made and the following observations and insights are noted. The Team also examined in detail the documentary evidence related to the academic governance and administration. The Team interacted with the Director, the faculty, the non-teaching staff, the students, the alumni and parents to gain a deeper understanding of the functioning of the Institution. Based on the exercise of the seven criteria identified by the NAAC, the assessment of the Institution is presented in the following pages:

SECTION :II CRITERION WISE ANALYSIS

Criterion I: Curricular Aspects

The Institute functions in accordance with the programme of teaching and learning is consistence with the goals and objectives of the Institution. The Institute

C. Sharma
31-7-2004

offers a wide range of front line subjects in areas of Science at Post Graduate Level. It offers M.Sc. in Microbiology, Biophysics, Botany, Geology, Biotechnology as aided courses and M.Sc. in Computer Science and Information Technology as self financing courses. The Institute is a Reconized Research Centre by the affiliated University. It offers Ph.D. Microbiology, Botany and Biotechnology as Govt. managed programmes.

The Institute of Science is the only center in Dr. Babasaheb Ambedkar Marathwada University, conducting M.Sc. Biophysics, Geology Courses and imparting specialized training in Applied Mycology, Ethnobotnay, Medicinal Botany and Pharmacognosy at M.Sc. Botany. Similarly, it is the first Institute to offer M.Sc. Microbiology and Biotechnology in Maarthawada Region. Therefore, the faculties enjoy the privilege and they are honored by the University for undertaking the responsibility to frame the curricula in the above mentioned subjects either as Chairperson or members of the Board of Studies in the concerned subjects. From June-2003, curricula of all subjects (except Botany) are modular with division of each paper in five units. Each unit is independent and complete in itself. From this academic year Semester Pattern is being followed. The courses existing in the Institute are interdisciplinary and multidisciplinary in nature. It also includes implant training in various industries, summer projects, surveys, study tours and interaction with experts.

The teachers upgrade their skills by participating in various training programmes in the field of Bioinformatics, Radiological Physics, wholsell, Enzymes Immobilization , ELISA, Micropropagation and Radiobiology. The Institute has developed effective mechanism to get feedback from academic peers and students who help to review and redesign of programmes.

The Peer Team recommends continuous and graceful follow up for the upgradation of the Institute,* It could try to percieve career oriented short term

31-7-2004

certificate courses for students in P.G. and Ph.D. Programmes. These efforts may substitute; decline in strength of M.Sc. Computer Science and Information Technology.

CRITERION II: Teaching-Learning and Evaluation

The Institute has transparent admission procedure. Except in Biotechnology admissions are given as per merit. In Botany, Microbiology and Geology merit of graduation in the concerned subject is considered, while in Biophysics merit of graduation in Optional subject are taken into consideration. Looking to high demand, Entrance Examination is being conducted for admission in Biotechnology. The Institute publishes the prospectus every year, which provides the desired information, regarding the admission procedure, the courses available, the fees structure and other information relevant to admissions and progress of the Institute.

The student progress is continuously monitored through various evaluation methods. The learning strength of students is evaluated on the basis of class tests, tutorials, assignments and seminars presentation. The Institute facilitates the effective running of teaching learning programme, every year. In the month of March the teachers furnish their self-appraisal reports in a prescribed format. The reports contain the analysis of execution of teacher's paper wise workload, analysis of students' attendance and paper wise analysis of university results. Eventhough, the Team desires that the mechanism of continues internal assessment and its immediate feed back to the concerned teachers may be implemented.

The Institute actively encourages staff members for professional development including research leading to Ph.D., participation in Seminars, Conferences, Workshops, Refresher Courses and advanced training. In addition to the prescribed syllabus, students are assigned small research project in groups, seminars and group discussion to widen the dimension of teaching learning practices. As a result of such wholehearted efforts good number of students are toppers in the University.

(T. S. Hassan)
21.7.2024

The State Government through M.P.S.C. Selection does all the appointments of teachers in the Institute. The Team has noted that since long time some key academic posts are vacant.*It is suggested to put efforts for appointment of Professor and Reader Posts at the earliest so that the teaching and learning may be better facilitated. Vacant posts of senior faculties hinder in developing a department. The Team strongly suggests to find a way out for the under staffing in respect of both teaching and non-teaching.

The Team also takes note of the efforts of the Institute to modernize the laboratories that have yielded results in procuring the unique instrumental facilities like cobalt-60 Gamma Irradiation Facility by Gamma Chamber, PC based Thermoluminescence analyzer in Biophysics; DNA Sequencer, PC based Gas Chromatograph and Spectrophotometer in Microbiology ; Thermal Cycler , PC Based Table Top Fermentor, FPCI. System, Gel documentation system, CO₂ Incubator etc., in Biotechnology and Graphic Work Station in Information Technology.* It is desirous that already well equipped laboratory needs more attention in day to day maintenance.

CRITERIAON III: Research, Consultancy and Extension

The Institute has 15 permanent and 03 temporary teachers, which include 10 Doctorates and 03 teachers are pursuing their Ph.D. The Institute having responsibility to prepare students for their Post Graduate and Doctorate Degree, few of the staff members are recognized as research guides in department of Microbiology, Botany and Biotechnology. The Institute promotes research activities of the teachers by providing them with the required study leave. A research committee has been constituted for submission of Research Project Proposals to BCUD and Director of Higher Education for the needful action.

The Institute provides financial support to research students. Three fellowships are provided from the Director, Higher Education, Pune on merit basis to

*CF? ho...
24.7.2004*

full time research students of this Institute. In general, research students have to compete for fellowship at all India level, in CSIR-UGC NET, GATE examination. For SC and ST students there is a provision of GOI Scholarships to pursue the research.

There are many staff members who have number of publications such as research articles in national and international journals and good number of them have participated in national and state seminars; a few of them were the resource persons in state level and University level seminars. There are four on-going research projects to the Institute's credit. Three of them are UGC Minor Research Projects and in one project from Ministry of Environment and Forest, Govt. of India has funded Rs. 3 lacks. A small contribution in the field of the consultancy has been noted. Department of Geology earned Rs. 6000/- to Rs. 9000/- out of Ground Water Exploration Consultancy.* The team suggests concentrated efforts for consultancy by teaching faculties to help society and to utilize available instrumental support. The art of consultancy is a need of the time. It is notable that a few number of free services are provided by faculty members to various institutions. For example, the facility of *Mini Cold room Unit (5°C to ambient temperature, dimension 6x4x6 lit) for preservation of microbial cultures and electrophoretic separation at Department of Microbiology has been extended even to some departments of the University. A regular MOU for such services be encouraged.

Though the Institute of Science is a research center, it undertakes different extension activities like Health and Hygiene Awareness, Adult Education and Literacy, Blood Donation Camp, AIDS Awareness, environmental Awareness, Campus Cleaning, Growing of Medicinal Plants, Trenches digging for recharging of soil with water and celebration of National Science Day for a week. NSS is active and contributes in extension activities.

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CRITERIAN: IV Infrastructure and Learning Resources.

The Institute has adequate infrastructure facilities to run educational programme. The entire campus is at the foothill of Aurangabad Caves. It has 25 acres of land. All the departments are housed in three spacious buildings, measuring 6,081 square meters. Each building has spacious and separate labs for the First Year, Second Year and Ph.D. students. The each department has 16 to 18 rooms. Botany Department has a Tissue Culture Laboratory, Herbarium and Museum, Instrumentation Room, Photography Room and Green House in the campus. Geology Department has a Water Analysis Laboratory, Remote Sensing Laboratory and Museum. Microbiology Department has Air-Conditioned Culture room, A Cold Room (5°C), Instrumentation Room and DNA sequencer. Biotechnology Department has Air-Conditioned Culture Room, PCR along with computerized Gel Documentation System; Microprocessor based Table Top Fermentor and Instrumentation Room. Biophysics Department has a unique facility of Co-60 Gamma Irradiation System, PC Based Thermoluminescence analyzer and Instrumentation Room. Computer Science and Information Technology Department has a Computer Lab with 21 Computers, Graphicwork Station with Solaris environment, licensed software and Matlab Software. Apart from this, classrooms common rooms for boys and girls, staff room etc. are available. In addition to this the institute has a separate spacious administrative building, the Director's Bungalow and Class-IV employee quarters are also situated in the Institute's campus.

There are hostels for boys and girls in the campus. A well designed Multipurpose Hall with the capacity of 400 seats being used for to organize seminars, conference and annual gathering. The students also use the auditorium for indoor games such as badminton, table tennis etc.

The Departments are equipped with the basic and sophisticated instruments. There are a few departments with the departmental library. Important books are kept in the departments for students for easy reference. The Institution has a separate library constructed in an area of 524.85 sq. meters. In the Central Library there are 6751 Books and 29 Journals and Periodicals. *Library does not have inter-library borrowing. The administrative block has a Photocopying facility the Library is kept open from 10.00 a.m. 5.45 p.m. on working days. *The Library needs to be computerized and Internet facility should be made available to the students in the library.

Institute has provided the students the *Canteen facility but it needs improvement and a permanent place must be allotted for the Canteen to function effectively. The welfare scheme for the student included Central government Scholarship, National Merit Scholarship for Ph.D. students State Government Provides Scholarships, Eklavya Scholarship, NT/OBC Scholarship, P.T.C., EBC concession are provided to the students.

CRIETERIAN :V Student Support and Progression.

General information about the Institute including its objectives, regulations and facilities are given to the students through the Prospectus. The Institute has just started to collect the formal feed back from the students. The financial aid is given to the students through various types of scholarships. More than 84 students have received financial aid during the academic year 2003-2004. Student progression is 80%, over all dropout rate is about 13%.

The Institute offers unique P.G. Courses in the Marathwada Region. These areas are rapidly emerging areas of Science because of which Microbiology, Biophysics, Biotechnology Departments attract students not only from the State but also from outside the State. The Intake in each Department is limited. It has a

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positive impact. The Lecturers could personally monitor the progress of the students by giving them personal guidance.

It is very encouraging to see that some of the departments have the record of the past students. A good number of them are doing well in various fields like academics, industries and administration. A number of students have passed UGC ,CSIR(NET),SLET, GATE ,TOFEL, IELTS and four of the students have qualified NIMHANS (Bangalore) entrance Test.

Institute has also started an Alumni Association. The Alumni Association needs to be strengthened with regular meetings and their services could be utilized in the department activities including establishment of endowments, chairs, professorships, research-fellow ship and as visiting faculties.

Though Institute does not have formal placement Cell yet most of the students have got jobs as soon as they pass out. However, it is desirable to have a placement cell. Aurangabad is fast developing city and there are a number of industries around the place; students could be directed better through a placement cell.

CRIETERIAN: VI Organization and Management.

The Institute is governed according to Maharashtra Civil Services Rules. The duties and responsibilities of the Institute is well defined as a result the administration is transparent. The Director of the Institute coordinates the academic and administrative wing of the Institute. The Head of the Department does the coordination of the Department. The Registrar coordinates the administrative work. As it is a State Government Institute it follows the recruitment policy laid down by the State Government. The non-teaching staff of the administrative section is sent for trainings in Computer, Accounts and Auditing as suggested by the Government.

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The database in respect of admissions, enrolment, course, projects and various other operations and activities of the Institute is laudable. Yet there is urgent need for centralized database and documentation center so that information on various matters can be easily and readily accessed.

Institute appears to have resource constraint. It is a center of higher learning with P.G. and Research Departments. It should be possible for the Institute to raise more resources on the basis of the various suggestions made in this report. They include among others submitting well prepared research projects to various funding agencies, undertaking consultancy and testing services on a commercial basis. Though some of the Departments are moving in this direction it should be an important dimension of every Department.

The Accounts of the Institute is well maintained. While the Registrar maintains the internal audit the Accountant General, Maharashtra State, carries out the annual audit.

CRITERIAN: VII Healthy Practices.

The Peer Team identified a few unique features about the Institute which has enhanced the academic atmosphere in the Institute. They are as follows:

- The Institute offers unique Courses such as Microbiology, Biophysics, and Biotechnology. All these are job-oriented courses.
- Institute has a spacious campus; there is all the possibility for the Institute to grow.
- The Staff and Student ratio is very healthy which makes the teaching-learning process very conducive and formative.
- The strength of the Institute is that there are well motivated, academically competent young and enthusiastic staffs. This helps to motivate the young students.

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- The Institute has linkages with National Institutes, Research Organizations and Industries.
- The Institute has evolved an internal mechanism to collect feed of back of the teachers from the students.
- The regular meeting of the Heads of the various Departments with the Director is a very healthy sign for the Institute.
- On the National Important Days Institute organizes special lectures on Topics of Social Concern.
- The Institute organizes National Science Week to create awareness among the general public, to generate a scientific temper at school level and taking science to rural doorstep.

SECTION: III OVERALL ANALYSIS.

The Peer Team after going through the Self Study Report and on the basis of its visit to various academic and physical facilities of the Institute finds that the Institution has responded to the changing time by introducing relevant and job orientated course like Geology, Biophysics, Microbiology and Biotechnology. There is a healthy atmosphere prevailing in the Institute. The Peer Team desires that the appointments of the Professor and Reader Posts must be expedited. In spite of various limitations the Institute authorities are doing a great service to the society by preparing research minded youngsters. Keeping in view of the future growth and development of the Institute the Peer Team suggests the following to the Institution for its consideration.

RECOMMENDATIONS:

- • A good mechanism of periodical academic audit can lead the Institution towards a center for excellence.

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- As it is an Institute of Science for P.G. and Ph.D. Students, there is a need for continuous internal assessment with immediate feed back to the concerned teacher for necessary academic improvement.
- Internet with Net working facility of all the Departments is an urgent need. P.G. and Ph.D. students must get a free access to the Internet; up gradation and total Computerization of the Library, Office and entire campus is an urgent need.
- Looking at the academic strength of the faculty members; directives and guidance could be given to extend their expertise as incentive based consultancy to various industries, laboratories and commercial concerns in order to earn revenue and to help the Institutions' up gradation.
- To exploit research activities to its fullest capacity vacant posts of Professors and Readers must be filled up at the earliest.
- Though the buildings on 25 acres of land are newly constructed but due to poor quality of construction it has suffered a lot in short time. It needs repairing and proper maintenance. P.W.D. Center at the Institute's campus be made aware of this fact.
- Boys and Girls Hostels must be maintained well. A Lady staff must be given charge of Girls' Hostel. Especially in case of Girls' Hostel provision for Mess should be made available. The telephone connections to both the Hostels is an urgent need.
- Canteen, parking, the sports facilities need an immediate attention.
- Three Departments – Microbiology, Botany and Biotechnology must be provided with a Xerox machine, Internet connected computers and a scanner for the research work and all the Departments must be linked with central power generator. Center for coaching and guidance for NET, SIET and other competitive Examinations may be established.

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- To generate resources for the Institute the short-term vocational certificate courses may be introduced with necessary permission from the concerned authorities.
- Looking at the demand intake capacity may be increased in Biotechnology.
- Since it is a research Institute, the central library needs more books, journals and periodicals. It needs to be kept open even on holidays for the students.
- The Alumni Association may be strengthen and empowered by involving in the Institute's developmental activities.
- The Institute should make a formal MOU with Research Institutes, industries and University Departments for collaborative research projects.
- Seminar and conferences should become a regular feature of the Institute.
- A fulltime placement officer and an employment cell is required to facilitate campus interviews.
- The Institute could initiate the process of starting M.Phil Programmes.
- During the summer vacation Institute could offer short-term programmes for the faculty members of other institutions.
- The Institute must train enough technical staff to operate the model gadgets.

The Peer Team thanks the Institute for the cooperation extended for the conduct of the visit and wishes the Institute all the best in its future endeavor.

Names and signature of the Members of the Peer Team

1. Dr. C.K. Sharma (Chairperson)

C.K. Sharma
31-7-2004

2. Fr. Dainel Fernandes, S.J. (Member Coordinator)

Dainel Fernandes
31/7/04

3. Dr. Bhdrayu (Member)

Bhadraru
31/07/04

Date: 31st July 2004

Place: Aurangabad.



Head of the Institution

[Signature]
Director 31/07/04

DIRECTOR
Govt. Institute of Science
AURANGABAD.