



SELF STUDY REPORT

FOR

3rd CYCLE OF ACCREDITATION

INSTITUTE OF SCIENCE

RAVINDRANATH TAGORE MARG, CIVIL LINES, NAGPUR

440001

www.iscnagpur.ac.in

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

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1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Institute of Science, Nagpur is the first prime Institute in central India, established in the year 1909. It is situated in the heart of India at Nagpur, Maharashtra state. This is a institute, controlled by the Higher Education, Maharashtra Government, Mumbai. This is the first Institute in central India providing academic education programs in pure sciences and also recognized research center.

Initially, it was called “Science College”, which was converted to Institute in the year 1962 to enable and establish the research-oriented education.

The Institute has pronounced its goal through its gridline slogan **“PER ARDUA AD ASTRA”** which literally means **“FROM TOILSOME WAYS TOWARDS THE STARS”**. It is through the commitment to this slogan it is making its way towards achieving the set goals.

The Institute is now entering the third consecutive cycle of quality assessment and accreditation and takes it as an opportunity to strengthen assurance and enhance its capabilities.

In the process of preparing for this assessment, our institute has tried to take stock of its various plans, achievements in different fields of education, excellence and advancement in research, performance in sports, policy revision and provisions.

In this Self Study Report (SSR), Institute has tried to give a representative reflection of its present status as an Institute. it may also be mentioned here that the whole experience of self-appraisal has been very productive. This SSR has deepened an understanding of our own organization. It has helped us in recreating academic and other structures in the Institute, because of which certain unnoticed gaps could be bridged, and a cohesive understanding of the functioning of the institute has emerged. The following sections attempt to summarize the key points of the overall data and descriptions presented in the SSR.

Vision

“The Vision of the Institute is to inculcate scientific temper among students to address global challenges by advancing the frontiers of science, by producing scientifically trained leaders and innovators and enhancing public understanding of science.”

Mission

“The mission of the institute is to bring the benefits of science to society by providing access to a rich educational experience that will motivate and enable all of our students to seek the highest levels of intellectual achievements in the physical, chemical, mathematical and biological sciences and attain an all-round personal growth with high moral values.”

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

1. Institute of Science is the only government institution affiliated to R.T.M. Nagpur University, Nagpur imparting education in science at UG, PG and Ph.D. level.
2. Dynamic, dedicated and qualified staff includes MPSC selected Professors, Associate Professors, Assistant Professors and well experienced support staff.
3. Smart classrooms with ICT facilities.
4. University recognized centre for 'Higher Learning and Research' in seven subjects.
5. Sufficient recognized guides for research and excellent number of research scholars getting Ph.D. awarded every year.
6. Publication of patents and research papers by the staff.
7. Good infrastructure and laboratories with sophisticated instruments with sufficient space.
8. Funding by District Planning Committee (DPC) besides UGC and RUSA for academic and infrastructural enhancement.
9. Safe and secured environment for co-education.
10. Excellent Gym and Sports facilities.
11. Hostel facilities for Boy's and Girl's.
12. Library with rich collection of books

Institutional Weakness

1. Limited scope in curriculum design and development.
2. Departments like Environmental Science, Computer Science and Electronics have to depend on teaching staff working on Clock Hour Basis (CHB).
3. Want of interdisciplinary programmes and courses.

Institutional Opportunity

1. Students of the Institute have good placement opportunities in private and government

organizations as well as in academic and research institutions.

2. Opportunities to work with diverse agencies.
3. Scope to introduce a wide range of skill-based and interdisciplinary programs.
4. Utilization of Expert faculties and facilities for consultancy services.
5. Opportunity to develop collaborations and MoU's with industries, scientific and academic institutions.
6. To make the Institute autonomous.

Institutional Challenge

1. Delay in recruitment of teaching and non-teaching staff.
2. Transfers of the faculty among state govt. colleges all over the state.
3. To bring about changes in the academic structure keeping in view the needs of the market and society.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

The Institute is affiliated to R.T.M. Nagpur University and offers the programs designed and quantified by affiliating University. However, it tries to ensure effective curriculum delivery through a well planned and thoroughly documented process.

The delivery of curriculum is attempted through application oriented, hands-on experience on learning, an optimistic and constructivist approach to teaching-learning with the use of information and communication technology, internet and online resources.

A wide range of teaching-learning methods such as lecture cum demonstration, projects, assignments, tutorials, seminars, group discussions, are adopted for speedy delivery and completion of curriculum within the stipulated time.

The institute regularly carries out its own continuous and comprehensive internal evaluation to evaluate the progress and outcome of the teaching and learning included in the University's credit / scores awarding systems.

Inputs from the evaluation, teacher's observation and student feedback are used to make corrections in the teaching and delivery of the curriculum. The institute ensures effective curriculum delivery, which is consolidated by a collaborative, conducive and supportive ambiance, excellent teaching-learning facilities, spacious airy classrooms, well equipped modern laboratories, a wide range of resource materials and a pleasant

campus.

Students are encouraged to take learning beyond the textbooks and classrooms by participating in a number of academic and co-curricular activities, community interaction, personality and skill improvement programs.

Environment Conservation and Sustainable Development program are included in the curriculum. Other programs like Gender equity, Human values and Professional ethics are integrated with the curriculum in a variety of ways by organizing programs, courses, activities and events to nurture and inculcate these values.

Teaching-learning and Evaluation

The Institute has a team of qualified, hardworking and dedicated faculties. The teaching, learning process is systemized through the academic calendar, teaching plan etc.

Teaching, learning and evaluation are in accordance with the institution's mission and the objectives. Efforts are made to align the teaching-learning process so as to cater to the needs, interests as well as the abilities of the students.

After assessing the learning level of students the teachers make special efforts to cater to the needs of slow and advanced learners by using the student-centric methods such as experiential learning, participative learning and problem-solving techniques to enhance the learning experience.

The teachers take timeless efforts to make the learning experience effective, interactive and interesting by the use of audio-visual aids, Power-point presentation and different laboratory demonstrations.

The regular classroom teaching is supplemented by assignments, field visits and projects. Use of online resources and communities, expert talks, guest lectures by eminent and experienced ex-faculty members and scientists further consolidate the teaching-learning process.

The institute uses its own means of conventional and non-conventional ways of internal assessment and evaluation rather than depending fully on the assessment of the University to supplement the final University assessment.

This internal assessment mechanism is quite robust in terms of frequency, variety and transparency. The institution also has an efficient and time-bound grievance redressal mechanism to deal with the assessment related concerns.

The Institute strictly adheres and makes sincere meticulous efforts to follow the annual academic calendar. It has prepared the program outcomes (POs), program specific outcomes (PSOs) and course outcomes (COs) to measure the attainments of the students as a matter of planning and systematization for future programs.

The Institute has shown marked improvement in student performance in the University examination in the last five years. The students of the Institute have brought laurels to the institute by securing **51** merit positions and **34** gold medals, **11** silver medals and **22** prizes in the university examination during last five years. Our students have also fetched **Best Student Awards** from Nagpur University in recent years.

Research, Innovations and Extension

The Institute being the pioneer and prestigious institute in central India for science education and research, it has a long and known history of research activities. It had seen generations of scientists and professors who are the proud alumni of the institute placed throughout the country. In the current era of information and communication technology, the institute has also upgraded the research facilities to boost the research atmosphere and aptitude of the faculty members.

The Institute has a large central library and a reading room with access to computers and peripherals and high-speed internet connectivity. It has the excellent infrastructure of subject specialized laboratories and workspaces for faculty members with modern advanced technological amenities.

The institute has highly qualified, distinguished and academically active faculty members, **30** of them are recognized Ph.D. supervisors and advanced researchers in their own capacities. Under their able guidance **91** students have been awarded Ph.D. degree during last five years and **29** students are pursuing it at present.

The faculties have published **550** research papers in national and international journals of repute. Four faculty members have published patents and one patent being awarded by the Government of India for their research work.

The institute regularly conducts interaction and outreach activities in neighboring communities to sensitize students regarding the current, burning social issues thereby ensuring the social, moral and emotional development of the student as a responsible citizen of the society and nation.

A wide range of activities related to different socio-cultural and national issues like national integration, nature conservation, gender sensitization, women empowerment, Clean India (*Swachh Bharat*) mission, creating awareness about health and hygiene, education of the girl child etc., is done on yearly basis.

The nature of extension activities by NSS unit of the institute include rallies and campaign, workshops, plantation, cleanliness drive, blood donation, health checkup camps, yoga camps etc. Students of the Institute regularly participate in University, State and National level NSS camps.

All these activities are executed with active and strong involvement and participation of faculty members and students right from the inception and planning to the actual implementation of the activity.

Infrastructure and Learning Resources

The institute has a wide campus with ample facilities and infrastructure for teaching-learning with spacious airy classrooms and laboratories with adequate natural light.

It also maintains a large well stocked central library with a wide range of books on different subjects, also e-library with a Wi-Fi network and internet access for students and staff. Several departments and specialization subjects have their own libraries and separate computers and peripherals. A large number of audio-visual aids like LCD Projectors and Smart-boards are also available.

Hostel facility with mess for outstation boys and girls, canteen and girls common room is also available within institute premises.

The institute also has adequate sports facilities for indoor and outdoor games to ensure the good physical development of the students. Sports facilities include a huge ground for cricket, basketball, volleyball, handball, badminton and ball badminton, along with the indoor games like table tennis, chess etc.

The sports department also maintains the state-of-art gymnasium for boys and girls. It has a partially covered space for yoga and outdoor fitness activities. A specialized Physical education department and efficient staff members of the same organize and ensures the participation of students in these activities.

The institute also ensures all-round socio-cultural and literary development of the students with the availability of inbuilt auditorium and other facilities for extracurricular activities.

Over the last 10 years, the ICT infrastructure has been constantly upgraded and expanded with a good student-computer ratio, Wi-Fi network and e-learning facilities.

The Institute follows established set systems and procedures for maintenance and utilization of physical, academic and support facilities like laboratory, library, computers, classrooms, sports facilities in its premises. The overall campus and its facilities are well maintained.

Student Support and Progression

The Institute has several mechanisms and systems of student support. A large number of students get the benefit under different government scholarship and free ship schemes with additional support from the active alumni association and university student welfare fund.

Various security measures like CCTV, security guards are being adopted by the institution to ensure the safety and security of the students on the campus. Committees like anti-ragging, grievance redressal and women cell continuously work for the well-being and benefit of the students and resolve their issues regarding the ragging and sexual harassment.

The institute organizes a number of capability enhancement and development schemes such as Career Counseling and guidance for competitive examinations, yoga and meditation and personal counseling for students to ensure their future placement and employment. The training and placement cell organizes placement drives for students and helps in their placement accordingly.

Students of the institute had a place in the institute's functioning through the Students Representative Council (SRC) and Academic Forums through which the students play a key role in the inception, planning and implementation of different co-curricular, extra-curricular and sports activities.

The Institute has an excellent track record of students showing outstanding performances in academics, sports and cultural activities at different levels. Many of the scholarly students are progressed to higher studies like post graduate, M.Phil. and Ph.D. programs.

The institute has an active alumni association contributing significantly in the development of the institute by proving scholarships and grants to the meritorious students of different departments. It also regularly collaborates with the institute in organizing various activities and ensures the smooth functioning of the activities. The association also acts as an indirect placement body.

Governance, Leadership and Management

The Institute governance promotes efficiency and transparency. Being a government-run institution, it has to work within the frame of rules and regulations laid down by the government. However, the institute has decentralized its functioning at the institutional level. It functions through different departments, committees and cells as its functioning organs.

The institute's perspective plan aims at providing and enhancing the quality of services. Various committees work collaboratively and efficiently and contribute towards the smooth governance and overall functioning of the institution.

Institute has a Employees Credit Cooperative Society (ECCS) managed by the teaching and non teaching staff of the Institute which helps the employees in different ways such as providing short and long term loans.

Regular appraisal of staff performance is carried out in a variety of ways. The accounts and financial transactions adhere to norms and practice. Regular financial audits are carried out. The Internal Quality Assurance System (IQAC) contributes significantly for institutionalizing various processes and strategies including institutional planning, monitoring, documentation and record keeping etc.

The institution regularly reviews the teaching-learning process, the structures and methodologies of operations. The learning outcomes are also periodically reviewed with various established methods.

Regular feedback is collected formally through feedback committee and informally through interactions and observations from different stakeholders and is considered while planning and decision making.

The incremental improvement in quality since last accreditation is well demonstrated by the infrastructure augmentation, expansion of ICT and automation, better maintenance and security and improvement in academics and research.

Institutional Values and Best Practices

The institute ensures enough safety for girl students coming from the different socio-economic and socio-cultural background through the security measures such as CCTV, security agency, monitoring and counseling committees as well as comfort and convenience through the separate common room.

The institute organizes programs and events on gender sensitization, environment and nature conservation. It offers a clean green ambiance with many large well maintained green cover of trees. It has a large *Vermicompost* pit to ensure the disposal of a huge amount of green litter in the campus.

The campus also has physically challenged (*Divyangjan*) friendly facilities such as ramps/rails, rest room and parking facility. The institute regularly organizes a variety of programs to promote moral and ethical values, to commemorate important national figures by celebrating the birth anniversaries and to nurture civic sense and social commitment.

The institution functions as per the code of conduct suggested by the statutory/regulatory authorities for the teaching professionals. The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions.

To stimulate competitive spirit among the students one Best Student is selected among the deserving students. Sukhdevji Maharaj of Sawangi Memorial award is given to toppers of six subjects of basic sciences. Organization of Annual Social Gathering, participation of students in different curricular, co-curricular and extra-curricular activities and thus promoting holistic development of the students which being the key motive; some of these activities are followed as best practices of our Institute.

The Institute initiates the development of self-subsistence attitude amongst its students through special projects like Organic farming of vegetables and earns and learn scheme. These are the innovative programs adopted by the institute for the economic welfare of the students while learning.

NAAC

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College	
Name	INSTITUTE OF SCIENCE
Address	RAVINDRANATH TAGORE MARG, CIVIL LINES, NAGPUR
City	Nagpur
State	Maharashtra
Pin	440001
Website	www.iscnagpur.ac.in

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Director	RAMDAS G. ATRAM	0712-2501571	9975849004	-	ioscnagpur@gmail.com
IQAC Coordinator	SUSHAMA D. NARKHEDE	0712-2228338	9372397311	-	sushama_narkhede@yahoo.com

Status of the Institution	
Institution Status	Government

Type of Institution	
By Gender	Co-education
By Shift	Regular Day

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	
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Date of establishment of the college	01-01-1909			
University to which the college is affiliated/ or which governs the college (if it is a constituent college)				
State	University name		Document	
Maharashtra	The Rashtrasant Tukadoji Maharaj Nagpur University		View Document	
Details of UGC recognition				
Under Section	Date	View Document		
2f of UGC	05-11-1956	View Document		
12B of UGC	05-11-1956	View Document		
Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)				
Statutory Regulatory Authority	Recognition/Approval details Institution/Department programme	Day,Month and year(dd-mm-yyyy)	Validity in months	Remarks
No contents				

Details of autonomy	
Does the affiliating university Act provide for conferment of autonomy (as recognized by the UGC), on its affiliated colleges?	No

Recognitions	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	Yes
If yes, date of recognition?	21-07-2010
Is the College recognized for its performance by any other governmental agency?	No

Location and Area of Campus				
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.
Main campus area	RAVINDRANATH TAGORE MARG, CIVIL LINES, NAGPUR	Urban	12.73	11189.62

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Programme/Course	Duration in Months	Entry Qualification	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BSc,Science	36	H.Sc.	English	720	660
PG	MSc,Science	24	B.Sc.	English	376	362
Doctoral (Ph.D)	PhD or DPhil,Science	60	M.Sc.	English	70	0

Position Details of Faculty & Staff in the College

Teaching Faculty												
	Professor				Associate Professor				Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	8				20				55			
Recruited	2	4	0	6	2	3	0	5	18	33	0	51
Yet to Recruit	2				15				4			
Sanctioned by the Management/Society or Other Authorized Bodies	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			

Non-Teaching Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				46
Recruited	35	6	0	41
Yet to Recruit				5
Sanctioned by the Management/Society or Other Authorized Bodies				0
Recruited	0	0	0	0
Yet to Recruit				0

Technical Staff				
	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				0
Recruited	0	0	0	0
Yet to Recruit				0

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	2	4	0	2	3	0	21	14	0	46
M.Phil.	0	0	0	0	0	0	0	2	0	2
PG	0	0	0	0	0	0	12	2	0	14

Temporary Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	7	4	0	11
M.Phil.	0	0	0	0	0	0	0	1	0	1
PG	0	0	0	0	0	0	5	38	0	43

Part Time Teachers										
Highest Qualification	Professor			Associate Professor			Assistant Professor			Total
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Details of Visting/Guest Faculties				
Number of Visiting/Guest Faculty engaged with the college?	Male	Female	Others	Total
		0	0	0

Provide the Following Details of Students Enrolled in the College During the Current Academic Year

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
Doctoral (Ph.D)	Male	0	0	0	0	0
	Female	0	0	0	0	0
	Others	0	0	0	0	0
PG	Male	78	0	0	0	78
	Female	284	0	0	0	284
	Others	0	0	0	0	0
UG	Male	199	0	0	0	199
	Female	461	0	0	0	461
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years					
Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	67	72	86	67
	Female	174	200	218	202
	Others	0	0	0	0
ST	Male	28	28	37	27
	Female	35	35	36	35
	Others	0	0	0	0
OBC	Male	172	175	218	203
	Female	372	407	459	407
	Others	0	0	0	0
General	Male	76	81	71	59
	Female	178	214	236	251
	Others	0	0	0	0
Others	Male	27	26	35	13
	Female	63	56	53	26
	Others	0	0	0	0
Total		1192	1294	1449	1290

3. Extended Profile

3.1 Program

Number of courses offered by the institution across all programs during the last five years

Response: 1	File Description	Document
	Institutional Data in Prescribed Format	View Document

Number of programs offered year-wise for last five years

2017-18	2016-17	2015-16	2014-15	2013-14
03	03	03	03	03

3.2 Students

Number of students year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1192	1294	1449	1290	1131

File Description	Document
	View Document

Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
628	718	808	726	644

File Description	Document
	View Document

Number of outgoing / final year students year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
569	487	431	358	310

File Description	Document
Institutional Data in Prescribed Format	View Document

3.3 Teachers

Number of full time teachers year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
61	60	54	48	44

File Description	Document
Institutional Data in Prescribed Format	View Document

Number of sanctioned posts year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
83	83	83	83	83

File Description	Document
Institutional data in prescribed format	View Document

3.4 Institution

Total number of classrooms and seminar halls

Response: 55

Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
453.17	400.82	293.66	343.39	196.77

Number of computers

Response: 248

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well planned and documented process

Response:

The curriculum planning is a well-defined process and its implementation is constantly reviewed in pre-defined time slots. It is planned to explore students' potential in academic, physical, cultural & social development. It is designed to inculcate and impart subject knowledge besides improving the skill, attitude, behavior and performance of a student.

Our Institute is affiliated to RTM Nagpur University and as such the syllabus for both UG and PG programs is provided by the University. Every year IQAC of the Institute prepares an academic calendar which is in tune with the university calendar, yet it reflects our vision of the domain of the course. Accordingly, the academic time-table for each course is prepared by the Institute. While preparing the time-table, the director invites suggestions from heads of all departments for implementation of the teaching plan.

Meetings are held in each department about the course distribution and syllabus is allotted with instructions to teachers to carve out a well structured curriculum out of the allotted syllabus.

At the entry level, students are made aware about the curriculum. Syllabii of all courses are available to students on RTM Nagpur University website. Copies of the same are made available in the respective departments as well as the library for use by students and faculty.

At the beginning of the course, teachers spend some time on orientation about curriculum. The actual curriculum delivery is done through a variety of ways and methods, with emphasis on application oriented, hands-on experiences of learning by drawing on the constructivist approach to teaching and learning.

Curriculum for both undergraduate and postgraduate courses is aimed at enhancing the fundamental aspects of the subject by implementing the following methodology:

For academic performance

- The teacher-student interactive class teaching methods.
- Distribution of subject contents into small units to various teachers in the form of time-table.
- Adaptation of the curriculum to make it more relevant to the needs and interests of the students and society at large.
- Support of teachers beyond the classroom and institution by creating interactive groups on Whatsapp and emails, where regular exchange of ideas help in the implementation of the

curriculum effectively.

- Regular assignments & tutorials.
- Enrichment of curriculum delivery by the use of ICT, online resources and multimedia activities besides a diversity of teaching methodologies like lectures, group discussions, student presentations, project-based learning, task-based learning, group/ pair work and many other learner centered practices.
- Educational tours to relevant industries and organizations.
- Evaluating students' level of perceptions by well-defined assessment methods.
- Guest lectures by scientists and industrialist on relevant topics.
- Seminars and quiz are conducted at the department level and students are encouraged to participate in inter-collegiate and intra-university academic competitions. Teachers are assigned the work of guiding the participating students.
- Providing computer facility & free wifi for completion of assignment and seminars. Students are also guided for retrieving the relevant information from online resources.
- Central library facility with books recommended by university and teachers . The library also provides online access facility.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

1.1.2 Number of certificate/diploma program introduced during the last five years

Response: 3

1.1.2.1 Number of certificate/diploma programs introduced year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
0	0	0	0	3

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Details of the certificate/Diploma programs	View Document

1.1.3 Percentage of participation of full time teachers in various bodies of the Universities/ Autonomous Colleges/ Other Colleges, such as BoS and Academic Council during the last five years

Response: 39.33

1.1.3.1 Number of teachers participating in various bodies of the Institution, such as BoS and Academic Council year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
4	5	2	2	8

File Description	Document
Details of participation of teachers in various bodies	View Document
Any additional information	View Document

1.2 Academic Flexibility

1.2.1 Percentage of new Courses introduced out of the total number of courses across all Programs offered during last five years

Response: 0

1.2.1.1 How many new courses are introduced within the last five years

File Description	Document
Details of the new courses introduced	View Document

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented

Response: 33.33

1.2.2.1 Number of programs in which CBCS/ Elective course system implemented.

Response: 1

File Description	Document
Name of the programs in which CBCS is implemented	View Document
Minutes of relevant Academic Council/BOS meetings.	View Document

1.2.3 Average percentage of students enrolled in subject related Certificate/ Diploma programs/Add-on programs as against the total number of students during the last five years

Response: 2.09

1.2.3.1 Number of students enrolled in subject related Certificate or Diploma or Add-on programs year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
00	13	13	27	73

File Description	Document
Details of the students enrolled in Subjects related to certificate/Diploma/Add-on programs	View Document
Any additional information	View Document

1.3 Curriculum Enrichment

1.3.1 Institution integrates cross- cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Response:

Although our Institute is a science institute, we believe that issues like Gender discrimination, Environmental apathy are to be addressed at the level of students and hence we try to inculcate them in our curriculum.

Our faculties make significant contribution in designing the syllabus as some of them are the members of Board of Studies in various subjects. The syllabi of various courses/ subjects are framed taking into consideration issues like Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum.

In our institute, of the total student strength, more than 60% are girls in both undergraduate and post graduate courses.

To address the different issues following programs are integrated with the curriculum.

Gender issues

- Various programmes are organized to sensitize the students of our institute towards gender equality through our Internal Complaints Committee. Similarly various informative programmes are organized under the auspices of the Womens' cell.
- Anti-ragging committee to look into any gender bias or individual harassment activities.
- Equal opportunity is provided to both boys and girls for training and participation in various sports events.
- Group discussions are held to create awareness among the students about gender equity and balance.

Environmental and sustainability issues

- It is a matter of pride to mention that our institute has been offering Environmental Science as one of the subjects at the undergraduate level and was the first one to start a post graduate program in this important subject. Till now more than 25 batches of students have obtained their master's degree with most of them securing university ranks.
- With a view to promote better environmental awareness and eco-friendly practices, our college conducts an add-on course in environmental studies for all second year undergraduate students, as mandated by the university. A wide range of co-curricular activities like debates, guest lectures, seminars, film shows and elocutions themed around these topics are organized regularly.
- Vanya Jiva Saptah (Wild Life Week) is observed every year in the first week of October in collaboration with the Forest Department. The awareness of the students about forest life is enhanced through poster competitions etc.
- Department of Environmental Science organizes various significant days like "Water day", "Ozone day" to create awareness among these important issues and instill a sense of responsibility among the students. A rally of students was organized by the institute for creating awareness among the citizens of the orange city.
- The NSS wing of our college is actively involved in promoting awareness among students by conducting tree plantation, cleanliness drive, organizing village development camps in which students enthusiastically participate.

Human values and professional ethics

In teaching methodology, Understanding of "what to do", "what is valuable" and learning "how to do" is

emphasized. For the same, teachers are specially trained as per UGC recommendations by Human resource development department. The training is in the form of “Orientation courses”, “Refresher courses” & “Short term training courses”.

File Description	Document
Any Additional Information	View Document
Link for Additional Information	View Document

1.3.2 Number of value added courses imparting transferable and life skills offered during the last five years

Response: 3

1.3.2.1 Number of value-added courses imparting transferable and life skills offered during the last five years

Response: 03

File Description	Document
Details of the value-added courses imparting transferable and life skills	View Document
Brochure or any other document relating to value added courses.	View Document

1.3.3 Percentage of students undertaking field projects / internships

Response: 49.41

1.3.3.1 Number of students undertaking field projects or internships

Response: 589

File Description	Document
List of students enrolled	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.4 Feedback System

1.4.1 Structured feedback received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni and 5) Parents for design and review of syllabus-Semester wise/ year-wise

- A. Any 4 of the above**
- B. Any 3 of the above**
- C. Any 2 of the above**
- D. Any 1 of the above**

Response: A. Any 4 of the above

File Description	Document
Any additional information	View Document
Action taken report of the Institution on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management	View Document
URL for stakeholder feedback report	View Document

1.4.2 Feedback processes of the institution may be classified as follows:

- A. Feedback collected, analysed and action taken and feedback available on website**
- B. Feedback collected, analysed and action has been taken**
- C. Feedback collected and analysed**
- D. Feedback collected**

Response: B. Feedback collected, analysed and action has been taken

File Description	Document
URL for feedback report	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average percentage of students from other States and Countries during the last five years

Response: 0

2.1.1.1 Number of students from other states and countries year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
00	00	00	00	00

File Description

Document

List of students (other states and countries)

[View Document](#)

Institutional data in prescribed format

[View Document](#)

2.1.2 Average Enrollment percentage (Average of last five years)

Response: 90.27

2.1.2.1 Number of students admitted year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1192	1294	1449	1290	1131

2.1.2.2 Number of sanctioned seats year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1256	1436	1616	1452	1288

File Description

Document

Institutional data in prescribed format

[View Document](#)

Any additional information

[View Document](#)

2.1.3 Average percentage of seats filled against seats reserved for various categories as per

applicable reservation policy during the last five years**Response:** 100

2.1.3.1 Number of actual students admitted from the reserved categories year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
628	718	808	726	644

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

2.2 Catering to Student Diversity**2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners****Response:**

The students or as we prefer to call them “learners” are the most important stakeholders in every educational institution. Our Institute admits students to various programs on the basis of merit in the previous qualifying examination. The performance in the qualifying examination gives a vignette of certain level of skills and knowledge already present in the students. These are further assessed by teachers through various teaching methods like question-answer, flipped learning, active learning etc. during the course of educational activities. Based on this assessment, the students are broadly identified as slow and advanced learners. Once the students are inherently classified, the teacher performs following tasks for each group.

For slow learners:

Students are slow learners due to many reasons. It is observed at our institute that slow learning process is generally due to the language problem, urban environment for rural students, lack of fundamental knowledge, physical fitness, lack of confidence & in rare cases, genetic problem.

- Teachers devote more time to these students beyond designated classroom hours to satiate their queries.
- Constant and surprise assessment to understand the level of perception.
- Monitoring their class attendance and counseling them.
- Providing special opportunity to deliver seminars without keeping any language constraints and use of multimedia.

For advanced learners:

Advanced learner students can go deeper into the subject knowledge. At our institute, we try to satisfy their *want* of the subject as they pick up the need for the subject very easily. The teacher performs the following tasks for Advanced learner students.

- The advanced learners are given higher level of study material and are encouraged to explore a variety of references such as books, e-books and other online resources etc.
- They are also encouraged to take part in intra and inter-collegiate competitions such as seminar, quiz, poster and project competitions besides other co-curricular activities.
- Some of the departments conduct their own special and need based programs/activities to motivate both the slow as well as the advanced learners. e.g. the Department of Statistics of the Institute runs a “**Problem Corner**” wherein the advanced learners are encouraged to solve challenging problems in Mathematics and Statistics.

In this assessment the role of a ‘Teacher mentor’ is very important. He/She acts as a friend, philosopher and guide for the young students assigned to him/her as mentee. The mentor guides the mentees on different aspects as per their academic capabilities, perception level, comprehension of the subject and gives suggestions to mentees to improve their academic performance as well as to ascertain their overall development. For effective conduct of this activity, each Teacher Mentor is assigned a group of 15-20 students. They are accountable for the growth and progress of these group of ‘mentees’.

In addition to academics, literary, cultural and sports activities are conducted which foster leadership qualities, decision making ability, team spirit, analytical capability, socio-psychological awareness, etc. among the students which mould them to become intellectually mature and responsible citizens of the society.

File Description	Document
Link for Additional Information	View Document

2.2.2 Student - Full time teacher ratio

Response: 19.54

File Description	Document
Any additional information	View Document

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0.42

2.2.3.1 Number of differently abled students on rolls

Response: 5

File Description	Document
List of students(differently abled)	View Document
Institutional data in prescribed format	View Document
Any other document submitted by the Institution to a Government agency giving this information	View Document

2.3 Teaching- Learning Process

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Response:

Our institute provides wide-spread student-centric learning environment to students in which they can explore, experience, examine and establish their own perspective on the principles and practices of science. The course contents, offered by us, have enough space for student-centric learning and we do have planned and systematic procedure for its implementation which is conducted by every department in varying degrees to support and motivate student-centric learning.

Participative learning: Every department organizes various programs, which help in participative learning. These include

- **Departmental Society:** Every department installs subject society comprising of staff members and students such as Chemical Society, Physics Society, and Environmental Society etc. Various activities like Quiz-contests, Seminar and poster competitions, Expert lectures, Workshops etc. are conducted under the aegis of these societies. Students actively participate in these programs and develop their knowledge and skills.
- **Organizing science conference:** Some departments organize science conference with active participation of students. The research students participate by showing their research in the form of paper or oral presentation. The post graduate and undergraduate students participate as local delegates and attend sessions of their interest. They also participate by working in various committees.
- **Workshops:** Workshop on a selected course contents are organized where students are guided to perform certain activities which is aimed at providing the core-knowledge of the subject.

Experiential Learning: The faculty members foster learning environment by engaging in rich experiential content of teaching through experimentation such as

- **Subject related activities :** Undergraduate and PG students are encouraged to participate in exhibitions and activities related to their subject and develop their own science models.
- **Science Practical:** Set of science practical is performed by the groups of students. Teacher provides only supportive knowledge, whereas the group has its own freedom to execute experiments.
- **Projects:** Project work is mandatory for all the PG courses offered at our Institute. The period of implementation spans over one to two semesters. The phases of literature review, data collection ,

testing of hypotheses, data analysis & interpretation and project report writing imparts practical problem solving skills among the students. It also makes them ready for research and gives them a first hand feel of the challenges that lie ahead of them in the field so that they are ready to work towards enhancement of the existing level of knowledge.

- **Industrial Visit and Study Tours:** Industrial visits and study tours are part of the curriculum for undergraduate and post graduate students. The concerned departments organize industrial visits and study tours for students every year . At the end of the tour, each student has to submit a report on these activities.

Problem Solving Activity:

An interesting and challenging problem related to Statistics or Mathematics is displayed on the departmental notice board every fortnight and any student with a mathematical bent of mind is encouraged to solve it. The Department of Statistics has been conducting this activity since the past 13 years. This activity has become popular among students.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

Response: 88.52

2.3.2.1 Number of teachers using ICT

Response: 54

File Description	Document
List of teachers (using ICT for teaching)	View Document
Any additional information	View Document
Provide link for webpage describing the " LMS/ Academic management system"	View Document

2.3.3 Ratio of students to mentor for academic and stress related issues

Response: 19.54

2.3.3.1 Number of mentors

Response: 61

File Description	Document
Any additional information	View Document

2.3.4 Innovation and creativity in teaching-learning

Response:

It is our belief that today's education system is devoid of innovation and creativity. So we take special efforts for inculcating innovation and creativity in our curriculum. Our faculties have adopted wide repertoire in innovative and creative teaching methods such as extension of classroom learning through online resources. The Institute facilitates the teaching-learning process by providing internet and Wi-Fi facilities, LCDs, laptops, and modern equipment in the laboratories.

We have established workstations in every department where students get access to various e-journals, online video lectures, weblinks etc. The Central Library is having an internet zone where students can surf the entire universe of scientific domains. Our entire institute is Wi-Fi enabled with LAN connection of 100 mbps.

One of the modern initiatives of our institute is the establishment of 8 Smart Class Rooms. The rooms are equipped with Digital podium and an interactive board. The visualizer and amplifier help the teachers to adapt to innovative teaching practices. The smart class rooms have dual operating systems where podium and interactive board are connected internally which facilitate teaching in person as well as using the internet. Our teachers and students are internet savvy as well as social media savvy. Frequent student-teacher interactions and collaborations are common through various WhatsApp groups, e-blogs, online groups, Moodle, etc.

Some Major instances of innovation and creativity in teaching and learning are listed herein:

- Teachers often supplement their classroom teaching with various multimedia tools like animation, audio-visual aids and videos to enhance the quality of learning. In some courses, teachers have made available supplementary instructional material like videos of renowned professors and scholars available on YouTube to the students.
- Use of PPTs, Interactive boards, e-library, e-resources, etc.
- Group learning is exercised in the class in the form of group discussions, projects, group assignments or making presentations on the subject topics etc.
- Students are encouraged to make charts, diagrams, posters and exhibits.
- Various departments conduct seminar presentation competitions, quiz competitions, extempore, puzzle, debates, etc.
- The departments of Botany, Zoology, Environmental Science and Chemistry take students on field trips, excursions, industrial visits, study tours etc. to make learning outdoors and experiential.
- Research aptitude is developed in PG students by way of projects, problem based assignments etc.
- Guest Lectures by experts on emerging fields of knowledge are organized.
- PG students are encouraged to carry out microteaching on the topics of their choice from the curriculum, followed by general discussion with the teacher coordinating and supporting all through.
- The college has signed MoUs / agreements with some agencies/industries, which give

an opportunity for the application of knowledge and to know innovative technology/services used by the agencies/industries.

- Every year, we celebrate Bhasha din to foster among the students a sense of pride and love for their mother tongue/ regional language because we believe that science can also be understood through regional languages.

File Description	Document
Any additional information	View Document

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years	
Response: 64.34	
File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	View Document
List of the faculty members authenticated by the Head of HEI	View Document
Any additional information	View Document

2.4.2 Average percentage of full time teachers with Ph.D. during the last five years											
Response: 76.19											
2.4.2.1 Number of full time teachers with Ph.D. year-wise during the last five years											
<table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>42</td> <td>44</td> <td>42</td> <td>38</td> <td>36</td> </tr> </tbody> </table>		2017-18	2016-17	2015-16	2014-15	2013-14	42	44	42	38	36
2017-18	2016-17	2015-16	2014-15	2013-14							
42	44	42	38	36							
File Description	Document										
List of number of full time teachers with PhD and number of full time teachers for 5 years	View Document										
Any additional information	View Document										

2.4.3 Teaching experience per full time teacher in number of years

Response: 18.49**2.4.3.1 Total experience of full-time teachers**

Response: 1128

File Description	Document
Any additional information	View Document

2.4.4 Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years**Response:** 54.31**2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years**

2017-18	2016-17	2015-16	2014-15	2013-14
10	5	3	6	5

File Description	Document
Institutional data in prescribed format	View Document
e-copies of award letters (scanned or soft copy)	View Document

2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years**Response:** 0**2.4.5.1 Number of full time teachers from other states year-wise during the last five years**

2017-18	2016-17	2015-16	2014-15	2013-14
0	0	0	0	0

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	View Document

2.5 Evaluation Process and Reforms

2.5.1 Reforms in Continuous Internal Evaluation(CIE) system at the institutional level

Response:

The university has formulated certain formats of external and internal assessment viz., for UG it is 50 marks for theory paper by the University and 10 marks as internal assessment by the Institute and for PG it is 80 marks for theory paper by the university, 20 marks as internal assessment by the Institute. However, the Institute constantly tries to supplement and improvise on these mandated internal assessment prescriptions in different ways.

In most programs, the continuous internal evaluation covers all aspects of the curriculum. The college conducts periodic class tests and unit tests, the schedule for which is declared well in advance. In addition to this, we encourage students to give presentations either in pairs or groups on the topics related to the curriculum. Students are also internally assessed through group discussions on various relevant scientific topics. Similarly we organize student seminars on various topics regularly twice in an academic year. Small projects based on various environmental and scientific issues are assigned to students and their participation is evaluated by experts. Home assignments are also part of our continuous assessment process. We organize department wise Poster display competition and Power Point seminar competition at our institute. Through the above continuous efforts, we have reformed the internal evaluation system of our institute.

Seminars are regularly conducted for PG students. Students are encouraged to choose a topic of their interest based on their syllabus but in a way to enhance their knowledge. They are evaluated on the basis of the content of their seminar topic, presentation skill, knowledge, communication skill, fluency as well as response to questions put by teacher examiners and the class.

Unit tests are regularly conducted which include both subjective and objective type questions. Besides this, students are asked to submit home assignments which gives them an opportunity to refer to books and online material which is later checked and corrected by the concerned subject teachers.

Study tours are organized by various departments of the Institute like Botany, Zoology, Chemistry, Environmental Science etc. Students are evaluated on the basis of their active participation and information collected during the visit.

Project work is a part of participative learning. The students choose a project topic in consultation with the guides allotted to them. These projects are based on field work as well as the work completed in the laboratories. Some students carry out their project work in collaboration with research and other social organizations. The objective of critical thinking, analytical skill, and collaborative learning skill is fulfilled through such project works. The project work is continuously monitored and evaluated by the respective guides before the final evaluation by the external examiner. This ensures that the student is well versed with all aspects of the project work undertaken by him/her which may very well form the basis for future (higher) research work by the student. An essential criterion of internal assessment is the attendance of the students in the class which is regularly monitored.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.5.2 Mechanism of internal assessment is transparent and robust in terms of frequency and variety

Response:

The Institute has evolved its internal evaluation system which we feel is quite robust in terms of frequency, variety & transparency. As regards to frequency, four rounds of unit or class tests are conducted during the year, and carried out as a consolidated institution activity. In addition, teachers individually carry out various assessment activities like additional class tests, home and class assignments, presentations and field tasks etc. These evaluation activities are conducted meticulously at regular and frequent intervals during each academic session.

As regards to the variety of **Continuous Internal Evaluation(CIE)** tasks, there is a wide range of activities conducted by our institute. The conventional pen and paper tests are an integral part of these evaluation processes. Besides, our teachers insist on Power Point Presentations by students in front of the entire class. Similarly, seminars on various topics of relevance are conducted twice every year. Teachers also allocate class and home assignments to the students as per their learning abilities. We also encourage group activities such as group discussions & Seminars. Similarly field tasks such as visit to industries, educational tours are also encouraged and students are assessed as per their level of participation. Poster display competitions are organized and students exhibiting their talent are awarded and graded by the experts.

The transparency of the overall CIE process is ensured through adequate advance intimation of all CIE activities to the concerned students, including the timing, the nature and the format of the assessment activities. This intimation is given through general notices that are displayed by each department and oral announcement in class by the respective teachers. Intimations through whatsapp groups and Broadcast lists are also a practice followed at our institute ensuring the transparency of internal evaluation. A broad calendar of the assessment stages and procedure are announced right at the beginning of the year. The performance records on the tests are made available to the students and can be discussed with the teachers if they wish. Teachers also try to ensure that the students get a chance to understand and interpret various CIE tasks in relation to overall curriculum and thus supplement their own preparation for the final university examination.

Parents-Teacher Meet is also organized in the Institute, where in the pupils, parents, and teachers get an opportunity to share and discuss the growth &/or problems of the students at the Institute as well as home.

Thus, it can be inferred that all the above practices which are being followed at our institute are robust in nature as far as frequency and transparency is concerned. Students are made aware of their responsibilities and teachers are trained for their commitment. The teachers and students follow these practices and grievances of the students (if any) are handled without any prejudice. This creates an atmosphere of trust between the teachers and taught and overall development of the students is ensured through the support system of internal assessment.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.5.3 Mechanism to deal with examination related grievances is transparent, time-bound and efficient

Response:

The institute has established a fool proof mechanism for redressal of examination related grievances of the students. All such grievances are handled in a very transparent and time-bound manner. The institute supports the aggrieved students in following the university procedures. The students are guided about the procedures regarding the procurement of challenge forms, Xerox copies of their solved papers and so on. Even the filling up of the university forms is monitored by the teachers of the concerned departments. The institute provides the necessary information, references or clarifications if necessary and even deputs an administrative staff member to visit the university to follow up on the grievances.

As per the established mechanism in place for redressal of grievances regarding the evaluation of the university examinations, if any student feels that the marks obtained by him/her in any paper(s) are not according to his/her expectation, he/she can apply for a Xerox copy of the assessed answer-book. The institute guides such aggrieved students. The respective subject teachers discuss the question paper, nature of the answers expected and tries to assess whether the marks given are appropriate or not. They then guide the students about applying for re-assessment.

For other examinations, including the CIE activities, the college has a transparent, robust and fast internal mechanism to deal with student grievances. In case of any grievance, the students approach the concerned faculty members of the department, who try to sort out the matter. There is a separate Examinations Committee to which students can approach for any examination related queries. All such cases are handled within a time-bound period in the shortest possible time. If still unsatisfied, the students are free to approach the Head of the Department &/or Director of the Institute.

Thus, the institute ensures that even unintentional wrong is not faced by any of its pupils. The student's faith in the transparency of evaluation is the most important concern for the institute. We, therefore ensure that redressal is done in time and without any prejudice. Teachers monitor the entire procedure with due vigilance and thus ensure that justice is done.

File Description	Document
Any additional information	View Document

2.5.4 The institution adheres to the academic calendar for the conduct of CIE

Response:

At the beginning of each semester, annual academic calendar is prepared by the IQAC committee. Our Institute prepares this calendar taking into consideration the RTM Nagpur University's academic calendar. A broad outline of the calendar is notified at the beginning of the year and also communicated to all the departments. It is displayed on all concerned notice boards of the Institute. The same is also uploaded on our official website.

Our institute try to follow the academic calendar meticulously. However, there is scope for inbuilt internal flexibility, which allows individual faculty members or departments to accommodate their own constraints and priorities in finalizing the CIE plans. Each department displays this calendar and mostly sticks to the schedules mentioned therein.

Various activities are conducted at the institutional as well as departmental level including celebration of various days of importance, inauguration of various subject societies, guest lectures, blood donation camp, NSS camp, awareness campaign & rallies, Socio-cultural activities, sports meet, etc.

Thus, for the institute an academic calendar is not only a CIE procedure but a guide for the teachers and the students. The calendar ensures the various academic endeavors in academic sessions and also enhances its scope towards value education, moral and social upliftment of the students.

File Description	Document
Link for Additional Information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students

Response:

The Programme Outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) for all the programmes offered by our institute are prepared by the respective departments following the university curriculum. These outcomes are prepared keeping in view the goals and expectations of particular programmes which reflect the perceptions of the affiliating university as well as the Institute.

The students are made aware about the POs, PSOs and COs at the time of admission counseling and further at the beginning of each semester/academic session.

The POs, PSOs and COs are displayed on the college website and are available to all stakeholders.

At the commencement of every academic session, an induction program is conducted to make the first year students aware about the various aspects of their course, the departments to which they are attached, the faculty members who will be teaching them, the facilities available in the institute, etc. During this program, a general discussion regarding the POs and PSOs is also held by the director and the various heads of the department.

The course outcomes are prepared by the concerned faculty members taking into consideration the syllabus prescribed by the affiliating university. At the first meeting with the students of their class, the concerned faculty members discuss the course outcomes and give them a brief idea about the topics to be covered during the semester and give them a list of books that they need to refer. The students are also informed about the possible career opportunities after they complete the course.

File Description	Document
COs for all courses (exemplars from Glossary)	View Document
Any additional information	View Document
Link for Additional Information	View Document

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

Response:

The attainment of the programme, programme specific and course outcomes are mainly measured by the performance of the students at various evaluative activities including CIE and university examinations.

The students' performance at the university examinations in both theory and practical gives a fairly good idea about the attainment of the various outcomes mentioned above. Besides this, our institute evaluates their performance at various CIE activities and by their participation and involvement in classroom activities, laboratory and field work, study tours and other co-curricular activities.

Some of the departments conduct quiz and seminar competitions wherein the students get an opportunity to apply and display the knowledge gained. These competitions are often judged by the external subject experts, who are able to give unbiased feedback. Our students also regularly participate in intra and inter collegiate academic and co-curricular activities, competitions and events like seminar, conferences, workshops, etc. wherein they showcase their talent and knowledge. Some of the students have won prizes at these events which itself is an evidence of the attainment of the outcomes.

The feedback received from the students, teachers and other stakeholders including the employers also act as indicators regarding the attainment of all outcomes.

Herein we furnish the methods of our evaluation of POs, PSOs as illustration.

POs-

1. Teachers of our institute Interact with students after their performance in seminars and group discussions. Similarly the teachers evaluate tutorials, home assignments, class tests, etc.
2. Teachers also monitor the progress of the students during and after the practical sessions.
3. Project Supervisors evaluate the projects assigned to the students.
4. Participation of students in various social events, through NSS is also monitored by our teachers.

PSOs:

1. Attainment of program specific outcomes and course outcomes are also evaluated by the institution through assessments.
2. We also analyze the result, progression to higher education/employment and participation of students in various competitions/activities (Conferences, Quiz, Paper presentation) for PSOs.
3. Indirectly we also ascertain the PSOs through Annual function/ departmental society functions, etc.

The feedback received from the students, teachers, employers, peers, parents and other stakeholders along with all the other continuous evaluation methods are taken into consideration for calculating the attainment of level of achievement of POs , PSOs and Cos.

Overall Grade at POs, PSOs and COs are decided as follows-

1. Less than 40 : Unsatisfactory D Grade
2. Between 40 to 59 : Satisfactory C Grade
3. Between 60 to 79 : Excellent B Grade
4. Eighty and above : Outstanding A Grade

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.6.3 Average pass percentage of Students

Response: 78.21

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 445

2.6.3.2 Total number of final year students who appeared for the examination conducted by the institution

Response: 569

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response: 3.42

NAAC

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants for research projects sponsored by government/non government sources such as industry ,corporate houses, international bodies, endowment, chairs in the institution during the last five years (INR in Lakhs)

Response: 71.7

3.1.1.1 Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
11.90	00	14.95	8.794	36.057

File Description	Document
List of project and grant details	View Document
e-copies of the grant award letters for research projects sponsored by non-government	View Document
Any additional information	View Document

3.1.2 Percentage of teachers recognised as research guides at present

Response: 49.18

3.1.2.1 Number of teachers recognised as research guides

Response: 30

File Description	Document
Any additional information	View Document

3.1.3 Number of research projects per teacher funded, by government and non-government agencies, during the last five year

Response: 0.28

3.1.3.1 Number of research projects funded by government and non-government agencies during the last five years

Response: 15

3.1.3.2 Number of full time teachers worked in the institution during the last 5 years	
Response: 267	
File Description	Document
Supporting document from Funding Agency	View Document
Any additional information	View Document
Funding agency website URL	View Document

3.2 Innovation Ecosystem

3.2.1 Institution has created an ecosystem for innovations including incubation centre and other initiatives for creation and transfer of knowledge

Response:

Our Institute plays an important role in encouraging and endorsing an ecosystem for innovation and improvisation by faculty members and research students, though it doesn't have a recognized incubation center.

It has a privileged, unique heritage infrastructure and a legacy of highly qualified and academically active faculty members which still continues even after hundred years of its tenure in academics. The faculty includes Professors, Associate Professors, Assistant Professors duly selected by Maharashtra Public Service Commission.

Faculties are members of prestigious academic bodies of the affiliating University like Academic council, BOS and RRC. It has seven recognized research departments. Thirty faculty members are recognized Ph.D. supervisors and advanced researchers in their own streams. Under their guidance **91** research scholars have been awarded Ph.D. during the past five years while **29** students are pursuing their research work. Major and Minor research projects are being carried out with one patent being awarded and four published along with **550** research papers published in reputed International and National journals.

Thus our Institute has consciously created an ecosystem for transfer of knowledge. The teachers share their knowledge acquired through years of experience and students and researchers transfer their inquisitiveness and zeal towards acquisition of knowledge amongst the teachers and thus an interdependent ecosystem is developed. Students and teachers also get technical assistance in the form of computers, printers, scanners, photo-copiers etc. provided in all the departments. Faculty members also share their knowledge as experts to other firms. Students from other colleges visit our institute for getting expertise from our staff members as well as research scholars.

Entire campus is Wi-Fi enabled. All the departments also have additional high-speed internet connectivity through fiber optics. The ecosystem of computers which is available approximately through 160 nodes, helps the students in enhancing their knowledge base. The Institute has developed Instrumentation Laboratories for each department along with the Tissue Culture Laboratory in the Botany Department. The institute invests a lot of economic resources for purchase of sophisticated instruments, such as Raman

Spectrometer, FT-IR, UV-VIS Spectrophotometer, DTA, HPLC etc. which facilitate the students and teachers to use modern technologies for their research. Thus the Institute ecosystem is instrumental in enhancing the knowledge base.

The Institute has a spacious library well stocked with books and journals. Subscription to INFLIBNET is done making it easy to access international journals and over half a million e-books. Students are constantly encouraged to use this huge database for research and academic needs. Some of the classrooms are renovated as smart classrooms equipped with digital podium and LCD projectors.

The second year P.G. students are encouraged to identify research problems in various fields of knowledge and submit their reports in the form of dissertation. We also encourage students to attend and participate in Seminars and Conferences. Besides this our Institute is a recognized centre for distance education through IGNOU. Thus we feel that our institute has created an academic ecosystem conducive to innovations and transfer of knowledge.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

3.2.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the last five years

Response: 20

3.2.2.1 Total number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
01	04	07	03	05

File Description	Document
Report of the event	View Document
List of workshops/seminars during the last 5 years	View Document

3.3 Research Publications and Awards

3.3.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research

Response: No

File Description	Document
Institutional data in prescribed format	View Document
Any additional information	View Document

3.3.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

Response: Yes

File Description	Document
e- copies of the letters of awards	View Document
Any additional information	View Document

3.3.3 Number of Ph.D.s awarded per teacher during the last five years

Response: 3.03

3.3.3.1 How many Ph.Ds awarded within last five years

Response: 91

3.3.3.2 Number of teachers recognized as guides during the last five years

Response: 30

File Description	Document
URL to the research page on HEI web site	View Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
Any additional information	View Document

3.3.4 Number of research papers per teacher in the Journals notified on UGC website during the last five years

Response: 4.89

3.3.4.1 Number of research papers in the Journals notified on UGC website during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
51	44	67	62	37

File Description	Document
List of research papers by title, author, department, name and year of publication	View Document
Any additional information	View Document

3.3.5 Number of books and chapters in edited volumes/books published and papers in national/international conference proceedings per teacher during the last five years

Response: 0.69

3.3.5.1 Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
07	08	07	10	05

File Description	Document
List books and chapters in edited volumes / books published	View Document
Any additional information	View Document

3.4 Extension Activities

3.4.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years

Response:

Youth is the backbone of our country. Their participation and active involvement in all spheres will naturally lead the nation towards development. To ensure their holistic personality development interaction of the students and their exposure to various social issues of national importance is extremely essential.

Institute has an active NSS cell through which different social activities are planned for each academic year. It has very good interaction and outreach activities with the local society and a strong involvement of students in such activities. A large number of extension activities are carried out every year, especially under the auspices of NSS, NCC, and extension centre and through various study circles and student forums.

These activities focus on various nationally and locally significant issues like national integration, nature conservation, disaster management, gender sensitization, save girl child, health and hygiene, Swachha Bharat mission, promotion of self-employment, women empowerment, awareness and conservation

regarding local natural, historical, cultural and environmental heritage.

The nature of activities include rallies and campaigns, plantation programmes, cleanliness drives, presentation by experts, blood donation camps, short term trainings aimed at employment skills, health camps, literacy programmes, yoga sessions, shramdaan etc.

Social activities like tree plantation and Swachha Bharat Abhiyaan are carried out in the Institute campus itself and around Nagpur city. Teachers and students are actively involved in these programmes and activities from the stage of planning to practically implementing and sustaining the same.

This kind of exposure and involvement not only trains students in organizational and management skills but also raises their awareness and understanding of various issues. Besides, it also provides an opportunity to interact and develop relationship with society and helps them to contribute and elevate the social awareness. This approach helps in their holistic development.

The institute engages faculty and students in community work eventually teaching them ethical values which makes them aware of their social responsibilities and makes them good citizens.

Extension activities in the Neighbourhood Community in terms of Impact and Sensitizing Students to Social Issues and Holistic Development

Sr. No.	Name of the Unit	Extension activities in the neighbourhood community in terms of impact
Impact		
1	NSS	Sensitizing students for Social responsibility, Health awareness, National Environmental awareness and Holistic Development
2	Women Empowerment Cell	Sensitization of girl students, ladies (teaching and non teaching staff): awareness
3	Internal Complaint Committee	Sensitization of girl students, ladies teaching and non teaching staff
4	Other Departments Botany / Zoology/ Chemistry/ Electronics/Statistics Computer Science/ Environmental Science	To get acquaintance with the Medicinal Plants, Environmental awareness Community Development Environmental awareness and biodiversity study
5	LACF / CCPC/ Library /	Value Education, holistic development of students and Financial Awareness

I-Clean Nagpur

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

3.4.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

Response: 1

3.4.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
0	0	0	1	0

File Description	Document
Number of awards for extension activities in last 5 years	View Document
e-copy of the award letters	View Document

3.4.3 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., during the last five years

Response: 92

3.4.3.1 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
15	14	17	29	17

File Description	Document
Reports of the event organized	View Document
Number of extension and outreach programs conducted with industry,community etc for the last five years	View Document

3.4.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

Response: 21.13

3.4.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
229	326	525	140	160

File Description	Document
Report of the event	View Document
Average percentage of students participating in extension activities with Govt or NGO etc	View Document

3.5 Collaboration

3.5.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc during the last five years

Response: 101

3.5.1.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
36	33	23	02	07

File Description	Document
Number of Collaborative activities for research, faculty etc	View Document
Copies of collaboration	View Document

3.5.2 Number of functional MoUs with institutions of National/ International importance, Other Institutions, Industries, Corporate houses etc., during the last five years (only functional MoUs with ongoing activities to be considered)

Response: 11

3.5.2.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years (only functional MoUs with ongoing activities to be considered)

2017-18	2016-17	2015-16	2014-15	2013-14
07	01	01	01	01

File Description	Document
e-copies of the MoUs with institution/ industry/ corporate house	View Document
Details of functional MoUs with institutions of national, international importance, other universities etc during the last five years	View Document
Any additional information	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 The institution has adequate facilities for teaching- learning. viz., classrooms, laboratories, computing equipment, etc.

Response:

The Institute has spacious and heritage campus spread over more than twelve acres of land and offers a very green and pleasant ambience. The beautiful main building designed in British architecture. The building is specially designed as a science learning center with spacious lecture rooms and laboratories.

The whole campus infrastructure includes the main building, annex building, boy's hostel, girl's hostel, new library building, canteen, sports complex including ground and gymkhana, vehicle parking space, front small garden etc.

The main building is equipped with high capacity class rooms, huge laboratories, spacious office and library. Also the facilities of reading room, girls common room, close auditorium, open auditorium, conference room etc.

Academic facilities

The Institute has 51 spacious and airy classrooms with wifi / LAN / LCD facilities including subject laboratories as per norms to carry out any academic activity. Further, every department is equipped with their own computing resources along with small departmental library. The Institute has a Central Library which is equipped with many National and International journals, books etc. The central library has its own Computer Centre with 23 Computers having restricted internet access where students have access to learning material.

Laboratories

All laboratories are huge and equipped with recommended facilities. Few among them are huge laboratories having capacity of 80 students. Department of Chemistry, Physics, Botany, Zoology and Statistics have separate laboratories for undergraduate and post graduate classes. The laboratories are scientifically designed with high roof and ventilation, big open windows, exposed to natural sun light and modern safety equipments

These departments also have special research laboratories where Post graduate and research students can perform their research-oriented experiments. These specially designed laboratories are equipped with advance instrumentations and quality equipments.

Co-curricular activities (Auditorium, Open air theatre etc.)

The Institute has its own seminar hall named as "Sabhagruha" (Room No. 45). It is equipped with audio-visual equipments along with digital podium.

Open air auditorium (theater) is present in the center of main building. This is used for the scientific

conferences, social gathering and cultural activities.

ICT as a Learning Resource

More than 300 computers have been provided to all the departments of the Institute for day-to-day usage by the students and faculty. Every department has its own computing facility to meet the curriculum needs. Laptops are also made available to the departments for faculty usage. Desktop Computers are also provided in staff rooms. Every department is provided with LCD projectors, Laptops, desktops and overhead projectors electronic whiteboards with digital podium, printers, and scanners for computer aided teaching. Internet is provided to all the departments and library computer center with 100 and 10 Mbps bandwidth. Necessary software are installed in all the Computers as per the curriculum requirements. Software necessary for the preparation of computer aided teaching material by the faculty is also available. Students are provided with additional access to library computers and photocopying facility.

File Description	Document
Link for Additional Information	View Document

4.1.2 The institution has adequate facilities for sports, games (indoor, outdoor), gymnasium, yoga centre etc., and cultural activities

Response:

The department of Physical education was established in year 1951. The spacious ground for cricket, football and hockey are the main attraction since those days.

New separate building of physical education department was constructed in the year 2014. This building constructed in **5000** square feet area boasting facility of gymnasium center, yoga center, table-tennis court and rooms for other indoor games.

Sports department is also equipped with a huge ground approximately **3 acres** area which is generally used for the training and competitions of cricket, hockey, football, archery games.

The department organizes various training programs for the boys and girls students and also makes them eligible for the inter-collegiate, inter-university, state and national level competitions.

The department provides training facility for cricket, volleyball, football, badminton, kabbadi, kho-kho, sepak takraw, basket ball, table-tennis, archery, softball, base ball and fencing games.

Students are regularly participate in national, state, district, inter-university, inter-collegiate level competitions.

Indoor Sports Facilities:

The Institute has a well-equipped gymnasium with all modern facilities for Boys and Girls

Sr.No.	Indoor Sports Facilities
1	Badminton Courts
2	Table Tennis
3	Gymnasium for Boys and Girls
4	Fencing
5	Caroms, Chess
6	Yoga and Meditation Room
7	Changing room for Boys
8	Changing room for Girls

Outdoor Sports facilities

The Institute has a spacious multipurpose play ground with all modern facilities for boys and girls. Recently State Government has sanctioned Rs. 194 lakhs for redevelopment of this play ground. Also District planning committee has sanctioned Rs. 19 lakh for the play ground. This redevelopment work is in full swing.

Sr.No.	Outdoor Sports Facilities
1	Cricket
2	Softball
3	Baseball
4	Football
5	Volleyball court
6	Basketball court
7	Kho-Kho Ground
8	Kabaddi Grounds
9	Ball-badminton

There is also a closed auditorium and one open air auditorium where various kind of cultural activities are regularly held.

File Description	Document
Link for Additional Information	View Document

4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

Response: 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 55

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	View Document
Link for additional information which is optional	View Document

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

Response: 76.93

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
336.74	289.76	216.54	281.32	162.14

File Description	Document
Details of budget allocation, excluding salary during the last five years	View Document
Any additional information	View Document

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS)

Response:

SOUL Software of University Library software is in use for library automation. It is multi-user, multi-tasking integrated library management software working either on a single machine or in a client-server multi-platform environment. It helps us for the effective preparation of catalogue books, e-books, films, sound recordings, drawings, clippings, articles, reports, letters, pamphlets, serials publications etc. SOUL cataloguing adheres to popular international standards. It retrieves the information in a simple, fast and efficient manner. It supports flexible workflow to cover activities related to acquisition of books, serials control and funds monitoring.

SOUL Modules:

- **Cataloguing:** -It is based on AACR2. It catalogues any type of material.
- **Acquisition:** -It supports the entire range of activities right from making a proposal to acquire an item, until it is finally paid for and accessioned.
- **Circulation:** -It is based on lending rules that we can define and change.

- **Serials Control:** - It allows for tracking receipts of issues, filing claims for issues not received, preparing binding orders.
- **OPAC:** On-line Public Access Catalogue offers powerful on-line search facilities to search through library catalogue. It saves valuable time, labour and money to access any reading resources.
- **Reports:** - It provides various types of reports required for various government agencies.

SOUL software is regularly updated by UGC-INFLIBNET and various new functions are introduced as per customer requirement. The upgraded version is given by UGC-INFLIBNET free of cost through online.

Status of Computerisation of Central Library

Year of automation	Name of the ILMS software	Nature of automation (fully or partially)	Version
2013-14	SOUL, UGC New Delhi	Partially	1.0
2014-15	SOUL, UGC New Delhi	Partially	1.0
2015-16	SOUL, UGC New Delhi	Partially	2.0
2016-17	SOUL, UGC New Delhi	Partially	2.0
2017-18	SOUL, UGC New Delhi	Partially	2.0

File Description	Document
Link for Additional Information	View Document

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment

Response:

Institute of Science Library is one of the oldest library from central India. Total more than 50000 books available in library. Few of these books are rare books, bound volumes of journals, reference books and Ph.D. thesis. Due to advancement in internet and computer facilities at institute library e-books, e-journals, digital database, video CD's and ample open accesses resources made available for users. All these additional resources enriched knowledge avenues of library. List of available resources in library are like below.

Total Collection of Library

Sr. No	Subject	Total Books
1	Zoology	5112
2	Botany	3419
	Env. Sci.	1300
3	Math	4805
4	Chemistry	4473

5	Physics	3615
6	Statistics	2683
7	English	3364
8	Marathi	4317
9	Hindi	3559
10	UGC Merge Scheme	1485
11	Ph. D Theses	200
12	Bound Volume of Journals	7712
	Botany	861
	Physics	1261
	Chemistry	1574
	Math	597
	Statistics	755
	Zoology	1495
	Gen. Science	1169
13	Reference Books	2000
14	Shift to other Deptt.	2000
15	Write off & Cost paid books	2386
16	e-Books	97000 + UGC-NLIST,DELNET
17	e-Journals	3000 + UGC-NLIST, DELNET
18	Digital Database	10 UGC-NLIST, DELNET
19	CD & Video	100
20	Open Access Resources	1-9

File Description	Document
Any additional information	View Document

4.2.3 Does the institution have the following:

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above**Response:** A. Any 4 of the above

File Description	Document
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc	View Document
Any additional information	View Document

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)**Response:** 4.03

4.2.4.1 Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
1.23	16.84	1.49	0.55	0.05

File Description	Document
Details of annual expenditure for purchase of books and journals during the last five years	View Document
Any additional information	View Document

4.2.5 Availability of remote access to e-resources of the library**Response:** Yes

File Description	Document
Any additional information	View Document

4.2.6 Percentage per day usage of library by teachers and students**Response:** 4.95

4.2.6.1 Average number of teachers and students using library per day over last one year

Response: 62

File Description	Document
Any additional information	View Document

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

The institute has a modern server room with Windows servers. LAN network is spread across the institute including Office, Laboratories, Library and other working areas. All the computing facility are equipped with high performance and latest edition of computers. All the computers are loaded with latest required software. The LAN network has a configuration Core switch to edge switch. Two leased lines of 10 MBPS (192.168.0.6) and 100 MBPS (192.168.0.2) are used in a network. By using these two leased lines from BSNL, restricted internet and WI-FI facilities are provided to students and faculty members of institute across the CAMPUS. This computing and internet facility is useful for UG, PG and research students to sharpen and update their knowledge base.

Faculties are encouraged to use internet and computer facilities to enhance teaching learning process for overall improvement of students. Some of the faculties use platforms like moodle, Google classroom, whatsapp group for effective interaction with UG, PG and research students.

In 2015-16, to establish computer rooms in various departments for use of UG, PG and research students of Institute, 64 computers were purchased from grants received from DPC. Also modern workstations were made available to these computers.

In addition to the above, Govt. of Maharashtra provides loan facility to teaching and non-teaching staff for buying laptops and computers for personal use.

The institute has 14 classrooms with LCD projection facility and 04 seminar halls with ICT facilities in the department which are used for regular teaching and also extensively used for presentations, seminars and interactive sessions. All the classrooms are wi-fi enabled by dedicated access points.

In 2016-2017, institute procured six laptops and six LCD projectors under UGC-CPE scheme. Further eight classrooms have been converted to smart classrooms with digital podium, interactive boards and other necessary peripherals.

All the faculties use this effective methodology to enrich the learning process of students.

Four digital notice boards were procured from grant of RUSA for speedy circulation of information and notices.

File Description	Document
Link for Additional Information	View Document

4.3.2 Student - Computer ratio	
Response: 4.81	
File Description	Document
Any additional information	View Document

4.3.3 Available bandwidth of internet connection in the Institution (Lease line)	
>=50 MBPS	
35-50 MBPS	
20-35 MBPS	
5-20 MBPS	
Response: >=50 MBPS	
File Description	Document
Any additional information	View Document

4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)	
Response: No	
File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years				
Response: 25.56				
4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)				
2017-18	2016-17	2015-16	2014-15	2013-14
118.12	113.88	80.19	70.19	50.35

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	View Document
Any additional information	View Document

4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.

Response:

The Institute has a Local Advisory Committee that deliberates every year on the various infrastructural and academic needs of the Institute. Institute makes budgetary provision under different funds for maintaining and utilizing the campus infrastructure facilities. Various monitoring committees such as purchase committee, building committee, UGC planning board committee, hostel monitoring committee, library committee ensure that the allocated funds are utilized judiciously. The details of budget allocation for maintenance and repairing of physical, academic and support facilities during the last five years are mentioned in metric 4.4.1.

To maintain the infrastructure campus facilities and equipments, following activities are undertaken by Institute.

- Maintaining department wise stock register.
- Department wise annual stock verification.
- Regular maintenance of laboratory equipments and chemicals.
- Overall maintenance of campus by campus discipline and cleanliness committee of the Institute.
- Regular cleaning of water tanks, proper disposal of garbage, pest control, landscaping and maintenance of lawns.
- Maintenance of all facilities and cleanliness of environment in hostel by hostel monitoring committee.
- Outsourcing is done for maintenance and repairing of CCTV, computers, internet facilities including leased lines, Wi-Fi and broadband, updating of softwares.
- Maintenance of wooden furniture of institute is done as and when required with the help of PWD and other agencies.
- Electrification, and plumbing work by state PWD.
- The maintenance of the reading room and stock verification of library books is done regularly by library staff. Librarian presents Annual Library Budget of various departments for each subject. This committee deliberates on the budgetary allocations, evaluates the previous year's library activities and proposes new services, acquisition for the current year.
- Sports and gymnasium is managed by the Sports Committee that advises the Physical Education Director in planning optimum utilization of sport facilities. Outsourcing is done for the maintenance of gymnasium. The grounds for various sports are maintained regularly.
- Classrooms are provided to get opportunity of ICT based teaching in the smart classrooms for all the departments. The Time-Table committee and the faculty Coordinators chalk out time-table,

semester-wise.

- The institute has obtained a dedicated power line from the Electricity Board of Maharashtra State.
- Lightning arrester is installed at proper place to safeguard the equipments from lightning and thunder.
- For providing fluctuation-free, uninterrupted electric supply, equipments in the Central Instrumentation Laboratory (CIL) are connected to a dedicated online UPS. For the optimal performance of sensitive equipment, the CIL is air-conditioned. Continuous supply of water is ensured for special equipments requiring constant water supply, through water pipe lines connected to overhead tanks and a water sump of sufficient capacity. Special provision is made for the storage of gas cylinders outside the laboratories. Chemicals are stored as per the standards specified by the suppliers.

File Description	Document
Any additional information	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

Response: 54.52

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
589	642	831	687	712

File Description	Document
Upload self attested letter with the list of students sanctioned scholarships	View Document
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	View Document
Any additional information	View Document

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

Response: 7.09

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
300	57	41	20	17

File Description	Document
Any additional information	View Document

5.1.3 Number of capability enhancement and development schemes –

1. For competitive examinations
2. Career counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses
7. Yoga and meditation
8. Personal Counselling

A. 7 or more of the above

B. Any 6 of the above

C. Any 5 of the above

D. Any 4 of the above

Response: D. Any 4 of the above

File Description	Document
Details of capability enhancement and development schemes	View Document
Any additional information	View Document
Link to Institutional website	View Document

5.1.4 Average percentage of student benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years

Response: 19.06

5.1.4.1 Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
400	460	200	0	140

File Description	Document
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	View Document
Any additional information	View Document

5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years**Response:** 0

5.1.5.1 Number of students attending VET year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
0	0	0	0	0

File Description**Document**

Details of the students benefited by VET

[View Document](#)**5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases****Response:** Yes**File Description****Document**

Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee

[View Document](#)

Details of student grievances including sexual harassment and ragging cases

[View Document](#)**5.2 Student Progression****5.2.1 Average percentage of placement of outgoing students during the last five years****Response:** 4.26

5.2.1.1 Number of outgoing students placed year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
84	12	5	7	3

File Description	Document
Self attested list of students placed	View Document
Details of student placement during the last five years	View Document

5.2.2 Percentage of student progression to higher education (previous graduating batch)

Response: 28.3

5.2.2.1 Number of outgoing students progressing to higher education

Response: 161

File Description	Document
Upload supporting data for student/alumni	View Document
Details of student progression to higher education	View Document

5.2.3 Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)

Response: 8.38

5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
9	7	14	10	1

5.2.3.2 Number of students who have appeared for the exams year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
100	90	105	95	80

File Description	Document
Upload supporting data for the same	View Document
Number of students qualifying in state/ national/ international level examinations during the last five years	View Document
Any additional information	View Document

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national / international level (award for a team event should be counted as one) during the last five years.

Response: 41

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
25	9	3	2	2

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	View Document
e-copies of award letters and certificates	View Document

5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

Response:

Institute provides full support to the students representation in various academic, sports and administrative bodies. Student task force (previously called as Students council) is enacted each year as per the Maharashtra Universities Act 1994 40(2) (b) (vii) up to 2014-15.

The representatives are selected on the merit basis and a few are nominated by the director. After declaration of the members of the council, the students were allotted the academic and administrative committees. This council meets at least two times in a year to discuss on various issues and provide valuable suggestions to the administrator.

Besides student task force, National Social Services (N.S.S.), National Cadet Corp (N.C.C.) and Literary and Cultural Forum (L.A.C.F.) are formed each year which is completely controlled by students and supported by the committee of staff as a coordinator. The NSS executes social service programs where students participate at college level and also attends the university and state level camps.

. NCC activities are controlled by regional NCC office. Students get them enrolled with this office each year and participate in various activities organized by regional NCC office.

Each year annual social gathering is organized. This mega event is totally controlled and administered by students with the support and guidance by staff members. The major activities are intra-collegiate sports, cultural and academic competitions. The student committee for each event takes a lead in making this event successful.

Apart from the Institute Internal Activities, the students are nominated for the Statutory Committees such as Sexual Harassment Prevention Committee and Anti-Ragging Committee. They present their views and contribute in decision-making. Also student council members give feedback for academic activity by giving feedback for curriculum and faculties. This helps in improving academic planning. The suggestion box is placed by the Institute where the students can put forth their opinion about academic and facilities provided to them.

LACF, Literary Art and Cultural Forum which gives message of brotherhood is a prime and unique feature of Institute. Under LACF the students participates in various cultural, co-curricular activities and extra-curricular events as well. The students are trained in such a way so that they can participate University, State and intercollegiate events. LACF executes various literary and cultural programs at college level and also selects students for intra and inter- university competitions

CCPC: - Career Counseling and Placement Cell, an important committee of the students where students themselves arrange various motivating and career orientation programs. With the arrangement of such events by the students they can meet the global challenges. The Whatsapp groups are formed by the student in-charge news related to placement is posted.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

5.3.3 Average number of sports and cultural activities/ competitions organised at the institution level per year

Response: 19.8

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
33	26	16	13	11

File Description	Document
Report of the event	View Document
Number of sports and cultural activities / competitions organised per year	View Document

5.4 Alumni Engagement

5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years

Response:

The Alumni Association of Science College, Nagpur (AASCON) is a very active body of enthusiastic alumni of our Institute along with members. True to its motto “Involvement without Interference”, AASCON is actively engaged in bringing together individuals from diverse fields with the sole aim of paying back with interest what they owe to their alma mater. The association which firmly believes that education is a continuous process like research, has been playing a very positive and encouraging role over the years by sponsoring awards and huge scholarships to the meritorious and needy students. The association also donates books and other materials needed by the students on a regular basis. The alumni association’s contribution is not restricted to financial assistance alone. Members of the association provide us constructive feedback on academic and other matters for advancement and up gradation. AASCON also contributes by arranging various student centric programs.

Intellectual Contribution including Research: Some of the alumni, who are presently working at significant positions, are invited by their concerned Departments for delivering Guest lectures and guiding the students. These alumni guide the students on interview skills, communicating skills and career choice.

Some of our alumni are employed at Research Institutes. They guide the students by providing valuable insights regarding research projects and scope for further research in various fields. This motivates the post graduate students to take up research after finishing their masters program.

Placement: The alumni association has its own role to play in the placement of the students. Those holding different positions in various organizations help the present students in their placement. Some of them, who own companies or industries, give a preference to students from their parent institution which benefits our students greatly. **Scholarship:** AASCON provides various types of awards, prizes and scholarships to students. Scholarship, awards and prizes provided by AASCON viz. Merit scholarship of Rs.5000/- Donor Dr.Vinay Tule and Mr.Tarun Shrivastava awarded to B.Sc.I (Stat) Topper, Research Scholarship of Rs.12,000/-Research Student with Guide of Institute(Not working as Contr.Lecturer) and many more.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

5.4.2 Alumni contribution during the last five years(INR in Lakhs)**? 5 Lakhs****4 Lakhs - 5 Lakhs****3 Lakhs - 4 Lakhs****1 Lakh - 3 Lakhs****Response: ? 5 Lakhs**

File Description	Document
Any additional information	View Document
Alumni association audited statements	View Document

5.4.3 Number of Alumni Association / Chapters meetings held during the last five years**Response: 41****5.4.3.1 Number of Alumni Association /Chapters meetings held year-wise during the last five years**

2017-18	2016-17	2015-16	2014-15	2013-14
11	8	9	8	5

File Description	Document
Number of Alumni Association / Chapters meetings conducted during the last five years	View Document
Any additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the institution

Response:

The mission of the Institute is implicit in its logo which includes **PER ARDUA AD ASTRA** which literally means **BY TOILSOME WAY TOWARDS THE STARS**. It is with this slogan, our Institute is making its way towards achieving the goals.

VISION

“The vision of the Institute is to inculcate scientific temper among students to address global challenges by advancing the frontiers of science, by producing scientifically-trained leaders and innovators and enhancing public understanding of science.”

MISSION

Our mission is to bring the benefits of science to society by providing access to a rich educational experience that will motivate and enable all of our students to seek the highest levels of intellectual achievement in the Physical, Chemical, Mathematical and Biological sciences and attain an all-round personal growth with high moral values.

The mission of the Institute is the accomplishment of its vision. Accordingly our Institute offers undergraduate and post graduate programs in Science, besides research. The Institute inculcates scientific temper among students to address global challenges.

Participation of Teachers in the decision making bodies of Institute

Our Institute works more effectively, sensitively, responsibly through its performances for accomplishing the vision. We strive hard to promote quality higher education, to create a sensitive, responsive and qualitative human resource for the country with duly inculcated human, social, democratic, environmental and nationalistic values in them.

The Institute is owned and managed by the State government; hence it runs as per the policies and norms laid down by it. There are four levels of governance i.e. first, policy framing by state ministry of higher and technical education, second, execution of policies through Director of higher education, third, routine and micro level management along with regular progress and development by Director of Institute, and the fourth level of governance comprising of heads of department, teaching/non-teaching staff, various committees and other cells. These committees make the governance decentralised and participatory. Most of the functions and services in governance have been computerised and automated leading to faster and more transparent operations. The members of teaching and non-teaching staff, representatives of students and alumni are the major stakeholders who get a chance to participate in and contribute to various aspects of planning and decision making, thus following the principle of participatory management. The different departments of the Institute are supervised by heads of the department who have freedom and

responsibility to manage their own affairs. All the departments are very well equipped with separate facilities for efficient and result oriented functioning.

Our Institute meticulously follows norms and procedures as per the directives and policies of State Ministry of Higher and Technical education, the affiliating University, and UGC. Thus, efforts are made at all levels for successful execution of mission with a view for accomplishment of vision. The outcome of effective perspective plans is evident from the recognition received by our institute from UGC as a “College with Potential for Excellence”.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.1.2 The institution practices decentralization and participative management

Response:

Academic matters, infrastructure maintenance, utilization and campus development are looked after by various committees in consultation with the Director of Institute. All heads of departments look after specific and smaller aspects of governance and management. The administrative and academic heads of the Institution supervise all committees for their effective functioning.

The management system of the Institution is decentralized and participatory in nature. A considerable autonomy, freedom and support are provided by higher level management (Director of Higher Education) to our Director and faculty. All levels of management work on the principles of team work, collective responsibility, cooperation, freedom and participation. There are similar mechanisms for overall coordination and monitoring.

Being a state government owned Institute, the objective is to impart quality scientific education to all segments of society. The Director of the Institute looks after routine and micro level management and its regular progress and development. The responsibility of administration primarily lies with the Director.

In case of academic matters, the various departments work in tandem for achieving the overall goals of the Institute. The registrar, office superintendent and other staff assist him as per the roles earmarked for them. Financial resources are managed by the Director and finance committee. Adequate representation of teaching and non-teaching staff, and in some cases, of students and alumni is ensured for decentralization.

Decentralization Case Study: Our institute categorizes various activities as departmental, academic, administrative and finance related. All activities are supervised by the heads and supported by other stakeholders. For example, the meetings of the heads with their associates are regularly held for planning and execution of different academic and other allied activities. As regards the purchase of items, meetings of the Heads of the department with the Director are held regularly. During such meetings the purchase list is finalized and funds are allocated according to the various needs of the departments. The finance committee is then entrusted the work of actual purchase.

The strategic plans related to all academic activities are prepared before the commencement of every academic session by publishing academic calendar of that year which is in tune with the academic calendar of our university. The entire work of administration is allotted to various administrative committees thereby ensuring decentralization of power, duty and responsibility.

Participative Mechanism Case study: Annual social gathering is organized every year in our Institute for which various committees are formed. The professor in charge of the student representative council is the overall Head of the Gathering Committee. The committees of students, teachers and non teaching staff are formed for this purpose and they work under his overall supervision. Roles and responsibilities are distributed to these committees for looking after specific and smaller aspects of governance and management. These committees are empowered to take decisions in good faith and after obtaining necessary sanctions they can implement and execute their decisions. In this way, Annual Social Gathering is organized successfully with the participation of all stakeholders consisting of teaching, non-teaching and student representatives.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.2 Strategy Development and Deployment

6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

Response:

Our Institute strategically plans activities and executes them in a planned manner. The activities are decentralized at four levels as departmental, administrative, academic and financial. At the departmental level, the strategic plans are prepared with the consent of faculties; the academic strategic plans are made before commencement of academic session by preparing academic calendar of that year taking into consideration the academic calendar of RTM Nagpur University, Nagpur. Administrative committees that are formed at the beginning of the session are responsible for all student and staff related activities.

The most successful example of such an implementation is the strategic planning done by finance committee. Our institute receives financial guidelines from Government and quasi governmental agencies. As per these guidelines, financial proposals are prepared as per the requirements of various departments.

Strategic plan: - In 2014-15 our Institute received guidelines from the State government for various funding proposals under RUSA. We prepared our strategic plan (IDP) as per their guidelines. The plan aimed at upgradation of our institute with student centric mindset. A Detailed Project Report (DPR) on thrust areas of overall development viz infrastructure, modernization of laboratories, upgradation of classrooms besides provision and augmentation of various facilities for students was prepared and this proposal was submitted to RUSA. The state project directorate (SPD) of RUSA sanctioned the proposal.

IMPLEMENTATION:

1. The DPR for proposal was submitted to RUSA which accepted the proposal and sanctioned 200 lakh rupees for our institute. We received the grant of rupees 50 lakh for Phase- I which was utilized for modernization of classrooms (including technologically enabled classrooms), upgradation of learning resources and office facilities. The director held a series of meetings with heads of the Departments and RUSA monitoring committee so that the plan could be implemented successfully. Thus the implementation of Phase- I of plan was carried out successfully.
2. In the second phase, an amount of Rs. 1 crore was sanctioned. We considered the following important components for the development of our institute during this phase.

- Extension of Existing Girls Hostel Facility
- Boys Hostel : Roof Repairing and Water proofing
- Boys Hostel : Windows & Door Replacement
- Boys Hostel : Repair of Existing Drainage Line
- Boys Hostel: Replacement of Pipe Line and Taps
- Boys Hostel : Parking Areas : Flooring and Shade
- Up gradation of B.Sc. (Chemistry) Undergraduate Laboratory
- Post Graduate Laboratory of Environmental Science
- Electricity fitting at Girls Hostel
- Provision of chairs/ furniture for smart class rooms
- Extension of CCTV Facility
- Augmentation of Office Facility
- Upgradation of Library

Similarly strategic plans were submitted to DPC and UGC (under CPE Phase I & II) by our Institute. The same were sanctioned and we successfully implemented these plans.

File Description	Document
Any additional information	View Document
Strategic Plan and deployment documents on the website	View Document
Link for Additional Information	View Document

6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism

Response:

Our Institute is a purely state government owned body, which comes within the ambit of state Ministry of technical and higher education. The institute is managed as per the policies, rules and regulations laid down by the State government. The Organizational structure of the Institution, administrative setup and functions of various bodies are enumerated as under.

Sr.No.	Contents	Functions
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1	<p>Main Governing body consists of :-</p> <ul style="list-style-type: none"> • Minister of Higher and Technical education • State Minister of Higher and Technical education • Secretary of Higher and Technical education 	<ul style="list-style-type: none"> • Policy framing, Academic and financial management. • Overall control. • Final authority
2	<ul style="list-style-type: none"> • Director of Higher Education(DHE)at State level 	<ul style="list-style-type: none"> • Overall supervision • Execution of policies • Administrative and financial control
3	<ul style="list-style-type: none"> • Director of Institute 	<ul style="list-style-type: none"> • Overall In charge of the Institution • Execution of policies at ground level • In charge of Administration and finance of Institute • Responsible for overall Academic progress and development of Institute • Management of routine day to day affairs of Institute
4	<ul style="list-style-type: none"> • Joint Director (Regional) 	
5	<ul style="list-style-type: none"> • Head of Departments, Teaching Staff, Registrar, Office Superintendent, non-teaching staff , various Committees 	<ul style="list-style-type: none"> • Head of Department is responsible for smooth functioning of respective departments • Teaching and non-teaching staff to perform designated functions and duties. • Registrar responsible for office staff and related matters. • Different Committees to look after specific micro level aspects • All the above to assist the Director for efficient management of Institute.

All teaching and non-teaching staff is appointed by Maharashtra government. As such service rules as per provisions of MCSR are applicable to them.

All educational institutions including ours that are owned by state government work out the requirement of teaching staff and forward the same to the Director of Higher education, who in turn submits a consolidated requirement of staff to the Ministry of Higher and Technical education for approval. This is then forwarded to Maharashtra State Public Service Commission (MPSC) for recruitment. Depending upon the vacancies, MPSC invites applications from eligible candidates throughout the state and after scrutiny and interview, candidates are selected for appointment to appropriate posts.

Similarly the requirements of non-teaching staff are communicated to the Maharashtra government through the joint director. After getting the necessary sanction, the recruitment of non-teaching is carried out by the Joint director.

Circulars regarding promotions of teaching staff to the next scale/grade are received from the DHE's office from time to time.

The faculty members who are due for placement fill the forms according to the CAS guidelines. All such applications are recommended and forwarded by the Director to the higher authorities for placement and promotion.

Similarly, circulars regarding promotions of non-teaching staff to the next scale/grade are received from the Joint director's office.

There are committees to deal with particular grievances, for example, Anti ragging committee and Discipline Committee. Additionally, there is an Internal Complaints Committee which deals with all kinds of grievances including protection against sexual harassment at workplaces.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.2.3 Implementation of e-governance in areas of operation

1. Planning and Development
2. Administration
3. Finance and Accounts
4. Student Admission and Support
5. Examination

- A. All 5 of the above
- B. Any 4 of the above
- C. Any 3 of the above
- D. Any 2 of the above

Response: E. Any 1 of the above

File Description	Document
Screen shots of user interfaces	View Document
ERP Document	View Document
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	View Document
Any additional information	View Document

6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

The administrative head, academic head and IQAC coordinators monitor all committees of the Institute under the guidance of the Director.

The management system of the Institution is highly decentralized. All the faculties and employees of our Institute work on the principles of team work, collective responsibility, cooperation, freedom and participatory management. The list of committees is prepared before commencement of every academic session. The in-charge of each committee is informed about the various activities to be taken during the year. The in-charge conducts meeting and assigns duties to the members of his/ her committee. Meetings are held at regular intervals for success of any event. After every meeting, the minutes are noted based on the discussions held and decisions taken.

The brainstorming in the meeting results in an action plan for any academic or other allied activity. Along with teaching faculty, non-teaching members and student members also participate in such meetings.

Magazine Committee: Magazine is a yearly feature of our Institute written and edited by our staff and students. It features general articles by students and staff members, departmental reports, achievements of staff and students and various activities that take place throughout the year. It is in a sense the most important documentary of all activities of the Institute.

The Magazine committee as such is one of the important committees of our Institute. The aim of the committee is to provide a platform for young students to play varied roles and publish a standard magazine and to budding student writers to display their creative and literary talent.

The magazine committee comprises of both staff and students. Student members are selected on the basis of an interview with the in-charge and other staff members of the committee.

At the preliminary meeting of the magazine committee, the date of publication is decided. Once the

date of publication is finalized, the committee in-charge conducts frequent meetings in which the schedule is prepared for various activities like deciding the name of the magazine, gathering of the material and facts, the schedule of the printing etc. The editorial board is also decided during such meetings. The students of the committee are entrusted various roles as per their capabilities.

Minutes of all such meetings are meticulously noted down and work is carried out accordingly.

Apart from sending notices to different departments, notices regarding submission of articles and other information are displayed on student notice boards. These result in collection of

- Academics related data from departments
- Scientific and general articles, poems and stories from students and staff members.
- Photographs of various extra-curricular & Co-curricular activities.
- Reports of various committees
- Details of achievements of staff and students

The Institute magazine “Replica” is being published since last three years. The ethos as well as culture and values which we aim at inculcating amongst our students gets reflected in the annual magazine.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

1. Welfare measures provided by Employer i.e. State Government

Being a state government owned Institute employees are provided the following welfare facilities.

1. Provident fund facility
2. Medical expenses reimbursement facility
3. Group Insurance facility
4. Leave Travel Concession within Maharashtra
5. Various leave facility i.e. medical leave, casual leave, earned leave etc.
6. Duty leave to faculty members for attending national and international conferences/seminars/workshops/ guest lecturers/referee.
7. Recreation and sports facilities for staff and faculty on the campus made available to them free of

cost

8. Special duty leave to staff for participation in sports events held at state, national and international level
9. Pension scheme after retirement as per state government norms
10. Providing employment to dependent successor of deceased employee on compassionate ground
11. Various loan facilities e.g. housing loan, computer, vehicle loan etc.
12. Medical reimbursement facility for family of employee.

2. Self-Generated Welfare measures by Employees

There are certain self-generated welfare facilities by employees created on collective, cooperative basis which are as under

1. Registered employees credit cooperative society is formed to offer short term and long term loans/ deposits, education loan, rice loan to employees on convenient and reasonable terms.
2. Provision of emergency loan in case of an emergency related to the society member and/or family member.
3. Every year employees get dividend on shares and some gifts from the profits earned by credit society.
4. Society organizes Health checkup camps for all members and their families
5. Society follows the directives/guidelines given by state cooperative departments like Plantation programs.
6. Society felicitates the meritorious wards of members every year.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.3.2 Average percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years

Response: 3.33

6.3.2.1 Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
0	10	0	0	0

File Description	Document
Details of teachers provided with financial support to attend conferences,workshops etc during the last five years	View Document
Any additional information	View Document

6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years

Response: 2

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1	5	3	0	01

File Description	Document
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	View Document
Any additional information	View Document

6.3.4 Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years

Response: 37.17

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
30	29	25	6	13

File Description	Document
IQAC report summary	View Document
Details of teachers attending professional development programs during the last five years	View Document
Any additional information	View Document

6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

Response:

The Institute conducts the performance appraisal of its teaching and non-teaching staff through a combination of ways. The Institute has formed Academic Audit committee, which looks after Performance Based Appraisal System. For performance assessment of the teaching staff, all faculty members are required to submit a Performance Based Appraisal System (PBAS) every year based on the performance appraisal norms suggested by the UGC. Institute follows the mechanism, in which IQAC committee circulates notice regarding submission of PBAS with required documentation within a stipulated deadline.

The administrative office collects hard copies of all teaching faculties and forwards the same to the Academic Audit committee which carries out a detailed assessment of reports based on the documents provided. After analyzing individual reports, the committee recommends the desirable activities which are to be done by faculty to increase his/her scoring.

Circulars regarding placements to next scale/grade are received from the DHE's office from time to time.

The Placement and Fixation Committee personally guides those faculty members who are due for placement to fill the forms according to the guidelines.

All such applications are recommended and forwarded by the Director to the higher authorities for placement and promotion. Many of the staff members have received their due placements after fulfilling necessary requirements.

The data submitted to the above committee by individual faculty members is also used as one of the measures of performance assessment. Secondly, the teaching faculty is required to maintain an annual diary which contains records of teaching assignments handled by the faculty during the year, in addition to other co-curricular and extra-curricular work, Institute and University assignments, professional development activities, community outreach activities, research and publications and administrative work. The work of teachers on various committees on which they are members is also taken into consideration while assessing the performance. The Director also contributes personal observations and interactions with the faculty members as a measure of performance assessment. In this way, the college tries to make a holistic and multi-source appraisal of the performance of the teaching staff.

Like the teaching staff, the Institute also strictly follows the systematic procedure for performance appraisal of the non-teaching staff. Annual Confidential Reports (CR) is filled by the office considering their performance and compliance to the orders of the administration. The Heads of the departments with

which the non-teaching staff are associated are taken into confidence while preparing the CRs. These CRs are verified by the Director with his prudence and sent to the Joint director for further procedure.

File Description	Document
Any additional information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

- Being a government Institute, audit is conducted by Accountant General (A.G.). The utilization of current year approved budget along with the budget projected for the forthcoming year is submitted to Director higher education, Pune every four months. Unless Account statement is verified, the budget for forthcoming year is not sanctioned by Director higher education. So it is in way similar to internal audit.
 - A. G. audit is done once in five years.
 - The audit of funds received from various funding agencies, like DPC & RUSA is done by A.G. The audit of funds received from UGC is done by C.A.
 - The utilization certificate for all the grants is submitted to the respective agencies.
 - For any audit objection, the mechanism for settlement is as under
1. Personnel from External Audit Party (EAP) i.e. A.G. Office, Nagpur are deputed for carrying out audit work.
 2. On conclusion of audit of a particular period, EAP (A. G.) inform their final objections/queries (If any) to the Head of the Administrative Unit i.e. Director of our Institute in the form of an Audit Report.
 3. EAP specify the control issues i.e. they comment on the points where the controls are required to be established or tightened to avoid repeating the same mistakes in future.
 4. On receiving information of audit objections/queries, remedial actions are immediately initiated regarding the monitoring of internal controls to avoid repetition of the objection. Follow up is carried out regularly so that compliance of the observations is done within shortest possible time.
 5. EAP provides a time limit for settlement of objections if there are major pending audit objections. Such matters are followed up and monitored periodically to ensure timely compliance. Although we try to comply with the audit objections within time frame, there are certain issues which can only be settled by the higher authorities. In such cases higher authorities are informed and requested to sort out the discrepancies at their earliest.
 6. The Audit objections are settled with proper compliance and communicated to the A. G. by Director of the Institute.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III) (INR in Lakhs)

Response: 228.46

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
8.521	8.86	6.76	202.778	1.541

File Description	Document
Details of Funds / Grants received from non-government bodies during the last five years	View Document
Any additional information	View Document
Annual statements of accounts	View Document

6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

Response:

The following resource mobilization policy is implemented meticulously in our institute.

- We prepare strategic plans aimed at upgradation of our Institute on thrust areas of overall development viz infrastructure, modernization of laboratories, upgradation of classrooms and augmentation of various facilities for students and submit the same to various agencies like State Government, RUSA, DPC, DST and UGC.
- Faculty members submit research proposals to UGC, DST and other agencies including RUSA.
- Our Institute approaches various alumni and the alumni association of our Institute for financial assistance in the form of scholarships. Every year AASCON, the alumni association of our college donates more than one lakh rupees for grant of scholarship to students.
- The various grants received from all such agencies listed above form a major portion of the resources of our Institute.

At the commencement of every academic session, the strategic budget plan is prepared for optimal utilization of resources.

1. Every year, the budget prepared by the Institute for carrying out construction, repair and renovation of the Institute building and premises besides purchase of instruments and chemicals is submitted to state government and other agencies such as University Grants Commission (UGC), RUSA, DST and DPC for sanction.
2. After receiving the grants the Director who is the Chief Disbursing Officer, in consultation with the Finance Committee and the Purchase Committee disburses the amount to the respective departments.
3. All the purchases are carried out according to the Maharashtra Government Resolution.
4. The utilization of the budget is monitored regularly by the Institute as per the guidelines of the funding agencies.
5. The scholarship amount received from the donors is awarded to the deserving students after due verification.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

Response:

Internal quality Assurance Cell (IQAC) is the most significant cell of our Institute. It has immensely contributed towards development of Institute. Various initiatives taken by the cell during the past five years have brought laurels to our Institute directly and indirectly. IQAC takes a lead in organising various academic, co-curricular and extracurricular activities for the overall development of students and faculty members.

The two significant initiatives by IQAC are :

1. MOUs and Linkages with different agencies.

Ours is a premier Institute where Research is our strength. We believe that research carried out in

laboratories should benefit the society at large. Hence we convert the research activities of our Institute into community welfare activities. Signing MOUs and establishing linkages and collaboration is one of the most significant initiatives taken by IQAC. It is a matter of pride to mention that during the last three years we have signed seven MOUs with different organizations, which has accelerated the growth and development of our students and Institute. These are

- MOU with Quick Heal foundation
- MOU with Swacch Nagpur
- MOU with Dr. Rajendra Singh Science Exploratory
- MOU with Ayurvan Foundation
- MOU with Department of Botany and Biotechnology of Santaji Mahavidyalaya, Nagpur
- MOU with JNRDDC
- MOU with DELNET

IQAC coordinator and members of IQAC have taken great efforts in signing these memorandums. MOUs, linkages and collaborative work have become a regular feature of Institute.

2. IQAC initiative in organization of Conferences, Workshops and Seminars.

It is a matter of great pride that our Institute along with the academics in UG and PG level contributes towards research activity. For the latest innovations in the field of Science, Technology and Holistic development of students, IQAC takes initiative in organizing conferences, workshops and seminars, so that the students can face different challenges in the era of globalization. Workshops on Entrepreneurship and soft skills enhance the personality of students and boost their self confidence.

During the last five years, IQAC organized various conferences, symposia and workshops , namely,

1. National Conference on Statistics Mathematics and their Applications from 03- 04/01/2014.
2. MCED, DST-NIMAT sponsored Faculty Development Programme from 11- 25/03/2014
3. International Satellite conference on Global Environmental Concerns, 28/03/2014.
4. International Symposium on Ultrasonic, 22-24/01/2015.
5. Second International Congress of Society for Ethno pharmacology (SFEC 2015) in India, 20-22/02/2015
6. One day symposium on Biodiversity of past, 22/01/ 2016
7. Pre-Ph. D. Course work on “Research Methodology and Computer Application” from 20-30/04/2016.
8. Two days Workshop on Soft Skill and Personality Development , 23-24/09/2016
9. MCED, DST-NIMAT sponsored Faculty Development Programme from 13- 24/12/2016
10. Two day workshop Atmavishwas, 3-4/02/2017
11. Pre-Conference Workshop to Sensitize Community for Solid Waste Management and International Conference on Integrated Solid Waste Management Practices in Developing Countries on 06/04/2017 and from 11-12/04/2017.
12. Two day workshop Nirdhar, 19-20 /09/2017
13. Workshop on “Intellectual Property Rights”
14. Workshop on “Plagiarism”
15. Life skill Workshop, “Tarunyabhan”

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms

Response:

Our institute plans the teaching, learning and evaluation schedule by preparing the academic calendar at the commencement of every academic year. This calendar contains relevant information regarding the teaching, learning schedule (working days), various events to be organized, holidays, dates of Internal examination etc. The IQAC plans the academic activities at the beginning of the year and accordingly various departmental committees are entrusted with the implementation of these plans. At the end of the year, review of the activities is taken and a tentative future plan is prepared for the next session. The Director, Heads of various departments, and the coordinator of IQAC review the teaching learning process regularly. Two examples of the Institutional review mechanism and implementation of teaching learning reforms facilitated by IQAC are presented below.

1. Smart Classrooms

Smart Classroom is in itself a reform in teaching learning process. To make this reform possible a training programme on “How to Use Smart class room” was organized on 12/01/2017 for the benefit of faculty members. Necessary equipments for establishing eight smart classrooms were granted under RUSA which is a very distinctive feature of our institute. Faculties from various departments make use of the smart classroom technology for enhancing and making improvisations in their teaching process.

Feedback from the students revealed that the students get better understanding because of the visualization aspect of the smart class rooms with help of interactive board.

2. Daily Theory and Practical Report (DTPR)

Another unique reform at our Institute is the Daily Theory and Practical Report (DTPR). The IQAC has developed this system of DTPR. Under this reform every student has to sign a separate attendance sheet and write the topic taught on the day. This not only assures the attendance of the students but also ensures their attentiveness. The exercise is carried out by all the teachers and for all the classes on daily basis. Because of this reform the attendance of the students has increased tremendously up to 75% and above. The DTPR has not only ensured the attentiveness of the students but it has also brought in a sea of changes in the attitude of the teachers and conduct of their classes. With the help of this DTPR we can monitor the topics covered by the teachers at any point of time and thus an academic discipline has automatically developed in our institute. The role of IQAC has really been that of a quality controller of the education system in our Institute as regards the teaching learning process.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

Response: 6.6

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
6	14	8	2	3

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	View Document
Any additional information	View Document
IQAC link	View Document

6.5.4 Quality assurance initiatives of the institution include:

1. Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
2. Academic Administrative Audit (AAA) and initiation of follow up action
3. Participation in NIRF
4. ISO Certification
5. NBA or any other quality audit

A. Any 4 of the above

B. Any 3 of the above

C. Any 2 of the above

D. Any 1 of the above

Response: D. Any 1 of the above

File Description	Document
e-copies of the accreditations and certifications	View Document
Details of Quality assurance initiatives of the institution	View Document
Annual reports of institution	View Document

6.5.5 Incremental improvements made during the preceding five years (*in case of first cycle*) Post accreditation quality initiatives (*second and subsequent cycles*)

Response:

Our Institute is awarded with “College with Potential for Excellence (CPE)” status. We have implemented suggestions given by NAAC peer team during second cycle visit. Institute organized workshops, Guest lectures by eminent Scientists, soft skill programs, and started career oriented courses.

Recommendations by NAAC peer team during Second cycle	Status in 2012-13 visit	Current status in 2013-18
1. Career Oriented courses in need based areas	Nil	Introduced Three Career Oriented Certificate Courses 1. Plant biotechnology 2. Medical Electronics technician 3. Statistical Package R
2. Organized skill development and entrepreneurship programs	Nil	Organised 04 Skill development Courses. 1. Personality Development and soft skill development Programs, 2. Nirdhar and 3. Atmavishwas 4. Two programs on Entrepreneurship in association with MCED
3. Collaborative linkages	Nil	Established collaborative linkages through 07 MoUs
4. Research activities	1.No. of research papers: - 100	1.No. of research papers: - 550

	<p>2. No. of students awarded Ph. D.: - 52</p> <p>3.No. of Ph. D. course work programs: - Nil</p> <p>4.No. of Conferences, Workshops and Seminars conducted: - 9</p>	<p>2.No. of students awarded Ph. D.: - 91</p> <p>3.No. of Ph. D. course work programs: - 01</p> <p>4.No. of Conferences, Workshops and Seminars conducted: - 34</p>
<p>5.Enhancement of infrastructure facility and up gradation of boys hostel</p>	<p>Funds received from PHASE I DPC and Plan grant from state government was utilized for</p> <p>1. Renovation of Boys hostel building</p> <p>2. Additional floor Construction of Girls hostel building</p> <p>3. Canteen facility</p>	<p>Funds received from CPE PHASE II DPC RUSA and Plan grant from state government was utilized for</p> <p>1. Establishing separate Instrumentation lab for every department.</p> <p>2. Construction of first floor of Girls hostel.</p> <p>3.Construction of Girls hostel (Extension)</p> <p>4.Construction of New Library building under DPC</p> <p>5.Construction of New Physical Education department building with multi facility gymnasium</p> <p>6.Renovation of Boys hostel facilities under RUSA Phase II</p>

		<p>7. Central RO water purification facility under DPC</p> <p>8. Monitoring of entire campus through CCTV surveillance</p> <p>9. Construction of Ramp for differently abled students under Sugamya Bharat Program.</p> <p>10. Canteen facility</p>
6. Enhancement of staff, teachers, and students welfare programs.	<p>1. Employees Credit Cooperative Society for staff</p> <p>2. Co-operative store for students.</p>	<p>1. Health check up camps for staff</p> <p>2. Employees Credit Cooperative Society for staff</p> <p>3. Co-operative store for students.</p> <p>4. Organised Two Faculty Development programs in association with MCED</p>
7. Modernization of laboratories.	<p>1. Spectrophotometers</p> <p>2. TGA,</p> <p>3. DTA,</p> <p>4. Compound microscope,</p> <p>5. Polari meter,</p> <p>6. Bacterial incubator,</p> <p>7. Autoclave etc.</p>	<p>Purchase of modern equipments like</p> <p>1. HPLC,</p> <p>2. UV-Visible Spectrophotometer</p> <p>3. Electro station,</p> <p>4. Raman spectrometer,</p> <p>5. Thin film device,</p> <p>6. Ultrasonic interferometer</p> <p>7. Coagulator,</p> <p>8. Flame photometer and</p> <p>9. Muffle furnace</p>
8. IT facilities	<p>1. Computer lab at Department of Statistics and Computer Science.</p> <p>2. A Wi-Fi line of 10Mbps was installed.</p>	<p>1. Separate Computer lab for each department except department of Electronics.</p> <p>2. Along with 10 Mbps line,</p>

		<p>Institute also has an additional Upgraded 100 Mbps Wi-Fi line.</p> <p>3. Eight smart class rooms were established.</p>
<p>9.Establishment of Health Center</p>	<p>Nil</p>	<p>At Physical Education Department with necessary facilities and First Aid kit.</p>
<p>File Description</p>		<p>Document</p>
<p>Any additional information</p>		<p>View Document</p>



Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

Response: 9

7.1.1.1 Number of gender equity promotion programs organized by the institution year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
4	2	1	1	1

File Description	Document
List of gender equity promotion programs organized by the institution	View Document
Any additional information	View Document

7.1.2

1. Institution shows gender sensitivity in providing facilities such as:

1. Safety and Security
2. Counselling
3. Common Room

Response:

Institution shows gender sensitivity in providing facilities such as:

1. **Safety and Security:** Ever since its establishment, our institute is co-educational providing equal opportunities to both male and female students. Our institute takes extra care and measures not only in ensuring proper security and support to girl students, but also in being sensitive to gender-related issues. The entire campus is situated in a 12.73 acres area secured by fencing wall on all sides. Outsiders are generally not permitted without the prior permission of the Director. In addition to this, security persons are appointed round the clock to monitor the movements of strangers, if any. CCTV cameras have been installed at various strategic locations of the Institute. The Director can visualise all the activities on the central TV monitor in his chamber. There is a facility of recording of day to day events also. Besides the twenty four hours guarding and monitoring by professional security agency, constant in-house monitoring is also carried out by various teams of teaching and non-teaching staff. The discipline Committee also monitors activities in the campus

and looks after issues related to the campus life of the students. Committees like internal complaint committee, the Anti-Ragging Committee and the Grievance Redressal Committee look after grievances of all kinds. The Internal Complaint committee which has been formed for protection of students and staff against sexual harassment specifically looks into gender related matters.

1. **Counseling:** The internal complaint committee and Women's Cell ensure that the girl students are made aware of issues related to the gender sensibility. Various programs and group discussions are organized on a regular basis to create awareness among the students about gender balance and equality. Women's cell conducts programs for female students such as 'Save the girl child', Women and laws, Hb level testing etc. Guidance is also given on self-defense, nutrition and health, yoga and mental fitness.
1. **Common Room:** In our Institute, a spacious common room with attached toilets has been provided specially for the girl students. The common room is well furnished with good seating arrangement and water cooler. Separate dust bins for biological waste and dry waste are kept in common room. Special care is taken for maintaining cleanliness of the washrooms and common room. Sufficient number of chairs and table are available for carrying out study during free periods and for taking lunch and rest.
2. **Initiatives of the Physical Education Department:** The physical education department has a state of the art Gymnasium which is made available to both male and female girl students and staff. There is a separate timing for using this facility by female students. Separate room for Yoga and meditation for girls and female faculty members is also available in the physical education department.

In all activities of the institute, boys and girls work together for success of each program so that gender equity is observed in all activities.

File Description	Document
Any additional information	View Document

7.1.3 Alternate Energy initiatives such as:

1. Percentage of annual power requirement of the Institution met by the renewable energy sources

Response: 0.39

7.1.3.1 Annual power requirement met by the renewable energy sources (in KWH)

Response: 1062.2

7.1.3.2 Total annual power requirement (in KWH)

Response: 272511	
File Description	Document
Details of power requirement of the Institution met by renewable energy sources	View Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.4 Percentage of annual lighting power requirements met through LED bulbs	
Response: 0	
7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)	
7.1.4.2 Annual lighting power requirement (in KWH)	
Response: 68127	
File Description	Document
Details of lighting power requirements met through LED bulbs	View Document
Any additional information	View Document

<p>7.1.5 Waste Management steps including:</p> <ul style="list-style-type: none"> • Solid waste management • Liquid waste management • E-waste management <p>Response:</p> <p>Solid waste management: Separate dust bins are provided to collect wet and dry waste which is useful to segregate waste at source. All solid waste is collected in large bins inside the institute campus. The disposal of solid waste is managed with the help of registered agency (Kanak Resources) deputed by Nagpur Municipal Corporation who pick up the solid waste generated in the campus from time to time. Besides this, compost pits have been prepared which are filled with leaf litter and inoculated with earthworms. The debris undergoes degradation by worms. The compost generated from pits is collected and used as bio-fertilizers for plants in our premises.</p> <p>An important aspect of waste management is to reduce the amount of waste as much as possible and easily dispose it rather than to produce large amount of waste and make its disposal difficult. A substantial part of solidwaste in an educational institution like ours is paper. Our institute works on the principle of reduce and reuse in this case. Efforts are constantly made to reduce the usage of paper through computerization, digitalization and use of electronic communication across all departments of the Institute.</p>

We constantly strive to make our campus plastic-free. The NSS unit of our Institute plays an important role in sensitizing the staff and students about plastic free campus and plastic free society.

In April 2017, our institute organized a workshop to sensitize the community on solid waste management. Students and staff actively participated in the workshop and helped the community to understand about segregation of dry and wet waste. The workshop was followed by an International Conference in January 2018 on “Solid waste management in developing countries” in collaboration with NEERI, Nagpur.

Liquid waste management: The liquid waste generated in all the laboratories especially chemistry laboratory is disposed by following the prescribed regulations keeping in view the safety of students, staff and environment.

E- Waste management: As part of its eco-friendly practices, our institute tries to manage all types of waste as efficiently as possible. Being a government organization, e-Waste is disposed through write-off procedure after coupling with necessary Government rules.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Nagpur is located in a moderate rainfall area and receives abundant rain fall during the monsoon. However, sometimes during summer season it faces water scarcity. Our institute uses rainwater harvesting to its advantage. The water from the rains is harvested for a variety of purposes. Further, the run-down water from roof-tops is gathered through a network of pipes and collectors which is then directed into specialized pits available in the premises. While some of the harvested rainwater satisfies the needs of the institute, a lot of it also goes into recharging the ground water and rejuvenate the depleting ground water resources. Provision has been made for rain water harvesting system in our upcoming new library building. The department of physical education has made a proposal for rain water harvesting. The girls and boys hostel of the institute have had this facility since long, resulting in an increase in water table in and around the campus.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.7 Green Practices

- **Students, staff using**
 - a) **Bicycles**
 - b) **Public Transport**
 - c) **Pedestrian friendly roads**
- **Plastic-free campus**
- **Paperless office**
- **Green landscaping with trees and plants**

Response:

Environmental damage due to increasing carbon emission by human activity is of great concern. Our Institution is also concerned about this grave problem and has taken many initiatives to tackle it at Institute level.

1. Majority of the students in the campus rely on public transport indicating lesser carbon foot print of the student community.
2. Nearly 10% of the college students travel from various places ranging between 10-30 km away from Nagpur.
3. Most of these students commute by trains and buses. Others use vehicles like bus, auto rickshaws and cab. A few are dropped by their family members in two wheelers/four wheelers.
4. Some students use their own two wheelers and many of the students use bicycles.
5. Some of the staff prefers coming by bicycle while some use car pooling to reach college.
6. The entire campus is provided with pedestrian friendly roads. Swachhata Abhiyan and awareness programmes are conducted by NSS unit frequently to keep the campus plastic free.
7. The institute administration follows “less paper” policy as far as possible.
8. The records in the office are digitalized and maintained in soft copy. In many departments, staff and students utilise used papers, blank side of envelope and invitation cards to do rough work thereby saving paper.
9. Environmental damage due to increasing carbon emission by human activity is a matter of great concern everywhere globally..
10. Stationery and garden waste in Institute is generally processed for its decomposition rather than incineration.
11. Many trees in the premises like Anjan, Royal palm, Cassia, Gardenia, Teak, Australian Acacia, Desi Badam, Neem, and Gulmohar, are very old (above 50 Yrs of age).
12. Many tall Royal palms and large Kalamb trees present in our campus help to maintain not only temperature but also to reduce carbon emission by increasing carbon footprints.
13. Most of the trees and shrubs in the campus carry name plates which help in identifying them by their common as well as botanical names.
14. Students are also motivated to use bicycles and public transport. Some faculties use bicycles throughout the year.
15. In chemistry laboratories, there is a general reduction in the use of hazardous chemicals. Besides this; green initiatives of Institute are boosted by the adoption of green techniques like semi micro analysis, green reagents etc.
16. A huge green lawn, a beautiful garden with many colourful Bougainvilleas and other flowering plants plus a Botanical garden enriched with a good collection of medicinal plants make the premises beautiful and rich in biodiversity.

17. Plant debris is collected in pits and decomposed to produce organic manure.
 18. Organic farming is practiced at institute by using manure produced by decomposition of biodegradable material.
 19. Green house has been built for conservation of rare, endangered and endemic plant species.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

Response: 0.36

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
0.122	6.45	0.444	0	0

File Description	Document
Green audit report	View Document
Details of expenditure on green initiatives and waste management during the last five years	View Document
Any additional information	View Document

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: D. At least 2 of the above

File Description	Document
Resources available in the institution for Divyangjan	View Document
Any additional information	View Document
link to photos and videos of facilities for Divyangjan	View Document

7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

Response: 36

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
20	7	5	2	2

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	View Document
Any additional information	View Document

7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Response: 15

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
8	3	2	2	0

File Description	Document
Report of the event	View Document

7.1.12

Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff

Response: Yes

File Description	Document
Any additional information	View Document
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	View Document

7.1.13 Display of core values in the institution and on its website

Response: Yes

File Description	Document
Any additional information	View Document
Provide URL of website that displays core values	View Document

7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations

Response: Yes

File Description	Document
Details of activities organized to increase consciousness about national identities and symbols	View Document
Any additional information	View Document

7.1.15 The institution offers a course on Human Values and professional ethics

Response: No

7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Response: Yes

File Description	Document
Any additional information	View Document
Provide URL of supporting documents to prove institution functions as per professional code	View Document

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 11

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
3	2	3	2	1

File Description	Document
List of activities conducted for promotion of universal values	View Document
Any additional information	View Document

7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

Response:

To inculcate cultural, ethical and patriotic values, our institute celebrates national festivals and birth anniversaries of nationally important personalities.

- 1. Independence Day:** The programs of national importance are celebrated regularly.
- 2. Republic Day:** The programs of national importance are celebrated regularly.
- 3. Birth Anniversary of Mahatma Gandhi:** 2nd October is celebrated as Swacchata Divas under

Swaccha Bharat Abhiyan.

4. **Birth anniversary of A. P. J. Abdul Kalam:** To mark the birth anniversary of A. P. J. Abdul Kalam, “Wachan Prerana Din” is celebrated, where students are motivated to practice the habit of reading by eminent speakers.
5. **Birth anniversary of Lal Bahadur Shastri**
6. **Birth anniversary of Savitribai Phule**
7. **Birth anniversary of Dr. S. Radhakrishnan: Teachers’ Day**
8. **Birth anniversary of Chhatrapati Shivaji Maharaj**
9. **Birth anniversary of Sardar Vallabhbhai Patel**
10. **Birth anniversary of Maulana Azad**
11. **Birth anniversary of Bhagat Singh**
12. **Birth anniversary of Swami Vivekanand: Youth day**
13. **Birth anniversary of Dindayal Upadhyay**
14. **Birth anniversary of Dr. B.R. Ambedkar**
15. **Birth anniversary of Mahatma Jyotiba Phule**
16. **Constitution Day**
17. **NSS Day**
18. **National Sports Day**
19. **Marathi Bhasha Gaurav day**
20. **Wild life week**
21. **Kranti Din**
22. **International Yoga Day**

All the above events are celebrated with the active participation and contribution of the faculty, guest speakers and students.

File Description	Document
Any additional information	View Document

7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

Response:

Our institute maintains complete transparency in its financial, administrative and auxiliary functions.

The Director is the overall in- charge of all administrative, academic and financial related activities.

However, to assist in the above task Director has given responsibility to three faculty members.

- All financial aspects are executed through e-governance where every transaction is online. Salary bills are submitted to treasury via online system **Sevarth**. Administrative transparency is maintained by Director by conducting meetings of Head of the departments. Various administrative

and financial issues are discussed during such meetings. The grants and funds received from agencies like State government, UGC, RUSA, and DPC etc are allocated to the different departments as per their requirements with the consent of all heads of the departments. The respective HODs of the departments then submit the requirements with the consent of the faculty members of the concerned department.

- The various heads of the budget include the department capital requirements, student & faculty related expenses, event expenses, research & development, administrative expenses including lab consumables, repairs & maintenance & other infrastructure related expenses, etc.
- Office administration is also carried out via e-Governance where maximum transactions and communications are carried out online.
- The scholarships of the students received from the Government and other agencies are directly transferred to the beneficiaries through Direct Benefit Transfer portal.
- The utilization of the current year approved budget along with the budget projected for the forthcoming year is submitted to Director of higher education every year.
- The account books maintained by the office are regularly audited by the Accountant General, Nagpur. Financial discrepancies if any, get checked from such rigorous audit practices thus ensuring financial discipline.
- All transactions are routed through banks to avoid unwanted cash handlings.
- Feedback from the stakeholders on a regular basis and acting on the same is an effective mechanism to ensure transparency and effective management.
- Administrative In-charge forms different committees at the beginning of every academic session for conducting day to day activities.
- At the commencement of every session, an academic calendar is prepared and circulated to every department. An innovative procedure to maintain academic transparency was introduced by the director two years back. Besides the attendance taken by the teachers in their class, signatures of students on daily attendance report is taken during each lecture. This further ensures academic transparency. All faculty members maintain a daily diary in which they record the teaching and administrative activities completed by them every day.
- The performance of the students is evaluated on the basis of unit tests and assignments. These, along with the percentage of attendance, are taken into consideration for giving internal marks.
- Parent-teacher meet is organized during every session for getting their feedback on various issues concerning their wards.

Student- teacher mentorship: At the beginning of every session, a batch of about 20 students is assigned to one faculty member who acts as their mentor.

File Description	Document
Any additional information	View Document

7.2 Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:**Title of the practice:** Organic farming**1. Goal:**

1. To raise environmental sensitivity and awareness among students.
2. To create awareness about cultivation of contemporary agriculture crops.
3. Conservation of environment and natural resources to maintain ecological balance.
4. To put an end to chemical pollution by refusing use of fertilizers and pesticides.
5. To give hands on training to the students.
6. To create environmental awareness.
7. To provide self-employment opportunity to students.
8. To create awareness of entrepreneurship.
9. To motivate students for hard work.
10. To promote participation of students in earn and learn scheme.

1. The context: After the dawn of green revolution the use of chemical pesticides and fertilizers has increased significantly over the years to meet ever increasing requirement of food to feed surging population world over. . However there are some serious side effects of these latest agricultural practices, for example excessive use of chemical fertilizer and pesticide is causing serious diseases like cancer, harming general population. Some of these chemicals are hazardous which accumulate in plant parts and cause adverse effect on human health. Latest technology no doubt has increased yield of agriculture produce but with hazardous side effects. To overcome this menace organic farming is the best solution and, therefore, in order to create awareness among the students organic farming skill/technique is developed with the active participation of students. Environmentalists all over the world are raising concerns over the existing practice and promoting chemical free farming. We, at the institute level, are doing our own bit by starting organic farming in our premises. Access to healthy and wholesome food is the main motto behind organic farming besides developing entrepreneurship qualities and marketing skills among students.

2. Practice:

- This novel initiative is a joint effort undertaken by the NSS unit of our college along with the department of Botany, in collaboration with the Institute of Forensic Science which is also situated in our premises.
- Instead of chemical fertilizers locally prepared vermi-compost, manure and leaf litter is used. Vermi composting is done in the institute premises itself. Special pits have been prepared for the same, where leaf litter and biological waste is decomposed by incubating with earthworms. Compost produced is harvested and added to the field plots.
- The piece of land adjoining the Green house is used for cultivation. The land is prepared for cultivation by following conventional methods. Initially field is cleaned by de-weeding. Weeds were removed by weed cutter and by mechanical uprooting. Then field is ploughed and seeds are sown. The field is irrigated by using sprinkler irrigation system. Seasonal vegetables like spinach, fenugreek, coriander, Amaranthus etc are grown in small plots. The entire process from de-weeding and preparing the plots, sowing, watering and maintaining the field is done by the students under the guidance of young and enthusiastic staff members. Crop rotation and intercropping is practiced to preserve soil fertility and to make the whole process sustainable. The vegetables produced are sold to the employees at a reasonable cost.
- This healthy practice benefits the students in many ways. Apart from taking part in cleanliness

drive, they become aware about green initiative, learn the importance of farming and develop marketing skills.

- The maintenance of the farm including cleanliness, irrigation and harvesting the produce is done by the students under “Earn and Learn scheme”.

1. Evidence of success:

1. The entire plot of land covered with different vegetables is itself an evidence of success of this healthy and novel practice.
2. Seasonal vegetables like spinach, fenugreek, coriander; *Amaranthus*, *Chenopodium album* etc are grown in the farm by students. The record of crops grown and sold is maintained in a separate register. The revenue generated is used for preparing the farm for next season.
3. The students not only get acquainted with the practice of farming but actually get a chance to participate in the entire process. They become aware about self employment opportunities, entrepreneurship and how to judiciously manage funds besides earning money while learning.
4. Thus the environmental awareness in conglomeration with entrepreneurship speaks success story of organic farming.

Title of the practice: Holistic development

1. Goal:

1. Promotion of holistic development of students is the prime motive of our Institute.
2. The objective of holistic development is to stimulate competitive spirit among the students to make them competent to face global competency.
3. The target is to inculcate among the students, values of life, develop their intelligence level, and promote leadership qualities, create social awareness to understand the duties and responsibilities as a responsible citizen of the country, all these leading to the holistic development of a student.
4. There is hidden talent and creativity dormant in every student which needs to be explored.
5. Though importance is given to classroom teaching, our institute has a network of extension cells with clearly defined objectives.
6. Various curricular and extra-curricular activities are organized by the different departments in collaboration with the extension cells like NSS, NCC, LACF etc.
7. These cells provide a platform to the students to showcase their talent and help in nurturing them. Our Institute also encourages needy students to follow “Earn and Learn Scheme”.

1. **The context:** Sky is the limit for holistic development of every student .While ensuring the holistic development of the student it is also expected and observed that a general social awareness is created in the minds of the students. Various activities are undertaken for the holistic development of the student which in turn prepares them to be responsible citizens. Carrying out these activities with academics provides great platform for the students for their personality building and overall skill enhancement to meet the global challenges. The needy students of the Institute get chance to

work under Earn and Learn Scheme” so that while learning they get access to fulfill academic needs like books, textbooks, journals etc.

2. **Practice:** The following activities are conducted by the various committees on a regular basis.

1. **NSS:** This cell follows the slogan “Not me but you” and strives to create social awareness among students which will transform them into responsible citizens of our country. NSS conducts the following activities :-

1. **Blood donation camp:** To inculcate the feeling that we owe some debt towards society and that every responsible citizen must donate blood as and when possible which can save somebody’s life, blood donation camps are organized every year. We take pride in mentioning that this camp is being organized in our Institute since the past three decades or more.

2. **Cleanliness drive:** -We strongly believe in the saying “Cleanliness is next to godliness”. Cleanliness drive is organized regularly with the active participation of NSS students. Efficient solid waste management in the campus is the result of this activity.

3. **Tree plantation:** - Considering the importance of carbon footprints, tree plantation drive is conducted during July-August every year.

4. **NSS Camp:** -Every year a camp is organized for one week in a nearby village in which our NSS students create awareness among the villagers about cleanliness and hygiene besides educating them on various important issues.

1. **LACF:** The Literary and cultural forum (popularly known as LACF) was founded by a few talented students nearly 40 years back. It follows the slogan of "Brotherhood". The activities of the LACF include imparting guidance and training to students and encouraging them to take part in various cultural and literary programs. Various competitions like Debate, Elocution, Poetry and Open Talent Contest are organized by this forum to showcase the talent of students. LACF motivates the students for excelling in extracurricular activities. Every year there is a healthy competition among students to bag prizes. It is worth mentioning that under the aegis of this forum, our students have participated and bagged prizes in different cultural and literary events at University, Inter University and State levels.

2. **Best Student Competition:** The best student competition is conducted for the students of final year B.Sc. and M. Sc. Application in prescribed format are invited from the students of final year B.Sc. and M. Sc. wherein they have to furnish the details relating to academic performance, curricular, co-curricular and extra-curricular activities, sports achievements etc. A critical evaluation of the details is furnished made by the scrutiny committee and finally three students are selected for presentation to be given by them before the Jury and they have to satisfy the queries of the Jury. The practice of best student award is unique in the Indian higher education because it helps students in making them globally competent. A very encouraging and successful impact of the practice has been observed in the past as a result of which large number of students have been selected for IAS, top ranking scientists etc. and holding very responsible and respectable positions in various organizations within and outside India.

1. **Career & Counseling:** -This is one of the most important cells in our Institute. An important aspect for any institution is conversion of knowledge imparted to the students into a proper career to meet

the global challenges. Keeping this in mind, Career & Counseling cell organizes several soft skill programs, personality development camps and career guidance lectures. The motivational talks by various eminent personalities help the students in making a proper choice about their future.

2. **Women Empowerment Cell:-** The major function of this cell is to sensitize the students specially the female students about the issue of gender equality and to empower them. The cell organizes camps, lectures and different competitions for the benefit of female students.
3. **Student Task Force:** - This cell plays an important role in solving the different issues related to the students throughout the year. To develop bond and harmony amongst the students, and to showcase their different talents, annual social gathering is organized on a grand scale every year in which different cultural activities are planned and executed by the students themselves.
4. **NCC:-** Students enroll in the NCC wing and complete the “C”, “B” certificate training. Many of our students have taken part in camps including republic day camps and won prizes in different categories.
5. **Earn and Learn Scheme:** The post graduate students of Physics, Chemistry, Mathematics, Botany and Zoology are enrolled under this scheme with Prof. Rajendra Singh Science Exploratory by “Yuva” Zep Pratishtan Nagpur. The students are appointed as part time assistant communicators on hourly basis. The UG students of Institute work under the scheme for maintenance of garden & organic farm of the Institute.

1. **Evidence of success:** Active participation of students and their involvement in the above mentioned programs helps in creating awareness among the students which has helped them in deciding & excelling in the career of their choice. A few evidences of success are listed below.

1. Due to donation of blood by students at teenage stage, a social awareness is created in students, to help needy patients and on humanitarian ground that too without expecting any favor in return. This attitude so created at this juncture of time, plays a very important role in changing their attitude towards the life.
2. Basic military training and discipline which is incorporated in the NCC cadets, awakens a spirit of patriotism in the students which helps them to decide joining forces as a career or make them a responsible citizen.
3. The success of the Best Student Award competition is evident from the fact that the students who have been given this award were also selected as a Best Student of the RTM Nagpur University. The success of the award is also evident from the fact that many students of Institute of Science, Nagpur have also cleared IAS, IPS exams of MPSC, UPSC over the last few years. A large number of students are holding a very senior official position in different organizations.
4. Active participation of students in Literary and Cultural Forum helps them understand their potential.
5. 70% of students of the Institute get benefitted by different motivational lectures which prepares them to face the challenges in their career path.
6. 54 students have appeared for the interview conducted by the Rajendra Singh Science Exploratory and 11 students got selected for required position .

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.3 Institutional Distinctiveness

7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust

Response:

The **vision** of our Institute is to inculcate scientific temper among students to address global challenges by producing scientifically trained leaders and innovators and enhancing public understanding of science. True to this vision, we encourage our students to pursue Master's program in the subject of their interest after graduation and take it up further for research. During the Masters program, students take research based projects (dissertation) in their core subject where they select global, local, academically challenged issues. Our vision takes us higher when students pursue Ph. D. in the subject of their inclination.

Our institute is privileged to have 30 faculties who serve as research supervisors for Ph. D. programme. Along with the faculties, students publish significant number of research papers in various journals of repute. During last five years the numbers of publications are 550. We are not only a premier institute in publications of research papers but also filing patents.

The distinctive area of Institutional performance with its vision, priority and thrust is "Research and its transformation in to extension activities."

We are proud to mention that our institute was the only in Vidharbha and Central India offering Ph. D. in seven subjects under one wing for nearly three decades.

We have faculties with expertise in various disciplines of Pure and Applied Science. The faculty sent proposal for minor and major research projects to different funding agencies, the students in turn get a chance to work as research fellows for these projects. Thus they not only enhance academic knowledge but

also get monetary benefits.

The students, researchers, faculties keep themselves occupied in research activities after they complete the academic work assigned to them. The research activity which is the most distinctive feature of our Institute inculcating scientific temper and our mission is to bring benefit of science to society by providing rich education experience is truthfully performed. The execution of our vision and mission in this particular area of research becomes more relevant when the research is transformed into extension work for community and we address local and global challenges through research by faculties, researchers and students. Research, the distinctive academic area of our institute is carried out by –

1. **M.Sc. students** – by handling research projects

The students strive to work on academic, local and global problems. Our six academic departments, Botany, Zoology, Chemistry, Physics, Statistics and Environmental science gives project to students in their third semester. The student identifies the challenging problem related to their subject. The trend of research is generally related to local issues so that our scientifically trained innovators can solve the problems of community like food adulteration, solid waste management in Nagpur city, Water quality analysis, green audit, Photochemistry, Pharmacognosy, Medicinal chemistry, Biodiversity, statistical analysis of socially burning issues, Green Chemistry etc.

b) **Research students** – perusing doctoral studies leading to Ph. D degree.

Our Institute is a recognized center for research in seven subjects Botany, Zoology, Physics, Chemistry, Mathematics, Statistics and Environmental science. After discussing with supervisor the research student take up the problem as per need of an hour to meet the global challenges and community related issues like Nanotechnology, Green chemistry, Pollen allergy, Melissopalynology, Biotechnology, Chiropterology, Luminescence, Paleobotany, Material Science etc.

1. **Research by faculties**- for their academic thrust and excellence.

The faculties after completion of their academic duties do research independently or along with research student. For this purpose there is separate instrument laboratory in each department. Faculties from various department of Institute unite for collaborative research. They try to solve academically challenged problems through their research. Besides this also connect with the society through linkages with various organizations and try to work on relevant problems and needs of communities. Faculties regularly submit research proposals to funding agencies like UGC, DST, DBT, RUSA etc. The genuine research of the faculty which possesses human welfare value is patented. Four such patents have been filed and sanctioned. During recent years different departments of our institute contributed towards the welfare of the community by signing Memorandum of Understanding with various organizations. Noteworthy among them are the MoUs signed by

1. Statistics and Computer Science department with Quick heal foundation
2. Environmental Science department with Swacch Nagpur
3. Botany Department with Ayurvan Nagpur
4. Chemistry Department with JNRDDC etc.

In some departments consultancy is done based on faculty members using their expertise.

We are proud to mention that immense research carried out in different disciplines of our institute produce innovators who strive to fulfill the vision of our institute. Thus our institute acts as an academic hub which extends its services to the community by transforming academic research into extension.

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Any additional information	View Document
Link for Additional Information	View Document

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5. CONCLUSION

Additional Information :

The UGC selected our institute as “College with the Potential for Excellence” in 2010 and provided grants for the same.

The Rashtriya Uchchar Shiksha Abhiyan (RUSA) has also sanctioned **Rs. 2 Crore** grants for various development projects.

These funds were used for developing the infrastructural facilities, renovation of laboratories, purchase of new sophisticated instruments etc.

It is worth mentioning that a new state of the art library building is on the verge of completion.

Institute has sent the proposal for Cluster University as per RUSA guidelines along with four other colleges. The outcome is awaited.

Concluding Remarks :

The Institute of Science is one of the most prestigious institutes in central India. It was established in the year 1909 as Victoria Science College at Maharaj Bagh, Civil Lines, Nagpur. In the year 1929, this college was shifted to the present building situated on about 13 acres of land. Then it was named as “Science College”, uplifted to Institute in the year 1962.

The 100 years of legacy and tradition of excellence is maintained by the dedicated employees of this institute. This institute has world class alumni and excellent past records. A number of alumni have served on the highest post in research institutes, national level institutions, renowned colleges, government offices, industries, army and social organization.

The inheritance of excellence in academic and research is maintained by the learned faculties, who work on various research projects and experts in advance science subjects.

The three layers of education i.e. undergraduate, postgraduate and research provides a research-oriented learning experience, which helps students to achieve higher goals in their life.

The Institute takes full care of underprivileged students. A number of government and private scholarships are provided to students for pursuing their education.

Students of Institute not only excel in academic examinations but also participate and bring laurels in inter-university, state and national level sports and extracurricular activities.

Our curriculum is designed for the overall development of the students with scientific temperament. Every student gets full support and guidance for developing and carving his career through specialized programs and training besides the academic courses.

Over the years, this old traditional institution has unfolded its arms to bring in modern learning techniques and methods. It is dedicated to providing world-class education in pure science and research through a team of highly qualified faculties and staff having a strong sense of commitment to the social cause.

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6.ANNEXURE

1.Metrics Level Deviations

Metric ID	Sub Questions and Answers before and after DVV Verification																				
1.1.3	<p>Percentage of participation of full time teachers in various bodies of the Universities/ Autonomous Colleges/ Other Colleges, such as BoS and Academic Council during the last five years</p> <p>1.1.3.1. Number of teachers participating in various bodies of the Institution, such as BoS and Academic Council year-wise during the last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>18</td> <td>12</td> <td>12</td> <td>11</td> <td>15</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>5</td> <td>2</td> <td>2</td> <td>8</td> </tr> </tbody> </table>	2017-18	2016-17	2015-16	2014-15	2013-14	18	12	12	11	15	2017-18	2016-17	2015-16	2014-15	2013-14	4	5	2	2	8
2017-18	2016-17	2015-16	2014-15	2013-14																	
18	12	12	11	15																	
2017-18	2016-17	2015-16	2014-15	2013-14																	
4	5	2	2	8																	
3.3.4	<p>Number of research papers per teacher in the Journals notified on UGC website during the last five years</p> <p>3.3.4.1. Number of research papers in the Journals notified on UGC website during the last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>121</td> <td>101</td> <td>122</td> <td>111</td> <td>95</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>51</td> <td>44</td> <td>67</td> <td>62</td> <td>37</td> </tr> </tbody> </table>	2017-18	2016-17	2015-16	2014-15	2013-14	121	101	122	111	95	2017-18	2016-17	2015-16	2014-15	2013-14	51	44	67	62	37
2017-18	2016-17	2015-16	2014-15	2013-14																	
121	101	122	111	95																	
2017-18	2016-17	2015-16	2014-15	2013-14																	
51	44	67	62	37																	
3.4.2	<p>Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years</p> <p>3.4.2.1. Total number of awards and recognition received for extension activities from Government /recognised bodies year-wise during the last five years</p> <p>Answer before DVV Verification:</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>06</td> <td>10</td> <td>07</td> <td>06</td> </tr> </tbody> </table> <p>Answer After DVV Verification :</p> <table border="1"> <thead> <tr> <th>2017-18</th> <th>2016-17</th> <th>2015-16</th> <th>2014-15</th> <th>2013-14</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	2017-18	2016-17	2015-16	2014-15	2013-14	20	06	10	07	06	2017-18	2016-17	2015-16	2014-15	2013-14					
2017-18	2016-17	2015-16	2014-15	2013-14																	
20	06	10	07	06																	
2017-18	2016-17	2015-16	2014-15	2013-14																	

0	0	0	1	0
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Remark : Revised as per clarification and supporting award provided by HEI

3.4.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

3.4.4.1. Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
234	210	525	350	110

Answer After DVV Verification :

2017-18	2016-17	2015-16	2014-15	2013-14
229	326	525	140	160

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

4.1.4.1. Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
336.7496	289.7629	216.5420	281.3249	162.1436
0	0	0	5	0

Answer After DVV Verification :

2017-18	2016-17	2015-16	2014-15	2013-14
336.74	289.76	216.54	281.32	162.14

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

4.2.4.1. Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
1.23529	16.84916	1.49125	0.55226	0.05

Answer After DVV Verification :

2017-18	2016-17	2015-16	2014-15	2013-14
1.23	16.84	1.49	0.55	0.05

4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years

4.4.1.1. Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
118.1201 2	113.8859 2	80.19741	70.19059	50.35053

Answer After DVV Verification :

2017-18	2016-17	2015-16	2014-15	2013-14
118.12	113.88	80.19	70.19	50.35

5.1.3 Number of capability enhancement and development schemes –

1. For competitive examinations
2. Career counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses
7. Yoga and meditation
8. Personal Counselling

Answer before DVV Verification : C. Any 5 of the above

Answer After DVV Verification: D. Any 4 of the above

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national / international level (award for a team event should be counted as one) during the last five years.

5.3.1.1. Number of awards/medals for outstanding performance in sports/cultural activities at

national/international level (award for a team event should be counted as one) year-wise during the last five years

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
45	25	22	10	12

Answer After DVV Verification :

2017-18	2016-17	2015-16	2014-15	2013-14
25	9	3	2	2

Remark : Revised considering National and international level awards only

6.2.3 Implementation of e-governance in areas of operation

1. Planning and Development
2. Administration
3. Finance and Accounts
4. Student Admission and Support
5. Examination

Answer before DVV Verification : A. All 5 of the above

Answer After DVV Verification: E. Any 1 of the above

Remark : None of the supporting document have any implementation on e-governance from the HEI website.

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

Answer before DVV Verification : C. At least 4 of the above

Answer After DVV Verification: D. At least 2 of the above

2.Extended Profile Deviations

ID	Extended Questions
1.1	Number of courses offered by the institution across all programs during the last five years Answer before DVV Verification : 21 Answer after DVV Verification : 1

2.2 Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

Answer before DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
453.18977	400.82952	293.66171	343.39710	196.7796

Answer After DVV Verification:

2017-18	2016-17	2015-16	2014-15	2013-14
453.17	400.82	293.66	343.39	196.77

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