

FOR 4th CYCLE OF ACCREDITATION

SHRI MATHURADAS MOHOTA COLLEGE OF SCIENCE

SHRI MATHURADAS MOHOTA COLLEGE OF SCIENCE, NAGPUR, SAKKARDARA SQUARE, UMRED ROAD, NAGPUR 440024 mohotasci.edu.in

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL BANGALORE

February 2023

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Shri Mathuradas Mohota College of Science, Nagpur was established with kind help and generous donation of rupees one lakh by Seth Shri Mathuradasji Mohota in 1949. It is a matter of pride that the college is recognized as one of the finest science colleges in Vidarbha region of Maharashtra. This college is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University Nagpur (RTMNU) and is run by *Nagpur Shikshan Mandal* (NSM), one of the reputed and prestigious management in Nagpur. The college was established in response to the needs of a young generation of individuals who, despite their academic competence, had no avenues for further study. The college offers programmes with wide array of subject combinations at undergraduate, postgraduate and research level in science faculty.

Under the intellectual direction of the founders, president, secretary, other management members, principal, teaching, and non-teaching personnel, the college accomplishes its purpose of providing a learning environment conducive to the holistic development of students. All the programmes are directed towards realization of our mission and achieving our objectives.

Faculty members at the college are well-qualified professionals in their respective fields and work responsibly and with sense of devotion towards various tasks which aim at amelioration of various facilities offered to the stakeholders.

So far, the college has undergone three cycles of accreditation by the National Assessment and Accreditation Council (NAAC), Bangalore. The third cycle was completed in 2017 and we are currently accredited with A grade and a CGPA of 3.10. During the first and second cycles, the college was assessed and accredited with B+ and B grades, respectively.

The IQAC is functioning with well-defined roles, goals, and responsibilities since 01.11.2005. Since its inception in 2005, the IQAC has prioritised a variety of issues for quality enhancement. The recommendations made by NAAC peer teams have steered us to develop subsequent perspective plans and most of the recommendations have been executed. The college has made diversiform improvements during the last five years like addition of new academic programmes, conduction of short-term skill development courses, infrastructure development, increase in laboratories, IT facilities, etc.

Vision

Introduction to Vision

The students admitted to this college are from a variety of socio-economic backgrounds and even from rural backgrounds. There is natural advantage that urban students have over rural students and is well managed in our college without making any distinctions among them. The college wants admitted students to become responsible citizens of the country when they complete their chosen degree courses. Hence, the institution strives to offer well supported, easily accessible, quality education at an affordable cost, providing students with the knowledge, skills and abilities they need to succeed in their chosen field. It is also necessary to identify their hidden talents and unexplored traits, realize their full potential, mould them, and up-skill them so that

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these students of today become leaders, entrepreneurs of tomorrow, and, above all, good human beings by inculcating life values in them.

The vision of the college is:

Shri Mathuradas Mohota College of Science, Nagpur aims at producing knowledgeable, cultured, skilled, patriotic, environmentally responsible workforce to meet the present and future demands and challenges of the nation.

(https://mohotasci.edu.in/vision-mission/)

Mission

Introduction to Mission

In keeping with the vision, our college is constantly working to develop young minds in order to prepare them professionally, socially, and personally. The college has performed remarkably well in many areas distinctive to its vision, priorities, and thrust. Through various social outreach programs, our college has always played a role in instilling social awareness in students, allowing them to be wise and kind individuals. The college conducts a variety of curricular, co-curricular, and extra-curricular activities as student-centric and quality endeavors. To develop global competence and higher order skills among aspiring students, the college conducts multi-skill programmes (short-term courses) every year.

The mission of the college is:

Training for professional life:

- Stimulating critical and creative thinking
- Giving exposure to cutting-edge areas of education and research
- Thinking beyond the shackles of textbook knowledge
- Preparing a skilled, competent and employable workforce

Cultivation for social life:

- Reverencing cultural, social pluralism and diversity
- Honouring the dignity of every individual
- Practicing compassion and concern
- Imparting awareness about the environment and its conservation
- Imparting a sense of patriotism

Training for personal life:

- Giving back to society in economic, social, cultural and intellectual dimensions
- Inclusion of emotional and spiritual attitude
- Encouraging honesty, transparency and accountability

(https://mohotasci.edu.in/vision-mission/)

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

- One of the oldest and finest institutions located in the heart of Central India
- Known for dedicated service, transparent governance, and top-notch alumni with reputed positions in society
- Supportive, visionary, and participative management
- Qualified, competent, committed faculty members providing value-oriented education in addition to subject knowledge using various tools and techniques of information communication
- The strength of students seeking admission to basic sciences has been increased by our qualitative performance.
- Campus spread over an area of 5.79 acres, good infrastructure, a spacious canteen, a large playground with sports facilities, highly equipped gymnasium, ICT enabled laboratories and classrooms and Wi-Fi enabled campus
- Conducive ambience for higher learning, research, recreation and value inculcation
- Safe and secure environment for co-education with 24x7 CCTV surveillance
- Recognized by affiliating university as the Place for Higher Learning and Research in Physics, Chemistry, Botany and Zoology
- A large number of publications in the form of research articles in the journals of national and international repute, published/edited books and/or chapters
- 16 faculty members recognised as PhD supervisors
- Encouragement to the faculty members for pursuing research, participation in FDPs and other development programmes
- Digitized library with excellent collection of rare-, reference- and textbooks, subscription to journals, periodicals, online resources and facilitated with internet
- Continuous augmentation and maintenance of existing infrastructure
- Construction of new classrooms, laboratories and washrooms
- Collaboration and MoUs for research, resource sharing and execution of social responsibilities
- Consistent efforts in conducting extension and outreach activities (to foster basic human values among the students to harness their potential as socially conscious individuals)
- Language laboratory setup aimed at facilitating the students to acquire the basic language skills in an interactive way
- Organisation of field and industrial visits for experiential and factual learning
- Grooming of sportspersons, converting players into champions at individual and team levels
- Hosted the sports events at the university level (swimming, water polo, volleyball, and *Kabaddi*) over the years
- Excellent cultural team with expertise in myriad art forms that has garnered laurels at various levels
- Proactive alumni association
- Recipient of funds for Unnat Bharat Abhiyan from IIT Delhi

Institutional Weakness

- Inadequate infrastructure to cater to the growing demands for additional programmes and courses
- Dearth of grants for starting new programmes and up-gradation of infrastructure
- Dependency on the affiliating university for curriculum designing, modification, programme outcomes

and course outcomes

- No recruitment in the assessment period (2017-2022) as the regular staff recruitment process is dependent on the government policies.
- Less employment opportunities for the pass outs since the courses designed by the affiliating university do not impart adequate skill-based education
- Few consultancy services offered by the college
- Less number of linkages with industries

Institutional Opportunity

- To become autonomous to get liberty for designing courses and assessments
- To attain high standards in academics, sports, cultural, research, and extension activities and to get recognize as 'college with potential for excellence'
- To elevate all UG departments to PG and research centres so that students enrolled for the basic courses can advance their studies from the same college.
- To utilize the expertise and mobilize various resources of the existing alumni network to tap more resources
- To start new skill-based programmes and courses to support the local needs and opportunities of selfemployment
- To further streamline and strengthen various research activities through MoUs and collaborations
- To motivate faculty members to develop quality e-content in their respective subject areas and apply for MOOCs on SWAYAM, NPTEL, etc.
- To motivate students to register in various MOOCs for skill enhancement
- To organize capacity building programs in collaboration with government and NGOs that would enable an individual to strengthen their subject, general methodologies and to develop their potential as a skilled academician
- To impart skill-based education that is a central theme of the National Education Policy
- To provide earn and learn opportunity to the students in the college itself
- To conduct executive development programme

Institutional Challenge

- To maintain a balance between existing conventional courses and the demand for professional skillbased courses
- To effectively implement NEP
- To use innovative teaching methods beyond use of ICT
- To effectively use Bloom's taxonomy in regular teaching-learning process
- To create more employment/placement opportunities due to the slow growing industrial and IT sectors in and around Nagpur
- To sought and strengthen the cooperation from industries and entrepreneurs
- Very high cost of maintenance for the old infrastructure
- Time management in the semester-based pattern to conduct regular teaching as well as additional required courses and activities
- Maximizing the potential of alumni to contribute in terms of finance, placement etc.
- To retain the strength of students owing to the establishment of new conventional and professional degree colleges in the city and nearby villages

- Insufficiency of eligible qualified teaching staff willing to work on fixed-pay or clock hour basis (CHB)
- Fees finalised by the university is insufficient for maintenance of facilities

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

As an affiliated institution, the college adheres to the university syllabus, calendar, and examination schedule. However, its implementation in college is carried out through a well formulated academic calendar which is published in the prospectus and displayed on the website.

Till 2020-21, the college offered **ten BSc** courses, **five MSc** programmes and **two PhD** programmes. Heeding the feedback from stakeholders, **two BSc** courses, **one BCA**, **one MSc** programme as well as **two PhD** programmes have been introduced. Further, the state government and university have sanctioned **additional sections for two PG programmes**. **Six BVoc** courses have also been sanctioned by the UGC and have been sent for approval of the state government.

After the induction of the freshly admitted students, a **multi-skill development programme** is organized. Personality development and imparting skills is the intent of this programme. **Ten value-added courses**, each of 30 hours duration, aimed at imparting **skill-based education** were offered in the last five years. The percentage of students benefitted through these courses has increased significantly from **4.15 in 2017-18 to 32.14% in 2021-22**. The students are groomed before they enter the job market by means of **campus recruitment training** (CRT). During COVID-19, these programmes were effectively conducted online along with the regular teaching.

Continuous internal evaluation is conducted through unit tests, home assignments, seminars, quizzes, etc. For **experiential learning**, **14.64%** students have undertaken field visits and project works in 2021-22.

Various committees/cells of the college conduct **multitudinous activities** every year which address **professional ethics, gender, human values, and environment and sustainability**. CRT, workshops on ethics, celebration of commemorative days, activities for making the students understand their social responsibility, etc. are planned and executed. Environmental Studies is mandatory for all BSc second year students, and it is ably supplemented with programmes organized by Environment Protection Cell.

The feedback system has been improvised over the years. **Structured feedback** is obtained from the stakeholders on curriculum, infrastructure, and other facilities. Currently, the feedback is collected using **Google Forms**. After analysis, the relevant suggestions received are prioritized and necessary actions are taken. The **analysis and ATR** are uploaded on the institutional website.

Teaching-learning and Evaluation

As the number of courses offered by the college has increased, **the numbers of students have increased progressively** in the last five years. During the academic session 2018-19, 20% increase in the intake capacity was sanctioned by the university. The college admits students on a **merit basis** by following the guidelines of the authorities. As compared to the seats earmarked for reserved categories, **18.77% more students from reserved categories** have been admitted from 2017 to 2022.

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The student–full time teacher ratio has improved from **48:1** in **2017-18** to **36:1** in **2021-22**. The process of **appointing fulltime teachers for grant-in-aid courses** is underway. The total number of **fulltime teachers** during the last five years is **63**. Around **81% of the staff** is **NET/ SET/ SLET and/or PhD qualified**. The teachers' academic prowess has been aptly recognised at state, national and even at international levels.

The teachers regularly implement a **student-centric approach** in the teaching-learning process for the **curricular, cocurricular and extracurricular development** of students to make them employable and skilled. These student-centric methods aim at **hands-on minds-on** learning which engage the students in **active learning**. The teachers and students at the college have been using **ICT tools and e-resources for effective communication** and **resource-sharing** which further gained momentum during the pandemic. The students are encouraged for **participative and experiential learning, and problem-solving approaches**. For the same, variety of e-resources are made available to the students along with reference books available in the library.

Learners' capabilities are assessed throughout the course by means of continuous internal evaluation. The students are regularly evaluated using various modes of assessment like unit tests, assignments, homework, quizzes, etc. to assess their preparedness. Previous years' question papers are discussed with students to check their preparedness.

The mechanism to deal with exam-related grievances is transparent, time-bound, and efficient. The college takes cognizance of grievances (if any) to the university for rectification and ensures redressal till logical end.

The pass percent of the students in the university examinations has enhanced from 57.04% in 2017-18 to 95.73% in 2021-22.

The POs/PSOs/COs are stated and displayed on the college website.

Research, Innovations and Extension

The teachers are actively involved in research activities. The college has been recognised as **Place for Higher Learning and Research in Chemistry** and **Physics** in 2013 and **Botany** and **Zoology** since 2021. **59.26% of teachers** are **recognised PhD supervisors** and few are involved in interdisciplinary research. Under the guidance of four supervisors, **four students** have been **awarded PhD degrees** in the last five years. Currently, **18 students** are **pursuing research** in the four recognised departments.

The management encourages teachers to participate in various academic activities and hence a **policy document** is in place to provide **financial assistance** to the teachers who register in FDPs, publish research papers or file patents.

The college has procured **new equipment** through funding received from management. The faculty members have published **71 research papers** in national and international journals from 2017 to 2022. Additionally, **16 articles** in conference proceedings and **6 books and chapters** have been published.

The subject societies organise various events to keep the students abreast of the recent know-hows of the subject which helps them to acquire additional knowledge. The college has also organised course on LaTeX and MATLAB, and talks on research methodology, IPR and patent filing.

There are 11 linkages in the form of functional MoUs with educational institutions, NGOs, national

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laboratories, etc. These MoUs facilitate faculty exchange, student exchange, internships, field trips, on-the-job training, research, etc. **15 activities** have been organised under these collaborations for the benefit of the stakeholders.

The NSS unit and department of life-long learning and extension have voluntarily and responsibly organised **35 extension activities** in the neighbourhood. A village named Champa has been adopted by NSS unit which has provided the students with an opportunity to serve society. The college has also received funds from IIT Delhi under *Unnat Bharat Abhiyan* scheme. Students and staff members participate in activities like *Swachh Bharat Abhiyan*, voter awareness, tree plantation, blood donation, distribution of foodstuff, facemasks, and oxymeters during COVID-19, vaccination camps, and celebration of *Rakshabandhan* with residents of old age home. It is laudable that more than 1100 persons were vaccinated against SARS-CoV-2 in the vaccination drives.

Infrastructure and Learning Resources

The academic facilities available at the college are adequate to run UG, PG and research programmes. The infrastructure includes 14 classrooms, 7 classroom-cum-laboratories, 11 laboratories, 4 research laboratories, administration block, library, separate common rooms and washrooms for females and males, separate parking for staff and students, canteen, gymnasium, diesel generator of 25kVA and **solar power generation system** of 30kW capacity. **Sanitary napkin vending** and **incinerator machines** are also installed in the washroom. All **classrooms and laboratories are ICT-enabled**, out of which smartboards are installed in two rooms. College has a **differently abled campus** with ramps, washroom for PwD and a wheelchair. For the physical and mental fitness, adequate sports and recreation facilities are available. The college has a playground with **basketball court, volleyball court, indoor gymnasium, and a green gymnasium**. Sports department is well equipped with various equipment and a quandrangle is available for organization of cultural events.

Out of the total incurred expenditure (excluding salary), in the last five years 29.78% funds have been utilized for infrastructure augmentation and 19.88% funds for maintenance of academic and physical facilities.

The library is automated since 2010 and currently uses ILMS named **LibMan version 3.9**. There are **34997 books** and **76 rare books** in the library. An **e-library** with 10 computers and M-OPAC app are available for the users. Through **N-LIST**, 80409 e-books, 3828 e-journals, *Shodhganga* and *ShodhSindhu* can be accessed. Thousands of open access resources freely available via various databases are downloaded and made available to the students. Links to various online databases are made available on the college website. Per day usage of the library has increased from **29.48 users/day in 2017-18 to 54.90 users/day in 2021-22**.

The college has made regular updates in IT facilities. A progressive rise in the number of **computers** is observed from **60 in 2017-18 to 213 in 2021-22**. The **student-computer ratio** is ~**10:1**. Enhancement in internet connectivity was achieved by creating Wi-Fi enabled campus with three connections each with **100Mbps speed in 2019-20 from 10Mbps**. Software has been purchased to establish **language laboratory**. AMC for computer maintenance and e-waste disposal has also been signed.

Student Support and Progression

There is an online mechanism to credit scholarship to the student's account. Institutional scholarships are also distributed to those needy who don't have any other financial assistance by the government. The college tries to enhance awareness among the students about various government, non-government and minority scholarships.

In the duration, 2017-22, Govt. Scholarships of Rs. 45250287.00/- have been distributed to 4084 students and the amount of prizes/ Institutional scholarships is Rs. 334454.00/- distributed to 83 students. The college provides financial and other types of assistance to students participating in cultural and sports activities.

For capacity building and skill enhancement, initiatives are taken by the institution with special emphasis on soft skills, language and communication skills, life skills (*Yoga*, physical fitness, health and hygiene) and ICT/computing skills. With this training received, the students participate in social, cultural and outreach activities and bring laurels in large numbers.

The college has established cells and committees, like Career and Competitive Examination Guidance cell, Placement Cell for providing effective support and career opportunities to the students. On an average, about 296/year students participate in the career counseling and competitive exams guidance programmes. It has been observed that more students prefer to go for higher education with 199 students seeking admissions to different/higher programmes and 42 students have been placed in job. Hence, 13.097 % of students have been placed and going for higher education. Number of students passing NET/SET/GATE and various state/ central government examinations is 22 with an average of 4.4/year.

Even though it's a science college, student's participation and activities in sports and cultural events is very encouraging. Awards and prizes bagged by students in sports and cultural activities at the university/ state/national level is 51 with an average of 10.2/year. Out of these, 3 prizes are achieved at national level.

The alumni of the college play a vital role in the overall development of the college through its financial and non-financial contributions. There are 336 registered alumni and the total deposit amount with the association is Rs. 462120/-.

Governance, Leadership and Management

The college has a well-defined vision and mission, and the leadership is proactive to achieve both. There is a participatory management at every level in planning and execution. Faculty members represent the institution in the management. The **decentralization of authority** is evident from the organogram. The financial resources and human resources are well mobilized. There are well defined committees which help in streamlining the work of college. The institution recognises the inputs from students and thus there is **representation of students** in organisation of various activities, and this further helps them to **develop organizational skills**.

Optimal use of **e-governance** has been achieved over the past five years with implementation of various **ERPs**.

Teachers are encouraged to participate in orientation and refresher courses, short term courses, FDPs, etc. Teaching and non-teaching staff members have participated in **36** such **courses**. Financial assistance of **Rs. 56300/-** has been provided to teachers for participation in **22 academic events** adhering to the policy document. Welfare of the teaching and non-teaching staff is ensured through **insurance scheme**. Attempts have been made to uplift their skills through the **organization of FDPs and computer awareness programmes**. Due procedures are followed for approval and filling of proposals for promotion through CAS.

Financial audits are conducted every year. Some non-government bodies, individuals and philanthropists have contributed funds or donated items. The college has initiated an **institutional scholarship fund**; where an amount of **Rs. 275000/-** has been donated to be disbursed to the students.

Perspective planning was defined as per the recommendations of the NAAC Peer Team of the cycle III. **Almost all the recommendations have been executed.** The IQAC plays a significant role in framing policies of quality enhancement. It also ensures timely preparation of academic calendar, collection and analysis of feedback followed by action, conduction of periodic IQAC meetings and timely submission of AQAR. There is a regular review of teaching-learning process and its outputs with necessary corrective steps. The IQAC strived to maintain the quality of education during lockdown periods.

The college participates in NIRF and undergoes academic quality evaluation through AAA and ISO certification.

Institutional Values and Best Practices

To cater to the students admitted to the college from a variety of socio-economic backgrounds, the institute provides an **all-inclusive environment** to its stakeholders. To respect cultural, regional, linguistic, communal, socio-economic, and other diversities, the institution celebrates national and international **commemorative days**. The **Women Cell** has organized **13 programmes** to promote gender equity and women empowerment in the last five years. The college provides a safe and secure environment for all stakeholders, especially females. The premises are under **24x7 CCTV surveillance** along with **security personnel** on the campus. The college takes pride in stating that **no ragging or gender violation** complaints have been reported on college campus in the last five years.

Ecologically viable methods like solar energy generation and utilization, vermicomposting unit, use of LED lighting, disposal of biological waste from laboratories in compost pit, polythene bag collection drive, AMC for e-waste management, and incineration of used sanitary napkins. The green measures are validated through the green and energy audits. To ensure **economic empowerment** of Champa residents in the future, fruit-bearing trees were planted by NSS volunteers. The **rainwater harvesting system** recharges the ground water level. The campus is *divyangjan* **friendly** and has ramps, wheelchair, and a separate washroom. For the university examinations, writers are made available for the PwD students.

Following the legacy laid down by our founders, the college tries to inculcate human values and professional ethics in the students. A **code of conduct** for stakeholders is displayed on the website and adherence to it is ensured. Professional ethics are promulgated through talks and seminars with additional emphasis on academic integrity and preventing plagiarism.

Focusing on the creation of employable workforce and entrepreneurship avenues, the college considers **campus recruitment training (CRT)** and **vermicomposting** as its best practices among others.

Our mantra 'tatsukhasukhitvam' literally meaning 'discovering happiness in another's joy' is our foundation. Remaining truthful to this, we aim for the holistic development of our students with a vision to groom and empower them in their quest for knowledge, morals, and social conscience and thereby assisting them in achieving excellence in a variety of endeavours.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College			
Name	SHRI MATHURADAS MOHOTA COLLEGE OF SCIENCE		
Address	Shri Mathuradas Mohota College of Science, Nagpur, Sakkardara Square, Umred Road, Nagpur		
City	Nagpur		
State	Maharashtra		
Pin	440024		
Website	mohotasci.edu.in		

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	Jeevan R. Dontulwar	0712-2744992	9765305042	0712-274499 2	mohotacollege@ya hoo.co.in
IQAC / CIQA coordinator	Rina S. Saha	0712-2994181	9822724232	0712-274499 2	saha.rina.s@gmail.

Status of the Institution	
Institution Status	Private, Grant-in-aid and Self Financing

Type of Institution		
By Gender	Co-education	
By Shift	Regular	

Recognized Minority institution	
If it is a recognized minroity institution	No

Establishment Details		

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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	30-06-1996	View Document	
12B of UGC	30-06-1996	View Document	

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)					
Statutory Recognition/App Regulatory Authority Repartme nt programme Day,Month and year(dd-mm-yyyy) Remarks Remarks months					
No contents					

Recognitions	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	No
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	Shri Mathuradas Mohota College of Science, Nagpur, Sakkardara Square, Umred Road, Nagpur	Urban	5.79	4375.857	

2.2 ACADEMIC INFORMATION

Details of Programmes Offered by the College (Give Data for Current Academic year)						
Programme Level	Name of Pr ogramme/C ourse	Duration in Months	Entry Qualificatio n	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BSc,Phy Chem Maths Bot Geo Zoo Electro Comp Eng Mar Hin Supp Eng	36	HSC	English	960	700
UG	BSc,Comput er Science Industrial Chemistry Microbiolog y Information Technology	36	HSC	English	620	506
UG	BCA,Compu ter Science	36	HSC	English	240	186
PG	MSc,Physics	24	BSc	English	48	40
PG	MSc,Chemis try	24	BSc	English	88	91
PG	MSc,Mathe matics	24	BSc	English	88	90
PG	MSc,Botany	24	BSc	English	48	45
PG	MSc,Zoolog y	24	BSc	English	48	45
PG	MSc,Comput er Science	24	BSc	English	52	43
Doctoral (Ph.D)	PhD or DPhil,Physic s	60	MSc	English	10	10
Doctoral (Ph.D)	PhD or DPhi 1,Chemistry	60	MSc	English	10	2
Doctoral (Ph.D)	PhD or DPhil,Botan y	60	MSc	English	20	4

Doctoral	PhD or DPhi	60	MSc	English	20	2
(Ph.D)	l,Zoology					

Position Details of Faculty & Staff in the College

	Teaching Faculty											
	Profe	Professor			Assoc	Associate Professor			Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government				10				7				64
Recruited	8	2	0	10	7	0	0	7	20	18	0	38
Yet to Recruit				0				0				26
Sanctioned by the Management/Soci ety or Other Authorized Bodies				0				0				39
Recruited	0	0	0	0	0	0	0	0	7	32	0	39
Yet to Recruit				0				0				0

	Non-Teaching Staff						
	Male	Female	Others	Total			
Sanctioned by the UGC /University State Government				67			
Recruited	34	7	0	41			
Yet to Recruit				26			
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 Qualificatio n	Professor		Associate Professor			Assistant Professor					
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total	
D.sc/D.Litt/ LLD/DM/M CH	0	0	0	0	0	0	0	0	0	0	
Ph.D.	8	2	0	7	0	0	2	3	0	22	
M.Phil.	0	0	0	0	0	0	1	0	0	1	
PG	0	0	0	0	0	0	1	3	0	4	
UG	0	0	0	0	0	0	0	0	0	0	

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	Temporary Teachers									
Highest Qualificatio n	Professor		Associate Professor			Assistant Professor				
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt/ LLD/DM/M CH	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	9	14	0	23
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	14	30	0	44
UG	0	0	0	0	0	0	0	0	0	0

	Part Time Teachers									
Highest Qualificatio n	Professor		Associate Professor			Assistant Professor				
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt/ LLD/DM/M CH	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
UG	0	0	0	0	0	0	0	0	0	0

Details of Visting/Guest Faculties					
Number of Visiting/Guest Faculty	Male	Female	Others	Total	
engaged with the college?	0	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
UG	Male	591	3	0	0	594
	Female	802	4	0	0	806
	Others	0	0	0	0	0
PG	Male	73	0	0	0	73
	Female	272	9	0	0	281
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	15	0	0	0	15
	Female	3	0	0	0	3
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years

Category		Year 1	Year 2	Year 3	Year 4
SC	Male	51	60	75	100
	Female	123	128	155	156
	Others	0	0	0	0
ST	Male	27	23	33	44
	Female	30	22	36	44
	Others	0	0	0	0
OBC	Male	252	272	292	394
	Female	563	561	656	700
	Others	0	0	0	0
General	Male	86	66	79	92
	Female	137	126	122	144
	Others	0	0	0	0
Others	Male	0	0	3	0
	Female	0	0	4	0
	Others	0	0	0	0
Total		1269	1258	1455	1674

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:

The institute follows CBCS/elective pattern as provided by the affiliating university at the PG level. The institute is prepared to offer interdisciplinary courses, as per the perspective plan of the university. In order to give students a wider exposure at the college level, invited lectures and special talks are organized by departments which give students a deeper understanding of other disciplines. Apart from that, the institute offers short term courses. The college offers an opportunity to all students to choose any course in order to develop their multidisciplinary/interdisciplinary knowledge. In tandem with the NEP, our faculty is engaged with the university in the framing of syllabi of new interdisciplinary courses as

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	approved by the university for implementation.
2. Academic bank of credits (ABC):	The university is yet to start the facility of credit banks. However the ABC, which is a virtual/digital storehouse that contains the information of the credits earned by individual students throughout their learning journey, will soon be implemented by the college so that the students can create their accounts and get multiple options for entering and leaving colleges or universities.
3. Skill development:	The college has continuously been offering opportunities for the students to develop their skills in tandem with changing needs. Furthermore, students' skills are augmented by the multi-skill development courses. This enhances their preparedness for the world outside the college. Efforts are being made to create an awareness among the students about several skill development courses which are available online and they are encouraged to register to these online courses. These skill based courses are application oriented in diverse fields like mushroom cultivation, PCB designing, sericulture, nano-technology, etc.
4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):	With the objectives regarding education, health, environment, etc., we conduct several cultural programmes in order to promote Indian language system and to inculcate love for Indian culture. We celebrate days like International Yoga Day, National Science day, Marathi Bhasha Din, commemorative days of various eminent and great personalities like Chhatrapati Shivaji Maharaj Jayanti, Subhash Chandra Bose Jayanti, Gandhi Jayanti, etc. Many students have participated in university/ state/ national level cultural events showcasing the rich cultural heritage of this nation.
5. Focus on Outcome based education (OBE):	Curriculum prescribed by the RTM Nagpur University is formulated with the final outcome expected of students of a particular course at the end of the programme. Outcomes are described clearly by the university for PG programmes are available on the university website. For the UG programmes, the institute has mapped the POs and COs and they are available on the college website. The teaching plans are outlined accordingly. This enhances the quality of education being imparted to them and frequent student faculty-meetings help align pedagogy to the

	desired outcomes. Attainment of the course is calculated at the end of session.
6. Distance education/online education:	Our college offers courses in the conventional mode only as sanctioned by the RTM Nagpur University. However, we are planning to start distance education/online education by collaborating with open universities like YCMOU, IGNOU, etc. IGNOU has already identified our college as a center to conduct Geology practical classes.

Institutional Initiatives for Electoral Literacy

1. Whether Electoral Literacy Club (ELC) has been set up in the College?	The college does not have a formal ELC. However, looking at the subsequent question no. 3, it can be very proudly claimed that the student volunteers of National Service Scheme (NSS) unit of this college have been already carrying out some of the activities as stated in reply to question no. 3 and in Criterion III of SSR.
2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?	Looking at the need of time and a requirement of NAAC, the college has constituted a formal ELC with effect from 5 January 2023 with following office bearers: 1. Mr. Prashant Nimje - Coordinating faculty (Mathematics Department) 2. Dr. Ashwini Bodhane-Danao - Coordinating faculty (Chemistry Department) 3. Mr. Harshad Bhoyar - Students coordinator (M.Sc.– Physics student) 4. Mr. Deepak Prasad - Student member (B.Sc.– student) 5. Ms. Vrushti Urkude - Student member (B.Sc.– student) 6. Ms. Chetna Hatwar - Student member (B.Sc.– students so as to intensify the campaign of voter awareness. The report of the latest activity conducted by the ELC can be found at the following link: https://mohotasci.edu.in/wp-content/uploads/2023/01/Voters-Day-Report-2023.pdf
3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of	The college is surrounded by different strata of the society. As stated earlier, the students of NSS have actively participated in voters' awareness rally in the nearby areas of the college (2 February 2019), elocution competition on the topic 'My first vote' (25 January 2019), voters awareness campaign conducted by BLOs in the college (25 January 2021).

ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.	These details have been given in the SSR, Criterion III at 3.4.1.
4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.	The college proposes to undertake one project every year on the relevant theme as proposed in this question by involving a large number of students under the guidance of ELC.
5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.	At the moment, about 13% students have enrolled as voters in the electoral roll. Some of the students other than those enrolled are in the process of getting their names enrolled. However, to increase the number of voters, ELC has initiated efforts to make the students aware about the importance of voting rights and responsibilities.

Extended Profile

1 Students

1.1

Number of students year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
1656	1450	1252	1263	1202

File	e Description	Document
Upl	load supporting document	<u>View Document</u>
Inst	titutional data in the prescribed format	<u>View Document</u>

2 Teachers

2.1

Number of teaching staff / full time teachers during the last five years (Without repeat count):

Response: 81

1	File Description	Document
	Upload supporting document	<u>View Document</u>
	Institutional data in the prescribed format	View Document

2.2

Number of teaching staff / full time teachers year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
44	32	42	32	31

3 Institution

3.1

Expenditure excluding salary component year wise during the last five years (INR in lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
212.75	77.67	58.68	120.05	259.60

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1 The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Response:

The college is affiliated to RTM Nagpur University, Nagpur and hence, implements the syllabi designed by the university. However, the faculty members communicate suggestions for modifications in the syllabi to the university. Further, effectively implementation of the academic calendar communicated by the university is ensured. Based on this calendar, the student-centric academic calendar is prepared by the IQAC and is displayed on the college website. IQAC and HoDs strategize effective implementation of the academic calendar and curriculum delivery.

- The HoDs conduct the departmental meetings for execution of the action plan as per the academic calendar. Curricula/ syllabi are distributed as per the prescribed workload among the staff members. In these meetings, various co-curricular activities to be conducted during the session by the departments are discussed and planned.
- The principal and vice-principal conduct meetings with HoDs and approve the academic activities for the session.
- The timetable committee frames the timetable as per the directions from the university.
- Continuous evaluation is carried out through unit tests, home assignments, seminars, etc.
- Feedback mechanism helps for effective implementation of curriculum as per the needs expressed by the students.
- College has various subject societies which conduct programmes to expose the students in curricular and co-curricular activities. Eminent faculty members from other institutions are invited frequently for guest lectures so that the students get exposure to the current trends and the latest subject information.
- Field-/ industrial-/ research institute visits are regularly organized to expose students to the advancements in the subjects and to make them aware about different career opportunities.
- Bridge courses are conducted for B.Sc. Semester I students at the start of academic session.
- During the unprecedented situation of COVID-19, and the lockdowns from 2020 to 2022, the faculty members effectively conducted online classes through various platforms like Google Meet, Zoom, Microsoft Teams. Some teachers counseled the students using these online platforms.
- For the holistic development of the students, it is essential that they get exposure to co-curricular and extra-curricular activities like cultural, social, sports, etc. In order to satisfy these needs of the students, the institution regularly organizes different events for the students.
- In addition to the conventional lecture delivery methods, the faculty members use various other techniques of participative and experiential learning methods including field visits and projects complimented with the use of ICT tools wherever applicable. The students are given assignments, seminars, and projects.
- The skills learnt through extension activities help the students to learn time management and build self- esteem.

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Academic competencies of the students are identified by various strategies like discussions and participation of students in question/ answer sessions during classroom lectures, along with assessment via examinations, seminars, etc.. The academically weaker students are given personal attention to address their problems and difficulties and efforts are made to solve these. The academically strong learners are motivated to participate in various competitions and activities and are provided with guidance. The mentormentee mechanism is implemented for identifying weakness and strength and addressing issues related to academic, social, and psychological issues.

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

1.2 Academic Flexibility

1.2.1 Number of Add on /Certificate/Value added programs offered during the last five years

Response: 10

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

1.2.2 Percentage of students enrolled in Certificate/ Add-on/Value added programs as against the total number of students during the last five years

Response: 10.89

1.2.2.1 Number of students enrolled in subject related Certificate/ Add-on/Value added programs year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
538	70	00	85	50

File Description	Document
Upload supporting document	<u>View Document</u>
Institutional data in the prescribed format	View Document

1.3 Curriculum Enrichment

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

Response:

The college is affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur and follows the curriculum designed by the university. The curricula of the courses offered by the college do not include crosscutting issues, except for environment and sustainability. As per the guidelines of UGC, Environmental Studies has been introduced in the second-year curriculum at graduation level by the university. It is compulsory for all the students and grades are awarded based on the scores they obtain. The syllabus covers topics dealing with the natural resources, ecosystems, human population and environment, biodiversity, pollution, social issues and the environment. Not restricting the students only to theory, the Environment Protection Cell (EPC) regularly organizes talks by experts to celebrate important days like World Wetlands Day, World Wildlife Day, International Tiger Day, World Environment Day, etc. Quiz and poster competitions are also organised by the EPC. To further create awareness among students about the biodiversity and environment around them, field visits with experts for recording the insect and spider species was organised.

Though the college cannot design the curriculum, for the holistic development of the students, we conduct multi-skill development programme every year for the newly admitted UG students. During the multi-skill development programme, the students are acquainted with the basics of professional behaviour and soft skills. Programmes like Campus Recruitment Training (CRT) and Self Development for Career Development (SDCD) for UG and PG students were organized online during the COVID-19 period for professional development of the students. CRT has been continued ever since. Workshops on Intellectual Property Management and Desirable Attributes of Research and Publication Ethics have been organized for imbibing the values of professional ethics within the students. For inculcating human values among the students, commemorative days are celebrated with fervour. Days earmarked for the contribution of freedom fighters and people who have worked for the cause of society are celebrated. The students are made to realise their democratic values by celebration of National Voter's Day. The details of these events are mentioned in the relevant criteria.

File Description	Document
Upload Additional information	<u>View Document</u>

1.3.2 Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)

Response: 14.79

1.3.2.1 Number of students undertaking project work/field work / internships

Response: 245

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File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

1.4 Feedback System

1.4.1 Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on the feedback is made available on institutional website (Yes or No)

Response: Yes

File Description	Document
Upload supporting document	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Enrolment percentage

Response: 90.23

2.1.1.1 Number of students admitted year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
784	516	503	541	482

2.1.1.2 Number of sanctioned seats year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
908	550	530	614	530

File Description	Document
Upload supporting document	<u>View Document</u>
Institutional data in the prescribed format	View Document

2.1.2 Percentage of seats filled against seats reserved for various categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy) during the last five years (Exclusive of supernumerary seats)

Response: 74.7

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

2021-22	2020-21	2019-20	2018-19	2017-18
412	269	253	293	226

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

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2021-22	2020-21	2019-20	2018-19	2017-18
562	340	330	383	330

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

2.2 Student Teacher Ratio

2.2.1 Student – Full time Teacher Ratio (Data for the latest completed academic year)

Response: 37.64

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 using ICT tools

Response:

Our college has emphasized on implementing student-centric approach in the teaching-learning process for the holistic development of students making them employable and skillfully competent. The teachers took efforts to achieve this goal by organizing various events primarily encouraging the students to actively participate in online and offline modes. Important aspect of modern day teaching is the use of information and communication technology (ICT). The teachers and students of the college have been using ICT tools and e-resources for effective communication and resource-sharing that rose to optimal level during the pandemic. The college has strengthened ICT infrastructure by developing ICT enabled laboratories and classrooms by installing LCD projectors and smart boards, desktop computers and by strengthening internet facilities (WiFi enabled campus). Theory and practical classes were conducted using ICT tools that have made participative learning more effective, especially through interactive teaching, discussion with the students, solving of queries, etc. The college communicates with its stakeholders through the website, emails and through social media platforms like Facebook, WhatsApp, YouTube, etc. The teachers have optimally used Google Workspace, Moodle and the LMS procured from MasterSoft ERP Solutions Pvt. Ltd. Teachers have used various ICT applications for collecting information of students, feedback, attendance and assessments (Google Forms and Sheets), sharing of literature, notes and uploading of assignments (Google Classroom, Google Drive), scheduling events, guest lectures and conducting online events (Google Calendar and Meet respectively), preparation of notes, illustrations, etc. (Google Docs and Jamboard). Additionally, Zoom, Microsoft Teams, Campus App were used for teaching. Videos on YouTube and other open access sources were effectively used for teaching as and when required.

Using these tools, various programmes were organized. Bridge courses were conducted for newly inducted students to fill the knowledge gaps. Multi-skill development programmes were conducted for semester I

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students involving participative and experiential learning methodologies. Most of the sessions of this programme were conducted using ICT tools such as PowerPoint presentations, videos, etc. The guest lectures on various curricular, co-curricular and extra-curricular topics including social and environmental issues, online quiz, seminar and poster competitions were organized using ICT tools. Student seminars were organized by and for the students, where ICT tools were used to prepare and present seminar presentations. The students were encouraged to participate in various competitions organized by various institutions; wherein the students were assisted to use ICT tools and e-resources.

The college has been encouraging students to participate in experiential learning by organizing study tours, involving students in small activity based projects like vermicomposting, circuit board designing and PG dissertation works; wherein they are required to refer to e-resources. Further, online videos and simulations were used for better information delivery. Through these hands-on-minds-on activities, the students were taught how to address the problem and to adopt appropriate methodologies for solving specific problems.

To support participative, experiential learning and for problem solving approaches, the college has made literature available in the form of INFLIBNET N-LIST, open source e-books and e-journals, animations, e-dictionaries, glossaries, e-flora, e-atlas, videos, etc. and bioinformatics databases.

File Description	Document
Provide Link for Additional information	View Document

2.4 Teacher Profile and Quality

2.4.1 Percentage of full-time teachers against sanctioned posts during the last five years

Response: 60.33

2.4.1.1 Number of Sanctioned posts / required positions for teaching staff/ full time teachers year wise during the last five years:

2021-22	2020-21	2019-20	2018-19	2017-18
69	57	66	55	53

File Description	Document
Upload supporting document	<u>View Document</u>

2.4.2 Percentage of full time teachers with NET/SET/SLET/ Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)

Response: 86.19

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2.4.2.1 Number of full time teachers with NET/SET/SLET/Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
35	31	30	31	29

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

2.5 Evaluation Process and Reforms

2.5.1 Mechanism of internal/ external assessment is transparent and the grievance redressal system is time- bound and efficient

Response:

The college has a competent mechanism for dealing with examination related grievances of students and their efficient redressal. The main purpose of this process is to enhance the academic performance of students and at the same time to reduce the pressure felt by them with regards to their exams. Internal assessment provides the teachers an opportunity to assess the preparedness levels of the students and also to find out the areas where they appear to be weak.

Unit tests, terminal exams and submission of assignments are primarily used for the internal assessment of students. Regular conduction of these exams helps the students to study on a regular basis. This helps to build their confidence with regards to their academic performance, how to suitably manage their time for studies and how to properly write exams. At the beginning of each academic semester, subject teachers advise the students on the internal assessment mechanism and provide a tentative schedule for the completion of their syllabus as well as unit tests / term end exams and university exams. As the semester progresses and syllabi are completed, subject teachers give time bound assignments to their students and /or conduct unit tests in either offline or online mode. Teachers evaluate students' performance in internal exams and the marks obtained by students in these exams are conveyed to them. Students can verify whether their answer sheets have been evaluated in a proper manner, or if there are any discrepancies with respect to the evaluation.

For ensuring transparency and efficiency with regards to exams, subject teachers readily listen to any grievances of the students regarding their performance in exams. The teachers guide the students and also rectify their grievances with regards to exams. At the end of each semester, internal assessment marks are awarded to the students on the basis of their attendance in classes, their performance in internal exams and the submission of assignments, tests, etc. These internal assessment marks are uploaded to the affiliating university website as per the university schedule.

Regarding the grievances of students with respect to university exams, the university has an efficient

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mechanism for addressing students' grievances. Students who believe that their answer-sheets have not been evaluated properly have the right to apply to the University in a time-bound manner for either the retotalling or re-valuation of specific papers. The university then declares the result of these students after proper scrutiny. If not satisfied with the result, the students can get a photocopy of the answer-sheet after payment of necessary fees to the university. The photocopy is checked by concerned teachers and get an advice for further action.

During pandemic, as some of the examinations were conducted in an online mode if there is an issues of non submission of the Google form / response sheet, after due verification, the teachers have solved the issues so that the students are in no way at loss.

File Description	Document
Upload Additional information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website and attainment of POs and COs are evaluated

Response:

In order to comply with the provisions of outcome based education, the programme outcomes (POs), programme specific outcomes (PSOs) and course outcomes (COs) are framed by the college in consultation with the Heads of Departments, PG Coordinators and faculty members of various subject departments. The college runs many undergraduate and postgraduate science programs for students. In order to communicate the various UG/PG programme outcomes, programme specific outcomes and course outcomes to teachers and students, the following mechanism is used:

- The details of course outcomes, programme outcomes and programme specific outcomes are prominently displayed on the college website for the perusal of teachers and students.
- Hard copies of the university prescribed syllabi are available in every subject department of the college for ready reference by teachers and students.
- The importance of programme and course outcomes is conveyed to teachers during college committee meeting.
- At the beginning of the teaching session, Heads of Departments, PG Coordinatiors and faculty members convey the significance of learning outcomes to students and encourage the students to attain them.

Programme outcomes (POs) are statements conveying the intent of a programme of study. Programme outcomes are the knowledge, skills, and abilities students should possess when they graduate from a science program. They are therefore the theoretical and practical knowledge students will have obtained by the time they have completed their program.

Programme Specific Outcomes (PSOs) are statements that describe what the students of a specific science program would be able to do when they complete that specific programme.

Course Outcomes (COs) are the statements that help students to understand the reason for pursuing the scientific course and help them to identify what they will be able to do at the end of the course.

The college follows the academic calendar of the affiliating university for the realization of programme outcomes and course outcomes. Unit tests, terminal exams, submission of assignments, seminars and project work are employed for the internal assessment of students. All these methods help in the achievement of programme and course outcomes.

Feedback of students is taken at the end of each semester. Students' feedback is necessary to identify the areas for improvement. The results of university exams are evaluated by the college with the help of faculty members. The performance of students in each course and subject is evaluated. This helps to identify whether programme and course outcomes have been achieved.

The performance of students of both UG and PG courses in university conducted exams has consistently been getting better, and hence, programme outcomes and course outcomes have been attained in a satisfactory manner.

File Description	Document
Provide Link for Additional information	View Document

2.6.2 Pass percentage of Students during last five years

Response: 86.26

2.6.2.1 Number of final year students who passed the university examination year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
493	547	366	260	174

2.6.2.2 Number of final year students who appeared for the university examination year-wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
515	558	369	386	305

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process	
Response: 3.24	
File Description Document	
Upload database of all students on roll View Document	

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1 Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

Response: 0

3.1.1.1 Total Grants from Government and non-governmental agencies for research projects, endowments, Chairs in the institution during the last five years (INR in Lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
0	0	0	0	0

File Description	Document
Institutional data in the prescribed format	View Document

3.2 Innovation Ecosystem

3.2.1 Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

Response:

College understands that in addition to teaching, research activity is equally essential and hence college encourages students and teachers for research and innovative activities. All innovative and extension activities are student-centric. The management encourages teachers to participate in conferences, seminars, workshops, etc. and a policy document has been formulated so as to provide financial assistance to the teachers who publish papers in national / international journals or file patents. The details of policy document are available on college website. At the same time, the college has also formulated a policy for the promotion of academic integrity and the prevention of plagiarism.

In the college, all the departments have individual subject societies through which students and faculties are encouraged to undertake innovative activities which are helpful for the creation and transfer of knowledge. Most of the activities conducted by these associations are by the students and hence they are helpful for them to develop leadership qualities and other skills such as planning, budgeting and organizing different activities. Through the departmental societies various activities like science day, commemorative lecture series in the name of some renowned retired faculties, quiz, seminar competitions, etc. are regularly arranged. The students not only participate in the intra collegiate activities but also take part in inter collegiate events. UG & PG students also visit various institutions for acquiring extra inputs, exposure and knowledge.

The teachers are permitted to attend the orientation (OC) and refresher courses (RC) essential for the

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promotion of teachers under CAS organized by the UGC-HRDC. Many teachers have participated in faculty development programs (FDP) organized by the UGC-HRDC and other institutes also. This college has also organized some FDPs for the teachers and non-teaching staff. This participation in OC, RCs, FDPs, etc. courses has helped the teachers for enhancement in the existing knowledge and skills.

Transfer of knowledge is ensured through participation in workshops, guest lectures, seminars, and conferences which was organized by this college and also in collaboration with other institutes. The resource persons are eminent faculties, scientists. The college organized lectures on research methodology and IPR which was helpful for PG students, research students and teachers.

Research activities are encouraged in the college for which there is a uniform allocation of funds every year to each department for the purchase of new equipment, chemicals, etc. As a result, a good number of papers have been published in reputed journals including UGC care list journals every year (Please see matrix 3.3.1). Each department has been allotted computers which are used by both PG and research students. Sixteen faculties are recognized as Ph.D. supervisors. Department of Physics and Chemistry are recognized by RTM Nagpur University as Place for Higher Learning and Research, since 2013 and since 2021 Department of Botany and Zoology are also recognized. Hence there are good number of research scholars registered here. Some faculty members have also written the text or reference books or contributed as authors in book chapters or as an editor.

File Description	Document
Upload Additional information	<u>View Document</u>

3.2.2 Number of workshops/seminars/conferences including on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship conducted during the last five years

Response: 12

3.2.2.1 Total number of workshops/seminars/conferences including programs conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
02	03	04	01	02

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

3.3 Research Publications and Awards

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3.3.1 Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

Response: 0.8

3.3.1.1 Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
15	20	12	06	12

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

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

Response: 0.11

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

2021-22	2020-21	2019-20	2018-19	2017-18
05	03	01	00	00

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	<u>View Document</u>

3.4 Extension Activities

3.4.1 Extension activities are carried out in the neighborhood community, sensitizing students to social issues, for their holistic development, and impact thereof during the last five years.

Response:

Mainly the NSS unit of this college carries out extension activities in the neighborhood community. The

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focus was on the following issues for sensitizing the students to social matters. This helped the student volunteers to become more resilient, ethical, responsible and conscious of the socioeconomic paradigms of India.

- 1. Cleanliness: The NSS unit has undertaken cleanliness drive on several occasions in the college and in the vicinity of the college. They segregated the bio-degradable and plastic waste. The bio-degradable material is used in the vermicompost unit and plastic (if any) is taken away by the municipal corporation. This is a tiny but environment-friendly step toward "Swachh Bharat Abhiyan".
- 2. Women and health related: Women's Cell fosters awareness and sensitivity in the students and inculcates the desire to work for an equitable, safe, and just society for women, through various activities, including awareness programs on various issues such as women's safety, and cyber security with illustrious personalities. For the upkeep of health and societal advantages, the cell organized bone density testing camp.
- 3. Voter awareness: A rally and voting awareness program was organized in the neighbourhood and in the college with a message of importance of voting in every election (Corporation / *Vidhansabha* / *Loksabha*, etc.). The NSS volunteers emphasised to the people to exercise their right to vote. NSS members and BLOs (Booth level officer) of the college actively participated in the programmes.
- 4. Work during the pandemic: The IQAC and NSS unit worked hard by distributing food, facemask, and oxymeters. Some M.Sc. students volunteered in the door-to-door campaign for vaccination awareness as a result of which as many as 8 vaccination camps were conducted in the college and more than 1100 persons were vaccinated against COVID-19. This activity was carried out with the collaboration of Nagpur Municipal Corporation.
- 5. Adoption of a village: For the utilization of our institution's capabilities through sustainable, participatory approaches that promote improvement and change in neighbouring residents. In 2021, the institution adopted a village called "*Champa*" and numerous events were organized, including lectures on nutrition, plantation, street plays, health camps, and Aadhaar and Digital Service camps.
- 6. Other social issues: Life-long learning and extension department regularly visited a nearby old age home to distribute fruits, grain and tie 'Rakhi' as a pious symbol of care and protection to the residents on 'Rakshabandhan Day'. A street play performed by students to create traffic awareness was also recently conducted.
- 7. The Environment protection cell seeks to promote the philosophy of preservation and protection of our environment and to inculcate a sense of duty for a healthier, cleaner, and safer, environment amongst students through initiatives like talks by eminent environmentalists, and other activities to protect the environment.
- 8. The physical education department frequently arranges camps for children in nearby slum areas to train them and provide them with nutritious food for their overall physical development. For the safety of the boys and girls, the department organizes summer sports coaching camps.

File Description	Document
Upload Additional information	<u>View Document</u>

3.4.2 Awards and recognitions received for extension activities from government / government recognised bodies

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Response:

As the awards and recognitions received for extension activities from government or government-recognized bodies can be in the form of a financial award or a letter of appreciation or certification of recognition, etc. the following events have been considered in this matrix. There are recognitions on an individual level of teachers as well as recognition of the institution when a group of teachers and students are working for a certain cause. Through these activities the participating students themselves were motivated to look at the said social causes through a much closer perspective.

During the very crucial and difficult times of the pandemic, a student from our college worked as 'Special Police Officer', braving all odds. Participant outcomes are influenced by coaches' interactions with players. As a result, coaches are essential to how sport promotes physical and psychological growth. Coaches serve as important role models and motivating forces for students. It is an achievement for our college that the director of physical education was recognized for his participation in the 'Khasdar Krida Mahotsav' (it is an annual sports event organized by Member of Parliament of Nagpur). Donating blood is a very noble activity. Our college has made collaboration with 'Seva' Foundation and Government Medical College (GMC), Nagpur for organizing a blood donation camp for the benefit of society appreciated by GMC, Nagpur. Seva Foundation is a well-established social organization in Nagpur.

The IQAC and NSS unit worked diligently during the pandemic by providing oxymeters and periodically organizing vaccination drives in collaboration with Nagpur Municipal Corporation for various age groups.

Our college's NSS unit organized a seven-day camp in the adopted village, *Champa*. In this camp various events like the *Gram Swachhata Abhiyaan*, the door-to-door campaign against drug abuse, and lectures on the importance of nutrition for women especially for pregnant women, health camp, tree plantation, and the street play for *Nasha Mukti* was organized. All the student volunteers worked very hard for the success of the camp and these camp activities were appreciated by the *sarpanch* (village head) of *Gram Panchayat*, *Champa*.

The key contributing factor to traffic accidents was said to be behavioral, or a chronic disregard for traffic laws, such as jumping traffic signals, not wearing a seatbelt, or a helmet, or talking on mobile phones while driving. People must therefore be made aware of the dangers of disobeying traffic laws and the harm that it could do to their families financially and emotionally. Our students performed a street play for awareness of road safety and this play activity is praised by traffic police as well as other police personnel.

On many occasions students of Department of Electronics have visited the old age home for the celebration of *Rakshabandhan* and this social and emotional activity is appreciated by the management of the old age home.

For all the said activities, either the individual or the college has received recognitions in the form of certificate.

File Description	Document
Upload Additional information	View Document

3.4.3 Number of extension and outreach programs conducted by the institution through NSS/NCC/Red cross/YRC etc., (including the programmes such as Swachh Bharat, AIDS awareness, Gender issues etc. and/or those organised in collaboration with industry, community and NGOs) during the last five years

Response: 27

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

2021-22	2020-21	2019-20	2018-19	2017-18
10	05	04	05	03

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

3.5 Collaboration

3.5.1 Number of functional MoUs/linkages with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years.

Response: 11

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1 Availability of adequate infrastructure and physical facilities viz., classrooms, laboratories, ICT facilities, cultural activities, gymnasium, yoga centre etc. in the institution

Response:

The college provides education from graduation, post-graduation and is a recognized Place for Higher Learning and Research in Physics, Chemistry, Zoology and Botany. The college has all the required physical and academic facilities.

The infrastructure is modified, and necessary budget allocation is made every year according to the vision and objectives. It is evident from the budget and account statement that the budget allocated is utilized for infrastructure development, academic development, etc.

The college purchases equipment, instruments and computers. Further, the college undertakes infrastructural developments with respect to ICT facilities in the classrooms, laboratories, library and the office. The college has 2 smart classrooms and LCD projectors are installed in each classroom and department.

The college has started new self-financed courses: BCA, BSc Information Technology (IT), BSc Microbiology and MSc Computer Science (CS) with affiliation and sanction by RTM Nagpur University and Maharashtra Government. These new courses have independent well-equipped laboratories, except for BSc IT and BCA, where the laboratory is shared by these two courses. The laboratories have been renovated for BSc CS, BSc IT, BCA and MSc CS. Most of the computers have upgraded configurations (Windows 10 or 11, Intel core i3, 3.70 GHz processor, 4GB RAM and 64-bit OS) and are connected to the internet. The computers have all the necessary software required by the students.

The management provides necessary funds for the purchase of laboratory equipment and apparatus to each department as per the requirements to keep the laboratories up-to-date. The purchase committee looks into the requirements received from heads of various departments and proposals are then sent to the management for approval through the principal.

The gymnasium of the college is well-equipped and is utilized. The college has a volleyball court and has newly constructed basketball court and has installed a 'green gym'. A large playground is used by the students for outdoor games and sports.

Five rooms have been constructed for conducting P.G. classes of Zoology, Botany, CS and BSc Microbiology. New washroom and toilet blocks have been constructed in the college (boys, girls and PwD), to cater to the needs of the stakeholders. A language laboratory has been established. Renovation of principal's office and administrative office, which were destroyed in a fire in 2019, has been done.

The college has a well-equipped library consisting of 34997 books, periodicals, journals, newsletters, newspapers, magazines and unique collection of books. Textbooks and reference books are purchased regularly. The library has internet access and a reading room for students. Students use the library for regular study and for preparation of competitive examinations. The library has M-OPAC facility, N-LIST

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and also provides access to *Shodhganga* and other databases.

A diesel electric generator is already installed in the college and since 2021, a solar system has also been made operational. Solar PV power plant of 30KW capacity is operational.

The cultural committee identifies the talented students and trains them for various cultural activities. These students have participated and bagged many awards in cultural events at various levels.

File Description	Document
Upload Additional information	View Document

4.1.2 Percentage of expenditure, excluding salary for infrastructure augmentation during last five years (INR in Lakhs)

Response: 29.79

4.1.2.1 Expenditure for infrastructure augmentation, excluding salary during the last five years (INR in lakhs)

2021-22	2020-21	2019-20	2018-19	2017-18
150.13	53.19	6.33	2.58	4.88

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

4.2 Library as a Learning Resource

4.2.1 Library is automated using Integrated Library Management System (ILMS), subscription to eresources, amount spent on purchase of books, journals and per day usage of library

Response:

The college library is automated with LibMan version 3.9 procured from MasterSoft ERP Solutions Pvt. Ltd. since 2010. The maintenance of the same is undertaken by the same company. Using this software, the acquisition was completed. The details of newly purchased books are updated periodically. Along with the book entry, LibMan provides Open Public Access Catalogue (OPAC) facility which is a digital database of reading materials in the library. Users can access this online cataloguing facility to search for any item available in the library. Since the users have better access to smartphones rather than computers, MasterSoft ERP also has a mobile application, M-OPAC for online cataloguing on smartphones. The

college had procured copier machine, Laser printer, web cameras, CCTV, barcode printer, barcode reader gun and other required equipment for library automation prior to 2017-18. Book ticket (BT) cards have been issued to the students and staff members for easy issue-return of books.

To cope with the IT revolution, the libraries also need to be suitably equipped. Our library has a separate space for an e-library where 10 computer systems are available to the users for accessing e-resources. Apart from these systems, 2 computers are available at the lending section and 1 system is used as a server which is accessed only by the librarian. The maintenance of these computers is undertaken by Palmy Tech Computers. The internet connection in the library was enhanced from 10Mbps to 100Mbps in 2019-20 and onwards for better and faster connectivity.

For further updation, the college has plans to acquire an RFID system and also create a virtual library for the users.

The college has subscribed to N-LIST and all regular staff members, registered PhD students and MSc students are provided with login credentials to access various e-resources. Through N-LIST, 80409 e-books, 3828 e-journals, *Shodhganga* and *ShodhSindhu* can be accessed. Thousands of open access resources freely available via various databases are downloaded and made available to the students.

Over the last five years, the college has incurred an expenditure of Rs. 116899/- on books, Rs. 257974/- on journal and periodical subscriptions, Rs. 29350/- purchase of N-LIST subscription, and Rs. 88424/- on reading room expenses. Currently the college has an excellent collection of 34997 books. The college continuously tries to acquire books to meet the changes in the syllabus and subscribes to reputed research journals depending upon the specialization offered by the college for postgraduation.

Since the library has a rich collection of books and periodicals essential for regular studies and competitive examinations, the library is regularly frequented by users. The library maintains a register where the user entry details are maintained monthly. The per day usage of the library was determined as a ratio of total footfall of users: number of working days. The daily usage of the library has increased from 29.48 users per day in 2017-18 to 54.90 users per day in 2021-22. During COVID-19 pandemic, the per day usage was lower as compared to the preceding and succeeding years.

File Description	Document	
Upload Additional information	<u>View Document</u>	
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4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities and provides sufficient bandwidth for internet connection

Response:

There is a continuous and increasing demand for IT facilities in learning environments. Therefore the

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college is committed to provide a secure and stable cabled or Wi-Fi-enabled campus for their students with necessary IT facilities. The college has been buying computers as and when needed because they are a basic requirement for upgrading any IT facility. The college made the decision to enhance its IT resources by installing more LCD projectors, campus with Wi-Fi, smart boards in two classrooms, and other online services. In order to meet the demands of the students, the institution modernized its IT infrastructure, resulting in teaching and learning that is efficient and outcome-based.

After the III cycle of NAAC accreditation in 2017, upgrading of ICT facilities with respect to number of computers with better configuration, RAM, etc. was done. There were 60 computers and 7 laptops in 2017-18. In session 2018-19 the total number of computers was increased to 74. In addition to the internet facility, Reliance Jio system was installed to provide free Wi-Fi connection for teachers and students. In session 2019-20, the college purchased 6 more computers and thus the total number of computers in the entire institute was increased to 80 from 74. The existing speed of internet broadband connection of BSNL was updated from 10 Mbps to 100 Mbps. The institute subscribed to the Google Workspace business plans (Business Standard plan) for conducting online classes and organizing various webinars during COVID-19. With the purchase of additional computers the total number for the academic year 2020–21 was increased to 119 and in 2021-22 it was further increased to 213.

The institution began offering two new UG courses, BCA and BSc IT, in the 2021-22 academic year. A new UG computer laboratory consisting of 70 systems was established. A new MSc Computer Science laboratory was developed with 26 computer systems having optimum configuration as far as the course contents are concerned. The machines have i3 processor, 4GB RAM, 1TB hard drive, a 15" display, and Windows 10 installed. In the academic year 2022-23, there are 213 computers in the institute, with 3 internet connections, each with a speed of 100 Mbps (2 BSNL and 1 RailTel). The upgrade includes new hardware, more terminals, more bandwidth, and the replacement of connections with lower capacity (CAT 5 cable for internal LAN). 32 port, 16 port, and 6 port switches, as well as a D Link router, are used to network these terminals. Additional projectors were purchased to strengthen the IT infrastructure to facilitate ICT based teaching-learning process. All the departments, library and the office have access to the IT infrastructure.

The college has also purchased office management software from MasterSoft ERP Pvt. Ltd., Nagpur. An Annual Maintenance Contract (AMC) has been signed for the maintenance of IT infrastructure / computers on the campus.

File Description	Document
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4.3.2 Student – Computer ratio (Data for the latest completed academic year)

Response: 9.57

4.3.2.1 Number of computers available for students usage during the latest completed academic year:

Response: 173

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File Description	Document
Upload supporting document	<u>View Document</u>

4.4 Maintenance of Campus Infrastructure

4.4.1 Percentage of expenditure incurred on maintenance of infrastructure (physical and academic support facilities) excluding salary component during the last five years (INR in Lakhs)

Response: 19.88

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

2021-22	2020-21	2019-20	2018-19	2017-18
50.02	24.28	18.93	24.10	27.58

File Description	Document	
Upload supporting document	View Document	
Institutional data in the prescribed format	View Document	

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Percentage of students benefited by scholarships and freeships provided by the Government and Non-Government agencies during last five years

Response: 61.07

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

2021-22	2020-21	2019-20	2018-19	2017-18
966	985	864	899	453

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

5.1.2 Capacity building and skills enhancement initiatives taken by the institution include the following

- 1. Soft skills
- 2. Language and communication skills
- 3. Life skills (Yoga, physical fitness, health and hygiene)
- 4.ICT/computing skills

Response: A. All of the above

File Description	Document	
Upload supporting document	View Document	
Institutional data in the prescribed format	View Document	

5.1.3 Percentage of students benefitted by guidance for competitive examinations and career counseling offered by the Institution during the last five years

Response: 21.72

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

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2021-22	2020-21	2019-20	2018-19	2017-18
883	340	82	57	120

File Description	Document	
Upload supporting document	View Document	
Institutional data in the prescribed format	View Document	

5.1.4 The Institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases

- 1. Implementation of guidelines of statutory/regulatory bodies
- 2. Organisation wide awareness and undertakings on policies with zero tolerance
- 3. Mechanisms for submission of online/offline students' grievances
- 4. Timely redressal of the grievances through appropriate committees

Response: A. All of the above

File Description	Document
Upload supporting document	View Document

5.2 Student Progression

5.2.1 Percentage of placement of outgoing students and students progressing to higher education during the last five years

Response: 13.1

5.2.1.1 Number of outgoing students placed and / or progressed to higher education year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
101	37	48	23	32

5.2.1.2 Number of outgoing students year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
493	547	366	260	174

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File Description	Document
Upload supporting document	View Document
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5.2.2 Percentage of students qualifying in state/national/international level examinations during the last five years (eg: JAM/CLAT/GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)

Response: 75.86

5.2.2.1 Number of students qualifying in state/ national/ international level examinations (eg: JAM/CLAT/NET/ SLET/ GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/ Judicial Services/Public Prosecution services/All India Bar Exams/State government examinations) year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
12	2	5	2	1

5.2.2.2 Number of students appearing in state/ national/ international level examinations (eg: JAM/CLAT/NET/ SLET/ GATE/ GMAT/CAT,GRE/ TOFEL/ Civil Services/ State government examinations) year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18	
15	6	5	2	1	

File Description	Document
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Institutional data in the prescribed format	<u>View Document</u>

5.3 Student Participation and Activities

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

Response: 39

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

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

2021-22	2020-21	2019-20	2018-19	2017-18
01	0	10	08	20

File Description	Document
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Institutional data in the prescribed format	View Document

5.3.2 Average number of sports and cultural programs in which students of the Institution participated during last five years (organised by the institution/other institutions)

Response: 18.6

5.3.2.1 Number of sports and cultural programs in which students of the Institution participated year wise during last five years

2021-22	2020-21	2019-20	2018-19	2017-18
09	02	36	28	18

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

5.4 Alumni Engagement

5.4.1 There is a registered Alumni Association that contributes significantly to the development of the institution through financial and/or other support services

Response:

The Alumni Association of Shri Mathuradas Mohota College of Science, Nagpur (AASMMCS) is enriched with elite members from all walks of life who are professionally very renowned. This association was formed in 2008 and later it was duly registered on 01.10.2016 under Society Registration Act, 1860 with the Assistant Society Registrar Office at Nagpur with Registration Number Mah-681/16 (Nag). The aim of this association is to keep a strong bond between the institution and it's passed out students so that information about development, accomplishments and advancement in various disciplines can be shared.

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The executive body meets regularly. The alumni association discusses various goals and objectives to be carried out over the years during its executive meeting. The life membership fee is Rs. 1000/. There are 336 registered alumni and the total deposit amount with the association is Rs. 462120/-.

The details of the alumni association, namely, the constitution, executive committee and the registration details can be found on the college website under the tab named 'Alumni'.

The involvement of alumni in providing voluntary support and assistance to their *alma mater* is crucial to sustaining and expanding the development of the college. The alumni members contribute to the development of new study programs at the college by providing their expertise in their respective subject and business. The college receives support from the alumni by inviting them as the guest speakers, advisors on committees, industry experts for entrepreneurial guidance, and by seeking their guidance on social, educational and cultural projects.

The college invites notable alumni to share their experiences and inspire the present students. It plays a significant role in the feedback system for academic growth and development. Over the past five years, the alumni association has made both monetary and non-monetary contributions for the growth of the institution.

The president of alumni association is a member of college's Internal Quality Assurance Cell (IQAC) and gives important inputs in the IQAC.

The association has organized lectures on academic, social, health, etc. issues for the benefit of students. One of our alumni from the department of Geology has made a generous donation to help the departmental growth and to organize guest lecture series. Some have donated the books and cabinet to the college library, water cooler, etc.

Association takes active interest in organizing events like dental, general health check-up camps and by disseminating their knowledge and experience via online forums during the pandemic, alumni from the health sector are also supporting our students and staff members.

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Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1 The governance and leadership is in accordance with vision and mission of the institution and it is visible in various institutional practices such as decentralization and participation in the institutional governance

Response:

The fundamental mission of the college is to generate and disseminate knowledge in basic sciences with an aim to further enhance the well-being of students. The basic ethos of colleges' vision and mission is producing knowledgeable, hard-working, cultured, skilled, patriotic, environmentally responsible students who would meet the present and future demands and challenges of all kinds. Additionally, the college tries to inculcate the idea of nation first among the students. Therefore, to create such a well groomed workforce, college strives to excel in teaching-learning, research, environment awareness, sense of patriotism and social commitment towards the society.

In order to meet the relevant objectives set forth, CDC makes five-year perspective plan and successfully executes it by means of good governance.

The decentralization of work is accomplished through the formation of committees who are given the take decisions within the rules (organogram and is https://mohotasci.edu.in/wp-content/uploads/2022/04/6.2.2.-Organogram-final.pdf). The overall working of the committees is supervised by the principal and vice-principal. The list of the committees is uploaded on the college website. Heads or coordinators of the departments have been given departmental level freedom for teaching method/plan, time-table distribution, conduction of internal examinations, organization of guest lectures, activities by departmental societies, etc. The principal utilizes and mobilizes the finances under the guidance of the management. The departments are supported financially to arrange various activities for the benefit of students and faculty. The principal authorizes staff to streamline the work at the university and other government offices.

In view of execution of the perspective plan of the institution, the management of the college gives a proper sense of direction to the activities of the institution and mobilizes financial resources.

For the implementation and execution of strategies, the CDC, IQAC, and heads of the departments work in coordination with the management.

Programmes are conducted not only to appreciate IQ but enable students and staff to enhance emotional quotient (EQ) and spiritual quotient (SQ) as IQ + EQ + SQ = PsyQ (psycho-spiritual quotient). College conducts academic, cultural, sports and extra-curricular activities where staff and students, from different socio-economic backgrounds, whole-heartedly participate in appreciable numbers.

As a head of the institution and chairman of majority of the committees, the principal imparts timely instructions to the respective committees only if required; otherwise the committee is given a free hand for work. Necessary decisions are taken on quality parameters as defined by the IQAC from time to time. The teachers are motivated to work creatively on various statutory bodies and other committees for extending their services to the society.

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There is a participative management policy to encourage the faculty members for curricular, co-curricular and extra-curricular activities. The staff members are always motivated and supported financially to organise various activities for the benefit of students and peers.

File Description	Document
Upload Additional information	View Document

6.2 Strategy Development and Deployment

6.2.1 The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment and service rules, procedures, deployment of institutional Strategic/ perspective/development plan etc

Response:

The college is run by the managing body of *Nagpur Shikshan Mandal* (NSM). It includes the president, secretary, and other executive members (https://mohotasci.edu.in/managing-committee/). As per provisions of Maharashtra University Act 2016, the College Development Committee (CDC) is the policy making body which monitors the entire academic and administrative functioning of the college on behalf of the managing body. The president of NSM is the chairman and the principal is the secretary of CDC. Three elected members of teaching staff and one elected member of non-teaching staff represent CDC for a period of five years. All institutional developmental proposals are placed, discussed and decisions are taken in this body in a democratic manner after healthy debate amongst all its members.

The principal is head of administration in the college, assisted by vice-principal who is also the IQAC coordinator. The principal conducts meetings with vice-principal, department heads, librarian, and office superintendent regularly. He also conducts meetings with the other faculties of the department and non-teaching staff. The vice-principal reviews the work of all PG and non-grant subject coordinators to ease out the principal's work. The post of NAAC coordinator was created in May / June 2020 who would work under the guidance and supervision of the principal and the IQAC coordinator, only for the preparation of AQAR and SSR.

Various college committees are composed of members from teaching and non-teaching staff of the college. These committees ensure the implementation of academic calendar and decisions taken by the administrative bodies. Some of the committees are Internal Complaint Committee, RTI committee, antiragging committee, etc. constituted as per the directions of the competent authorities.

The institution follows service rules, regulations, procedures, recruitment, promotion and retirement policies prescribed by the UGC, Department of Higher Education, Maharashtra Government, RTM Nagpur University, Nagpur.

The perspective plan of the college focuses upon various matters like introduction of new programmes, enhancement of quality in teaching-learning process, promotion of ethical research practices, development of infrastructure, etc. The perspective plan for the period 2017-2022 was prepared after taking into consideration the recommendations of the NAAC Peer Team for the III cycle and the focus of institute's

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vision, mission, and objectives. Some of the projects listed in the perspective plan have been successfully implemented in the last four years and the work on the rest is in progress.

Regarding the deployment activities:

The major focus of the plan was the construction of extra rooms for PG classes, more number of toilets, increasing IT facilities including the number of computers, starting more courses, ISO certification, introducing LMS in teaching and evaluation, conducting more add-on / skill based courses, widening the base of extension activities, increase in sports and cultural activities, campus waste management, installation of solar power system, construction of rails, ramps, toilets for the differently abled, etc. These have been successfully completed in the last few years. The recent procedure for the recruitment of staff as per the guidelines laid down by Maharashtra Government has been successfully completed by the college.

File Description	Document
Upload Additional information	View Document

6.2.2 Implementation of e-governance in areas of operation

- 1. Administration
- 2. Finance and Accounts
- 3. Student Admission and Support
- 4. Examination

Response: A. All of the above

File Description	Document
Upload supporting document	View Document

6.3 Faculty Empowerment Strategies

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

Response:

The institution has an effective welfare mechanism in place for teaching and non-teaching staff. The welfare of the teaching and non-teaching staff of the college is taken care of on different fronts like finance, research, physical and mental health, appreciation, recognition, etc.

The faculties are encouraged and provided financial assistance for attending academic events. To enable the teachers to conduct research efficiently, the college offers all the necessary infrastructure facilities as well as flexibility in time table.

Quarters are available for the staff on 'Nagpur Shikshan Mandal' Nagpur premises which are in proximity

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to the college. Some of the non-teaching employees stay in these quarters and few non-teaching staff members appointed on a daily wages basis are allowed to reside there.

Honest and sincere work is honored by the management. It felicitates one of the teaching faculties with 'Late Shri T. G. Deshmukh Best Teacher' award on Republic Day. The work of the teachers and the administrative staff is noted and honoured by felicitation and citation as well.

Annual Self Appraisal Report (ASAR) and Confidential Reports (CR) are submitted every year by the teaching and non-teaching staff. The CR of teaching staff is submitted by the respective head of the department, who puts in his/her remarks and forwards it to the principal. The CR of non-teaching staff is submitted to the college office. All the CRs are finally evaluated by the principal. This report is a brief assessment of the yearly performance of the concerned staff. On the basis of ASAR and CR report, the individuals whose performance is not up to the mark are communicated accordingly.

All teaching faculty members submit ASAR in the format prescribed by the UGC. This ASAR is endorsed by the IQAC Coordinator. The faculty members due for promotion work with the PBAS scrutiny committee. Many permanent faculty members have been placed to higher levels in the past few years after clearance through various stages.

An 'Employees Credit Cooperative Society' is operative in the college to assist the college employees to get financial support in case of emergencies or as and when needed. Some of the non-teaching members and teachers are regular members of society. The society accepts deposits, monthly subscriptions and provides loans to its members for various purposes, like regular loan (up to Rs. 3 lakhs), long-term loan (up to Rs. 4 lakhs), emergency loan (up to Rs. 20,000/-), and *Jinnas* loan (up to Rs. 50,000/-).

Wards of members of the cooperative society are felicitated in the general body meeting for their meritorious work. On the day of AGM, this credit co-operative society hands over dividend cheques, gift coupons and hosts lunch for all its members. In addition to the above welfare measures, the college has provision to provide a festival advance of Rs. 4000/- to its non-teaching staff for *Diwali*.

Professional development programmes are conducted for the staff members.

As some of the faculties have even attended international conferences and international science Olympiads, necessary on-duty leave was granted by the college.

File Description	Document
Upload Additional information	View Document

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

Response: 6.08

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

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2021-22	2020-21	2019-20	2018-19	2017-18
01	00	01	03	06

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

6.3.3 Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), professional development /administrative training programs during the last five years

Response: 24.82

6.3.3.1 Total number of teaching and non-teaching staff participating in Faculty development Programmes (FDP), professional development /administrative training programs during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
36	23	04	05	01

6.3.3.2 Number of non-teaching staff year wise during the last five years

2021-22	2020-21	2019-20	2018-19	2017-18
28	27	42	00	00

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution has strategies for mobilization and optimal utilization of resources and funds from various sources (government/ nongovernment organizations) and it conducts financial audits regularly (internal and external)

Response:

The college has the government, UGC and management as the main source of funding bodies. The government of Maharashtra provides salary grants for teaching and non-teaching staff of grant-in-aid courses of the institution. The college follows the rules and regulations of the Government of Maharashtra and the university with respect to the tuition fees. Tuition fees are received from the enrolled students in grant-in-aid and non-grant categories. The fees received from non-grant courses are utilized for the remuneration of the faculties appointed for management sanctioned posts.

This college being a well-known educational institute in Vidarbha, our alumni / well-wishers have provided funds on various occasions.

The college has three tier structures for finances. The accounts department looks after the day-to-day transactions and the proper maintenance of finance. The principal monitors these finances as per all rules, regulations and laid down procedures. Management of *Nagpur Shikshan Mandal* mainly focuses on policy matters.

The institution, faculty and parent education society take efforts for mobilization of funds. The institution, through its management and CDC has a well-planned, well formulated, transparent financial management system. The resource mobilization policy focuses on achieving the goals and target of the institution ensuring accountability and transparency. Funds are provided to meet the basic infrastructure requirement of the institution while initiating new programs and courses.

The management provides financial support to seminars/ workshops/ expert talks/ departmental activities / faculty development programmes, etc. The institute recognizes the importance of extracurricular activities for the students and hence adequate funds are provided for cultural activities by the management. Sports activities are also given adequate funding in the annual budget.

Scholarships and free-ships are distributed to the eligible students. Philanthropists have donated some amounts for encouraging the students to achieve greater heights in academics. These grants from philanthropists are utilized for giving prizes for the academic excellence in university examinations. The institutional scholarship fund is also used for funding financially weaker students who do not avail any other scholarships.

Transparency and accountability are ensured by conducting an annual audit. The timely checks are carried out by the accounts department of the college. The receipts, vouchers, etc. are properly maintained. The stock/ledger books are kept updated. Equipment is purchased through the proper laid down procedure by inviting quotations, preparing comparative statements and then placing the orders. The income expenditure process is properly monitored by the principal and the management.

Audit is carried out by Statutory Auditor appointed in the Annual General Meeting of *Nagpur Shikshan Mandal*. The practicing chartered accountant is appointed as statutory auditor.

File Description	Document
Upload 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. It reviews teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals and records the incremental improvement in various activities

Response:

IQAC has strived to evolve mechanisms and procedures for ensuring timely, efficient, and progressive performance of academic and administrative activities.

In these five years, many activities and advances were undertaken to meet the present day and changing requirements. They include further increase in the use of ICT facilities, encouragement to conduct research by the staff and students, women empowerment activities, strengthening extension activities, social outreach programmes, strengthening of academic departments, career and counseling, sports and cultural, etc. Need-based flexibility in the planning of activities was also ensured particularly during the pandemic period.

The academic session generally starts with the celebration of 'International *Yoga* Day' on 21st June every year. The physical education and sports department is responsible for this activity.

The interaction of newly admitted students of B.Sc. semester I and teachers start with the *induction programme*, around second week of July to make them acquainted with the ecosystem of college. It is followed by a week-long multi-skill development programme where students are given hands-on training to various topics like mushroom cultivation, noise-pollution and its effects, soil testing, printed circuit board designing, etc. in addition to some compulsory themes, like legal awareness, social ethics, women reproductive system and hygiene (for girls only), *yoga* and sports, personality development, communication skills, etc. These initiatives have helped in grooming the personality of students.

Other activities like bridge course, parent teacher's meetings, National Science Day, various commemorative days are regularly conducted. For the benefit of the outgoing students, the IQAC in collaboration with other departments organises many activities on career prospects. For the benefit of girl students, various theme-based workshops were conducted. The students are also given hands-on training in the preparation of detergent, liquid soap, bonsai making, chocolate making, *madhubani* painting, etc. under the umbrella of IQAC. These activities provide the students an opportunity to work towards self-employment.

Academic quality enhancement has been the focus of IQAC. To ensure that this goal is achieved, the IQAC organised a national seminar on NAAC accreditation and a webinar on innovative teaching and learning using digital platforms. Teachers are motivated to participate in FDPs, publish research articles and guide students for their research. Addition of new programmes and courses- BCA, MSc (Zoology and Computer Science), BSc IT, BSc Microbiology, additional sections for MSc (Chemistry and Mathematics), recognized places for PhD in Zoology and Botany, sanction of BVoc courses are the academic highlights of these five years.

During the challenging time of pandemic, the IQAC swung into action to minimize the academic losses

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during this time. The mentor teachers looked after the welfare of students, especially Semester I.

To ensure transparency in the feedback process, the IQAC instructed the feedback committee to collect feedback using Google Forms from various stakeholders on quality parameters.

Various audits like green audit, energy audit as well as the academic audit were carried out. Thus, IQAC has played a significant role in the upgradation of academic, social, cultural, and sports activities.

File Description	Document
Upload Additional information	View Document

6.5.2 Quality assurance initiatives of the institution include:

- 1. Regular meeting of Internal Quality Assurance Cell (IQAC); Feedback collected, analysed and used for improvements
- 2. Collaborative quality initiatives with other institution(s)/ membership of international networks
- 3. Participation in NIRF
- 4. any other quality audit/accreditation recognized by state, national or international agencies such as NAAC, NBA, ISO Certification etc

Response: A. All of the above

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Measures initiated by the Institution for the promotion of gender equity and Institutional initiatives to celebrate / organize national and international commemorative days, events and festivals during the last five years

Response:

The college regularly organizes national and international commemorative day(s), to mark particular events in order to promote awareness of patriotism, gratitude, responsibility, etc. particularly among the students. In these functions, participation of students, non-teaching and teaching staff is involved.

Some of these days are: College foundation day, Independence day, Teachers' day, Science day, Chhatrapati Shivaji Maharaj *Jayanti*, Mahatma Gandhi *Jayanti* and Lal Bahadur Shastri *Jayanti*, Dr. B. R. Ambedkar *Jayanti*, *Mahaparinirwan Din*, *Samwidhan Din*, Marathi *Bhasha Gaurav Din*, International Women's Day, International Yoga Day, *Parakram Din*, Republic day, etc.

The national commemorative days like Independence Day, Republic day and Gandhi *Jayanti* are celebrated every year jointly by all the institutions run by *Nagpur Shikshan Mandal*. However, the flag hoisting is performed on 26th Jan. and 15th Aug. at the individual institutions. The venue for Gandhi *Jayanti* is Shri Mathuradas Mohota College of Science where the guest speakers with Gandhian ideology are invited to speak about Gandhiji's principles.

The college celebrates foundation day on 18th July every year (18th July 1949 - Foundation Day). Activities such as staff appreciation ceremony and tree plantation drive are held on this day to mark the occasion.

The International Yoga Day is celebrated on 21st June every year which is jointly organized by IQAC cell, Physical education department. Generally a yoga expert is invited for training activity.

Shivaji Maharaj *Jayanti* is celebrated on 19th Feb. every year as a mark of respect to this great *Maratha* warrior. On 14th April and 06th Dec. rich tributes are paid to Dr. B. R. Ambedkar on the occasion of his *Jayanti* and *Mahaparinirwan Din* (death anniversary of Dr. Ambedkar) respectively. Similarly tributes are paid to Swami Vivekananda on 12th Jan. which is also known as National Youth Day. Additionally, Mahatma Phule *Jayanti*, Rajeev Gandhi *Jayanti* (Harmony Day) are also celebrated in the college. All these functions are of about one to one and half hour duration.

On 8th of March, International Women's day is celebrated with enthusiasm as an honour to women in society by conducting a variety of events, like lecture on cyber security, Bonsai workshop, etc. discussions on women's health and security, blood donation, etc. These events are organized by the women's cell. This celebration focuses attention on the importance of regular physical activity and health awareness for women. Health covers all aspects of life like emotional, spiritual, social and intellectual.

Some more events like National Voters' Day (25th of Jan.), *Sadbhavana Divas* (Harmony Day), Vishnu Waman Shirwadkar *Jayanti* as Marathi *Bhasha Gaurav Din*, reading day, etc. are also celebrated in the college. The institute also observes Science Day wherein lectures, poster competition, science model

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exhibition are organized by different departments. Additionally, the library plans activities for students like a book exhibition and a celebration of the Fortnight of Democracy (*Lokshahi Pandharavada*).

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

7.1.2 The Institution has facilities and initiatives for

- 1. Alternate sources of energy and energy conservation measures
- 2. Management of the various types of degradable and nondegradable waste
- 3. Water conservation
- 4. Green campus initiatives
- 5. Disabled-friendly, barrier free environment

Response: A. 4 or All of the above

File Description	Document
Upload supporting document	<u>View Document</u>

7.1.3 Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

- 1. Green audit / Environment audit
- 2. Energy audit
- 3. Clean and green campus initiatives
- 4. Beyond the campus environmental promotion activities

Response: A. All of the above

File Description	Document
Upload supporting document	<u>View Document</u>

7.1.4 Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic diversity and Sensitization of students and employees to the constitutional obligations: values, rights, duties and responsibilities of citizens (Within 500 words)

Response:

The college is committed to provide an inclusive environment to its stakeholders. Following initiatives are taken by the college to make the entire atmosphere inclusive with respect to cultural, regional, linguistic,

communal, socio-economic and other diversities.

Admissions are on merit basis is the example of inclusiveness that is to say these are irrespective of caste/creed/religion. To reduce the gap between the students joining the institution from different socioeconomic backgrounds, and to inculcate sense of uniformity, and discipline, the college has made uniform compulsory for UG as well as PG students. The college has also made uniform for the non-teaching staff and dress code compulsory for the teaching staff.

Philanthropists have endorsed and awarded prizes to the students only on the basis of merit and not on caste/ creed/ religion. The meritorious students, not covered under any other scholarship, are benefited through the institutional scholarship.

Apart from English as the official medium of instructions, all faculty members use Marathi/ Hindi while imparting subject knowledge to overcome linguistic barrier faced by students as and when required.

Following programmes were organized to address the issues of inclusion, situatedness, human values and professional ethics.

- 'My First Vote' Elocution Competition (to celebrate Voters' Day): *National Voters' Day* is celebrated by the institute to create awareness about social responsibility among the stakeholders. The institute makes the students aware of the Constitution which provides citizen the values of human dignity, equality, social justice, human rights and freedom, Rule of law, equity and respect and superiority of Constitution in the national life and integrity of society. The oath of saving constitutional values is also taken.
- Olympiad on 'Human Rights, Indian Judiciary System & the Constitution of India' by Pratik Chirde, Tech Trainer Pvt. Ltd., Bombay was organized on 19 March 2019.
- On 26th November every year, the Constitution Day or *Samvidhan Divas* also known as 'National Law Day' is celebrated in the college to commemorate the adoption of the Constitution of India. This event is conducted in the college to understand the moral and ethics encrypted in the Constitution for justice, dignity of life, peace, harmony, acceptance and respect for the diversity in religion, ethnicity, culture and gender, discipline and hard work, honesty and integrity of life, commitment to society. *Samvidhan Divas* is celebrated that helps the youth of the country to be aware of the Constitution of India and to respect the efforts taken by the makers of the Constitution.
- Minority Rights Day is also organized in the college which is on 18th Dec. commemorates declaration on rights of persons belonging to National or ethnic, religious and linguistics minorities. The guest speaker generally expresses views and information about various provisions for minorities envisaged under Indian Constitution.

Such programmes make the students aware of their duties and responsibilities.

Professional Ethics and Code of Conduct

The Code of Conduct is displayed on the website and its implementation is monitored by the committee.

The links of the same are as follows:

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https://mohotasci.edu.in/wp-content/uploads/2021/05/code-of-conduct.pdf

https://mohotasci.edu.in/wp-content/uploads/2020/12/Code-of-Conduct-Staff-and-Principal.pdf

https://mohotasci.edu.in/wp-content/uploads/2020/12/Code-of-conduct-for-students.pdf

File Description	Document
Upload Additional information	View Document

7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual

Response:

The institution follows two best practices which are mentioned below:

BEST PRACTICE 1

- 1. **Title of the Practice:** Campus Recruitment Training (CRT)
- 2. **Objective of the practice:** The CRT aims at going much beyond the textbooks and teaching the students qualities of life skills like focus, self-control, effective communication, decision making, critical thinking, taking challenges, self-awareness, assertiveness, etc.
- 3. **The Context:** It was observed that due to the paucity of professional exposure in the university designed curricula, these graduates are not employable. So, it was thought to impart life skills in the form of a module termed 'Campus Recruitment Training (CRT)' to the final year students who are on the verge of completing their graduation and are gearing up to encounter the job market.
- 4. **The Practice:** In the CRT course introduction to communication skills, time management, effective interpersonal communication and basic arithmetic for competitive examinations was taught. Looking at the response of the students, it was decided by T&P cell that these classes should be conducted every year.
- 5. Evidence of Success: Though the CRT training has not given any immediate results that are observed in the professional colleges, but overall, the students have given positive feedback about the development of their communication skills, time management, effective interpersonal communication and basic arithmetic for competitive examinations. They feel that they have become more confident to face various competitive examinations and interviews.
- 6. **Problems Encountered and Resources Required:** Ideally the CRT course should be designed for 60 to 80 contact hours in duration but due to other academic constraints, this course is restricted to 30-35 lectures. This puts lots of restrictions on the completion of the proposed syllabus of CRT with full justice.

BEST PRACTICE 2

1. **Title of the Practice:** Vermicomposting from readily available organic waste

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- 2. **Objectives of the Practice:** The objective was to generate organic fertilizer from easily available and cost-effective organic waste available on college premises. The Botany Department has successfully produced vermicompost and compost from garden waste generated in college. The objectives are: a. Production of vermicompost from organic waste, b. Involving and training students to produce vermicompost, and c. To make vermicompost available to the people at low cost
- 3. **The Context:** Vermicompost can serve as one of the arenas where scientific knowledge can be applied with minimal resources for generating reasonably good profit. To produce vermicompost in a cost-effective manner, it is essential to design project in an efficient way. The vermicompost unit can be set up easily in an open space. Considering the consistent heavy rainfall and very high temperature during summer ranging from 40 to 47 degree Celsius (during the months of May and June) in Nagpur, it was essential to design the project in a protected way.
- 4. The Practice: Two permanent brick-walled vermicomposting pits are constructed above-ground level. These pits are well ventilated. Above the vermicomposting pits, a permanent tin shade roof is mounted at the height of about 12 feet to protect vermicomposting process from rain and direct heating by sunlight. Initial raw material included about two quintals of cattle dung which was procured from a local area. In both the composting pits, 1 kg earthworms were inoculated equally to start process of vermicomposting. Moisture is maintained up to 60 to 70% during the process of composting by regular sprinkling of water. Garden waste generated in large quantity in the college premises during the months between July to October is also utilized, instead of burning it or discarding it as waste. This garden waste is kept for composting by aerobic process. From this organic waste, a large quantity of nutrient rich compost is produced. This compost is added to the vermicomposting pits to increase the quality of vermicompost. The pit contents are turned after a month to facilitate aeration and ensure proper decomposition. Within 3 to 4 months, good quality and quantity of vermicompost is produced. The final product appears black and granular. Watering is stopped when the compost is ready. This ready compost is then transferred over partially decomposed cow dung so that the earthworms are provided with fresh food material. After a few days the produced compost is separated and sieved.
- 5. Evidence of Success: Cattle dung in the form of farmyard manure (FYM) and agriculture waste are a good substrate for vermicomposting and cost about Rs. 1000 to 1500/- per quintal. One time inoculation of earthworms is sufficient and inoculations during successive cycles of vermicomposting in the same pits are not required. Within 3 to 4 months, good quality and odourless compost is produced which has a high nutrient value. Packaging of dry vermicompost was carried out in 2 kg and 5 kg reusable polythene bags and the product was sold to the public, staff members and students during 2020-21 and 2021-22 sessions. On selling vermicompost, an amount of about Rs. 4000/- and Rs. 4500/- respectively, was generated during 2020-21 and 2021-22 sessions. Due to the success of earlier years, during the session 2022-23, a larger set of new cycle of vermicompost is initiated, with the aim to produce larger quantities of vermicompost. Students are trained and taught about the vermicompost process and production. This gave them good exposure- right from production of vermicompost to packaging and marketing. This activity might appeal to some students who have entrepreneurial interests and may set up their own small-scale businesses.
- 6. Problems Encountered and Resources Required: The major problem encountered was the availability of the water supply during summer months required to maintain moisture level properly. Thus, due precautions were taken to ensure that the humidity level was maintained. All the raw materials required for vermicomposting were available easily and at a low cost. One time investment for designing the set up for vermicompost was needed. Minimum labour was required during the packaging of vermicompost. People willingly purchase organic fertilizer and there is no

issue with selling the product. The college has initiated a good practice which not only provides ecofriendly organic fertilizers at low cost but also involves students.

File Description	Document
Best practices as hosted on the Institutional website	View Document

7.3 Institutional Distinctiveness

7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

Response:

Holistic Development of Students

The institution's vision is to transform and empower students in their quest for knowledge, morals, and social conscience while still assisting them in achieving excellence in a variety of endeavours for preparing them to take on the challenges of the modern world. The institution has always been trying its level best to encourage students to pursue education, follow morals, and imbibe social responsibility. Universal standards, value-based education, collaborative research, and social welfare are the four core tenets of the institute's mission. The curriculum design and delivery that adheres to modern learning methodologies along with ethical ideals are what produce the desired results. The Institute has built its distinctive approach of holistic development of the students by offering skill-based certificate courses, experiential and participative learning in the form of field work, research projects, interactions with the guest speakers, encouraging and guiding the students to plan events to enhance their organizational abilities, creativity, and inculcating ethical and human values to serve the community.

Academic development: The institute tries to use the recent pedagogical techniques to implement university curriculum through appropriately planned teaching-learning activities. Students are introduced to mentors, professionals, industry leaders, and innovators throughout their academic career. The institute has provision for sharing information outside the prescribed syllabus to fill up any curriculum gaps that are proactively identified. The students are given factual exposure through industrial visits, field visits, technical fests, etc. Various departments such as Computer Science, Electronics, and Chemistry also organize several programs to give students practical experience of the advanced technologies used by the industry and/ or for entrepreneurship development. Through some collaborative activities, students are given industrial/ practical exposure to attain additional practical knowledge beyond their syllabus. Since the college offers courses from UG to PhD, academic progression of the students is warranted.

Short-Term Skill Development Courses: The institute offers courses designed by the university. The contents of many of the courses are conventional, hence, the institute offers short term skill-based courses to make students employable and help the nation to build skilled workforce. The institute offers courses that have intensive series of learning activities that are regularly delivered over a short period to help students improve their skills. Some of the courses like Mushroom cultivation, Circuit design, Sericulture, Soil testing, etc., are regularly run by the institute.

Training and Placement cell: The training and placement programs assist students in acquiring specialized knowledge other than subject knowledge to stay competitive in this cut-throat era. The T&P cell organises plethora of activities like interactive sessions, group discussions, interview training sessions, CV drafting, among others for grooming the students to obtain corporate exposure and face the employment market. The institution also organizes programs for skill development, personality development, legal awareness, professional ethics, etc. To ensure that the students acquire language skill the college has developed a language laboratory.

Physical, cultural and mental fitness: The Physical Education and Sports department conducts physical fitness and medical tests every year. Furthermore, the grooming of students for cultural activities is also undertaken by cultural cell. The institute encourages students to participate in cultural and physical activities to help them treasure the cultural heritage, develop a variety of critical abilities, physical fitness, teamwork, self-assurance, decision-making, and mental fortitude. The institute hosts manifold sports competitions for the home students every year and is also selected by the university to host university level tournaments. The students are also urged to practice *yoga* and *pranayama* for the improvement of their mental health. Our students have excelled in many sports and cultural events at various levels and bagged numerous awards. They have also represented the university at various occasions.

Development of Ethics and Values: Students enthusiastically volunteer at adopted village Champa through NSS. Activities like plantation, health check-up camps, cleanliness, etc. are organised there. Our students have never been indifferent to societal problems amid natural disasters. To remark and add to the record, during the COVID-19 pandemic, our students donated face masks, medications, and food packets to the needy, and some PG students organised a door-to-door campaign to raise awareness of COVID-19 vaccination. During COVID-19, oxymeters were donated via an NGO, while additional medical items were given via the *Seva* foundation. Blood donation camps, *Swaccha Bharat Abhiyan*, plantation drives are regularly organised. As the college is recognised by *Unnat Bharat Abhiyan*, morals and values would be further imbibed by the volunteers through participation in the activities organised under this banner. Funds donated by philanthropists towards the Institutional Welfare Fund are effectively mobilized for social welfare. Thus students learn how to empathize with others.

Institutional Scholarship: To ensure that the students excelling in academics and not getting any government scholarship are not deprived of education, the college has instituted an institution scholarship fund. These students are selected based on several eligibility criteria. The management of *Nagpur Shikshan Mandal* and various members of society, including college alumni, raise money for this scholarship.

Environmental consciousness: The college recognizes the significance of environmental consciousness among the stakeholders. Taking this into consideration, the college campus has a rich green cover with a variety of plants species. Regular plantation drives on and off campus are organised where students participate. As part of this drive, the students donated saplings of fruit bearing trees to residents at Champa village. The inhouse vermicomposting unit is maintained by the students under guidance of the staff. The Environment Protection Cell (EPC) organises variety of talks and plans activities which addresses the acute issue of the environment.

The institute encourages and supports students to compete in numerous national and international contests with a focus on academic and technical excellence. Regular engagement and evidence of accomplishments demonstrate the institute's uniqueness around the world. Ethics, teamwork, technical proficiency, and presenting skills are taught to students. By taking part in such internationally renowned tournaments, they not only put their physical strength to the test but also experience a healthy competitive environment and

Self Study Report of SHRI MATHURADAS MOHOTA COLLEGE OF SCIENCE

worldwide standards.	
File Description	Document
Any other relevant information	View Document

5. CONCLUSION

Additional Information:

To comply with the Vision and Mission of the college, the tradition to conduct a series of programmes on various themes is continuing. The events conducted since 31 Aug. 2022, i.e. after the date of accreditation are as follows:

- Initiation of online guidance for Civil Services preparation by an alumnus, who is an IAS officer at Mumbai
- Programme on 'Beti Bacho Beti Padhao' (23 Nov. 2022)
- Eco-friendly Ganesh Visarjan in college (First week of September 2022)
- Renovation of seminar halls
- Initiated the construction of additional rooms
- Construction of new scooter stand has been completed.
- Distribution of fruit bearing plants at adopted village 'Champa' (08 Sep. 2022)
- Donation of study material at adopted village 'Champa' under Unnat Bharat Abhiyan
- Inter-collegiate online photography competition on World Fungus Day (02 Oct. 2022)
- Guest lecture on research methodology (27 Sep. 2022)
- Guest lecture on 'Bee: The leader, entrepreneurship in Animal Sciences' (26 Sep. 2022)
- Development of Modern Physics in India An analysis (11 Sep. 2022) online lecture
- Sanitation programme on 01 Oct. 2022
- Guest lecture on eco rejuvenation of waste land for socio economic development of rural areas (04 Oct. 2022)
- Workshop on detergent making (18, 19 Nov. 2022)
- Awareness programme for growing youth on common skin issues and misconceptions (12 Oct. 2022)
- Voter awareness programme on 25 Jan. 2023
- Government sanctioned posts advertised for teaching staff (14 posts)
- 'Unknown freedom fighters in Indian Independence movement' A guest lecture (12 Nov. 2022)
- IPRs and Patent/ Design filing lecture (15 Nov. 2022)
- Lecture on Digital Banking (14 Nov. 2022)
- Retirement Planning & Other Financial issues lecture (16 Nov. 2022)
- One day workshop on Research Methodology (22 Nov. 2022)
- MOU signed for disposal of e-waste
- MOU with NRSolutions4u
- Applied for NIRF 2023
- AISHE 2021-22 completed
- Applied for renewal of ISO certification
- MSME LED Bulb manufacturing programme (10 Nov. to 17 Dec. 2022)
- Inter-collegiate Athletics organized by university Silver medal to college student (24.Nov. 2022)
- Four cultural programmes by 'College cultural team' at Indian Science Congress, Nagpur in Jan. 2023
- Cycle bank facility for needy students has been initiated.

Concluding Remarks:

Our Motto, 'Tatsukhasukhitvam,' literally means 'finding delight in another's joy,' is our foundation. Hence, we

strive for the holistic development of our students with the goal of grooming and empowering them in their pursuit of knowledge, morality, and social conscience, and so supporting them in reaching excellence.

The college executes a well-planned academic schedule. In the previous five years, student enrolment has increased as the institution has introduced new courses. Student–teacher (full-time) ratio improved significantly. The skill-based value-added courses were offered in the previous five years have benefitted many students. The college has increased the programmes at undergraduate, post-graduate levels and research. The six UGC-approved BVoc programmes are awaiting state government clearance. Continuous internal evaluation is conducted. The college conducts several events each year on professional ethics, gender, human values, ecology and sustainability. The feedback system has been improvised over the years.

Teachers and students have been embracing ICT tools and e-resources for improved communication and resource sharing. The teachers are actively involved in research activities. A policy statement provides financial help to instructors who register in FDPs, publish research articles, or submit patents to stimulate academic activity. The subject societies conduct activities to stimulate academic interest in students. NSS is working hard for socio-economic development and for creating environment conscious society. The college has been effectively using funds received under *Unnat Bharat Abhiyan*.

The college has enough facilities for UG, PG, and research programmes. All classrooms, classroom-cum-labs, laboratories, administrative building, library have Wi-Fi and well equipped computers. Separate washrooms for men, women, and PwD are available. Separate student parking, cafeteria, gymnasium, diesel generator and solar power generating system are also in place. The college has initiated 'Institutional Scholarship Fund'.

The leadership actively pursues the college's vision and objectives. Participatory management occurs throughout planning and implementation. Students are represented in event planning. ERPs have optimised egovernance during the previous five years. The institution offers stakeholders an inclusive atmosphere to serve students from diverse socio-economic backgrounds. The organisation commemorates national and worldwide remembrance days to honour cultural, regional, linguistic, communal, socio-economic, and other diversity.

6.ANNEXURE

1.Metrics Level Deviations

Metric ID Sub Questions and Answers before and after DVV Verification

2.1.1 **Enrolment percentage**

2.1.1.1. Number of students admitted year wise during last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
1674	1455	1258	1269	1205

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
784	516	503	541	482

2.1.1.2. Number of sanctioned seats year wise during last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
1918	1520	1500	1584	1478

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
908	550	530	614	530

Remark: DVV has made the changes as per shared report by HEI.

2.1.2 Percentage of seats filled against seats reserved for various categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy) during the last five years (Exclusive of supernumerary seats)

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

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
1162	930	920	973	906

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
412	269	253	293	226

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

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
1162	930	920	973	906

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
562	340	330	383	330

Remark: DVV has made the changes as per shared report by HEI.

2.4.1 Percentage of full-time teachers against sanctioned posts during the last five years

2.4.1.1. Number of Sanctioned posts / required positions for teaching staff/ full time teachers year wise during the last five years:

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
71	59	68	57	55

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18	
69	57	66	55	53	

Remark: DVV has made the changes as per shared report by HEI.

Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

3.3.1.1. Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
15	21	13	08	14

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
15	20	12	06	12

Remark: DVV has made the changes as per shared report by HEI.

3.3.2 Number of books and chapters in edited volumes/books published and papers published in

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national/international conference proceedings per teacher during last five years

3.3.2.1. Total number of books and chapters in edited volumes/books published and papers in national/international conference proceedings year wise during last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
07	05	06	00	04

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
05	03	01	00	00

- Number of extension and outreach programs conducted by the institution through NSS/NCC/Red cross/YRC etc., (including the programmes such as Swachh Bharat, AIDS awareness, Gender issues etc. and/or those organised in collaboration with industry, community and NGOs) during the last five years
 - 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

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
16	05	06	05	03

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
10	05	04	05	03

- Number of awards/medals for outstanding performance in sports/ cultural activities at University / state/ 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:

2021-22	2020-21	2019-20	2018-19	2017-18
1	0	13	10	27

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
1				

01	0	10	08	20	

Remark: DVV has made the changes as per excluded shared certificate of participation.

Average number of sports and cultural programs in which students of the Institution participated during last five years (organised by the institution/other institutions)

5.3.2.1. Number of sports and cultural programs in which students of the Institution participated year wise during last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
09	02	49	38	35

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
09	02	36	28	18

Remark: DVV has made the changes as per shared clarification.

6.3.3 Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), professional development /administrative training programs during the last five years

6.3.3.1. Total number of teaching and non-teaching staff participating in Faculty development Programmes (FDP), professional development /administrative training programs during the last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
46	34	05	08	01

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
36	23	04	05	01

6.3.3.2. Number of non-teaching staff year wise during the last five years

Answer before DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18
28	27	42	00	00

Answer After DVV Verification:

2021-22	2020-21	2019-20	2018-19	2017-18

Remark: DVV has excluded repeated teachers.

2.Extended Profile Deviations

ID	Extended (Questions									
1.1	Number of students year wise during the last five years										
	Answer be	fore DVV V	erification:			_					
	2021-22	2020-21	2019-20	2018-19	2017-18						
	1674	1455	1258	1269	1205						
	Answer Af	ter DVV Ve	erification:			_					
	2021-22	2020-21	2019-20	2018-19	2017-18						
	1656	1450	1252	1263	1202						
2.1	Answer be	fore DVV V	erification:	63	during the l	last	ive ye	ears (Witho	ıt repe	at cou
	Answer be Answer aft	fore DVV V er DVV Ver	erification:	63 1							at cou
	Answer be Answer aft	fore DVV V er DVV Ver	erification:	63 1	during the l						at cou
	Answer be Answer aft	fore DVV V er DVV Ver	ferification: rification: 8	63 1							at cou
	Answer be Answer aft	fore DVV Ver DVV Ver DVV Ver	ferification: rification: 8	63 1							at cour
2.1	Answer be Answer aft Number of Answer be	fore DVV Ver DVV Ver f teaching s	reification: 8 taff / full tine erification:	63 1 ne teachers	year wise d						at cou
	Answer be Answer aft Number of Answer be 2021-22	fore DVV Verer D	reification: 8 taff / full time reification: 2019-20	63 1 ne teachers 2018-19	year wise do						at cou
	Answer be Answer aft Number of Answer be 2021-22 46	fore DVV Verer D	reification: 8 taff / full tine reification: 2019-20 44	63 1 ne teachers 2018-19	year wise do						at cou
	Answer be Answer aft Number of Answer be 2021-22 46	fore DVV Ver DVV Ver DVV Ver DVV Ver Steaching	reification: 8 taff / full tine reification: 2019-20 44	63 1 ne teachers 2018-19	year wise do						at cou