Program Outcome, Course Outcome, and Program-Specific Outcome

Session: 2022-23

Shri Shivaji Education Society Amravati's

Science College, Congress Nagar, Nagpur

Internal Quality Assurance Cell

Program Outcome, Course Outcome, and Program-Specific Outcome

Session: 2022-23

The students should gain knowledge in their subjects of Physics, Chemistry, Botany, Zoology, Mathematics, Electronics, Computer Science, Statistics, Microbiology, Biotechnology, and Geology. Understood the basic concepts, fundamental principles, and scientific theories related to various scientific phenomena and their references in day-to-day life.

a. Meritorious Achievement

- **Under Graduation (B.Sc)**

Sr. No.	Name of Students	Merit Position	Marks
1.	Ku. Vinita R. Tijare	05	2710 out of 3000

- **Under Graduation (BCA)**

Sr. No.	Name of Students	Merit Position	Marks
1.	Ku. Urshala D. Arora	05	2674 out of 3000

- **Post-Graduation (PG) (M.Sc. Computer Science)**

Sr. No.	Name of Students	Merit Position	Marks
1.	Ku. Tejaswini V. Hirudkar	3	9.28 C.G.P.A.
2.	Ku. Mansi S. Hinge	4	9.24 C.G.P.A.

- **Post-Graduation (PG) (M.Sc. Microbiology)**

Sr. No.	Name of Students	Merit Position	Marks
1.	Ku. Bhavika T. Ranpura	05	9.08 C.G.P.A.
2.	Ku. Manali S. Kakde	05	9.08 C.G.P.A.

- **Post-Graduation (PG) (M.Sc. Mathematics)**

Sr. No.	Name of Students	Merit Position	Marks
1.	Ku. Mrunali O. Thaokar	05	8.90 C.G.P.A.

Medals/Awards/Prizes

	Name of the student	Medal/Award/Prize
1.	Mr. Sanket V. Mehate	Student Council Gold Medal for topper in B.Sc Exam.
2.	Mr. Sanket V. Mehatre	Gold Medal Donated by Dr. Avinash L. Deshmukh (For Topper in B.Sc. Exam.)
3.	Ku. T. M. Sukheja	Memorial Gold Medal (for highest score in Zoology in B.Sc. Exam.)
4.	Ku. Akansha S. Anand	Late Dr. N. V. Purekar Memotrial Gold Medal
5.	Ku. Madhavi S. Mohod	Late Sitaramji Govinderao Malpe Memotrial Gold Medal
6.	Mr. Yashpreet Singh	Late Prof. P.D. Wairagade Memotrial Gold Medal
7.	J. S. Kalasi	Late Prof. P.D. Wairagade Memotrial Gold Medal
8.	Mr. Yashpreet Singh	Late Wamanrao Raghoji Gawande Memorial Cash Prize
9.	J. S. Kalasi	Late Wamanrao Raghoji Gawande Memorial Cash Prize
10.	Ku. Aishwarya P. Mendwade	Late Principal L.D. Deshmukh Memorial Gold Medal
11.	Ku. Sneha R. Sharma	Late Principal L.D. Deshmukh Memorial Gold Medal
12.	Mr. Sanket V. Mehatre	Parmeshti Anusaya Mata Paradsinga Cash Prize
13.	Ku. Khushboo K. Kolhe	Late Nimbaji Saste and Late Kausalyabai Saste Memorial Cash Prize
14.	Ku. Khushboo K. Kolhe	Prof.A.Y.Waghale Gold Medal Department of Chemistry Silver Medal
15.	Ku. Maithili N. Thakre	Late Minatai B.Sontakke Memorial cash Prize

16.	Mr. Shashank P. Tidke	Department of Microbiology gold Medal
17.	Ku. Vaishnavi Dhote	Late Amit P.Baid memorial Cash Prize
18.	Ku. Shipra Singh	Late Ramchandra B.Pabley and Late Vimal R.Pabley Memorial Silver Medal
19.	Mr. Vishal Kharachwal	Late Kalpana Chawala Memorial Best Student award Cash - 1000 /-
20.	Mr. Sanket V. Mehate	Dr.Panjabrao Alas bhausaheb Deshmukh memorial Cash Prize 1000/- rs.
21.	Ku. Maithili N. Thakre	Late Indumati T.Deshmukh Memorial Cash Prize
22.	Ku. Lisa Devangan	Late IndumatiT.Deshmukh Memorial Cash Prize
23.	Ku. Rajsi D. Kingri	Best Library User Cash Prize
24.	Mr. Priyog Tidke	Best Environmental Awareness Award
25.	Ku. Sampada Bunde	Best NSS Volunteer Award
26.	Ku. Sejal M. Bharne	Awards of Topper in M.Sc.Chemistry- Late K Sindhimeshram and Late Y. Sindhimeshram Memorial Gold Medal (Donated by Sindhimeshram)
27.	Ku. Manisha S. Sharma	Awards of Topper in M.Sc.Chemistry (Donated by Sindhimeshram)
28.	Ku. Manisha S. Sharma	Awards of Topper in M.Sc.Chemistry (Donated by N.M. Nimdevrao)
29.	Mr. Yash preet Singh	Late S.R.Das Gupta Memorial Medal giving to the students
30.	J. S. Kalasi	Late S.R.Das Gupta Memorial Medal giving to the students
31.	Ku. Akansha S. Anand	Late Prof.G.B.Vazalwar cash prize 5000/- given to the students
32.	Mr. Pratham V. Pazare	Late smt.Dikshaben shah cash prize of 500/- given to the students

33.	Ku. Madhavi S. Mohod	Late ku.Gitaben shah cash prize of 500/- given to the students
34.	SUO AACHAL Sharma	Best NCC Cadet Award
35.	SUO Tanisha Shukla	Best NCC Cadet Award

b. Passed in IIT JAM

The following students qualified IIT-JAM exam from Dept. of Geology.

Sr. No.	Name of Students	Rank
1.	Neha Gendlal Somkuwar	IIT JAM
2.	Renuka Pravin Joshi	IIT JAM
3.	Purva Punyashil Meshram	IIT JAM
4.	Aarti Dongarwar	IIT JAM

c. Placements Record:

Placement Record of the Session

2022-2023

Sr. No.	Name of Company	Place and mode of Drive	Date of Event	Name of Selected Students	Qualification	Salary Offered per Annum
1	Pentagon Space Private Limited	Shivaji Science College, Online	29-Sep-22	Pratiksha Yadav	MCA	2.52 lakhs
				Gayatri Manoj Bukkawar	MCA	
				Divya datke	MCA	
				Pooja Rajendra Tale	MCA	
2	Pentagon Space	Shivaji Scien	25-Oct-22	Rohit Shukla	MCA	2.52 Lakhs
				Pooja Tarachand	BCA	

	Private Limited	ce College, Online		Samarth		
				Aman Manwatkar	BCA	
3	EdRed Company Private Limited	Shivaji Science College, Online	23-Feb-23	Sonam Ahmad Chhaware	B.SC	4 lakhs
				Vishal Mahendra Borkar		
				Vaishnavi Barade		
				Sayoli Dharamshahare		
4	Ultra Tech Private Limited	Shivaji Science College, Online	Mar-23	Chaitanya Kohapare	B.Sc (Chemistry)	5 Lakhs
				Nikhil Ramchandra Tonge		
				Nikita Hariramji Deshmukh		
				Pranmayi Bhusari		
				Rahul Tirpude		
				Rishabh Dwivedi		
				Rishiraj Tiwari		
5	Wipro Company, Bengluru	Shivaji Science College, Online	May-23	Renuka Deshpande	BCA	2 Lakhs
				Vibhansha Patil	B.Sc	
				Total = 20		

Course outcomes

1. Department of Microbiology and Biotechnology

A. Results of University examination:

Microbiology

B. Sc. Sem IV	70.63%
B. Sc. Sem V	89.24 %
B. Sc. Sem VI	82.31 %
M. Sc. Sem III	75%
M. Sc. Sem IV	85.00%

Biotechnology

B. Sc. Sem IV	81.69%
B. Sc. Sem V	82.27 %
B. Sc. Sem VI	91.13%

B. At the completion of Physics as one of the subjects students are able to work:

- As a Laboratory Technician
- In Quality Control analyst of Pharmaceutical Industries, Food Industries.
- Clinical Research Analyst • In Biomedical Engineering.
- As a Research Scientist
- In Vaccine Institutes
- As a Project Assistant
- Research sector in Forensic Sciences and Genetic Engineering.
- Lectureship in Life Sciences and Agricultural Sciences.
- Research Analyst in Scientific Journals (Springer, Nature, Science Direct Based Journals)
- Pollution Control Department
- In Biofertilizers and Biopesticides Preparation Industries
- In Environment Based Industries
- Intellectual Property Rights
- Computational Biology (Bioinformatics)

2. Department of Computer Science

A. Results of University examination;

B. Sc. Sem IV	60.48%
B. Sc. Sem V	83.07%
B. Sc. Sem VI	83.07%
B. C.A. Sem IV	68.51%
B. C. A. Sem V	70.90
B. C.A. Sem VI	66.66%
M. Sc. Sem II	68.42%

M. Sc. Sem IV	69.04%
M. C. A. Sem IV	100%
M. C. A. Sem V	-
M. C. A. Sem VI	-

B. At the completion of Computer Science one of the subjects students are able to work:

- As a Software developer.
- As a system administrator.
- As IT Sales and Marketing person.
- As the IT Officers in Banks and cooperative societies.
- As DTP Operator in small-scale industries.
- As a Web Designer with the latest web development technologies.
- Developing various IT skills in electronic databases.
- Solve the problems in the Information Technology environment
- Develop IT-oriented security issues and protocols
- Design and implement a web page
- Programmer
- Web Designer
- System Administration
- Logic Designer

3. Department of Botany

A. Results of University examination;

B. Sc. Sem IV	77.77%
B. Sc. Sem V	84.04
B. Sc. Sem VI	88.42%

B. At the completion of Botany one of the subject students is able to:

- Understand the morphological and structural organization of lower and higher Cryptogams and their ethnobotanical importance in concern with human life.
- Develop awareness about eco-friendly activities.
- Self-employment in the fields of mushroom Cultivation, organic farming (Rooftop farming), plant tissue culture, etc.

4. Department of Chemistry

A. Results of University examination;

B. Sc. Sem IV	51.14%
B. Sc. Sem V	69.28 %
B. Sc. Sem VI	65%
M. Sc. Sem III	40%
M. Sc. Sem IV	53.84%

B. At the completion of Chemistry one of the subjects students are able to:

- Aware of minimum utilization of chemicals for maintaining the environment eco-friendly.
- Use of modern instrumentation such as HPLC, Spectrophotometer to acquaint the student with qualitative and quantitative analysis Employed in chemical/pharmacy companies.
- Pursue research in the basic sciences in the college.
- Understand the interdisciplinary approach of chemistry
- Learn the laboratory skills needed to design, safely, and interpret chemical research.
- Acquired a foundation in chemistry

5. Department of Mathematics

A. Results of University examination;

B. Sc. Sem IV	40%
B. Sc. Sem V	74.20 %
B. Sc. Sem VI	76.25%
M. Sc. Sem III	27.27%
M. Sc. Sem IV	42.10%

B**. At the completion of Mathematics as one of the subjects students are able to:**

- Learn to solve problems of integrals and differential calculus.
- Make use of linear equations for solving any differential equations.
- Understand various problems related to planar graphs.
- Understand the Concepts of Matrices and linear equations.
- Learn properties and applications of Laplace transformation

6. Department of Physics

A. Results of the University examination

B. Sc. Sem IV	62.77%
B. Sc. Sem V	95.97
B. Sc. Sem VI	85.71%
M. Sc. Sem III	61%
M. Sc. Sem IV	43%

At the completion of Physics as one of the subjects students are able to:

- Understand the theories & principles of physics, which include mechanics, electromagnetism, thermodynamics, & quantum mechanics.
- Learn Concepts such as Quantum Mechanics, Relativity, etc.
- Provide knowledge about material properties and their application for developing technology to ease the problems related to society.

- Understand the physical laws, describing the motion of bodies, under the influence of the system of forces.
- Understand the relationship between particles & atoms,
- Relate the structure of atoms & subatomic particles
- Understand the physical properties of molecules and the chemical bonds
- Analyze the applications of mathematics to the problems in physics & develop them suitably.
- Learn the structure of solid materials & their different physical properties along with metallurgy, cryogenics, electronics, & material science.
- Understand the fundamental theory of nature at small scale & levels of atom & sub-atomic particles.

7. Department of Zoology

A. Results of University examination

B. Sc. Sem IV	81.25%
B. Sc. Sem V	79.40
B. Sc. Sem VI	84.62%

B. At the completion of Zoology as one of the subjects students are able to:

- Knows about the identification of wild animals and their classification
- Acquire knowledge about wildlife and its conservation.
- Gain basic knowledge about human pathology and physiology.
- Gain knowledge about biomedical instrumentation and its working.
- Basic concept of genetics, and biotechnology.
- Know about fish culture, prawn culture, and pearl culture.
- Acquire knowledge about mineral and water cycling in nature and water conservation.

8. Department of Statistics

A. Results of the University examination

B. Sc. Sem IV	75.60%
B. Sc. Sem V	76 %
B. Sc. Sem VI	86.04%

At the completion of Statistics as one of the subjects students are able to:

- Appear for Indian Statistical Services (UPSC)
- Work as a Statistical quality control officer
- Work as a Statistical officer in various industries
- Work as a statistical consultant, Data analyst, etc.
- Gain knowledge about Operational Research

9. Department of Electronics

Results of University Examination

B. Sc. Sem IV	66.67%
B. Sc. Sem V	76.27%
B. Sc. Sem VI	77.59%

B. **At the completion of Electronics one of the subject students are able to:**

- Realize their goals and aspirations
- Possess essential attitudes, knowledge and skills
- Contribute positively to and compete in society
- Exercise citizenship rights and responsibilities
- Master subjects without need for remediation further their education and pursue careers around the world.

10. Department of Geology

A. Results of University examination

B. Sc. Sem IV	45.01%
B. Sc. Sem V	50 %
B. Sc. Sem VI	69.64%

B. At the completion of Electronics one of the subject students are able to:

- Pursue the following courses to make career as a Geologist

Post Graduate Teaching Department of Chemistry
Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
M.Sc. - Chemistry

PROGRAM SPECIFIC OUTCOMES

PSO1	**Chemistry Knowledge:** Possess knowledge and comprehension of the core and basic knowledge associated with the profession of chemistry, including specialized areas of inorganic chemistry, organic chemistry, physical chemistry, analytical chemistry, and elective subjects of nuclear chemistry, medicinal chemistry, polymer chemistry and environmental chemistry.
PSO2	**Problem analysis & Modern tool usage:** Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions. Find, analyze, evaluate and apply information systematically and to make defensible decisions. Learn, select, and apply appropriate methods and procedures resources, and modern chemistry-related to computing tools with an understanding of the limitations.
PSO3	**Environment and sustainability:** Understand the impact of the professional chemistry solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PSO4	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-access and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.
PO5	**Leadership skills:** Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory role as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.
PO6	**Professional Identity:** Understand, analyze and communicate the value of their professional roles in society (e.g. environmental professionals, analytical professionals, educators, researchers, employers, employees).
PO7	**Communication:** Communicate effectively with the society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.

Program Outcomes
Name of Program:M.Sc. Microbiology
No. Of Courses:30

Targeted Graduate Attributes: Disciplinary Knowledge, Critical Thinking, Problem Solving, Analytical Reasoning, Communication Skills, Teamwork, Moral and Ethical Awareness

	Program Outcomes
PO1	Students will be able to gain, communicative, recall and apply specialized language and **knowledge** relevant to microbiology.
PO2	Students will acquire and demonstrate ability in laboratory safety in routine and specialized microbiological laboratory skills applicable to microbiological research methods, including observations and analysis.
PO3	Students will **develop** ability for hypothesis generation and testing, development of theoretical and practical skills in the designing and execution of experiments results and analytical judgment clearly and quickly.
PO4	Students will be able to work effectively in diverse condition as team to communicate with social community to make life easier and better for society by **explain**ing awareness about hygienic condition, Environmental changes, recycling of waste by using microorganisms.
PO5	Students will able to **develop** professional and technical skill in lectureship, quality control, scientist in industries as well as in research laboratories.

Program Outcomes

Name of Program: M.Sc. Computer Science

No. Of Courses: 30

Targeted Graduate Attributes: Disciplinary Knowledge, Critical Thinking, Problem Solving, Analytical Reasoning, Communication Skills, Teamwork, Moral and Ethical Awareness

	Program Outcomes
PSO1	The students will be able to develop aptitude to manifest a wide and extensive knowledge in the field of computer science.
PSO2	Ability to think critically for solving various problems and recent trends in computer softwares.
PSO3	The students will be capable of working effectively in diverse conditions as a team.
PSO4	The students will be able to develop skills in software design and its implementation.
PSO5	The students will be able to apply knowledge of computer science in academic and corporate sectors.
PSO6	The students will be able to develop self sustainability as well as competitiveness and employability.
PSO7	The students will be able to plan and write a research paper or proposal and assignment in computer science.

(S.R. Pande)
Chairman
BOS in Computer Science.

Department of Physics, RTMNU

Name of Programme: M.Sc Physics

Programme specific outcome

After completion of course, the student will be to:

PSO1: Understanding basic principles of Physics which are underlying a wide selection of physical phenomenon.

PSO2: Explore with current state-of-art in the selected area of Physics.

PSO3: Inculcate the habit to plan, design and execute new experiment. Analyze, interpret experimental result and write report on it.

PSO4: Assess the errors involved in an experiment work; searching out and adopting new methodology to reduce errors. Presents the experimental outcome in effective manner.

PSO5: After completing PG degree from this programme, they will be eligible to continue research at the higher degree (Ph.D) level. They will be trained by experimental, computer programming and data interpretation programming skill and exposed to improve their employability in research and development, in scientific and engineering industries.

PSO6: Additionally, they will have necessary numerical and transferable skills to select general career choice such as accounting or computing.

Agrawalkar PR
BOS chairman

Name of Program: M.C.A.(Master in Computer Applications)

No. Of Courses: 25

Targeted Graduate Attributes: Disciplinary Knowledge, Critical Thinking, Problem Solving, Analytical Reasoning, Communication Skills, Teamwork, Moral and Ethical Awareness

	Program Outcomes
PSO1	The students will be able to develop aptitude to manifest a diverse and far-reaching knowledge in the field of computer application.
PSO2	The students will be able to think critically for solving various problems related to computer application.
PSO3	The students will be able to identify different problem solving methods in the field of computer application / software development.
PSO4	Ability to develop skills in software development, maintenance and its implementation.
PSO5	The students will be able to apply knowledge of computer application / software in academic as well as other sectors.
PSO6	Ability to develop time management and planning skills.
PSO7	The students will be able to think logically while developing software in the field of computer application.

(S. R. Pande)
Chairman
BOS in Computer Science

Program Specific Outcomes

Name of Program : M.Sc. Mathematics

No. of Courses : 30

On successful completion of the M.Sc. MATHEMATICS programme a student will be able to

PSO1	Disciplinary Knowledge	Undestand the basic and advanced knowledge in the field of Mathematics
PSO2	Communication Skills	Effectively communicate and explore ideas of mathematics for propagation of knowledge and popularization of mathematics in society
PSO3	Critical Thinking	Identify, analyse, formulate various problems with scientific approach
PSO4	Problem Solving	Identify and apply the most effective method to solve and evaluate the appropriate solution within a stipulated time
PSO5	Professional Skills	Explain/ demonstrate accurate and efficient use of advanced Mathematical techniques
PSO6	Team Work	Participate constructively in classroom discussion
PSO7	Digitally literacy	Have sound knowledge of mathematical modeling, programming and computational techniques as required for research or employment in industry
PSO8	Ethical and Social awareness	Capable of demonstrating the ethical issues related with the Intellectual Property Rights, copyright etc. and demonstrate highest standards of ethical issues in mathematics

A. A. Halder

Dr A. A. Halder
Coordinator, IQAC
Science College,
Congress Nagar, Nagpur

Dhore

Prof. M. P. Dhore
Principal
Science College,
Congress Nagar, Nagpur

SEAL