Vision and Mission of School of Basic & Applied Sciences

VISION

To be recognized globally as a center of excellence in imparting value-based education in Basic and Applied Sciences by creating innovation in fundamental and multidisciplinary research.

MISSION

M1. To excel in imparting contemporary knowledge and skills by developing an educational ecosystem with diverse interests and talents.
M2. To perform cutting edge research leading to innovation in sciences through national and international collaborations.
M3. To develop solutions for the emerging challenges in Basic and Applied Science to cater the needs of society.
M4. To attract best quality faculty to facilitate knowledge and develop confidence in our graduates to succeed in the world.

Program Educational objectives of SBAS

PEO1: The graduates shall be successful professionals in Academia, Industry, Government and Entrepreneurship.

PEO2: The graduates shall pursue higher education/research at institute of national and international repute.

PEO3: The graduate shall effectively address the challenges of the society and undertake the projects for bridging the gap between industry and societal needs.
Why choosing courses in Basic and Applied Sciences

- The courses offered here are optimized to address future challenges from the very first day.
- The initiatives taken are meant to improve the employability and career chances globally.
- SBAS at GU extensively works to prepare students well for placements.
- SBAS is broadening up their options for higher studies every year to meet the demand for professionals in various industries.
- Industrial visits and internship at reputed research organizations and corporates increases the chances of placements.
Specializations in School of Basic & Applied Sciences

- B.Sc. (H) Chemistry
  M.Sc. (Chemistry)
- B.Sc. (H) Physics
  M.Sc. (Physics)
- B.Sc. (H) Mathematics
  M.Sc. (Mathematics)
- B.Sc. (H) Botany
  B.Sc. (H) Zoology
  M.Sc. (Environmental Science)
- B.Sc. (H) Biochemistry
  M.Sc. (Biochemistry)
- B.Sc. (H) Forensic Science
  M.Sc. (Forensic Science)
- B.Sc. (H) Biological Science
  M.Sc. (Biological Science)
- B.Sc. (H) Microbiology
  M.Sc. (Microbiology)
• Stereochemistry & Reaction mechanisms
• Techniques in Analytical Chemistry
• Basic Concepts of Physical Chemistry
• Basic Analytical Chemistry
• Computer Applications for chemistry
• Organic Spectroscopy
• Reaction mechanism and Basics of group theory
• Basics of Instrumental Analysis
• Basic concepts and principles of Inorganic chemistry
• Different Labs

• Organic Chemistry (Spl)
• Inorganic Chemistry (Spl)
• Physical Chemistry (Spl)
• Labs according to Spl
• Analytical Chemistry (Spl)
M.Sc. (Chemistry)
Subject Details

**ELECTIVES**
- Polymer Chemistry
- Industrial Chemistry
- Solid State Chemistry
- Environmental Analytical Chemistry
- Bio-Organic Chemistry
- Green Chemistry
- Carbon Nanomaterials
- Advance Metallurgical Sciences
- Industrial Biochemistry

**SKILL ENHANCEMENT COURSES**
- Soft skills
- Computer awareness
- BEC (B1)
- IPR
- Major Project (Two phases)
**B.Sc. (H) Chemistry**

**Subject Details**

**Core Courses:**
- Physical Chemistry (4 Theory + 4 Labs)
- Inorganic Chemistry (4 Theory + 4 Labs)
- Organic Chemistry (5 Theory + 4 Labs)
- Research Methodology

**Disipline specific Electives:**
- Nanoscience and Nanotechnology
- Green Chemistry
- Analytical Chemistry
- Industrial Chemistry
- Battery technology

**Generic Electives:**
- Foundation Course in Mathematics
- General Physics
B.Sc. (H) Chemistry
Subject Details

Ability Enhancement Courses:
- Soft Skills
- Environmental Science
- Liberal Art
- BEC1 and BEC 2
- Foreign Language

Skill Enhancement Courses:
- Hands on Basic Techniques and Measurements
- Programming Language such as Python, C++
- AI and Machine learning
- Campus to corporate
- IPR

Six month major project at Industries or R&D Labs
M.Sc. (Environmental Science)
Subject Details – Core Subjects

Ist Year
Semester-I
• Introduction to Environmental Studies
• Biodiversity and Conservation Biology
• Environmental Hazards and Pollution
• Environmental Geology
• Disaster Management
• Environmental Science Lab-I

Semester-II
• Environmental Impact and Risk Assessment
• Environmental Toxicology and Health
• Resource Management
• Environmental Chemistry
• Environmental Science Lab-II
• BEC (B1)
• Research Methodology
• IPR

Ilnd Year
Semester-III
• Summer Internship
• Major Project Phase-I
• Campus to Corporate

Semester -IV
• Environmental Biotechnology
• Green Technology
• Environmental Science Lab-III
• Major Project Phase-II
• Electives
M.Sc. (Environmental Science)
Subject Details - Electives

Pool I: Waste Management
- Solid and Hazardous Waste Management
- Waste Water Management
- Waste management Lab I - Practicals on Solid Waste
- Waste Management Lab II - Practicals on Waste Water Treatment

Pool II: Methodologies for Environmental Studies
- System Analysis and Modelling
- Remote Sensing and GIS
- Methodology Lab I - Practical on System Analysis and Modelling
- Methodology Lab II - Practical on Remote Sensing and GIS

Pool III: Environment and Society
- Rural Society and Development
- Urban Ecosystem
- E&S Lab I - Field Work on Rural Development
- E&S Lab II - Field Work on Urban Ecosystem
M.Sc. (Physics)
Courses with laboratories

Core courses
- Mathematical Physics-I, II
- Classical Mechanics
- Quantum Mechanics-I, II
- Solid State Electronics
- Statistical Mechanics
- Applied Numerical Methods
- Nuclear Physics
- Electrodynamics
- Atomic and Molecular Physics
- Research Methodology
- Programming language Lab
- Applied Numerical Methods Lab
- Physics Laboratory

Elective courses
- Digital Electronics
- Microwaves and Antenna Propagation
- Materials Science
- Nanomaterials and Applications
- Solid State Physics
- Fiber Optics and optoelectronics
- Nuclear and Particle Physics
- Astrophysics and Cosmology
B.Sc. (H) Physics
Subject Details

Core courses

• Mathematical Physics
• Electricity and Magnetism
• Optics and instrumentation
• Solid state Physics
• Analog and digital Electronics
• Electromagnetic Theory
• Quantum Mechanics
• Statistical Mechanics
• Electromagnetics Theory
• Modern Physics
• Classical Mechanics

Elective courses

• Laser Physics
• Classical Dynamics
• Nuclear and Particle Physics
• Astronomy and Astrophysics
• Medical Physics
• Physics of Devices and Communication Systems
• Material Synthesis and Characterization Tech
M.Sc. (Forensic Science)

Subject Details – Core Subjects

Semester I
- Recent advancement of Forensic Science
- Instrumental Methods – Physical
- Forensic Photography
- Instrumental Methods – Biological & Chemical
- Cyber Forensics and Cyber Laws
- Crime Scene Management
- Practicals - Crime Scene Investigation
- Lab Forensic Photography
- Cyber Forensic Lab

Semester III
- Internship
- Major Project Phase-I

Semester II
- Finger Prints and other Impressions
- Research Methodology
- Questioned Documents
- Criminal Laws, Judicial System and Police Administration
- Introduction to Criminology and Psychology
- Elements of Forensic Biology
- Practicals – Fingerprint
- Practicals – Questioned Documents

Semester IV
- Forensic Medicine & Medical Jurisprudence
- Forensic Toxicology
- Practicals – Forensic Toxicology
- Major Project Phase II
- Electives
M.Sc. (Forensic Science)
Subject Details – Core Subjects

• ELECTIVES
  • Forensic Biology and Anthropology
  • Forensic Serology and DNA
  • Practicals – Forensic Serology and DNA
  • Practicals – Forensic Biology
  • Forensic Physics
  • Forensic Ballistics
  • Forensic Physics-Practicals
  • Forensic Ballistics-Practicals
  • Arson and Explosives
  • Forensic Chemistry
  • Forensic Chemistry-Lab
  • Explosives Lab

SKILL ENHANCEMENT COURSES
• Soft skills
• Computer awareness
• BEC (B1)
• Campus to Corporate
• Major Project (Two phases)
B.Sc. (H) Forensic Science
Core Courses offered

**Semester-I**
- Introduction to Forensic Science and Criminal Law
- Inorganic Chemistry
- Basic of Digital and Cyber Forensics
- Biology I
- Practicals – Biology I
- Elements of Basic Physics
- Physics Lab I

**Semester-II**
- Crime Scene Investigation
- Practicals – Crime Scene Investigation
- Forensic Photography
- Practicals – Forensic Photography
- Physical Chemistry
- Advanced of Digital and Cyber Forensics
- Cyber Lab
- Practicals – Inorganic and Physical Chemistry
- Biology II
- Practicals – Biology II
- APPLIED OPTICS
- Physics Lab II

**Semester-III**
- Fingerprints
  - Practicals – Fingerprints
- Forensic Toxicology
  - Practicals – Forensic toxicology
- Basics of Forensic Psychology
- Introduction to Criminology
- Organic Chemistry
  - Practicals- Organic Chemistry
- Applied Biology-I
  - Atomic Spectra and Applications

**Semester-IV**
- Forensic Ballistics
  - Practicals – Forensic Ballistics
- Recent Advancement of Forensic Science
  - Basic concept of spectroscopy
- Analytical Chemistry
  - Applied Biology-II
- Practicals – Forensic anthropology and odontology
- Electronic Circuits and Transducers
- Physics Lab III

**Semester-V**
- Forensic Medicine
- Explosives
  - Practicals - Explosives
- Introduction to Questioned Documents
  - Practicals – Questioned Documents
- Applied Chemistry-I
  - Practicals – Applied Chemistry I
- Applied Serology
  - Practical’s - Serology
- Applied Physics I
  - Practicals –Advanced Physics I

**Semester-VI**
- Applied Chemistry-II
  - Practicals –Applied Chemistry II
- DNA Profiling
  - Practical’s –DNA and Amino acid
- Applied Physics II
  - Practicals –Advanced Physics II
B.Sc. (H) Forensic Science
Other Courses offered

**Ability Enhancement Courses:**
- Soft Skills
- Environmental Science
- Liberal Art
- BEC1 and BEC 2

**Skill Enhancement Courses:**
- Computer awareness
- AI and Machine learning
- Campus to corporate

**Two week Social Internship**
- Six month major project at Industries or R&D Labs
M.Sc. (Mathematics)
Core courses offered

**Semester I**
- Ordinary Differential Equations
- Linear Algebra
- Real Analysis
- Computer Programming in Python
- Computer Programming Lab in Python

**Semester II**
- Complex Analysis
- Partial Differential Equations
- General Topology
- Abstract Algebra
- Mathematical Statistics
- Mathematical Statistics Lab using R
- IPR
- Research Methodology

**Semester III**
- Functional Analysis
- Operations Research
- Differential Geometry
- Project (Phase I)
- Summer Internship
- Campus to Corporate

**Semester IV**
- Applied Numerical Analysis
- Applied Numerical Analysis Lab
- Project (Phase II)

**ELECTIVES OFFERED**
- Applied Numerical Analysis
- Advanced Optimization Techniques
- Advanced Statistical Techniques
- Integral Equations and Calculus of Variation
- Fluid Mechanics
- Mathematical aspects of Seismology
- Stochastic Processes
- Artificial Intelligence
- Fuzzy Mathematics
## B.Sc. (H) Mathematics
### Core Courses offered

#### Semester-I
- Calculus- I
- Algebra and Number Theory
- Fundamentals of Computer and C-Programming
- C-programming Lab
- Probability and Statistics
- Probability and Statistics Lab in R
- Analytical Geometry

#### Semester-II
- Calculus –II
- Calculus- Lab using Scilab
- Statistical Methods and Design of Experiment
- Abstract Algebra
- Programming using Python
- Python Lab
- Ordinary Differential Equations

#### Semester-III
- Real Analysis & Complex Analysis
- Partial Differential Equations
- Linear Algebra
- Linear Algebra Lab using Python
- Discrete Structure
- Fundamentals of data science
- Numerical Methods
- Numerical Methods Lab

#### Semester-IV
- Differential Geometry and Tensor
- Combinatorial Mathematics
- Transforms and their applications
- Econometrics
- Data Structures and Algorithms
- Discipline Elective-I

#### Semester-V
- Fuzzy Mathematics
- Operations Research
- Operations Research Lab
- Advanced Statistical Methods and tools
- Advanced Statistical Methods and tools Lab
- Discipline Elective- II
- Generic Elective-I
- Generic Elective-I Lab

#### Semester-VI
- Discipline Elective III
- Generic elective-II
- Generic elective-II Lab
- Project
## B.Sc. (H) Mathematics

**Electives offered**

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<th>Discipline Elective</th>
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<tr>
<td>➢ Graph Theory</td>
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<td>➢ Bio-Mathematics</td>
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<td>➢ Ring Theory</td>
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<td>➢ Formal Language and Automata Theory</td>
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<td>➢ Dynamical Systems</td>
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<td>➢ Financial Mathematics</td>
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<tr>
<td>➢ Mathematical Modelling &amp; Simulation</td>
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<td>➢ Optimization Techniques</td>
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<td>➢ Cryptography and Network</td>
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<td>➢ Security</td>
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<tr>
<td>➢ Applications of Algebra</td>
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<td>➢ Actuarial Science</td>
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<th>Generic Elective</th>
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<td>➢ IOT</td>
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<td>➢ IOT Lab</td>
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<td>➢ Cloud computing</td>
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<td>➢ Computer Graphics</td>
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<td>➢ Computer Graphics Lab</td>
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<td>➢ Data Communication</td>
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<td>➢ Artificial Intelligence</td>
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<td>➢ Neuro Computing</td>
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<td>➢ Neuro Computing Lab</td>
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M.Sc. (Biological Sciences)  
Interdisciplinary courses

• Computational Biology
• Bioethics, Bio-safety and IPR
• Toxicology
• Industrial Biochemistry
• Advanced Microbiology
• Plant – Pathogen interaction

• Cell Biology
• Molecular Biology
• Fundamentals of Biochemistry
• Ecology
• Immunology
• Bioanalytical and Microbial Techniques
• Biotechnology and Genetic Engineering
• Microbiology
• Animal Physiology

• Genetics
• Plant Physiology
• Protein Biology
• Evolution
B.Sc. (H) Biological Sciences
Interdisciplinary courses

• BIOINFORMATICS
• BIOSTATISTICS
• BIOPHYSICS
• ORGANIC FARMING
• BIOFERTILIZER AND PESTICIDES

• NANOTECHNOLOGY
• BIORESOURCE AND MANAGEMENT
• BIOPSAFETY AND IPR
• MUSHROOM CULTURE TECHNOLOGY
• PARASITOLOGY

• Chemistry
• Fundamentals of Cell Biology
• Light and Life
• Biochemistry

• Bioinstrumentation-I
• Ecology
• Hormones: Biochemistry and Function
• Concept of immunology
• Fundamentals of Molecular Biology
• Fundamentals of Microbiology
• Biochemistry of Metabolism

• Biotechnology
• Medical Biochemistry

• Concepts of Immunology
• Inheritance Biology
• Plant Biochemistry
• Food and Nutrition
M.Sc. (Biochemistry)
Interdisciplinary courses

- Computational Biology
- Bioethics, Bio-safety and IPR
- Toxicology
- Industrial Biochemistry
- Advanced Microbiology
- Plant -Pathogen interaction

Cell Biology
- Molecular Biology
- Bio molecules
- Enzymology
- Immunology
- Bioanalytical and Microbial Techniques
- Biotechnology and Genetic Engineering

- Bioenergetics and Intermediary Metabolism
- Research Methodology
- Genetics
- Summer Training
- Protein, Lipid and Nucleotide Metabolism
- Clinical And Nutritional Biochemistry
- Advanced Biochemistry
Core courses with laboratories to make the students expert in their field and enable them to qualify national and global level competitions:

- Fundamentals of Cell Biology
- Biological Macromolecules
- Enzymes
- Bioinstrumentation-I
- Membrane Biology and Bioenergetics
- Hormones: Biochemistry and Function
- Fundamentals of Molecular Biology
- Bioinstrumentation-II
- Fundamentals of Microbiology
- Metabolism of Biomolecules-I
- Biotechnology
- Medical Biochemistry
- Metabolism of Biomolecules-II
- Concepts of Immunology
- Inheritance Biology
- Plant Biochemistry
- Food and Nutrition
M.Sc. (Microbiology)
Interdisciplinary courses

- Computational Biology
- Research Methodology
- Bioethics, Bio-safety and IPR
- Toxicology
- Cell Biology
- Molecular Biology
- Fundamentals of Biochemistry
- General Microbiology
- Immunology
- Bioanalytical and Microbial Techniques
- Biotechnology And Genetic Engineering
- Industrial Biochemistry
- Advanced Microbiology
- Plant –Pathogen interaction
- Physiology and Metabolism of Microbes
- Advanced Virology
- Medical and Pharmaceutical Microbiology
- Algal and Fungal Microbiology
- Microbes in Food and Agriculture
- Environmental Microbiology
B.Sc. (H) Microbiology
Core courses

CELL BIOLOGY
MICROBIAL WORLD
BACTERIOLOGY
BACTEROLOGY
PHOTOLOGY & PHOCOLOGY
VIROLOGY
INDUSTRIAL MICROBIOLOGY
MICROBIAL PHYSIOLOGY & METABOLISM
AGRICULTURAL MICROBIOLOGY
MEDICAL MICROBIOLOGY
B.Sc. (H) Microbiology
ELECTIVE COURSES

- MICROBIOLOGY
- BIOINFORMATICS
- BIOSTATISTICS
- BIOPHYSICS
- ORGANIC FARMING
- BIOFERTILIZERS & PESTICIDES
- BIOSAFETY & IPR
- BIORESOURCE MANAGEMENT
- MUSHROOM CULTURE TECHNOLOGY
- NANOTECHNOLOGY
- PARASITOLOGY
- BIOPHYSICS
- ORGANIC FARMING
- BIOFERTILIZERS & PESTICIDES
- BIOSAFETY & IPR
- BIORESOURCE MANAGEMENT
- MUSHROOM CULTURE TECHNOLOGY
- NANOTECHNOLOGY
- PARASITOLOGY
M.Sc. (Biomedical Science)
Interdisciplinary courses

- Cell Biology
- Biomolecule
- Organic Chemistry
- Bioinstrumentation-I
- Immunology
- Bioanalytical & Microbial Techniques
- Biotechnology and Genetic Engineering
- Pharmacology
- Medicinal Chemistry
- Human Physiology
- Medical Microbiology
- Concepts of Immunology
- Pharmacology and Toxicology
- Human Physiology
- Metabolism of Biomolecules
- Physiology

- Biotechnology and Genetic Engineering
- Genetics
- Medical and Pharmaceutical Microbiology
Core courses with laboratories to make the students expert in their field and enable them to qualify national and global level competitions:

- Fundamental of Cell Biology
- Biochemistry
- Human Physiology- I
- Bioinstrumentation-I
- Human Physiology -II
- Toxicology & Pharmacology
- Molecular Biology
- Bioinstrumentation - II
- Fundamentals of Microbiology
- Biochemistry of metabolism

- Biotechnology
- Medical Biochemistry
- Medicinal chemistry
- Basic Concepts in Immunology
- Inheritance Biology
- Medical Microbiology
- Evolutionary Biology
B.Sc. (H) Botany
Core courses:

- Plant Cell Biology
- Biodiversity
- Taxonomy & Anatomy
- Plant Ecology
- Plant Physiology
- Plant Pathology
- Reproductive biology of angiosperms
- Plant Biotechnology
- Plant Biochemistry & Metabolism
- Medicinal Botany

*“A herbarium is better than any illustration; every botanist should make one.”* Carolus Linnaeus
B.Sc. (H) Zoology
Core Courses

Animal Diversity
Cell Biology
Ecology
Animal Physiology
Molecular Biology
Developmental Biology
Animal Behaviour
Evolution
Core Courses
B.Sc. (H) Zoology/Botany
ELECTIVE COURSES

- Zoology
- Botany
- Bioinformatics
- Biostatistics
- Biophysics
- Organic Farming
- Biofertilizers & Pesticides
- Biosafety & IPR
- Mushroom Culture Technology
- Biosafety & IPR
- Bioresource Management
- Nanotechnology
- Parasitology
- Biotechnology
CAREER OPTIONS
GOVERNMENT SECTOR

Top Recruiters

- Banking
- Defence
- Research organizations (IGIB, NICPR, NPL, CSIR labs, ICMR, NII)
- Scientific Assistant in Pollution Control Board
- Intelligence Bureau
- ISRO, DRDO
- Faculty positions (DU, IIT and other govt colleges)
Career Option In Chemistry
Private sector

- Agricultural Research Services
- Biotechnology Firms
- Chemical Industry
- Pharmaceutical Companies
- Testing Laboratories
- Technical Journals
- Waste water Treatment Plants
Career Option In Chemistry

- Education sector (Government & Private Colleges & Universities)
- Engineering Firms (TATA, TCS, INFOSYS)
- Food Institutes (Dabur, Patanjali)
- Forensic Crime Research (CBI, Investigative Bureau)
- Health Care Providers (Dietician, Nutritionist)
- Industrial Laboratories (Ranbaxy, Jubilant Life Sciences, Sunpharma, Cipla)
Job Prospectus In Environmental Science

FOREST OFFICER

HYDROLOGIST

REMOTE SENSING SPECIALIST

ENVIRONMENTAL JOURNALIST

GREENHOUSE MANAGER

OCEANOGRAPHER

ENVIRONMENTAL CONSULTANT
Career Options In Environmental Science
Private Sector

Project Manager in Environmental Organizations
- Environmental Consultant in Private Firms
- Sale Executive in Environmental Pollution Controlling Companies
- Environmental Journalist in newspaper, magazine or television station
- Refineries
- Distilleries
- Food Processing Industries
- Agriculture and Fertilizer Plants

Top Recruiters in the Private Sector
Career Options In Physics

Main Employment Areas:
- Research Institutes
- Laboratories and Institutes
- Educational Institutes
- Agricultural Research services
- Hospitals
- Power Generating Companies
- Aviation Industry
- Construction Firms
- Demolition Squads
- Protechnics Manufactures
- Mobile industries
- Auto-mobiles industries
- Electronic companies

Top Recruiters:
- Bhabha Atomic Research Centre (BARC)
- Oil and Natural Gas corporation (ONGC)
- Bharat heavy Electricals limited (BHEL)
- national Thermal Power corporation (NTPC)
- Indian Space Research Organisation (ISRO)
Job Opportunities in Mathematics

- Quantitative Risk Analyst
- Equity Quantitative Analyst
- Statistical Programmer
- Interest Rate Trading Strategist
- Quantitative Developer
- Treasury Management Specialist
- Data Analyst
- Accountant
- Demographer
- Operational Research
- MNCs
- IT (TCS, Infosys, WIPRO, ....)
Careers in Forensic Science

- Hospitals
- Forensic Science & Other Scientific Laboratories
- Law Enforcement
- Federal Agencies
- Chemical Industry
CAREER OPTION IN BIOLOGICAL SCIENCE

- Ecologist
- Microbiologist
- Geneticist
- Weed Scientist
- Research Analyst
- Lab Technician
- Medical Coder
- Scientific Editor
- Medical Transcriptor
- Biochemist
- Biomedical Scientist
- Food Safety Analyst
- Quality Control Analyst
- Research Analyst
CAREER OPTIONS IN BIOLOGICAL SCIENCE

Top Recruiters

Pharmaceutical industry

Biotech Industry

Agriculture industry

Food industry
CAREER OPTIONS IN BIOCHEMISTRY

- Biochemist
- Scientist
- Research Scientist
- Clinical Scientist
- Research Associates
- Research Analyst
- Lab Technical Officer
- Medical Coder
- Scientific Editor
- Medical
- Transcriptor
- Higher Education

FOOD CHEMIST
CAREER OPTIONS IN BIOCHEMISTRY

Top Recruiters

Pharmaceutical industry
- Glenmark
- Mankind
- Cipla

Biotech Industry
- Biocon
- Novartis

Agriculture industry
- Parle Agro
- Rise Agro Intra Pvt. Ltd.

Food industry
- Haldiram's
- Dabur

In BIOCHEMISTRY
CAREER OPTIONS IN MICROBIOLOGY

- Microbiologist
- Research Scientist
- Food Safety Analyst
- Biomedical Scientist
- Quality Control Analyst
- Clinical Research Officer
- Lab Technical Officer
- Medical Coder
- Scientific Editor
- Medical Transcriptor
- Higher Education
CAREER OPTION IN MICROBIOLOGY

- Top Recruiters
  - Pharmaceutical industry
  - Biotech Industry
  - Food Industry
  - Agricultural Industry
  - Healthcare

Gilead
Novartis
Biocon
Abbott
Novozymes
GE
Vantage
Mankind
Cipla
Glenmark
CAREER OPTIONS IN BIOMEDICAL SCIENCE

- Biomedical Scientist
- Research Analyst
- Food Safety Analyst
- Quality Control Analyst
- Research Analyst
- Biochemist
- Structural Biologist
- Lab Technician
- Medical Coder
- Scientific Publishing
- Medical Transcriptor
- Higher Education
CAREER OPTIONS IN BIOMEDICAL SCIENCE

Top Recruiters

- Pharmaceutical industry
- Biotechnology Industry
- Food industry
- Agriculture industry
Career Options In Botany

- Environmental Consultant
- Medicinal Botanist
- Plant Pathologist
- Ecologist
- Nursery Manager
- Researcher
- Farm Consultant
- Plant Biologist
Career Options In Zoology

- Animal and Wildlife Educators
- Zoo Keeper
- Animal Rehabilitator
- Zoo Curator
- Documentary Maker
- Researcher
- Animal Behaviorists
- Conservationist
- Animal Trainers
- Animal Caretakers
- Wildlife Biologists
- Animal Breeders
- Veterinarian
Career Options

HIGHER EDUCATION

- UPSC examination
- Staff Selection Commission Examination
- Intelligence Bureau
- M.Phil.
- PhD

You can also apply for the most competitive exams conducted by Union Public Service Commission such as

IFS
IPS
IAS
Entrance Exams for higher education

Entrance Exams for PhD/M.Tech./Lectureship

If you have Master’s degree in any subject and want to go for PhD degree, then you can apply for many Entrance Exams. Below, we have provided the list of national and international Entrance Exams through which you can get the admission in top universities and research Institutes of India and abroad.

Entrance Exam for admission in India

National Eligibility Test (NET): CSIR and UGC
Graduate Aptitude Test in Engineering (GATE)
State Level Eligibility Test (SLET)
Joint Entrance Screening test (JEST)

Entrance Exam for admission Abroad

Graduate Record Examination (GRE)
Test of English as a Foreign Language (TOEFL)
CAREER OPTIONS FOR A GRADUATE AFTER B.Sc. (Hons)

- COMPETITIVE EXAMS (Higher Education)
- IIT JAM
- CAT
- CMAT
- JEST
- NEST
- IISER
- BARC
- GRE
- TOEFL
- IELTS
Institutes for Higher Education in India

- Qualify NET (CSIR/UGC)
- Qualify GATE
- Purse M.Phil
- Purse Ph.D
- Pursue Research

Top Institutes
- IISC Bangalore
- IITs/NITs
- IISERs
- NISERS
- IICT, Hyderabad
- ICT Mumbai
- TIFR
- CSIR Labs
- AIIMS
- BHU
- Research Institutes affiliated to Universities
Countries that offers Ph.D. Courses after M.Sc.

**US & Canada**
A huge number of international students want to study in the US. 
- Canada
- United States

**Latin America**
Vibrant cultures, incredible nature, relatively low costs, and a growing number of internationally ranked universities.
- Argentina
- Brazil
- Chile
- Colombia
- Mexico
- Panama
- Uruguay
- Venezuela
- Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Peru & Puerto Rico.

**Europe**
Looking to study in Europe? Get started here...
- France
- Germany
- Ireland
- Italy
- Netherlands
- Russia
- Spain
- Sweden
- Switzerland
- UK
- Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Iceland, Norway, Poland, Portugal & more.

**Asia**
A growing number of international students.
- China
- Hong Kong
- India
- Japan
- Malaysia
- Singapore
- South Korea
- Indonesia, Taiwan, Israel, Kazakhstan, Lebanon, Pakistan, Turkey & Thailand.

**Middle East**
There are many attractions to entice students to study in the Middle East.
- Egypt
- Israel
- Lebanon
- Qatar
- Saudi Arabia
- UAE

**Africa**
Choose to study in Africa, and you’re likely to end up learning.
- Egypt
- South Africa

**Australia & New Zealand**
Two of the world's most popular study destinations.
- Australia
- New Zealand
Career Options In Chemistry

Research Areas

- Analytical Chemistry
- Applied Chemistry
- Chemistry
- Geoengineering
- Ph.D. In Electro-Chemistry
- Ph.D. In Industrial Chemistry
- Ph.D. In Inorganic Chemistry (Nuclear & Radiochemistry)
- Organic Chemistry
- Physical Chemistry
- Computational Chemistry
CAREER OPTION IN BIOLOGICAL SCIENCE

Research Areas-

- Biotechnology
- Microbiology
- Biomedical Science
- Biochemistry
- Genetics
- Life Science
- Environmental Science
- Plant Molecular biology and Biotechnology
- Structural Biology
- Immunology

Career Options in Biological Science
Career Options in Microbiology

Higher Education

Research Areas:

- Microbiology
- Medical Microbiology
- Biomedical Science
- Biochemistry
- Biotechnology
- Genetics
- Life Science
- Environmental Science
- Plant Molecular Biology and Biotechnology
- Molecular Medicine
Research Areas:

1. Forensic Medicine and Toxicology
2. Analytical Toxicology
3. DNA Fingerprinting
4. Criminology
5. Cyber Forensic
6. Fingerprint and Documents
7. Crime Scene Photography
8. Forensic Biology
9. Forensic Anthropology
10. Forensic Chemistry
11. Police Sciences
12. Forensic Psychology
Career Option in Physics

Research Areas:

- Applied Physics
- Biophysics
- Chemical Thermodynamics
- Nuclear Physics
- Kinematics
- Physics
- Thin Films
And many other fields....
Higher Education (BOTANY)

Research Areas:

- Botany
- Plant Molecular biology and Biotechnology
- Biotechnology
- Microbiology
- Biochemistry
- Genetics
- Life Science
- Environmental Science
 Research Areas

• Zoology
• Applied Zoology
• Animal Biotechnology
• Biotechnology
• Biochemistry
• Genetics
• Life Science
• Environmental Science
• Biomedical Science
Deepak Kumar  
Pursuing Ph.D. (Chem)  
CDRI, Lucknow

Sudhanshu Sharma  
Pursuing Ph.D. (BioChem)  
Delhi Technical University

Ashu  
Pursuing Ph.D. (Chem)  
University College Dublin, Ireland

Adil Khan  
Assistant Chemist  
NTPC

Ali A. Sani  
Research Officer  
Nigerian Institute for Trypanosomiasis Research

Rupali Tiwari  
Pursuing Ph.D. (Physics)  
Slovakia Technical University, Slovakia

Sunny Panchal  
Senior Associate  
Innodat Pvt Ltd

Shubhi Agarwal  
Forensic Science  
CFSL, Bhopal

Soumya Tomar  
Forensic Science  
GENPACT NOIDA
Like minded people can come together for team building

Opportunities to meet right people.

Sharpen the skills and gain valuable knowledge.

Individual develops an aptitude which start up he/she would prefer.

It is useful in a wide array of industries from health care to retail.

Entrepreneurs are prepared to solve complex problems with innovative and insightful solutions.

Accounts and finance will provide critical knowledge for protecting a venture’s financial future.

Eco-Entrepreneurs have the skills and knowledge necessary to identify problems with existing products, services and systems related to ecosystem.
Thank You!!