



The Next Step

Great Guidance for a Great Future
Careers Department
Newsletter



**Volume- 3 Twenty-First (C) Edition,
January 2025**

Table of Contents

EDITOR'S NOTE

03

PHYSICS, CHEMISTRY,
MATHEMATICS (PCM),
AND ENGLISH

04

PHYSICS, CHEMISTRY,
BIOLOGY (PCB), AND
ENGLISH

07

PHYSICS, CHEMISTRY,
BIOLOGY, MATHEMATICS
(PCBM), AND ENGLISH

10

BIOTECHNOLOGY

13

THE CAREERS TEAM

17



EDITORS' NOTE

Dear Readers,

Welcome to this month's edition of our Careers Newsletter! As we step into a new year, it's the perfect time to reflect on our professional journeys and set new goals.

This volume has been divided into three editions on the basis of- the Commerce Stream, the Humanities Stream and the Science Stream.

We are delighted to present the final edition based on the Science Stream and all the possible courses, job opportunities and placements both in India and Abroad. The students and the teachers at the Careers Department have worked diligently to collect and share accurate information with you promptly.

We hope you find this edition informative and inspiring, and we look forward to sharing more educational insights with you in the future.

As always, we value your feedback and suggestions, therefore if you have any better suggestions or ideas for future topics, please feel free to write to us at careers@assamvalleyschool.com. Your input is crucial in ensuring that we continue to provide relevant and beneficial content to our readers.

Happy Reading!

Editors In Chief
Zerayah C. Syiem
Carlynda Lyngdoh

PHYSICS, CHEMISTRY, MATHEMATICS (PCM), AND ENGLISH

The PCM and English combination equips students with a balanced skill set, making them well-prepared for advanced studies and diverse career paths in science and technology. It fosters logical reasoning, analytical thinking, and effective communication, essential for success in any field.

Engineering Pursuing a B. Tech or BE in various engineering disciplines (e.g., Mechanical, Civil, Computer Science)

In India:

Entrance Exams:

- JEE Main and Advanced: For admission to IITs, NITs, and other top engineering colleges.
- BITSAT: For admission to Birla Institute of Technology and Science (BITS) Pilani.
- VITEEE: For admission to Vellore Institute of Technology.
- SRMJEEE: For admission to SRM University.

Abroad:

Entrance Exams:

- SAT/ACT: For undergraduate studies in the USA and other countries.
- GRE: For graduate engineering programs.
- IELTS/TOEFL: For proving English language proficiency.

Research and Development:

In India:

Entrance Exams:

- IISER Aptitude Test: For admission to Indian Institutes of Science Education and Research.
- KVPY: Kishore Vaigyanik Protsahan Yojana for research fellowships.

Abroad

Entrance Exams:

- GRE: For Ph.D. programs abroad.
- IELTS/TOEFL: For English language proficiency.

Placement:

In India :

- Graduates can secure placements in top companies like TCS, Infosys, Wipro, and multinational corporations such as Google, Microsoft, and Amazon.

Abroad

- Opportunities in global tech companies like Google, Microsoft, Amazon, and engineering firms such as Boeing, Siemens, and Tesla.

Placement:

In India:

- Research roles in institutions like ISRO, DRDO, BARC, and CSIR, with opportunities for further studies (M.Sc. or Ph.D.)

Abroad:

Research positions in prestigious institutions like MIT, Stanford, or CERN, and opportunities in innovation-driven companies.

In India:

Teaching and Academia: - With additional qualifications (like B.Ed. or M.Sc.), teaching roles at schools, colleges, and coaching institutes are viable.

Entrance Exams:

- B.Ed Entrance Exams: For entry into Bachelor of Education programs.
- CTET: Central Teacher Eligibility Test for teaching positions in schools.
- NET: National Eligibility Test for college and university lecturer positions.

Banking and Finance: Competitive exams like IBPS and SBI PO allow PCM graduates to enter the banking sector.

Entrance Exams:

- IBPS PO: Institute of Banking Personnel Selection Probationary Officer exam.
- SBI PO: State Bank of India Probationary Officer exam.

Government Jobs: - PCM graduates can also opt for UPSC, SSC, and other government exams for various administrative roles.

Entrance Exams:

- UPSC: Union Public Service Commission exam for IAS, IPS, and other civil services.
- SSC: Staff Selection Commission exams for various government positions.

Placement:

Teaching roles in schools, colleges, and universities, as well as in coaching institutes.

Positions in public and private sector banks, with opportunities in investment banking and financial services.

Administrative roles in government sectors, defence services (through NDA exam), and public sector undertakings (PSUs).

Abroad:

Data Science and Analytics:

- PCM graduates can pursue further studies in data science or analytics, leading to roles in tech companies worldwide.

Entrance Exams:

- GRE: For entry into data science or analytics master's programs.
- GMAT: For programs combining business analytics with management.

Research: - Opportunities in top global research institutions and universities for those inclined towards higher studies and innovation.

Entrance Exams:

- GRE: For Ph.D. programs abroad.
- IELTS/TOEFL: For English language proficiency.

Aviation and Aerospace:

Entrance Exams:

- GRE: For aerospace engineering or aviation programs.
- SAT/ACT: For undergraduate studies in aviation.

Higher Education and Academia: - Pursuing a Master's or Ph.D. abroad can open academic positions in universities around the world.

Entrance Exams:

- GRE: For master's or Ph.D. programs.
- IELTS/TOEFL: For language proficiency.

Placement:

Roles in multinational companies, tech firms, and financial institutions worldwide.

Placement:


Research positions in prestigious institutions like MIT, Stanford, or CERN, and opportunities in innovation-driven companies.

Placement:

Positions in global aerospace companies like Boeing, Airbus, and roles in space agencies like NASA and ESA.

Placement:

Academic positions in universities across the globe, and research roles in global academic institutions.



Physics, Chemistry, Biology (PCB), and English

The PCB and English combination provides a robust foundation for students aiming for careers in medicine, biotechnology, environmental science, and related fields. This combination nurtures analytical skills, a deep understanding of life sciences, and effective communication, crucial for success in any scientific endeavor.

In India:

Medicine (MBBS/BDS):

Entrance Exams:

- NEET-UG: National Eligibility cum Entrance Test for admission to MBBS, BDS, and other medical courses in India.

Pharmacy:

Entrance Exams:

- GPAT: Graduate Pharmacy Aptitude Test for admission to M.Pharm programs.
- State-level exams: For admission to Bachelor of Pharmacy (B.Pharm) programs.

Biotechnology and Life Sciences:

Entrance Exams:

- JNU CEEB: Jawaharlal Nehru University Combined Entrance Examination for Biotechnology.
- ICAR AIEEA: For agricultural biotechnology programs.
- IISER Aptitude Test: For integrated BS-MS programs in science and research.

Placement:


Graduates can work as doctors in hospitals, clinics, and healthcare centers or pursue further specialization (MD/MS) for advanced medical careers.

Placement:

Roles in pharmaceutical companies, drug research and development, quality control, and hospital pharmacies.

Placement:

Research positions in biotechnology firms, agricultural research institutes, and biotech startups.



Veterinary Sciences:

Entrance Exams:

- NEET-UG: Used for admission to Bachelor of Veterinary Science (B.V.Sc) programs in many states.

Agriculture:

Entrance Exams:

- ICAR AIEEA: Indian Council of Agricultural Research All India Entrance Examination for Admission to B.Sc Agriculture programs.

Nursing:

Entrance Exams:

- AllMS Nursing: For admission to B.Sc. Nursing at AllMS.
- JIPMER Nursing: For admission to nursing courses at JIPMER.

Allied Health Sciences:

Entrance Exams:

- NEET-UG: For some allied health courses.
- Institution-specific exams: For courses like Physiotherapy, Radiology, and Medical Lab Technology.

Placement:

Veterinary doctors in clinics, animal husbandry departments, and roles in wildlife conservation.

Placement:

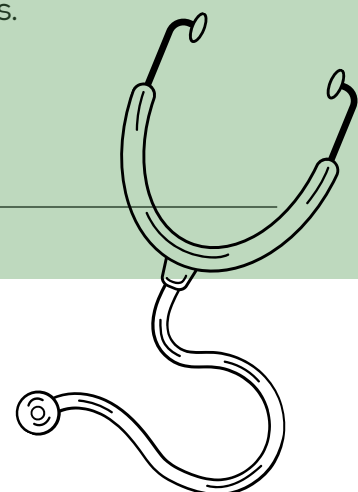
Opportunities in agricultural research organizations, government departments, and agribusiness companies.

Placement:

Roles in hospitals, healthcare facilities, and public health organizations as registered nurses.

Placement:

Positions in diagnostic labs, rehabilitation centres, and hospitals.



Abroad:

Medicine:

Entrance Exams:

- MCAT: Medical College Admission Test for admission to medical schools in the USA and Canada.
- UKCAT/BMAT: For medical programs in the UK.
- IELTS/TOEFL: For proving English language proficiency.

Placement:

Roles as medical practitioners in hospitals, private practices, and healthcare systems globally.

Biotechnology and Life Sciences:

Entrance Exams:

- GRE: For admission to graduate programs in biotechnology, life sciences, and related fields.
- IELTS/TOEFL: For language proficiency.

Placement:

Research positions in global biotech firms, academic institutions, and pharmaceutical companies.

Pharmacy:

Entrance Exams:

- PCAT: Pharmacy College Admission Test for pharmacy programs in the USA.
- IELTS/TOEFL: For language proficiency.

Placement:

Roles in global pharmaceutical companies, drug regulatory agencies, and research institutions.

Veterinary Sciences:

Entrance Exams:

- GRE: For veterinary programs in some countries.
- IELTS/TOEFL: For language proficiency.

Placement:

Veterinary roles in global animal health organizations, wildlife conservation, and veterinary clinics.

Public Health:

Entrance Exams:

- GRE: For Master of Public Health (MPH) programs.
- IELTS/TOEFL: For language proficiency.

Placement:

Roles in international health organizations, government health departments, and NGOs.

Physics, Chemistry, Biology, Mathematics (PCBM), and English

The PCBM and English combination equips students with a versatile skill set, making them well-prepared for advanced studies and diverse career paths in science, technology, health, and research. It fosters critical and analytical thinking, creativity, and effective communication, essential for success in any scientific or academic endeavor.

In India:

Medicine (MBBS/BDS):

Entrance Exams:

- NEET-UG: National Eligibility cum Entrance Test for admission to MBBS, BDS, and other medical courses in India.

Biomedical Engineering:

Entrance Exams:

- JEE Main and Advanced: For admission to IITs, NITs, and other top engineering colleges offering Biomedical Engineering.
- State-level entrance exams: For various engineering programs.

Biotechnology:

o Entrance Exams:

- JNU CEEB: Jawaharlal Nehru University Combined Entrance Examination for Biotechnology.
- IISER Aptitude Test: For integrated BS-MS programs in science and research.

Placement:

Graduates can work as doctors, dentists, or specialists in hospitals, clinics, and healthcare centers, or pursue further studies (MD/MS) for advanced careers in medicine.

Placement:

Roles in medical device companies, research institutions, and healthcare technology firms.

Placement:

Opportunities in biotech companies, pharmaceutical firms, and research labs.

Pharmacy:

Entrance Exams:

- GPAT: Graduate Pharmacy Aptitude Test for admission to M.Pharm programs.

Placement:

Roles in drug manufacturing, research and development, quality control, and hospital pharmacies.

Agricultural Sciences:

Entrance Exams:

- ICAR AIEEA: Indian Council of Agricultural Research All India Entrance Examination for B.Sc Agriculture and related programs.

Placement:

Positions in agricultural research, agribusiness companies, and government departments.

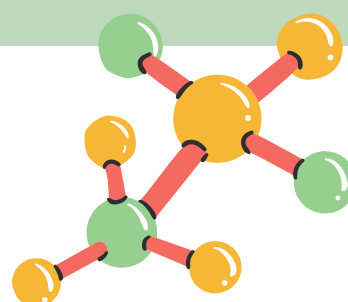
Research and Development:

Entrance Exams:

- IISER Aptitude Test: For entry into integrated BS-MS programs in science.
- KVPY: Kishore Vaigyanik Protsahan Yojana for research fellowships.

Placement:

Research roles in institutions like CSIR, DRDO, and private research labs.



Abroad:

Medicine:

Entrance Exams:

- MCAT: Medical College Admission Test for medical schools in the USA and Canada.
- UKCAT/BMAT: For medical programs in the UK.
- IELTS/TOEFL: For language proficiency.

Placement:

Medical roles in hospitals, private practices, and healthcare systems globally.

Biomedical Engineering:

Entrance Exams:

- SAT/ACT: For undergraduate studies in the USA.
- GRE: For graduate biomedical engineering programs.

Placement:

Opportunities in global medical device companies, research institutions, and healthcare technology firms.

Biotechnology:

Entrance Exams:

- GRE: For admission to graduate programs in biotechnology, life sciences, and related fields.
- IELTS/TOEFL: For language proficiency.

Placement:

Roles in global biotech firms, pharmaceutical companies, and research institutions.

Pharmacy:

Entrance Exams:

- PCAT: Pharmacy College Admission Test for pharmacy programs in the USA.
- IELTS/TOEFL: For language proficiency.

Placement:

Positions in multinational pharmaceutical companies, regulatory agencies, and research institutions.

Environmental Science and Sustainability:

Entrance Exams:

- GRE: For programs in environmental science or sustainability studies.
- IELTS/TOEFL: For language proficiency.

Placement:

Roles in international environmental organizations, NGOs, and research institutions focusing on sustainability.

BIOTECH

Biotechnology is a rapidly growing field that combines biology with technology to develop innovative products and processes. Here's an overview of job opportunities, placement prospects, and the kind of roles you might expect in India and abroad after pursuing a degree in Biotechnology.

Undergraduate Courses in Biotechnology:

- B.Sc. in Biotechnology
- B.Tech in Biotechnology
- B.Sc. in Life Sciences with Biotechnology
- B.Sc. in Molecular Biology and Biotechnology

Entrance Examinations:

India:

- o JEE Main/Advanced: For B.Tech programs in Biotechnology.
- o NEET: For medical and some biotech-related programs.
- o CUET: Common University Entrance Test for B.Sc. in Biotechnology at central universities.
- o State-Level Exams: E.g., WBJEE (West Bengal), KCET (Karnataka).

Abroad:

- SAT/ACT: For undergraduate programs in the U.S.
- o IELTS/TOEFL: For English language proficiency.
- o Country-Specific Exams: UCAS for the UK, and other country-specific requirements.

Job Opportunities in Biotechnology:

India:

Research Scientist:

Role: Conduct research in labs, working on developing new products, processes, or improving existing ones in healthcare, agriculture, or industrial biotech.

o **Placement:** CSIR, ICAR, DRDO, private biotech firms like Biocon, Serum Institute.

Biotech Engineer:

o **Role:** Work in the design and development of equipment and processes for large-scale production in the biotech industry.

o **Placement:** Pharmaceutical companies like Cipla, Ranbaxy, government labs, and industrial firms.

Quality Control Analyst:

o **Role:** Ensure that biotech products meet the required standards of quality and safety.

o **Placement:** Quality control departments in pharmaceutical companies, food processing industries, and biotech firms.

Clinical Research Associate:

o **Role:** Oversee clinical trials, ensuring compliance with regulations and scientific integrity.

o **Placement:** CROs (Contract Research Organizations) like Parexel, Quintiles, and hospitals.

Abroad:

Bioprocess Engineer:

o **Role:** Design and develop processes for manufacturing bioproducts at an industrial scale.

o **Placement:** Biotech companies like Genentech, Amgen, Pfizer, GSK.

Genetic Counselor:

o **Role:** Work with patients and families to understand genetic conditions, risks, and inheritance patterns.

o **Placement:** Hospitals, healthcare centers, and research institutes in countries like the USA, Canada, and the UK.

Regulatory Affairs Specialist:

o **Role:** Ensure that biotech products comply with regulations and standards set by government agencies.

o **Placement:** Pharma and biotech firms, regulatory bodies like FDA (USA), EMA (Europe).

Job Opportunities in Biotechnology:

India:

Biotech Entrepreneur:

- o **Role:** Start your own biotech company, focusing on innovative products in healthcare, agriculture, or environmental sustainability.
 - o **Placement:** Startup incubators, venture capitalists, government grants.
-

Academician/Professor:

- o **Role:** Teach and conduct research at universities and research institutes.
- o **Placement:** IITs, IISc, central universities, private institutions.

Abroad:

Industrial Biotechnologist:

- o **Role:** Apply biotechnology to industrial processes like fermentation, waste treatment, and biofuel production.
 - o **Placement:** Industries focusing on biofuels, waste management, and sustainable technologies.
-

Environmental Biotechnologist:

- o **Role:** Work on bioremediation projects, developing technologies to clean up pollutants using biological organisms.
- o **Placement:** Environmental agencies, international NGOs, research institutes.

Placement Prospects:

Abroad:

Global biotech firms like Genentech, Amgen, Pfizer, and Novartis, as well as academic institutions like MIT, Stanford, and Cambridge, offer excellent research and development opportunities.

India:

Companies like Biocon, Dr. Reddy's, Serum Institute of India, and Sun Pharma frequently recruit biotechnologists. Government research institutes such as CSIR, ICAR, and DRDO offer research roles.

Key Areas of Work:

- **Pharmaceuticals and Healthcare:** Drug development, vaccines, diagnostics.
- **Agriculture:** GM crops, biofertilizers, pest-resistant plants.
- **Environmental Biotechnology:** Waste management, pollution control, bioremediation.
- **Industrial Biotechnology:** Biofuels, fermentation technologies, industrial enzymes.
- **Research and Development:** In academic, government, or private sector labs.

THE CAREERS TEAM

DR. AMIT JUGRAN

Patron, Headmaster of The Assam Valley School

DR. KULJEET SINGH

Deputy Head- Academics

MR. DEVESH PRAJAPATI

Head of Careers

MS. PAMELA SYIEMLIH

SAT, IELTS, Humanities Counsellor

MS. DAYITA B. DATTA

International Admission Counsellor

DR. ALPANA DEY

Science and Technology Counsellor

MS. SAGARIKA DUTTA

General Counsellor

DR. NAVODITA PANDE

General Counsellor

EDITORS

Zerayah C. Syeim
Abigail Kharkongor
Da-i-sha E. Diengdoh
Carlynda Lyngdoh

EMAIL ID

careers@assamvalleyschool.com

CONTACT NO:

+ 91 9871268816

FRONT COVER PHOTOGRAPH

AVS Photography
Society