



OPEN THE MAGICAL BOX OF KNOWLEDGE

What comes to your mind when you think of Science stream? Engineering or Medicine? Why not go for a plethora of opportunities in other Science streams?

by Harshita Das

What is the physics behind a rocking chair? What is the chemistry behind milk souring or iron rusting? Why is it dangerous to sleep under a tree at night? These are the common questions that must have agitated the mind of every individual at some point of time. Gradually, we realize that everything around us is based on a scientific phenomenon and science is ubiquitous. Science as a stream encompasses multiple disciplines including Physics, Chemistry and Biology as key subjects. It is one of the essential academic UG programmes, besides Engineering, Medicine, Commerce and Arts. After class 12, you can apply for a Degree course in either BSc (Hon) or BSc in any of the top institutions for a promising career.

BSc (Hons) Vs BSc

Bachelor of Science is a platform providing multiple subject options with a wide scope for higher education and research. A student can either pursue BSc (Hons) or BSc, and both are three-year full-time programmes. BSc (Hons) courses are designed for specialization in that subject. "The syllabus for Honours courses includes much more advanced study materials. In BSc (Hons), the major subject is taught for three years while there are subsidiary subjects (excluding the Hons subject) that are taught only in the first two years. The syllabus for these two subjects compares with first two years of BSc subjects. In BSc it is a particular combination of three subjects that are offered



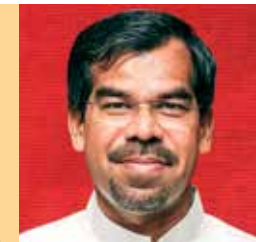
Domain Science
Programme BSc (Hons)/
BSc Eligibility 10+2
 with PCM or PCB **Best**
Colleges St. Stephen's
 College (Delhi), Maulana
 Azad College (Kolkata),
 Presidency University
 (Kolkata), Loyola College
 (Chennai), St. Joseph's
 College (Bangalore) K
 J Somaiya College of
 Science and Commerce
 (Mumbai) **Job prospects**
 Teaching, civil services,
 banking, pharmaceutical
 industry, forestry etc..

EXPERIMENTS FORM
 an important com-
 ponent of learning
 science subjects



Muhabit ul haq

Q & A



REV. DR. M. AROCKIASAMY XAVIER, S.J.
 Principal, Loyola College, Chennai

Q. What are the course options for a student who has completed 12th with PCB or PCM?

A. Students with PCM prefer to join BSc in Mathematics, Physics, Chemistry, Biochemistry and Statistics. Some of these students prefer BSc in Visual Communication too. Students with PCB prefer to join BSc in Advanced Zoology & Biotechnology; Plant Biology & Biotechnology; Biochemistry, Nursing, etc.

Q. What is the scope for higher education in India and abroad for a student who has completed BSc?

A. There are innumerable opportunities available for Science graduates. Such candidates opt for Master's in their respective disciplines, specialized courses related to their subjects such as MSc in Materials Science, MSc in Nano Technology, etc. In addition, students prefer Integrated MS and PhD programs available at National and Central Laboratories like Central Leather Research Institute Chennai; Central Electro Chemical Research institute Karaikudi; Institute of Nano Science and Technology (INST), Mohali etc. Besides, students undergo postgraduation in IITs and Central Universities. Science graduates also prefer to go for some of the diploma courses available in Central Institute of Plastic Engineering and Technology (CIPET). Further, quite a number of students also choose MS (Masters in Science) in foreign universities once they finish their graduation and one-year diploma course in Science in India. These students necessarily need to qualify themselves with GRE/TOEFL and IELTS. Another opportunity available to them is JNU entrance examination and once they clear the entrance, they are eligible for Fellowships even for PG Programs offered in JNU.

Q. What are the career prospects for graduates in Bachelor of Science?

A. Each course has its own merit in the job market. Even though Physical Sciences are the fore-runner in the job market, Biological Sciences are also preferred for various positions. Physics graduates are preferred more in the job market than other science graduates as they are found to be having analytical, problem-solving and research ability. In addition to the usual jobs, students are wanted for e-content preparation in their own disciplines in Springer, Elsevier as editors and proofreaders. Some of them take up Medical Transcriptions as their career. There are jobs for science graduates in leading companies like MRF, Asian Paints, etc. Many of them become Shift Chemists in Research and Development departments of various companies. Some of them prefer to become entrepreneurs in RO water systems, dyeing and manufacturing, mushroom cultivation, bio-fertilizer production, etc.



along with some language course,” says Dr. Uttam K. Sinha Mahapatra, HoD Physics, Maulana Azad College, Kolkata. In West Bengal BSc (Hons) is a must for a student seeking admission in Master’s of Science. However, this is not applicable to institutions in the south.

How to apply?

The process of admission starts after the 12th standard board results are declared. Students are expected to apply for admissions to various colleges either online or through forms available in colleges. By last week of May, the activities start in full swing. Dr. Mahapatra, who has 13 years of experience in teaching at UG level, explains about the multiple admission procedures involved. “Firstly, a traditional system in which one has to collect hard copy of application and submit in person or post the application. Secondly, a semi-online process in which one will be guided by procedures to fill up the application form and deposit application and money to pre-selected branches of banks. On the admission day, student must appear personally with hard copies of necessary transcripts and finally, a complete online procedure.” For complete online process at the end one needs to go for verification of transcripts and following that admission will be confirmed. An exception here is Delhi University that follows a centralized online process for admission to all undergraduate courses being offered at its constituent colleges, including 35 science programmes.

Eligibility and admission

Basic eligibility for admission is 10+2 from CBSE or any equivalent examination with minimum aggregate of 55 percent marks in PCM/PCB group. The selection process differs from institute-to-institute. Many institutes select on the basis of weighted marks defined by marks in the best four subjects. Admissions to the University of Delhi is on the basis of cut-offs. The cut-off for the science stream remained quite high this year. Applicants with more than 96 percent got through the first cut-off list. A few colleges and universities hold entrance examinations. In such case some weightage is given to the marks obtained in entrance test and some to marks obtained in class 12 board exams. However, the exact proportion of weightage varies from institution-to-institution. The fee structure is moderate to high, depending on university or institute.



DR. ASHOK GHOSH,
Professor and HoD, Mahavir
Cancer Institute and
Research Centre, Patna

After BSc one can go for teaching and or for a career in research through Master's and PhD.

Furthermore, after getting this basic qualification the students become eligible for civil services, banking sector, forestry and pharmaceutical industry. Many NGOs also hire science graduates for water quality monitoring, promoting good agricultural practices and composting in rural areas.

Science graduates are also hired by BPOs related to medical services, cosmetic industry, herbal industry and scientific-instrument-related companies

What after undergraduate studies?

After graduation, there are good prospects in terms of higher education. Like other fields, specialising provides one with more opportunities, and hence, a science graduate has a number of choices to specialize in and pursue various professions. You can opt for two-year Master of Science in the respective discipline, which can further open the door for pursuing MPhil/PhD. If you are interested in teaching, you can go for a B.Ed degree. According to Dr. Neeru Gupta, HoD Physics at DAV College, Amritsar, “Many new subjects such as Microbiology, Geoinformatics, Computer Science, Horticulture, Electronics and Communications, IT, Electronics, Bioinformatics, Clinical Psychology have emerged for post-graduation that have very good job prospects. Science graduates can also pursue Master’s in Astrophysics, one of the most sought after subjects for students with a good understanding of Physics and Mathematics. Further, you can pursue Integrated PhD in Science.”

Career prospects

Science is a very vast field and various career opportunities are available at every stage. After UG in science stream, one can look for job in an industry if the subject concerned has relevance to that sector. IT companies like Infosys, TCS, Wipro recruit science graduates and train them for 8-9 months to absorb in main production units along with engineering graduates. Institute of Banking Personnel Selection conducts CWE, a common exam for 19 government banks excluding SBI to select candidates for the post of PO/Management Trainee. A candidate can also apply for defence jobs through CDS exam. A doctorate degree opens up job opportunities in academics in universities and colleges as lecturers and professors “After BSc one can go for teaching and or career in research through Master’s Degree and PhD. Degree. Furthermore, after getting this basic qualification, students become eligible for civil services, banking sector, pharmaceutical industry and forestry. Many NGOs also hire science graduates for water quality monitoring, promote good agricultural practices and composting in rural areas. Science graduates are also hired by BPOs related to medical services, scientific instrument related companies, cosmetic industry and herbal industry,” says Prof. Ashok Ghosh, HoD, Mahavir Cancer Institute and Research Centre, Patna.