IEC SCHOOL OF BASIC SCIENCES

INFORMATION BROCHURE

✓ B.Sc. NM
✓ B.Sc. Medical
✓ B.Sc. (Hons.) Chemistry
✓ B.Sc. Nanotechnology
✓ M.Sc Physics
✓ M.Sc Chemistry
✓ M.Sc Mathematics
✓ M.Phil. Physics
✓ M.Phil Chemistry
✓ M.Phil Mathematics
✓ Ph.D Physics
✓ Ph.D Chemistry
✓ Ph.D Mathematics

ADMISSIONS OPEN FOR 2019-20
IEC School of Basic Sciences is one of the indispensable Schools of the University. It imparts excellent quality education. In the area of Chemistry, Physics & Mathematics. The School offers Undergraduate, Post Graduate and a Doctoral degree on full time basis. Industrial Visits, Trainings and Projects are an integral part of the courses offered by IEC School of Basic Sciences. The course has been designed to acquaint students with an advanced knowledge of areas of Physics, Chemistry & Mathematics. Today’s world needs people who understand science and the contribution it makes to society. Basic Science is the science of applying knowledge from one or more natural scientific fields to practical problems. The study of basic science at our University will provide you with not only a broad understanding of a variety of scientific principles but also the skill to apply your knowledge to solve problems and provide solutions to a variety of situations. School has embarked on continual upgrading of its facilities; all these are in line with our desire to train holistic scientists that make positive contribution not only to our nation but also to the whole of mankind.
Dear Students,

We live in a knowledge-driven economy, where Research and Development has become the key to sustainable economic growth. The production of theoretical knowledge and integrated experiential findings are the two main aspects of research activities. The outcomes which are constantly augmented, corrected and revised is a natural corollary but the huge database created and the published material built by researcher-writers is indeed appreciable. The Master’s degree programmes are being offered in 6 disciplines including Physics, Chemistry, Mathematics, Engineering, Journalism and Law. Also, M.Phil/Ph.D degree programmes are being offered in various departments of School of Basis Sciences. We choose our students with great attention and care precisely because we are so deeply invested in their development and the important and unique contributions to knowledge and society that they will offer. We hope that you will consider joining us in the remarkable intellectual and social experience in IEC University. I welcome you to visit our institution to see for yourself what we have to offer.

Best Wishes:

Dean Post Graduate Studies
TEACHING PEDAGOGY

IEC (INNOVATION, EXCELLENCE, & COMMITMENT) educates students and shapes the future of students who understand world & have capacity to change the world.

The fast changing world economy has posed a challenge to the educational institutions to constantly revamp the discourse patterns. University pedagogy stands for research-based education and development of teaching and learning in the academic community. With the term university pedagogy, we do not refer just to individual, but also to collegial pedagogical competency that is promoted, sustained and fostered within the university community.

Pedagogical competency results in excellent curriculum, learning environments and processes, and high quality learning outcomes.”

Our pedagogy emphasizes on
• critical thinking and interdisciplinary dialogue to promote teaching and learning at the university
• experimental and developmental approach to promote research-teaching nexus
• collegial, participatory and reciprocal procedures to promote well-being and engagement (of both staff and students)
• University demonstrates responsibility for the quality of its educational programs, and learning environments and it evaluates their effectiveness for student learning through processes designed to promote continuous improvement.
• The course teachers do Continuous Internal Assessment. It has two tests out of three and any two modes of assessment like seminar, assignment, group discussion, viva, and problem solving.

• Electronic Media
• Case Studies
• Group Activities
• Industrial Visit
• Individual Counseling
• Corporate/Eminent Academician’s Guest Lectures
• E-Learning

• Mobile Learning
• Practical Exercise
• Interactive Learning
• Smart Classes
• Seminars/conferences/worshops
• Foreign University Exchange Programs
• Personality Development Sessions
• Pre Placement Trainings
UG COURSES
Objective

The programme comprises of study of Physics, Mathematics and Chemistry with Computer Science as positional course for undergraduate students. The student will be able to select various options for higher studies like M. Sc. in Physics, Mathematics, Chemistry and MCA after completion of this programme. In addition, the programme provides a good platform to create interest of undergraduate students towards M. Tech. in Allied Sciences and Nano science.

Eligibility: The candidate should have passed 10+2 (Class XII) Examination or its equivalent from a recognized Board/University with Physics, Chemistry and Mathematics with 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade) from.

---

Objective

B.S. Science degree is geared toward students interested in eventually teaching at the intermediate school level whose interests and skills in science are more cross-disciplinary than those students who pursue traditional majors in biology, chemistry, computer science, math or physics. The educational objectives of the Option are to produce graduates who are well versed in a broad range of topics in the sciences, humanities, and the arts, and have a broad knowledge of the sciences, with a concentration in one of the sciences. who are prepared to further their education in either a teaching certification program or graduate school and/or directly pursue productive professional careers in the private, state, federal, or educational sectors.

Eligibility: The candidates should have passed Senior Secondary (10+2) or an equivalent Examination from any recognized Board/University with at least subjects including English, Physics, Chemistry and Biology as compulsory subjects.
Objective: The special feature of B.Sc. (Hons) (Chemistry) is a good foundation of basics and research component through practical and theoretical knowledge, which in turn will provide excellent job prospects in Academics, Industries and other field of interest. Department of Chemistry has highly qualified, motivated, dynamic and experienced faculty members. The B.Sc. (Hons) (Chemistry) programme intended to offer a balanced combination of core and applied courses of Chemistry. B.Sc. (Hons) (Chemistry) will provide competence to tackle frontier area in Green chemistry, Nano Chemistry, Supramolecular Chemistry, Sensors, Advanced materials, Bio-Physical, Bio_organic and Bio-Inorganic, Spectroscopy etc. The course and syllabus are designed in such a manner that the students become expertise in the field of Chemicals (synthesis as well as production/manufacturing). This will be useful in developing awareness, aspiration and innovative ability to solve new scientific problems. The department has well equipped labs to provide practical skills to students.

Eligibility: The candidate should have passed 10+2 (Class XII) Examination or its equivalent from a recognized Board/University with Physics, Chemistry and Mathematics with 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade) from.

B.Sc. Nanotechnology

Objective: The objective of this under-graduate course is to provide the skills and knowledge to the students about the field of nanotechnology applications in the modern lifestyle and teach students how nanotechnology can shape the tomorrow and solve the modern day problems by making the changes at the molecular and sub-molecular level. In-depth theoretical and practical knowledge is provided to the student and the practical and visualization skills are enhanced. Students are encouraged to come up with the new ideas and research the feasibility and practicality of the new ideas. The course is taught by the best minds in the field of nanotechnology and students and all the facilities, equipment and support required by the students is made available to them.

Eligibility: For admission to the B.Sc programme in Nanotechnology, the applicant should fulfil the following conditions: Passed 10+2 with Science stream from a recognized Board/Council. Obtained at least 55% marks at the qualifying Examination.
PG COURSES
## M.Sc. Physics

**Objective**

This course has the aim to provide systematic knowledge of the subject to the graduates of physical sciences with the specification in modern and job-oriented areas of physics. This postgraduate programme is designed to prepare Physicists for careers in University teaching, research and in institutions. This objective is met by having programme containing courses in all main physics areas. The research project is intended to emphasize practical aspects of the course work and to provide training for physics researchers.

**Eligibility:** Science Graduate with mathematics and physics having minimum 50% aggregate or equivalent CGPA from recognized university

**Duration:** 2 Years (Full-time Regular)

**Intake:** 30 Seats

## M.Sc. Mathematics

**Objective**

The objective of the M.Sc./M.A. (Mathematics) is to develop highly qualified/trained mathematicians to cater to the needs of the industry, teaching and research institutions. Department of Mathematics has highly qualified, motivated, dynamic and experienced faculty members. The M.Sc./M.A (Mathematics) programme intended to offer a balanced combination of core and applied courses of Mathematics. It also emphasizes advanced developments in the field of analysis, fluid mechanics, solid mechanics, mathematical physics and scientific computing. The M.Sc./M.A Mathematics programme will be useful in developing awareness, aspiration and innovative ability to solve new scientific problems.

**Eligibility:** Science Graduate with mathematics and physics having minimum 50% aggregate or equivalent CGPA from recognized university / Graduate with Mathematics along with minimum 50% aggregate

**Duration:** 2 Years (Full-time Regular)

**Intake:** 30 Seats
Objective
An understanding of and the ability to apply the fundamentals of research methodology and statistical analysis to the interpretation and evaluation of scientific data.
- The ability to communicate knowledge of chemistry both orally and in writing, including research reports
- Complete a research project, write a thesis based on the project and defend the project before thesis committee.
- Academically prepared for a Academics, Industries and other field of interest as career
- The ability to function effectively in a diverse and global academic and industrial requirement

Eligibility: Science Graduate with mathematics and physics having minimum 50% aggregate or equivalent CGPA from recognized university.

Duration: 2 Years (Full-time Regular)
Intake: 40 Seats
RESEARCH COURSES
**Objective**
The M.Phil./Ph.D. programme in Basic Sciences aims to prepare researchers to be able to start and complete a satisfactory original, innovative and quality piece of research. This research takes the form of a doctoral thesis. In addition, researchers should be able to demonstrate deep knowledge of the subject of their research, capacity to synthesize and interpret information and knowledge of the main debates and most recent scientific contributions, especially within their research area. The objective of M.Phil./Ph.D. is to make our student competent to do research in a passionate way. Since the technology is changing day by day so our main aim is to help our nation in the field of technology by contributing quality research work.

**Eligibility**: For admission to the M. Phil programme in a relevant subject in concerned faculty, the applicant should fulfil the following conditions:
Candidates having minimum of 55% marks (50% for SC/ST category) at Post-Graduate degree examination or its equivalent degree with equivalent grade/grade points in faculties where there is no provision of Class.
CSIR/NET/JRF/SLET will be exempted from entrance test.
Duration: 1 Years (Full-time Regular)
Intake: decided by HPPERC time to time

**Ph.D. PHYSICS/CHEMISTRY/MATHEMATICS**

**Eligibility**: For admission to the Ph.D. programme in a relevant subject in concerned faculty, the applicant should fulfil the following conditions:
Candidates having minimum of 55% marks (50% for SC/ST category) at Post-Graduate degree examination or its equivalent degree with equivalent grade/grade points in faculties where there is no provision of Class.
CSIR/NET/JRF/SLET will be exempted from entrance test.
Duration: 3 Years (Full-time Regular)
Intake: decided by HPPERC time to time
Admissions open for 2019-20

IEC University
Atal Shiksha Nagar, Kalluiana, Near Village Namak Pur, Pinjore-Nabobganj Highway, District- Solan, Pinjore, Himachal Pradesh 174103
3.9 ★★★★★ 41 reviews
View larger map

Meritorious scholarship available for UG & PG Courses

Say NO to RAGGING

IEC University Campus
Plot No.: 7&10, Atal Shiksha Nagar, Baddi, District Solan, Himachal Pradesh
Toll Free No. 1800-3000-8311
Website: www.iecuniversity.com
Ph: +91-9882552292, 8219419289, 9149528365