

Guidelines and syllabus for the entrance exam (PhD in Mathematical, Physical, and Computational Sciences disciplines)

- All candidates intending to pursue research in Mathematical, Physical, and Computational Sciences disciplines, except those granted waiver, have to appear for the examination.
- The candidates have to take the exam in one of the following two subject papers: (a) Mathematics (MA), (b) Physics (PH).
- The candidates will be administered the appropriate exam based on the preference chosen in the application form.
- The exam will consist of 20 multiple choice questions to be answered in one hour. For every correct answer, the candidate will receive +4 marks, while for every incorrect answer the candidate will receive a negative 1 mark.
- The marks obtained in the exam would be used for shortlisting the candidates for the interview.
- During the interview, the questions will be based on the discipline that the candidate appeared for in the entrance exam. Candidates may also be asked questions on their undergraduate/postgraduate projects.
- Syllabus:
 - Mathematics: The question paper will be based on the following five areas of BSc/MSc level Mathematics curriculum.
 - Real Analysis
 - Complex Analysis
 - Abstract Algebra
 - Linear Algebra
 - Probability Theory
 - Physics: The question paper will contain a set of 5 questions on Mathematics and the remaining 15 questions from four areas of undergraduate Physics curriculum listed below.
 - *Mathematics*: Discrete Structures, Calculus, Basic Linear Algebra, Basic Probability Theory
 - Classical Mechanics
 - Electrodynamics
 - Quantum Mechanics
 - Thermodynamics