PhD Admissions - Autumn 2020

Category A (ICT and Allied domains) and B (Mathematics & Natural Sciences)

Test & Interview details

Test Pattern

- All candidates, except those granted waiver, have to appear for the online proctored test.
- The candidates will be administered the test on an appropriate area based on the preference given in the application form.
- The online proctored test will consist of Multiple Choice questions. The test will have 20 questions to be answered in 1 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 test would be used for shortlisting the candidates for the interview.

Interview

- Candidates will be interviewed based on the area – Computer Science & Engineering (CSE)/ Electronics & Communication Engineering (ECE)/ Physics (PHY)/ Mathematics (MAT) attempted in the test.
- They may also be asked questions on their undergraduate/postgraduate projects.

Test Syllabus

Category A (ICT and Allied domains) Question Paper

Candidates falling under Category A (ICT and Allied domains) will appear in one of the following two tests: Computer Science and Engineering (CSE) or Electronics and Communication Engineering (ECE). This will be based on the choice filled in the application form.

The syllabus is as follows:

- Mathematics: A set of 5 questions will be based on Mathematics, the syllabus for which is common to both CSE and ECE tests.
  - Discrete structures
  - Calculus
  - Basic linear algebra

- Computer Science and Engineering: For candidates aligned to Computer Science and Engineering (CSE) area, the remaining 15 questions will be based on the following 4 areas of undergraduate Computer Science curriculum.
• Data structures and Algorithms
• Operating Systems
• Theory of Computation
• Programming

• Electronics and Communication Engineering: For candidates aligned to Electronics and Communication Engineering (ECE), the remaining 15 questions will be based on the following 3 areas of undergraduate Electronics and Communication Engineering curriculum.
  o Basic Electrical and Electronic Circuits
  o Analog and Digital Communication
  o Digital Signal Processing

0 Category B (Mathematics and Natural Sciences) Question Paper

Candidates falling under Category B (Mathematics and Natural Sciences) will appear in one of the following two tests: Physics (PHY) or Mathematics (MAT). This will be based on the choice filled in the application form.

The syllabus is as follows:

• Physics: The question paper will contain a set of 5 questions on Mathematics and the remaining 15 questions from 4 areas from BSc/MSc level physics curriculum listed below:
  o Mathematics: Discrete structures, Calculus, Basic linear algebra
  o Classical mechanics
  o Electrodynamics
  o Quantum Mechanics
  o Thermodynamics

• Mathematics: The question paper will be based on the following 5 areas from BSc/MSc level mathematics curriculum.
  o Real Analysis
  o Complex analysis
  o Abstract algebra
  o Linear algebra
  o Probability