

MS(R)/PhD Admissions 2018-19 Semester II
November 29-30 2018

The MS(R)/PhD selection process will be conducted on 29th and 30th November 2018. Selection process is in two stages – During the first stage, all the invited candidates must undertake written (conducted online) and programming tests to be held on 29th November 2018. Based on the performance in these tests, candidates will be shortlisted for the second stage. ONLY the candidates shortlisted in the first stage are eligible for the second stage. During the second stage, the shortlisted candidates will be called for interviews, to be held on 30th November 2018. The interviews are likely to involve questions on fundamentals of computer science, and will test the depth of your understanding in the areas of your interest. Details of the written and programming tests are as follows.

Written Test (conducted online at IIT Ropar)

Syllabus:

Mathematical Aptitude: Matrices, Determinants, Eigen Values and Eigen Vectors. Basic Probability: Random Variables, Conditional Probability, Bayes Theorem.

Programming and Data Structures: Programming in C/C++, recursion, arrays, stacks, queues, linked lists, trees, binary search trees, binary heaps and graphs.

Algorithms: Searching, sorting, hashing, asymptotic worst case time and space complexity, Algorithm design paradigms such as dynamic programming, divide-n-conquer and greedy algorithms, graph traversal algorithms, minimum spanning trees and shortest path algorithms.

Question Pattern: Multiple choice questions with only one correct answer. There may be negative marking in the test.

Time Duration: 1 hr 30 min.

Programming Test

Environment: Linux/Unix based system. **Duration:** 2 hours

Compilers available: C, C++, Java, Python. The candidate must choose any one of these language for all the questions in the test.. A specific IDE may not be available on the systems. It is expected that the candidate is comfortable with traditional editors in Linux environment such as vi, gedit etc.

Type of questions: Questions in the programming test would be based on topics mentioned in the Algorithms, Programming and Data Structures components of the written test syllabus mentioned above.

Important Dates:

Last date of online application submission: 24th Oct 2018

Date of written and programming tests (1st stage): 29th Nov 2018

Date of interviews (2nd stage): 30th Nov 2018. Depending on the number of candidates shortlisted and the time available, some interviews may be scheduled on Nov 29th itself.