

National Institute of Technology Karnataka
Department of Metallurgical and Materials Engineering

Date: 28-11-2018

The following candidate has been shortlisted for written test/interview for admission to Ph.D. Programme 2018-19 (December 2018):

1. RAKESH KUMAR UPADHYAY (P18MT0001)

Place of Reporting: Office, Dept of Metallurgical and Materials Engineering

Written Test Date and Time: December 5, 2018 & 11 a.m. – 12 noon

Interview Date and Time: December 5, 2018, 2.30 p.m. onwards

Instructions

- Written test shall contain MCQs and objective questions with negative marking for incorrect response.
- Use of calculator is permitted. However, the possession and use of cell phones/programmable electronic devices is prohibited.
- All candidates should bring a photo identity card. The name used in the ID card must be the same as that used in the application form.
- Candidates are required to bring all the original supporting documents, such as mark/grade cards, degree certificates, GATE score card, caste Certificate (for OBC/SC/ ST candidates), PwD certificate (for PwD candidates), and other relevant documents such as sponsorship certificate, experience certificate. In the absence of originals of the above-mentioned documents, your candidature may be cancelled.
- Reprints of research-papers/patents, if any, may be provided.
- Only GATE-qualified candidates are eligible for full time Ph.D. program with Institute scholarship.

Syllabus for written test

The electronic structure of atoms. Types of atomic and molecular bonds: ionic bonding; covalent bonding; metallic bonding; secondary bonding; mixed bonding; hybridization. Energy bands in metals, insulators and semiconductors. Basics of crystallography. Defects and dislocations. Types of Materials: polymers, metals and alloys, semiconductors, ceramics, composites. Processing of materials. Diffusion. Phase rule and phase diagrams. Properties: optical, magnetic, mechanical, electrical, and thermal. Material degradation and protection.

Sd/
Head, Dept. of MME