

TATA INSTITUTE OF FUNDAMENTAL RESEARCHWritten Test in **MATHEMATICS**

December 12, 2010

Duration : Two hours (2 hours)

Please read all instructions carefully before you attempt the questions.

1. Please fill-in details about name, reference code etc. on the answer sheet. The Answer Sheet is machine-readable. Read the instructions given on the reverse of the answer sheet before you start filling it up. Use only HB pencils to fill-in the answer sheet.
2. There are forty (40) questions divided into two parts, Part-A and Part-B. Part-A consists of 10 multiple choice questions and 15 True-False questions. Part-B consists of 15 True-False questions.
3. Indicate your ANSWER ON THE ANSWER SHEET by blackening the appropriate circle for each question. Each correct answer will get 1 mark; each wrong answer will get a -1 mark, and a question not answered will not get you any mark. Do not mark more than one circle for any question : this will be treated as a wrong answer.
4. The eligibility requirements are as follows :

Ph.D. programme at Mumbai	: M.Sc./M.A./B.E./B.Tech./B.Sc./B.A.
Ph.D. programme at Bangalore	: M.Sc./M.A.
Integrated Ph.D. programme at Bangalore	: B.A./B.Sc./B.E./B.Tech.

Irrespective of what you have applied for, if you wish to be considered for the **Ph.D. programme at TIFR Mumbai and Bangalore**, answer the entire paper.

If you wish to be considered only for the **Integrated Ph.D. program at Bangalore**, it is sufficient to answer only **Part-A**.
5. We advise you to first mark the correct answers on the QUESTION PAPER and then to TRANSFER these to the ANSWER SHEET only when you are sure of your choice.
6. Rough work may be done on blank pages of the question paper. If needed, you may ask for extra rough sheets from an Invigilator.
7. **Use of calculators is NOT permitted.**
8. Do NOT ask for clarifications from the invigilators regarding the questions. They have been instructed not to respond to any such inquiries from candidates. In case a correction/clarification is deemed necessary, the invigilator(s) will announce it publicly.
9. See the back of this page for Notation and Conventions used in this test.

