

## ELECTRONICS AND TELECOMMUNICATION ENGINEERING

## PAPER—I

Time Allowed : Three Hours

Maximum Marks : 300

**QUESTION PAPER SPECIFIC INSTRUCTIONS**

**Please read each of the following instructions carefully  
before attempting questions**

There are EIGHT questions divided in TWO Sections.

Candidate has to attempt FIVE questions in all.

Question Nos. 1 and 5 are compulsory and out of the remaining, THREE are to be attempted choosing at least ONE question from each Section.

The number of marks carried by a question/part is indicated against it.

Wherever any assumptions are made for answering a question, they must be clearly indicated.

Diagrams/Figures, wherever required, shall be drawn in the space provided for answering the question itself.

Unless otherwise mentioned, symbols and notations carry their usual standard meanings.

Attempts of questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly.

Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

Answers must be written in ENGLISH only.

**Values of constants which may be required**

Electron charge	= $-1.6 \times 10^{-19}$ coulomb
Free space permeability	= $4\pi \times 10^{-7}$ henry/m
Free space permittivity	= $(1/36\pi) \times 10^{-9}$ farad/m
Velocity of light in free space	= $3 \times 10^8$ m/s
Boltzmann constant	= $1.38 \times 10^{-23}$ J/K
Planck constant	= $6.626 \times 10^{-34}$ J s