

# PHYSICS

## (Practical)

Time Allowed : 3 Hrs.

Max. Marks 25

- Note :
- (1) The candidates will tick mark (✓) two experiments from each section A and B. The Practical examiner will allot one experimental question from each Section A and B to the candidate out of marked questions.
  - (2) The candidate will tick mark (✓) three activity questions from each Section A and B. The examiner will allot two activity questions from each Section A and B.
  - (3) Section C is compulsory.
  - (4) Log tables will be supplied on demand.
  - (5) Any change from allotted experimental question will cost (two) 2 marks.
  - (6) Any change from allotted activity question will cost (one) 1 mark.

Note : The candidates are required to attempt either one experimental question (or) two activity questions from each Section A and B.

### Section-A

- Q1. To verify laws of combination (Series / parallel) of resistance using a metre bridge. 6
- Q2. To compare the e.m.f.'s of two given primary cells using potentiometer. 6
- Q3. To determine resistance per cm of a given wire by plotting a graph of potential difference versus current. 6
- Q4. To find the frequency of a.c. mains with Sonometer. 6
- Q5. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit. 6

### ACTIVITIES

- Q1. To assemble the components of given electrical circuit. 3
- Q2. To measure the resistance and impedance of an inductor with or without iron core. 3
- Q3. To study the variation in potential drop with length of a wire for a steady current. 3
- Q4. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source. 3

- Q5. To measure resistance, voltage (AC/DC), current and check the continuity of given circuit using multimeter. 3

### Section-B

- Q6. To find the focal length of convex mirror using convex lens. 6
- Q7. To find the value of V for different values of U in case of concave mirror and find the focal length. 6
- Q8. To determine the refractive index of a glass slab using a travelling microscope. 6
- Q9. To draw the I-V characteristic curve of a p-n junction in forward bias and reverse bias. 6
- Q10. To draw the characteristic curves of zener diode and to determine its reverse breakdown voltage. 6

### ACTIVITIES

- Q6. To observe polarization of light using two polaroids. 3
- Q7. To observe diffraction of light due to thin slit. 3
- Q8. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses. 3
- Q9. To study the effect of intensity of light (by varying distance of source) on L.D.R. 3
- Q10. To study the nature and size of the image of a candle formed by a concave mirror on screen. 3

### Section-C

- Q11. Practical record of experiments and activities (Note-Book) 5
- Q12. Investigatory Projects :
- (a) Records 2
  - (b) Viva - Voce 2
- Q13. Viva - Voce on experiments and activities. 2, 2