

Seat
No.

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AOI1312

Engineering Physics - I
(Old) (1010)

P. Pages : 2

Time : Two Hours

Max. Marks : 50

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Each question should be started on new page.
5. Figures to the right indicates full marks.
6. Use of non programmable electronic calculator is allowed.
7. Assume suitable data if necessary.

1. Solve any two.

- a) Describe the 'Diode as a unidirectional device. 5
- b) What is 'fermi - level' ? Locate the position of fermi - level in intrinsic and extrinsic semiconductor. 5
- c) A light emitting diode have a band gap of 1.9 eV. Calculate the wavelength of radiation emitted. 5

2. Solve any three.

- a) Classify the magnetic materials on the basis of coercive force / field. 5
- b) What is ferrite ? How it is prepared ? Mention only two applications of it. 5
- c) Explain in brief Normal & Anomalous Zeeman effect.
Draw the experimental arrangement to study the Zeeman effect. 5
- d) Enlist the names of four superconductors with their critical temp.
State the properties of superconductor. 5

3. Solve any one.

- a) An iron ring of cross sectional area 1cm^2 & mean circumference of $0.6 \times 10^2\text{cm}$ & has 400 turns of wire uniformly wound on it. When the current of $5 \times 10^{-2}\text{A}$ flows the flux in the ring is found to be $4 \times 10^{-6}\text{wb}$. Calculate :

