

Name:		Roll No.		Subject	Physics
Test Type	MCQs, Short & Long question	Class	12	Date	
Chapter	17 Intrinsic Semiconductor to End	Unit	17	Time	

Q. No. 1 Tick the best option

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- Magnetism lags behind the magnetizing current. This phenomenon is called:
(a) Saturation (b) Retentivity (c) Coercivity (d) Hysteresis
- A device used to detect very weak magnetic field produced by brain is named as:
(a) MRI (b) CAT scans (c) Squid (d) CRO
- To get n-type semiconductor material, the suitable element is doped in Germanium lattice will be:
(a) Phosphorus (b) Aluminum (c) Gallium (d) Arsenic
- The superconductor formed at 163K is:
(a) $\text{YBa}_2\text{Cu}_3\text{O}_7$ (b) $\text{YBa}_2\text{Cu}_2\text{O}_4$ (c) YBa_2CuO (d) $\text{YBa}_2\text{Cu}_7\text{O}_{11}$
- Minority carriers in p-type substances are:
(a) Holes (b) Electrons (c) Proton (d) Positron
- Powerful magnets are made up of:
(a) Alnico (b) Cobalt steel (c) Cobalt (d) Aluminum
- In the doping process, the ratio of the doping atoms to the semi-conductor atom is:
(a) 1 to 10^2 (b) 1 to 10^4 (c) 1 to 10^6 (d) 1 to 10^8
- The critical temperature of aluminum is:
(a) 1.18 K (b) 4.2K (c) 3.72 K (d) 7.2 K
- Which of the following belongs to acceptor impurity?
(a) Arsenic (b) Aluminum (c) Phosphorus (d) Antimony
- Ceramic materials exhibit superconductivity at.....
(a) 0 °C (b) 125 K (c) 60 K (d) 30 K
- Domains contains nearly atoms:
(a) $10^8 - 10^9$ (b) $10^8 - 10^{12}$ (c) $10^{12} - 10^{14}$ (d) $10^{12} - 10^{16}$
- Which of the following substance maximum retentivity:
(a) Copper (b) Zinc (c) Soft iron (d) Steel
- The temperature, where iron becomes paramagnetic is called:
(a) Critical temperature (b) Curie temperature (c) Neel's temperature (d) Room temperature
- On doping, the conductivity of the semiconductors:
(a) Increase (b) Decrease (c) Remains constant (d) First Increases then decrease
- The resistance of mercury becomes zero at:
(a) 4.2 K (b) Above 4.2 K (c) Below 4.2 K (d) 7.2 K
- Chromium dioxide is:
(a) Paramagnetic (b) Ferromagnetic (c) Diamagnetic (d) All of these
- Superconductor substances are:
(a) Ferromagnetic (b) Paramagnetic (c) Diamagnetic (d) Ferrimagnetic
- Which of the following has the least hysteresis loop area:
(a) Steel (b) Wrought iron (c) Soft iron (d) Cobalt
- Curie temperature for iron is:
(a) 0K (b) 570 K (c) 1023 K (d) 378 K
- Technological application of superconductor is:
(a) Microwave oven (b) Logic gates (c) Transistors (d) MRI
- A 1m long copper wire is subjected to stretching force and its length increases by 20 cm. The tensile strain is:
(a) 20 (b) 0.02 (c) 0.50 (d) 0.20
- Large area of hysteresis loop shows:
(a) Large wastage of energy (b) Small wastage of energy
(c) No wastage of energy (d) None of these

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Q. No. 2 Write the short answer of these following question

4 x 2 = 08

- 1) Distinguish between crystalline, amorphous and polymeric solids.
- 2) Write a short note on superconductors.
- 3) What is meant by Para, Dia and Ferromagnetic substances? Give example for each.
- 4) What is meant by hysteresis loss? How is it used in the construction of a transformer?

Q. No. 3 Long question

5 + 3 = 08

- (A) What are intrinsic and extrinsic semiconductors? How the p-type and n-type materials are formed?
- (B) A 1.25 cm diameter cylinder is subjected to a load of 2500 kg. Calculate the stress on the bar mega Pascals?

