

**Indian Institute of Information Technology
Design and manufacturing, Kancheepuram**

Question paper for the post of Junior Technician in Physics

(Level 3 practical test)

Answer all the questions. Duration: 2 hours. Marks: 40

1. What are the requirements to obtain an interference pattern?
2. Write the differences between interference and diffraction.
3. Define Young's modulus and Rigidity modulus with units.
4. Classify magnetic materials based on their magnetic moment/ spin.
5. What is Piezoelectric effect and write its applications.
6. Draw the hysteresis curve for a ferroelectric material and explain.
7. Define dielectric breakdown strength.
8. Mention different kinds of magnetic materials and write their differences.
9. Write different kinds of polarizations in dielectric materials.
10. Define radius of curvature of a plano convex lens and write its formula.
11. Write the differences between Prism spectra and grating spectra.
12. What is diffraction grating? Write different kinds of gratings and explain.
13. Write the principle of an optical fibre.
14. Draw the structure of an optical fibre and explain it.
15. What is a laser and write the special characteristics of a laser than conventional light source.

16. Write the main differences between spontaneous emission and stimulated emission.
17. What is polarisation and how do you get polarised light and write its application.
18. Define photovoltaic effect. How is the current produced from pn diode solar cell?
19. What is Garnet and write its applications.
20. How do you obtain magnetic susceptibility of a magnetic material experimentally?