SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY
DEEMED UNIVERSITY

Course: B.E./B.Tech. Semester: II
Title of the paper: Applied Physics - II Max. Mark: 80
Sub. Code: ET 203A (2002/2003/2004/2005) Time: 3 Hours

PART – A (10 x 2 = 20)
Answer ALL the Questions

1. Differentiate conductor and insulator.
2. State D.C. Josephson effect.
3. Define Fermi level.
4. What is LCD?
5. Define magnetic flux density.
6. Explain the terms retentivity and coercivity.
7. Write a note on laser printer.
8. Give the structure of optical fiber.
9. Find the miller indices of the plane that makes from some origin an intercept a on X-Axis, 2b on the Y-Axis and 3c on Z-Axis.
10. What is meant by dielectric loss and write an expression for dielectric power loss?

PART – B (5 x 12 = 60)
Answer ALL the Questions

11. (a) Explain the type I and type II super conductors.

    (b) Explain the important properties of superconductors.

(or)

12. State and derive Wiedemann-Franz law.

13. Explain the intrinsic and extrinsic semiconductor based on band theory.

(or)

14. Explain in detail about light emitting diode.

15. Write a note on floppy disks and CD-ROM

(or)

16. How are magnetic bubbles formed and propagated?

17. Explain the construction and working of CO_2 laser with energy level diagram.

(or)

18. (a) Explain the types of optical fibers.

    (b) Explain optical communication system with block diagram.

19. Calculate coordination number, atomic radius and packing density for a simple cubic, body centered cubic crystals.

(or)

20. Deduce the expression for Clausius-Mossotti relation.