Reg. No. : ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 42004

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Second Semester

Computer Science and Engineering

14UPH204- APPLIED PHYSICS

(Common to EEE, ECE, EIE, ICE and IT branches)

(Regulation 2014)

Duration: 1:45 hour   Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define mobility of electrons.

2. How n- type semiconductors are produced?

3. What are ferrites?

4. What are the factors that affects dielectric loss?

5. Why the metallic glasses are preferred as transformer cores?

6. What do you understand by the terms critical temperature and critical field of a superconductor?

7. Define dielectric constant.

8. Calculate the electronic polarizability of an isolated Se atom. The atomic radius of an atom is 0.12 nm.

9. List the applications of metallic glasses.

10. Write short note on carbon nano tubes.

11. Define the terms mean free path and mobility of charge carries.

12. Write quantum theory.

13. Compare elemental and compound semiconductors.

14. What are p-type and n-type semiconductors?

15. What is Bohr magnetron?

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16.   Derive an expression for density of energy states in a conducting material.   (10)

17.   What is Hall effect? Derive a Hall coefficient for P-type and N-type semiconductors

(10)

18.   Explain the hysteresis on the basis of domain theory.   (10)

19.   Describe the construction and working of liquid crystal displays. Mention its advantages and disadvantages.   (10)

20.   Explain how a nanomaterial is synthesized by chemical vapour deposition technique.
(10)

42004