M.Sc. DEGREE EXAMINATION,NOVEMBER 2019
II Year IV Semester
Material Science

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Define compressive strength of ceramic material.
2. What is the role of gypsum as an additive in cement?
3. What is meant by degree of polymerization?
4. Which additives are added to the polymers?
5. Define dielectric strength of material.
6. Give examples for pyroelectric materials.
7. Why is aluminium used for metallization?
8. Name the parameters which govern the thickness of the film in the oxidation process.
9. What are magnetic bubbles?
10. What are the properties of Al-Ni-Co alloys?
11. Define rubber.
12. What are the four types of energy involved in the growth of magnetic domains?

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. What is the role of matrix and reinforcement in composite materials?
14. Name two commonly used thermosetting polymers and their applications.
15. What are the differences between polar and non-polar molecules?
16. What is an epitaxial layer? Why is it used for?
17. Explain the classification of magnetic materials based on their magnetic moments?
18. What are the ways in which cellular structure is produced in plastics?
19. List out the properties of piezoelectric materials.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Discuss the tensile behaviour of continuous and discontinuous fibre composites briefly.
21. Compare liquid crystal polymer with common polymer.
22. Discuss the effect of frequency and temperature on polarization.
23. What are the steps involved in IC fabrication?
24. What are hard and soft magnets? Give their applications?

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