M.Sc DEGREE EXAMINATION,APRIL 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. Give the influence of structural features of ceramics on its conducting property.
2. What are composites? Give its striking feature.
3. Classify the polymers.
4. What are thermoplastics?
5. Define polarization and polarizability.
6. Distinguish between piezo-electric and pyro-electric materials.
7. Why do we want to purify the semiconductor materials to electronic grade?
8. State the principle of junction laser.
9. Classify the magnetic materials according to their susceptibility.
10. What are magnetic bubbles?
11. Define alloy. State the general significance of alloys.
12. Distinguish between dielectrics and insulators.

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

Answer any **FIVE** questions

13. Explain the Production of alumina.
14. Explain addition polymerization and step growth polymerization.
15. What are different types of polarizabilities? Discuss optical polarizability in detail.
16. Discuss about photolithography.
17. Distinguish between hard and soft magnetic materials with their properties and applications.
18. Write a brief note on zirconia alloy.
19. Explain a chemical method of purification of metallurgical silicon in to electronic grade silicon.

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

Answer any **THREE** questions

20. Explain the forming and post forming processes of ceramics.
21. Discuss in detail about the elastic behaviour, yield stress, craze formation and crack growth properties of polymers.
22. Discuss about the temperature and frequency effects on dielectrics.
23. Explain in detail single crystal growth by pulling method.
24. Discuss in detail the classification of magnetism.

M.Sc DEGREE EXAMINATION,APRIL 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. Give the influence of structural features of ceramics on its conducting property.
2. What are composites? Give its striking feature.
3. Classify the polymers.
4. What are thermoplastics?
5. Define polarization and polarizability.
6. Distinguish between piezo-electric and pyro-electric materials.
7. Why do we want to purify the semiconductor materials to electronic grade?
8. State the principle of junction laser.
9. Classify the magnetic materials according to their susceptibility.
10. What are magnetic bubbles?
11. Define alloy. State the general significance of alloys.
12. Distinguish between dielectrics and insulators.

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

Answer any **FIVE** questions

13. Explain the Production of alumina.
14. Explain addition polymerization and step growth polymerization.
15. What are different types of polarizabilities? Discuss optical polarizability in detail.
16. Discuss about photolithography.
17. Distinguish between hard and soft magnetic materials with their properties and applications.
18. Write a brief note on zirconia alloy.
19. Explain a chemical method of purification of metallurgical silicon in to electronic grade silicon.

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

Answer any **THREE** questions

20. Explain the forming and post forming processes of ceramics.
21. Discuss in detail about the elastic behaviour, yield stress, craze formation and crack growth properties of polymers.
22. Discuss about the temperature and frequency effects on dielectrics.
23. Explain in detail single crystal growth by pulling method.
24. Discuss in detail the classification of magnetism.