

TDMSI Engineering Materials and Metallurgy

362

REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains TWO Pages

PART-A (1x10=10)

1. What is unit cell?
2. What is deformation by slip?
3. Define: solid solution.
4. What is Heat treatment?
5. Define: Hardening.
6. Define: Machinability.
7. Write the Mechanical properties of steel.
8. Write any two applications of HSS.
9. What is micro structure?
10. Explain the Powder coating.

PART-B (3x5=15)

UNIT-I

11. Explain the Body Centered Cubic.
12. Write the Plastic deformation.

UNIT-II

13. Explain the Eutectic system.
14. Explain the importance of T.T.T diagram.

UNIT-III

15. Explain the Martempering.
16. Write the forms of corrosion.

UNIT-IV

17. Write the classification of steel
18. Write the properties of Zinc.

UNIT-V

19. Write the short notes on micro and macro examination.
20. Explain the alkaline cleaning.

362

PART-C (10x5=50)

UNIT-I

21. Explain the material structure with neat sketch.
22. Write the Elastic deformation and elastic after effect with neat sketch.

UNIT-II

23. Explain the iron carbon equilibrium diagram with neat sketch.
24. Briefly explain the T.T.T diagram for Eutectoid steel.

UNIT-III

25. Explain the various tempering process.
26. Explain the Magnetic properties of materials with neat sketch.

UNIT-IV

27. Explain the properties and applications of spheroidal graphite cast iron and malleable cast iron.
28. Explain the properties and applications of aluminium its alloys.

UNIT-V

29. Explain the mechanical cleaning and finishing of surface treatment.
30. Explain the non magnetic methods of crack detection.
