MATERIAL SCIENCE IN ENGINEERING

UNIT-2

1. Explain different types of mechanical properties of materials.
2. Explain stress and strain.
3. Draw stress-strain curve for ductile and brittle materials.
4. What is fatigue?
5. How you can measure the fatigue strength or Endurance strength of the material?
6. What is hardness of materials?
7. How you can measure the hardness of the material by Brinell hardness testing method?
8. How you can measure the hardness of the material by Rockwell hardness testing method?
9. How you can measure the impact strength of the material by izod impact test method?
10. How you can measure the impact strength of the material by charpy impact test method?
11. What is creep?
12. Describe the creep testing of material.
13. Write the mechanism of Creep failure.
14. Describe about different types of Non-destructive testing (NDT) methods.
15. Draw a neat sketch of a optical microscope and labeling its different parts.
16. Explain the working of an optical microscope.
17. How you can prepare the sample for microstructure examination?
18. Describe the methods for grain size determination.
19. Describe unary and binary phase diagram.
20. What is solid solution? Describe eutectic type solid solution.
21. Explain with neat sketch Iron-carbon equilibrium diagram. What is its utility?
22. Explain different types of microstructure of mild steel in the basis of micro structure.
23. Explain different types of microstructure of cast iron in the basis of micro structure.
24. Explain Gib's phase rule.
25. Explain lever rule.