

1. What indenter is used for Brinell test?
 - a) Hardened steel ball
 - b) Diamond ball
 - c) Diamond prism
 - d) Steel Prism

2. What test force is applied for nonferrous materials in Brinell test?
 - a) 50 kgf
 - b) 500 kgf
 - c) 1000 kgf
 - d) 3000 kgf

2. What test force is applied for steels and cast irons in Brinell test?
 - a) 500 kgf
 - b) 1000 kgf
 - c) 2000 kgf
 - d) 3000 kgf

3. What is the most important source of error in the Brinell test?
 - a) Surface roughness
 - b) Indentation measurement
 - c) Coarse structure
 - d) Indenter error

4. What is the ball diameter taken for indenter of 500 kgf load in Brinell test?
 - a) 50 mm
 - b) 1 mm
 - c) 5 mm
 - d) 10 mm

5. For Brinell hardness test _____ is kept constant.
 - a) P
 - b) P/D
 - c) P*D
 - d) P/D^2

7. For very hard metals _____ ball is used in Brinell test.
 - a) Hardened steel
 - b) Alloyed steel
 - c) Tungsten carbide
 - d) Diamond

8. Which machine records the change in length of specimen?

- a) Impact testing machine
- b) Universal testing machine
- c) Rockwell tester
- d) Brinell tester

9. The property of a material that resists penetration or indentation by means of abrasion or scratching is known as

- a. Strength
- b. Hardness
- c. Toughness
- d. Brittleness

10. During hardness test the indenter is usually a

- a. Ball
- b. Pyramid
- c. Cone
- d. All of the above

11. In C-scale of Rockwell hardness testing, the shape of indenter used is

- a. Diamond cone
- b. Steel ball
- c. Steel prism
- d. Any of the above

12. The impact test is done to test ____ of a material

- a. Strength
- b. Ductility
- c. Toughness
- d. Hardness

13. In Izod test, the specimen is kept as

- a. Simply supported beam
- b. Cantilever beam
- c. Overhanging beam
- d. Fixed ended beam

14. State Griffith's Theory of Brittle Fracture?

15. Do only brittle materials undergo fracture? Why?

16. What do you mean by cohesive strength of a material?

- 17. Differentiate between Ductile and Brittle fracture?**
- 18. Define scratch hardness of a Material?**
- 19. Write the advantages of Tukon tester over Rockwell hardness Tester?**
- 20. What does the stress-strain curve indicate?**
- 21. Differentiate between Tension and Tortion?**
- 22. Differentiate between Elastic and Plastic Limit?**
- 23. Knoop Indenter is used in _____?**
- 24. Define Yield Point?**
- 25. Separation of a material into two or more pieces under stress is called _____?**
- 26. How is fatigue different from Creep?**
- 27. what are the various factors affecting creep?**
- 28. The phenomenon of propagation of Crack and Fracture on a Metal surface is same or different? Give Reasons..?**
- 29. Discuss the need for performing NDT?**
- 30. How is deformation related to fracture toughness?**
- 31. Failure due to excessive deformation is controlled by**
 - a. Material properties**
 - b. Design & Dimensions**
 - c. Both**
 - d. None**

32. Time dependent yield is known as

- a. Fracture**
- b. Fatigue**
- c. Buckling**
- d. Creep**

33. Failure due to excessive deformation is controlled by

- a. Yield strength**
- b. Tensile strength**
- c. Young's Modulus**
- d. All**

34. Cleavage fracture appears

- a. Bright**
- b. Dull**
- c. Difficult to Identify**
- d. None**

35. Brittle fracture is more dangerous than ductile fracture because

- a. No warning signs**
- b. Crack propagates at very high speeds**
- c. No need for extra stress during crack propagation**
- d. All**

36. Fracture voids usually form at

- a. Inclusions**

b.Second phase particles

c.Grain boundary triple points

d.All

37.Fracture toughness is measured in terms of

a.Strain energy release rate

b.Stress concentration factor

c.Both

d.None

38.Fracture Toughness decreases with

a.increasing temperature

b.increasing strain rate

c.increase in yield strength

d.increase in grain size

39.Creep rate in tertiary stage

a.Decreases

b.Constant

c.Increases

d.None

40.Most often machine components fail by

a.Buckling

b.Creep

c.Fatigue

d.All

41.How does the charpy impact testing machine differs from the izod machine?

42.Write the formula to calculate the B.H.N?

43.UTM is used to measure _____?

44.What are the various metallurgical factors that influence creep?

45._____ is used to denote the strength of a metal at temperature much above the room temp.

46.Define Residual Stress?

47.What do you mean by Dislocation pile up?

48.Dislocations move under the conditions of an external load.

True/False..?

49.What are the various factors due to which dislocation movement is obstructed?

50.Name any two point defects?

51.Define Cohesive Strength?

52.Differentiate between Hot working & Cold working?

53.What is the relation between Hardness & Strength?

54.Write the limitations of Rebound Hardness?

55._____ consist of ten minerals arranged in increasing order of their Hardness.

56.Name the oldest Hardness testing methods?

57._____ consist of an anvil, which is changed depending upon the shape of the specimen under Test.

58._____is used to determine the hardness of extremely thin materials.

59.Write any two limitations of Rockwell hardness Tester?

60.Define Mayer's Hardness?