

Questions for self assessment

1. What are stages of inspection in welding and what should be looked into at each stage?
2. How destructive testing is different from non-destructive testing methods?
3. What are methods of hardness testing? Describe methodology of Brinell, Rockwell, Vickers and Knoop hardness testing.
4. What information can be obtained from tensile test?
5. Describe method of tensile testing of weld joints. Draw schematic diagram of engineering stress and stress curve and show yield point, ultimate point, fracture point and modulus of elasticity.
6. What information must be provided with results of tensile test?
7. Define toughness and how can it be used in engineering design?
8. Name various methods of toughness testing along with basic principles of the same.
9. Distinguish the Charpy and Izod toughness testing methods?
10. What information related with test must be provided with results of toughness test?
11. What is fatigue and how can fatigue strength of ferrous and non-ferrous metals be obtained?
12. What is significance of following terms in fatigue test: stress amplitude, stress ratio, loading pattern, loading frequency?
13. Describe step by step procedure of fatigue testing.
14. How do we express fatigue test results? What information must be provided with results of fatigue test?
15. What is fracture toughness and how can it be obtained for a material.
16. What are parameters commonly used for measuring fracture toughness of hard and brittle material, high strength low ductility material, low strength and ductile metals?