CHAPTER-7 Strength of Materials-SOM

1. Mechanical Properties of Material

1. The strain energy in a body due to external loading, within the elastic limit, is known as
(a) Malleability
(b) Ductility
(c) Toughness
(d) Resilience [SSC – JE :2007]

2. Proof resilience in a member is stored strain energy:
(a) Per unit volume
(b) In whole volume
(c) Per unit area
(d) Per unit length [SSC – JE :2008]

3. Resilience of a material is considered when is subjected to:
(a) Frequent heat transfer
(b) Fatigue
(c) Creep
(d) Shock loading [SSC – JE: 2010]

4. The ability of a tool material to resist shock or impact forces in known as:
(a) Wear resistance
(b) Toughness
(c) Red hardness
(d) Machinability [SSC – JE 2014]

5. True stress represent the ratio of _____.
(a) Average load and average area
(b) Average load and maximum area
(c) Maximum load and maximum area
(d) Instantaneous load and instantaneous area [SSE – JE(forenoon) 2017]

6. For steel, the ultimate strength in shear as compared to ultimate strength in tension is__.
(a) Same
(b) 1/2
(c) 1/3
(d) 2/3
[SSE – JE(forenoon) 2017]

7. The property of a material by virtue of which a body returns to its original shape after removal of the load is called_____.
(a) Plasticity
(b) Elasticity
(c) Ductility
(d) Malleability
[SSE – JE(forenoon) 2017]

8. The ultimate strength of steel in tension in comparison to shear is in the ratio of :
(a) 1 : 1
(b) 2 : 1
(c) 3 : 2
(d) 2 : 3
[SSE – JE(afternoon) 2017]

9. The material which exhibit the same elastic properties in all directions are called?
(a) Homogonous
(b) Inelastic
(c) Isotropic
(d) Isentropic
[SSE – JE(forenoon) 2017]

10. Resilience of a bolt may be increased by
(a) Increasing its length
(b) Increasing its shank diameter
(c) Increasing diameter of threaded portion
(d) Increasing head size
[SSE – JE(afternoon) 2017]

11. The materials having same elastic properties in all direction are called
(a) Ideal material
(b) Uniform material
(c) Isotropic material
(d) Practical material
[SSE – JE(afternoon) 2017]

12. The ultimate tensile stress of mild steel comported to ultimate compressive stress is
(a) Same
(b) More
(c) Less
(d) More or less depending on the other factors
[SSE – JE(afternoon) 2017]