Lesson 1 Self-Check Questions

1. Workability of a metal
a. is same as its formability
b. refers to the deformation in which forces applied to the metal are mainly compressive
c. refers to the deformation in which forces applied to the metal are mainly tensile
d. refers to the deformation in which forces applied to the metal are mainly shear

2. Stresses experienced by the material during metal working process are
a. greater than the yield strength but less than the fracture strength of the material
b. greater than the tensile strength but less than the compressive strength of the material
c. greater than the compressive strength but less than the tensile strength of the material
d. greater than the tensile strength but less than the shear strength of the material

3. In metal working process
a. there is no change in the material strength
b. the material strength improves by strain hardening
c. the material strength deteriorates by strain hardening
d. the material strength deteriorates by atom dislocation

4. As a metal is deformed into desired shape, it experiences
a. only tensile stresses
b. only tensile or compressive stresses
c. only tensile, compressive or shear stresses
d. various combinations of tensile, compressive, and shear stresses

5. The orientation of the atoms in a grain
a. is uniform but differs in adjacent grains
b. is uniform and the pattern of orientation remains same throughout the material
c. is non-uniform and this variation is uniform in all grains of a material
d. is non-uniform and the orientation differs from one grain to another

6. The amount of deformation that a metal can undergo at room temperature depends on its
a. Tensile strength
b. Compressive strength
c. Hardness
d. Ductility

7. The amount of deformation that metal can undergo
a. is more when it is in pure state than when it is alloyed with other elements
b. is less when it is in pure state than when it is alloyed with other elements
c. is not affected whether it is in pure state or it is alloyed with other elements
d. depends upon the alloying elements in it as alloying decreases the tendency and rapidity of strain hardening

8. When a metal is deformed in cold state, severe stresses are set up in it. These stresses are called
a. residual stresses
b. recrystalline stresses
c. biaxial and triaxial stresses
d. microscopic stresses

9. Cold working is the name given to the process of plastic deformation of metals performed generally at
a. zero degree centigrade
b. zero degree Kelvin
c. below the recrystallization temperature of metal
d. above the recrystallization temperature of metal

10. Directional properties can be imparted to the metal in
a. Cold working
b. Hot working
c. Warm working
d. Both hot and cold working but not in warm working

11. Probability of residual stresses being present in the component is more when it is manufactured by
a. Cold working
b. Hot working
c. Warm working
d. Both hot and cold working but not in warm working

12. Hot working is the name given to the process of plastic deformation of metal carried out at a temperature
a. hundred degree centigrade
b. hundred degree Kelvin
c. above the recrystallization temperature of metal
d. below the recrystallization temperature of metal

13. Recrystallization temperature of a metal is the one at which
a. its atoms reach a certain higher energy level and the new crystals start forming
b. its crystals start recirculating around the atoms
c. its crystals reunite to become bigger in size
d. its crystals cease to reunite

14. In warm working of metals, the metal deformation is carried out at temperatures
a. above the recrystallization temperature
b. above the recrystallization temperature but below the crystallization temperature
c. below the recrystallization temperature but above the room temperature
d. below the recrystallization temperature but above the crystallization temperature

15. In which metal working process the surface finish of material becomes poor due to scale formation?

a. Cold working
b. Warm working
c. Lukewarm working
d. Hot working

POSSIBLE ANSWERS TO SELF CHECK QUESTIONS

1.	b	2.	a	3.	b
4.	d	5.	a	6.	d
7.	a	8.	a	9.	c
10.	a	11.	a	12.	c
13.	a	14.	c	15.	d