

15 Multiple choice questions

1. a measure of the quantity of mass per unit volume
 - a. ductility
 - b. cementite
 - c. crystal
 - d. density

2. like crystalline solids, materials that are usually characterised by certain areas of short-range order; a long-range order, as in crystals does not exist in such substances
 - a. hardness
 - b. amorphous
 - c. brass
 - d. ferrous

3. represents a class of material whose properties derive from the combination of two or more materials that are bonded together such that each of the constituent materials contributes to an improvement in mechanical, physical, chemical or electrical properties
 - a. concrete
 - b. cementite
 - c. composites
 - d. density

4. a mixture of aggregate embedded in a cement binding matrix composed of sand, water and cement
 - a. composites
 - b. bronze
 - c. concrete
 - d. density

5. the ability of a material to undergo plastic deformation by extrusion or the application of tensile forces
 - a. austenite
 - b. cementite
 - c. ductility
 - d. density

6. the name given to iron carbide with the general formula Fe₃C
 - a. austenite
 - b. density
 - c. cementite
 - d. composites

7. a point of support and turning about which lever arms pivot
 - a. ferrous
 - b. fulcrum
 - c. concrete
 - d. density

8. a term generally applied to an alloy of copper and up to 10% tin
 - a. brass
 - b. ceramic
 - c. ferrous
 - d. bronze

9. the resistance of a material to scratching or abrasion; this may also refer to resistance to indentation, penetration or cutting
 - a. hardness
 - b. brass
 - c. bronze
 - d. ferrous

10. an alloy of copper and up to 43% zinc
 - a. bronze
 - b. crystal
 - c. brass
 - d. ceramic

11. an electrostatic attractive force within and between atoms that allows the formation of materials containing two or more atoms
 - a. composites
 - b. austenite
 - c. cementite
 - d. atomic bonding

12. a multi-phase material containing phase composed of compounds of metals and non-metals; they are typically hard and good insulators
 - a. ceramic
 - b. density
 - c. ferrous
 - d. brass

13. the face centred cubic (FCC) phase of iron containing some dissolved carbon
 - a. cementite
 - b. density
 - c. ductility
 - d. austenite

14. metals based on the metallic element iron (Fe); the two most common of these are steel and cast iron, distinguished primarily by the percentage of carbon present
 - a. fulcrum
 - b. ceramic
 - c. brass
 - d. ferrous

15. a material whose atoms or molecules are arranged in a predictable or ordered pattern based around all three-dimensional axes
 - a. crystal
 - b. brass
 - c. bronze
 - d. density