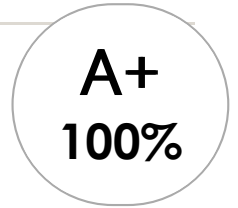


## 23 Multiple choice questions



1. a generic term for glass that has been processed in order to resist shattering
  - a. **CORRECT: safety glass**
  - b. laminated glass
  - c. tempered glass
  - d. pearlite
  
2. a phase of carbon steel and cast iron consisting of ferrite and cementite formed into distinct layers on slow cooling from austenite
  - a. work
  - b. **CORRECT: pearlite**
  - c. reactance
  - d. tempering
  
3. involves the use of a variety of rates of cooling to cause a steel to harden; this is done in water, brine and oil
  - a. **CORRECT: quenching**
  - b. tempering
  - c. pearlite
  - d. reactance
  
4. a sandwich of two panes of glass with a polymer interlayer of polyvinyl butyral (PVB), joined under heat and pressure in a furnace called an autoclave
  - a. safety glass
  - b. insulator
  - c. **CORRECT: laminated glass**
  - d. tempered glass
  
5. a heat treatment process for ferrous alloys involving heating the material above the upper critical temperature, then cooling in still air, the object being to enhance toughness by refining grain size
  - a. tempering
  - b. **CORRECT: normalising**
  - c. spheroidising
  - d. rectifier

6. heat-treatment in which pearlite lamellae are broken down to form spheroids
  - a. tempering
  - b. quenching
  - c. normalising
  - d. **CORRECT: spheroidising**
  
7. any device which automatically provides protection for the occupants of a vehicle, such as the bumpers, seat belts, air bags etc.
  - a. phase diagram
  - b. pearlite
  - c. **CORRECT: passive safety**
  - d. transistor
  
8. containing no or minimal iron
  - a. power
  - b. transformer
  - c. momentum
  - d. **CORRECT: non-ferrous**
  
9. a substance whose electrical conductivity is intermediate between that of a metal and an insulator and whose conductivity increases with temperature and in the presence of impurities
  - a. microprocessor
  - b. transistor
  - c. insulator
  - d. **CORRECT: semiconductor**
  
10. reheating of a quenched steel to a sub-critical temperature in order to improve ductility and toughness
  - a. power
  - b. tempered glass
  - c. quenching
  - d. **CORRECT: tempering**

11. a measure of the work done within a specified time or a measure of the rate at which work is being done, expressed in watts (W) or kilowatts (kW)
  - a. work
  - b. momentum
  - c. **CORRECT: power**
  - d. pearlite
  
12. the property of a device which opposes the flow of an electric current, measured in ohms
  - a. reactance
  - b. **CORRECT: resistance**
  - c. rectifier
  - d. transistor
  
13. a programmable computer processor manufactured on a single 'chip', or in some cases, multiple chips
  - a. semiconductor
  - b. power
  - c. transistor
  - d. **CORRECT: microprocessor**
  
14. an instrument containing diodes that allows the conversion of AC current to DC
  - a. power
  - b. reactance
  - c. **CORRECT: rectifier**
  - d. transistor
  
15. an electrical device, which by electromagnetic induction allows the voltage of an alternating current to be stepped up or down
  - a. transistor
  - b. rectifier
  - c. insulator
  - d. **CORRECT: transformer**

16. a semiconductor wafer on which electrical components such as resistors, transistors, capacitors have been manufactured; also known as a chip or microchip
- insulator
  - CORRECT: integrated circuit**
  - tempered glass
  - laminated glass
17. a measure of the energy expended by a force in moving an object a certain distance
- power
  - momentum
  - CORRECT: work**
  - pearlite
18. a material of such low conductivity that the flow of current through it is usually negligible
- pearlite
  - transistor
  - reactance
  - CORRECT: insulator**
19. glass heat-treated to create a compressive surface layer by controlled cooling of the surface
- tempering
  - laminated glass
  - CORRECT: tempered glass**
  - safety glass
20. a semiconductor device with three connections, capable of amplification in addition to being used to switch electronic signals on and off
- resistance
  - CORRECT: transistor**
  - insulator
  - transformer

21. that part of the impedance of an alternating current (AC) circuit that is due to the inductance and capacitance
- CORRECT: reactance**
  - rectifier
  - pearlite
  - resistance
22. a diagram in which the existence and coexistence of various phases are identified by regions and lines
- pearlite
  - CORRECT: phase diagram**
  - power
  - spheroidising
23. a measure of the motion of a body equal to the product of its mass and velocity
- tempering
  - CORRECT: momentum**
  - work
  - power