

Metallurgical Engineering

1. Which of the following heat treatment creates a case hardened surface?
 - a. Flame hardening
 - b. Carburizing
 - c. Nitriding
 - d. Cyaniding

2. The breaking stress of a particular steel is 1.5 GPa. What force will be needed to break a piece of wire of diameter 1 mm?
 - a. 1178 N
 - b. 1195 N
 - c. 1170 N
 - d. 1180 N

3. Which of the following elements in steel can enhance the machinability by increasing sulphur content?
 - a. Aluminium
 - b. Manganese
 - c. Copper
 - d. Calcium

4. Flaws in conductive material can be detected by _____.
 - a. Radiography
 - b. Holography
 - c. Eddy current testing
 - d. Ultrasonic testing

5. Which of the following methods is used to determine the atomic and/or magnetic structure of a material?
 - a. Scanning electron microscopy
 - b. Transmission electron microscopy
 - c. X-ray diffraction

- d. Optical microscopy
- e. Neutron diffraction

6. Which of the following mills is not used for fine grinding of ores?

- a. Ball mill
- b. Turbo mill
- c. Vibrating mill
- d. Hammer mill

7. Which of the following laws states that the vapor pressure of an ideal solution is proportional to the mole fraction of solvent?

- a. Henry's law
- b. Sievert's law
- c. Raoult's law
- d. Gibbs-Duhem equation

8. Why are low alloy steels welded using nickel alloys as filler metals?

- a. For controlling hot cracking
- b. For controlling cold cracking
- c. For controlling porosity
- d. For controlling distortion

9. Which of the following metal working processes is not a hot working process?

- a. Rolling
- b. Forging
- c. Extrusion
- d. Wire drawing