

## Sample Questions

### Metallurgical Engineering

- Which of the following heat treatment creates a case hardened surface?
  - Flame hardening
  - Carburizing
  - Nitriding
  - Cyaniding
- 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?
  - 1178 N
  - 1195 N
  - 1170 N
  - 1180 N
- Which of the following elements in steel can enhance the machinability by increasing sulphur content?
  - Aluminium
  - Manganese
  - Copper
  - Calcium
- Flaws in conductive material can be detected by \_\_\_\_\_.
  - Radiography
  - Holography
  - Eddy current testing
  - Ultrasonic testing

5. Flaws in conductive material can be detected by \_\_\_\_\_.
- e. Radiography
  - f. Holography
  - g. Eddy current testing
  - h. Ultrasonic testing
6. 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
7. 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
8. 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

9. 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
10. Which of the following metal working processes is not a hot working process?
- a. Rolling
  - b. Forging
  - c. Extrusion
  - d. Wire drawing

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