Assignment 1

The due date for submitting this assignment has passed.

Due on 2021-02-03, 23:59 IST.

1) Which of the following DC welding techniques is used with non-consumable electrodes to obtain deep penetration?
   a. Direct Current Electrode Positive (DCEP)
   b. Direct Current Reverse Polarity (DCRP)
   c. Direct Current Straight Polarity (DCSP)
   d. Alternating current welding
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - DCEP
   - DCRP
   - DCSP
   2 points

2) In an electromagnetic pulse welding process, the force generated between two concentric cylinders, while carrying 300 amperes of current with a separation gap of 0.1 mm between them is 10^7 N (Henry per meter):
   a. 5.08 kN/m
   b. 6.05 kN/m
   c. 6.06 kN/m
   d. 6.08 kN/m
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - 6.08 kN/m
   2 points

3) Which of the following processes parameter is not responsible for joining materials using Ultrasonic welding?
   a. Frequency
   b.Demanding force
   c. (Ultrasonic) power
   d. Explosive force
   a. (and b)
   b. (and c)
   c. (and d)
   d. (a) and (b)
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - (a) and (b)
   2 points

4) Calculate the heat required to raise the temperature of 1 kilogram of Aluminium maintained at 25°C to its melting point if the material density is 2.7 g/cc, specific heat capacity is 907 Jg⁻¹°C⁻¹, and the melting point of the material is 660°C. (Note: ignore latent heat).
   a. 744 J
   b. 746 J
   c. 748 J
   d. 750 J
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - 746 J
   2 points

5) Arrange the following in the increasing order of their scale of applicability:
   a. Electromagnetic-Brazing-Alloys-Continuous
   b. Electron beam-Microstructure-Continuous-Alloys
   c. Electronic beam-Continuous-Alloys-Microstructure
   d. Electron beam-Microstructure-Continuous-Alloys
   a. No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Electron beam-Microstructure-Continuous-Alloys
   2 points

6) Which of the following welding processes observes an acidotic heat tree?
   a. Pressurized stick welding
   b. Gas tungsten arc welding
   c. Plasma arc welding
   d. Explosive welding
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Explosive welding
   2 points

7) Which of the following is not a phase of the FSW technique?
   a. Plugging
   b. Initial dwell
   c. Frequency
   d. Final dwell
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Frequency
   2 points

8) Which of the following statements is correct regarding the measurement of toughness?
   a. Energy absorbed before fracture
   b. Amount of energy when deformation elastically and elastically unload
   c. Change in dimensions per unit uniaxial tension
   d. Applied force per unit area
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Energy absorbed before fracture
   2 points

9) Match the following:
   a. Oven size
   b. X-ray diffraction
   c. Inspection method
   d. Metallurgical
   e. Line intercept method
   i. 95-99 mg
   j. 95-99 kg
   k. 95-99 m
   l. 95-99 kg
   No, the answer is incorrect. Score: 0
   Accepted Answers:
   - Oven size
   2 points

10) Which of the following is not a mechanical property of a material?
    a. Elasticity
    b. Creep
    c. Thermosation
    d. Fatigue
    No, the answer is incorrect. Score: 0
    Accepted Answers:
    - Thermosation
    2 points