Assignment 6

The assessment for this assignment has passed.
Due on 2019-09-11, 22:00 IST.

1. Which one is the most influencing design factor due to which another external force is exerted?
   - Electromagnetic force
   - Surface tension force
   - Vapour at joint
   - Gravity force
   7 points

2. Why is need for inserting non-conducting materials in the metal rods?
   - No need for inserting
   - Surface tension force
   - Non-conducting materials
   - High off these
   8 points

3. Analytical solution to magnetically field generated by temperature gradient
   - No, the power is inserted
   - Magnetic field
   - Temperature gradient
   - No, the power is not inserted
   9 points

4. In welding, the arc column temperature is...
   - Plasma arc temperature
   - Cold arc temperature
   - No, the power is not inserted
   - No, the power is inserted
   10 points

5. For which one of the following welding processes is NOT a permanent joint?
   - TIG welding
   - Cold arc welding
   - Tungsten inert gas welding
   - No, the power is not inserted
   11 points

6. In which of the welding processes, the electrolyte formation does NOT occur?
   - Tungsten inert gas welding
   - Tungsten inert gas welding
   - Tungsten inert gas welding
   - No, the power is not inserted
   12 points

7. If the diameter of laser is 2 cm, best length of orientation is 20 cm, and final length of focusing optics is 35 cm, the final spot size...
   - 0.05
   - 0.15
   - 0.75
   - 0
   2 points

8. No, the power is not inserted.

9. If the NETGing heat if pulse frequency is 2kHz and average power is 1 kW, find the peak power to the pulse duration in 5  μs...
   - 300 W
   - 500 W
   - 750 W
   - No, the power is not inserted
   2 points

10. Determine the depth of penetration in a welding where the density of material is 2.1 g/m³, diameter of electrode 1.2 mm, feed rate of 2 mm/s, and 100% power of 0.7 mm/s.
    - 2.5 mm
    - 2.75 mm
    - 3.0 mm
    - No, the power is inserted
    3 points

11. No, the power is inserted.

12. In an arc welding process, the arc voltage is 20 V, arc current is 130 A and the arc is at 85% of the time, it is...
    - The net heat input if 100% is estimated as
    - No, the power is not inserted.
    2 points

13. No, the power is inserted.

14. In the welding process, the arc voltage is 2-3 V and overall contact resistance between lead joint shear is 2-10 Ω. The amount of heat generated per unit area (W/cm²) is...
    - 0.09
    - 0.69
    - 0.89
    - 0.49
    2 points

15. No, the power is inserted.

16. The final answer.
    - 30
    - 32
    - 34
    - No, the power is not inserted.
    3 points

17. No, the power is inserted.

18. The final answer.
    - 0.08
    - 0.68
    - 0.48
    - No, the power is not inserted.
    2 points

19. No, the power is inserted.

20. The final answer.
    - 0.09
    - 0.69
    - 0.89
    - 0.49
    3 points