

B.E. (Met.) Part- IV, 7 th Semester Final Examination, 2012

JOINING OF MATERIALS (MT - 703)

Time : 3 hours

Full Marks :70

Answer any FIVE Questions.

1. Define the term Weldability. Discuss in general, the factors affecting Weldability.
Explain the Weldability of Stainless steels. (14)
2. State and explain the possible Defects in a Weldment. Suggest the suitable remedies to prevent Distortion in a Weldment. (14)
3. State the Factors for Selection of right kind of Electrode for a particular welded joint.
State and explain the Functions of Flux Coating Ingredients.
State the Factors for the Selection of right kind of Shielding Gases in MIG Welding. (4 + 6 + 4 = 14)
4. Explain the Principle of Operation of PLASMA ARC WELDING and discuss about its Advantages, Disadvantages and Applications.
How Key Hole Type of Joint is obtained in PLASMA ARC WELDING? (9 + 5 = 14)
5. Explain with diagram the formation of different zones in oxy-acetylene reducing flame.
Describe the various types of flames that can be produced in oxy-acetylene flame welding with temperature, advantages, disadvantages and applications. (5 + 9 = 14)
6. Draw and explain the Micro Structural Changes in a weldment of plain carbon steel.
Define 'Arc Blow' and explain its mechanism.
Enlist the causes and remedies of Arc Blow. (5 + 5 + 4 = 14)
7. Explain the problems encountered in Under Water Welding. What are the characteristics of a good Under Water Welding? Explain different types of Under Water Welding. (4 + 3 + 7 = 14)
8. Explain with diagram the working principle of SAW and discuss its merits, demerits and applications.
How Arc Length is maintained constant in automatic / semi-automatic MIG welding sets. (8 + 6 = 14)
9. Explain Classification and Coding of Welding Electrodes.
Discuss with example the Specification of Electrodes in Indian System (IS). (14)