Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech (ME) (2017 Batch) (Sem.–2,3)

ADVANCED WELDING TECHNOLOGY

Subject Code : MTME-205

Paper ID : [74981]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. Describe the phase transformation during cooling of weld metal in carbon and low alloy steel.

2. Discuss heat affected zone and explain the recrystallization and grain growth of heat affected zone.

3. State and explain the arc initiation during arc welding. Give schematic diagram of arc welding on a large plate showing direction of welding inclination of angle of electrode and position of spark in support of your answer.

4. What is meant by metal transfer? Discuss different forces during metal transfer. Also specify the favourable conditions to the different types of modes of metal transfer.

5. Discuss the basic characteristics of power sources for various arc welding processes.

6. State the basic theory and explain the mechanism of solid state welding with examples.

7. Explain the process of Electron beam welding with the help of a neat sketch.

8. Write notes on :

   a) Hybrid welding.

   b) Safety and hazards in welding.