

M.TECH. (SEM-II)
CARRY OVER EXAMINATION 2016-17
ADVANCE WELDING TECHNOLOGY

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

1. **Attempt any Two parts of the following:** **2 × 10 = 20**
 - (a) Write the working principle of Laser beam welding with suitable diagram.
 - (b) Write short note on residual stresses and its measurement.
 - (c) How to manufacture longitudinal welded pipes by induction.

2. **Attempt any Two parts of the following:** **2 × 10 = 20**
 - (a) Write the working principle of Plasma arc welding with suitable diagram.
 - (b) What are the effects of alloying element on weld ability? Write short note on HAZ.
 - (c) What are the metallurgical aspects of joining, discuss in detail?

3. **Attempt any Two parts of the following:** **2 × 10 = 20**
 - (a) Write the working principle of Electron beam welding with suitable diagram.
 - (b) What are the different types of design aspects of welding discuss in detail.
 - (c) What are the different types of Welding Robots, discuss any one type in detail.

4. **Attempt any Two parts of the following:** **2 × 10 = 20**
 - (a) Write short note on Microelectronic welding.
 - (b) Write the working principle of Ultrasonic welding with suitable diagram.
 - (c) Write short note on Mechanization of I beams.

5. **Attempt any Two parts of the following:** **2 × 10 = 20**
 - (a) What is Explosive welding? Write its working principle.
 - (b) What are the applications of robot in car body welding? What is the tolerance for robot welding?
 - (c) What are the different methods of testing of welds, discuss any one methods of non destructive type in welding testing?