

17621

21819

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. Attempt any FIVE :

5 × 4 = 20

- (a) Explain Gas Tungsten (TIG) Arc welding.
- (b) Give two applications of each
  - (i) Plasma arc welding
  - (ii) Ultrasonic welding
- (c) State any four applications of resistance welding.
- (d) What are function of shielding gases used in MIG welding ?
- (e) Enlist advantages of submerged arc welding (any four)
- (f) Enlist various codes used in the fabricational pipe line.
- (g) Explain electroslog welding.

2. Attempt any TWO :

2 × 8 = 16

- (a) List and explain the various types of shielding gases used in TIG.
- (b) What is the flux cored arc welding ? How it is different from submerged metal arc welding ?
- (c) Explain the preparation of welding using standard specifications for pipe line welding - API 1104 and BS 4515-1.

- 3. Attempt any TWO :** **2 × 8 = 16**
- (a) Explain friction welding with its advantages & disadvantages.
  - (b)
    - (i) Explain Pedestal boom manipulator.
    - (ii) Enlist four base metals used in TIG welding.
  - (c)
    - (i) Explain welding of alloy steel.
    - (ii) Enlist the equipments used in advanced welding.
- 4. Attempt any TWO :** **2 × 8 = 16**
- (a) Explain with neat sketch MIG welding process. State its advantages & disadvantages.
  - (b) Explain resistance welding process. State its advantages & disadvantages.
  - (c) Enlist various causes of distortion. How it is controlled ?
- 5. Attempt any TWO :** **2 × 8 = 16**
- (a) Explain the following :
    - (i) Laser cutting & welding process
    - (ii) Ultrasonic welding
  - (b) What do you mean by micro welding ? What are the problems with this welding ?
  - (c) Explain the process of submerged arc welding with neat sketch and give two applications.
- 6. Attempt any FOUR :** **4 × 4 = 16**
- (a) State the advantages and disadvantages of electroslag welding.
  - (b) Explain atomic hydrogen welding.
  - (c) Define distortion in welded fabrication. State the types of distortion.
  - (d) Explain precision welding with suitable sketch.
  - (e) Explain the structural welding code - AWS D1.1.
  - (f) Explain process equipment welding codes.
-