

17621

15162

3 Hours / 100 Marks

Seat No.

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

Instructions : (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

Marks

1. Attempt any FIVE :

5 × 4 = 20

- (a) Explain automatic welding.
- (b) Describe the gas metal arc welding process.
- (c) Enlist four advantages of submerged arc welding.
- (d) Give two applications of each :
 - (i) Plasma arc welding and
 - (ii) Ultrasonic welding
- (e) State any four advantages of resistance welding.
- (f) Define distortion and gives various types of distortions.
- (g) Explain the welding of plastics.
- (h) Enlist various codes used in the fabrication of pipe line.

2. Attempt any TWO :

8 × 2 = 16

- (a) With a neat sketch explain the process of TIG. Give its two applications.
- (b) List and explain the various types of shielding gases used in TIG.
- (c) List and explain the types of safety rules and equipments used while doing MIG welding.

- 3. Attempt any TWO :** **8 × 2 = 16**
- (a) Explain the process of submerged arc welding with neat sketch and give two applications.
 - (b) What is the flux cored arc welding ? How it is different from submerged metal arc welding ?
 - (c) Explain the electro-slag welding process with neat sketch. And give advantages of the process.
- 4. Attempt any TWO :** **8 × 2 = 16**
- (a) Describe the laser welding and cutting process. Enlist their advantages.
 - (b) What is the principle of operation for friction welding ? Explain the process with their advantages.
 - (c) Explain the fundamentals of resistance welding process with neat sketch.
- 5. Attempt any TWO :** **8 × 2 = 16**
- (a) Enlist various causes of distortion. How it is controlled ? How the stresses are relieved ?
 - (b) Explain the difficulties incurred in welding of alloys. Suggest the remedies.
 - (c) What do you mean by micro welding ? What are the problems with this welding ? Suggest welding methods for micro welding.
- 6. Attempt any TWO :** **8 × 2 = 16**
- (a) Explain the preparation of welding using standard specifications for pipe line welding – API 1104 and BS4515-1.
 - (b)
 - (i) Explain the structural welding code – AWS D1.1.
 - (ii) Process equipment code ASME Section 8.
 - (c)
 - (i) List the equipments used in advanced welding techniques.
 - (ii) Explain thermit welding with their applications.
-