

17455

21819

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.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

- | | Marks |
|--|--------------|
| 1. Attempt any FIVE : | 20 |
| (a) State the advantages and limitations of gas welding. | |
| (b) Define : | |
| (i) Arc stability | |
| (ii) Arc blow | |
| (c) Define weldability. State factors affecting it. | |
| (d) Explain the effects of welding on properties of metals. | |
| (e) Compare brazing and soldering. | |
| (f) How solidification in welding takes place ? Explain | |
| (g) What are the factors affecting selection of power sources ? | |
| 2. Attempt any TWO : | 16 |
| (a) What are different types of welding flames ? Explain with neat sketches. | |
| (b) Explain the following metal transfer mechanism : | |
| (i) Free flight type | |
| (ii) Short circuit type | |
| (c) What are different power source used in manual arc welding ? Explain in detail both AC and DC sources. | |

- 3. Attempt any TWO :** **16**
- (a) Draw and explain HAZ.
 - (b) What are various heat treatments used in welding ? Explain any one in detail.
 - (c) State different welding methods used for alloy steel. Explain welding of stainless steel in detail.
- 4. Attempt any TWO :** **16**
- (a) Draw and explain working of oxy acetylene welding.
 - (b) What is brazing ? Explain the principle of brazing.
 - (c) Explain the process of soldering joint and design.
- 5. Attempt any TWO :** **16**
- (a) List and explain gas welding equipment.
 - (b) Define following with reference to metal arc welding :
 - (i) Polarity
 - (ii) Current voltage
 - (iii) Electrical travel
 - (iv) Arc length
 - (c) What are the different types of weld defects ? State remedies to avoid it. (any four)
- 6. Attempt any FOUR :** **16**
- (a) Suggest a suitable filter metals and fluxes used in gas welding.
 - (b) Explain care and storage method of electrode.
 - (c) Explain the method of TIG welding in brief.
 - (d) What are different welding processes used for C.I. welding ?
 - (e) Describe any one process of welding of Aluminium.
 - (f) Write the applications and limitations of soldering.
-