17455

21415

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) Assume suitable data, if necessary.

(6) Use of Non-Programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : **20**

(a) Name and sketch any four types of joints for Gas Welding.

(b) What is Electric Arc Welding ? State its characteristics.

(c) What are the factors of proper Arc penetration to secure correct weld ?

(d) How Gas welding Techniques are classified ?

(e) What is mean by weldability ? State the factors which are affecting on it.

(f) What is Heat Treatment ? How it is used in welding ?

(g) How the joints are prepared by Brazing ?

2. Attempt any FOUR of the following : **16**

(a) What are the needs and purposes of fluxes and shielding gases in welding ?

(b) Describe with neat sketch of various welding positions for proper welding.

(c) Describe the process of Metal Arc Welding for welding of mild steel.

(d) State the effects of welding on the properties of metal.

(e) What is soldering ? State its advantages and applications.

(f) State various metal transfer mechanism in Metal Arc Welding. Explain any one with neat sketch.

3. Attempt any FOUR of the following : **16**

(a) How combustion of acetylene will done in oxy-acetylene flame ?

(b) How electrodes are specified, manufactured and protected for storage ?

(c) Describe various types of welding defects occur quite frequently.

(d) What is Brazing ? State its advantages and applications.

(e) Explain with neat sketch, how heat is generated in Arc Welding.

4. Attempt any FOUR of the following : **16**

(a) Explain with neat sketch three basic oxyfuel welding flame patterns.

(b) What is mean by Arc stability and Arc blow ? State its characteristics.

(c) Explain the process of welding of cast iron with its advantages.

(d) Write the causes of welding defects. State its remedial procedure.

(e) State various points to be considered while designing soldering joint.

(f) State the factors which are affecting on selection of power sources.

5. Attempt any FOUR of the following : **16**

(a) Write the advantages limitations and applications of Gas Welding.

(b) Describe the mechanism of Arc generation in Electric Arc Welding.

(c) Explain the process of welding of alloy steels with Oxy-acetylene welding.

(d) How solidification of metals occurs in welding ? State its factors and stages.

(e) Differentiate between Brazing and Soldering.

(f) How electrodes are classified ? State its composition and coding.

6. Attempt any FOUR of the following : **16**

(a) Write the three things required to produce heat in Gas Welding. State the characteristics of Oxygen and Acetylene.

(b) Describe heat affected zone and structure of weld metal for copper and aluminium.

(c) Describe the design and procedure of Soldering.

(d) Compare Welding, Soldering and Brazing.

(e) Explain Torch Brazing Process.

(f) Name and describe the gases used for shielding in TIG welding.

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