17455

14115

3 Hours / 100 Marks **Seat No.** | | | | | | | | |

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

(2) Answer each Section on same / separate answer sheet.

(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.

Marks

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

(a) Describe various types of welding flames.

(b) Describe Polarity in arc welding with its advantages.

(c) Write about power sources used while doing Electric Arc Welding.

(d) How the weldability can be improved ? Explain.

(e) Explain various defects in welding with their causes.

(f) Describe Brazing with its advantages and limitations.

(g) State different Heat Treatment process used for welding. Explain any one.

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

(a) Describe Gas Welding with its advantages.

(b) Describe various Gas Welding equipments used for welding.

(c) Define Electric Arc welding with Arc length. State the types of Arc blow.

(d) What is weldability ? State the factors which are affecting on it.

(e) State the classification and coding of Electrode.

(f) State the Remedial Procedure to avoid welding defects.

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

(a) Explain the process of Metal Arc welding used for Cast Iron with advantages.

(b) Write the functions of coating on electrodes.

(c) What are effects of welding on the properties of metal ? Describe.

(d) Differentiate between Brazing and Soldering.

(e) Explain Oxy-acetylene welding with its advantages & applications.

(f) Why the plates above 20 mm thick are best welded by Arc welding ?

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

(a) Write the advantages & disadvantages of welding over riveted or casted joints.

(b) Describe with neat sketch Flux shielded manual arc welding.

(c) Explain the process welding used for alloy of Al and non-ferrous metals.

(d) Describe the process of Solidification of metals in welding.

(e) Describe Carbon Arc Brazing with its advantages and limitations.

(f) State the forces affecting the metal transfer.

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

(a) Explain various Gas Welding Techniques.

(b) Write the advantages, limitations & applications of Shielded Metal Arc Welding (SMAW).

(c) Explain Arc stability. State various factors on which it depends.

(d) Describe the process of welding used for alloy steels & stainless steels.

(e) Explain the procedure for controlling heat affected zone for M.S., copper and Al.

(f) Write the procedure of Brazing. State the properties of filler metals.

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

(a) State various types of Welded joints with their symbols.

(b) Explain Arc welding electrodes. State its types.

(c) Describe the principle of Electric Arc Welding with its advantages.

(d) Describe soldering with its advantages & limitations.

(e) State the principle of Hand Torch Brazing with its advantages & applications.

(f) Describe the process of welding used for alloy of Iron & Mild steel.

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