17455

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

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

(2) Answer each next main Question on a new page.

(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 of the following : **20**

(a) Draw any four types of weld with its sectional representation and symbol.

(b) Describe on equipment used for Arc Welding.

(c) Draw and describe TIG welding process.

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

(e) Describe Soldering with its advantages and applications.

(f) State the purposes of fluxes and shielding gases in welding.

(g) How the electrodes are specified ?

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

(a) What is Weldability ? State the factors affecting on it.

(b) Describe the process of Solidification of metals in Welding.

(c) Compare the Soldering and Brazing operations w.r.t. principle, temp. and applications.

(d) How does Arc Welding differs from Oxy fuel welding ?

(e) Compare Gas Welding with Arc Welding process.

(f) Name and describe the gases used for Shielding in TIG Welding. (any **one**)

3. Attempt any FOUR of the following : 16

(a) State various welding defects occurs due to improper welding.

(b) How the joints are prepared by Brazing ? Explain.

(c) What is Heat Treatment ? How it is used for Welding ?

(d) How Weldability can be improved? Explain.

(e) Compare A.C. arc welding with D.C. arc welding.

(f) What is the purpose of coating on an Arc Welding electrode ?

4. Attempt any FOUR of the following : 16

(a) What is the speciality of Gas welding over rivetted or Casted Joints ?

(b) Describe the process used in case of mild steel welding.

(c) Describe the process of welding used for Cast Iron.

(d) State the remedial procedure to avoid welding defects.

(e) State the various points to be considered while designing Soldering Joint.

(f) State the advantages and limitations of Brazing.

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

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

(b) Explain Gas Metal Arc Welding (GMAW) process with neat sketch.

(c) Describe the procedure for controlling heat affected zone for Copper and Aluminium.

(d) State various points to be considered while designing Soldering Joint.

(e) Describe Polarity and Arc Stability in Arc Welding.

(f) State the properties of filler metal in Brazing.

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

(a) Enumerate different types of Oxy-acetylene welding flames. State their applications. (any two applications)

(b) How the electrodes are manufactured and stored ?

(c) List Carbon Arc Brazing with its advantages and disadvantages.

(d) Explain various positions of weld with neat sketches.

(e) State various Heat treatment processes used for welding.

(f) State the necessity of proper welding position. How it is classified ?
