

Total No. of Questions—12]

[Total No. of Printed Pages—4

[4062]-136

S.E. (Production) (II Sem.) EXAMINATION, 2011

WELDING AND FOUNDRY

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

- N.B. :—**
- (i) Answer any *three* questions from each Section.
 - (ii) Answers to the two Sections should be written in separate answer-books.
 - (iii) Neat diagrams must be drawn wherever necessary.
 - (iv) Figures to the right indicate full marks.
 - (v) Assume suitable data, if necessary.

SECTION I

1. (a) Explain with neat sketch Gas Metal Arc Welding (GMAW) process along with advantages, disadvantages and applications. [10]
- (b) Explain with neat sketch different types of welding joints. [8]

Or

2. (a) Explain arc blow with respect to : [10]
 - (1) Types
 - (2) Mechanism
 - (3) Effects
 - (4) Remedies.

P.T.O.

- (b) Explain with neat sketch Heat Affected Zone (HAZ) related with arc welding. [8]
3. (a) Explain oxyacetylene welding with respect to : [8]
- (1) Definition
 - (2) Working
 - (3) Advantages and disadvantages
 - (4) Applications.
- (b) Compare leftward and rightward gas welding technique with neat sketch. [8]
- Or*
4. (a) Explain the following gas welding equipments with neat sketch : [8]
- (1) Cylinder
 - (2) Pressure regulator
 - (3) Welding torch
 - (4) Hose and hose clamps.
- (b) Compare spot welding and seam welding with neat sketch. [8]
5. (a) Explain the thermit welding process with neat sketch. [8]
- (b) Write a short note on magnaflux testing of weld. [8]

Or

6. (a) Explain diffusion welding process with neat sketch. [8]
(b) Write a short note on calculation of welding cost. [8]

SECTION II

7. (a) Explain with flow sheet necessary steps in sand casting operation. [8]
(b) Describe CO₂ moulding with its advantages, disadvantages and applications. [8]

Or

8. (a) Explain various types of Cores with neat sketches. [8]
(b) With neat sketch explain operation of a Cupola furnace. [8]
9. (a) Explain with neat sketches True centrifugal casting and Centrifuge casting. [8]
(b) Differentiate between permanent mould casting and pressure die-casting. [8]

Or

10. (a) Differentiate between Hot chamber and Cold chamber die-casting. [8]
(b) List various casting defects with their causes and remedies. [8]

11. (a) Using Caine's method and modulus method calculate the size of cylindrical riser (Height = Diameter) necessary to feed steel slab casting $25 \times 25 \times 5$ cm with side riser, casting is poured horizontally into the mould.

Data for steel casting $a = 0.1$, $b = 0.03$ and $c = 1.0$. [8]

- (b) Write short notes on : [10]
- (i) Criteria used for designing of pouring basin
 - (ii) Rules used for riser placement.

Or

12. (a) Differentiate between pressurized and un-pressurized gating. [6]
- (b) Compare directional and progressive solidification of casting. [6]
- (c) What is casting yield ? Suggest different ways to improve it. [6]