

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.

(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]

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 CO<sub>2</sub> 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]