

4.

(2×7·5=15)

- (A) Define weldability. Explain in brief the electric arc welding and different equipment used in electric arc welding. Also explain its advantages and disadvantages.
- (B) Write short notes on any **three** of the following :
- (i) Soldering
 - (ii) Brazing
 - (iii) Centrifugal casting
 - (iv) Die casting process.
- (C) With the help of schematic diagram, describe the basic working principle and important parts of drilling machine. Also describe drilling operations.



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~~EME101~~

(Following Paper ID and Roll No. to be filled in your answer Book)

PAPER ID : 4302

Roll No.

B. Tech.

(SEM. I) ODD SEMESTER THEORY EXAMINATION
2010-11

MANUFACTURING PROCESSES

Time : 2 Hours

Total Marks : 50

SECTION—A

(10×1=10)

1. Attempt all questions. All questions carry equal marks.
- (A) Non-metallic elements which are basically the oxides and compounds of metal and non-metals are known as :
- (a) Composite
 - (b) Organic Polymers
 - (c) Ceramics
 - (d) Ores
- (B) Puddling furnace is lined inside with _____.
- (C) Which coolant has highest cooling rate in heat treatment process ?
- (a) Water
 - (b) Sulphuric Acid
 - (c) Air
 - (d) Brine
- (D) The sheetmetal operation in which metal is removed in small increments :
- (a) Perforating
 - (b) Punching
 - (c) Lancing
 - (d) Nibbling

- (E) In casting process, inclusions are :
- Steel particles
 - Metallic particles
 - Iron particles
 - Non Metallic particles
- (F) Reaming operation is performed to :
- Enlarge a previously drilled hole
 - Finish previously drilled hole to accurate size
 - Both (a) and (b)
 - None of the above
- (G) In resistance welding the time period during which current flows to rise the temperature is :
- weld time
 - on time
 - off time
 - squeeze time
- (H) In carburizing flame the maximum temperature produced is :
- about 3200°C
 - about 3500°C
 - about 3000°C
 - None of the above
- (I) Inorganic non-metallic material which are used at very high temperature :
- Cement
 - Rubber
 - Thermosetting plastic
 - Ceramic

- (J) Combination layout combines the features of :
- Product and process layout
 - Jobshop and process layout
 - Jobshop and product layout
 - Fixed position and process layout

SECTION—B (3×5=15)

2. Attempt any **three** questions. All questions carry equal marks.
- (A) Explain the following :
- Ductile fracture
 - Brittle fracture
 - Creep fracture
 - Fatigue fracture.
- (B) Explain different properties of moulding sand.
- (C) What is the principle of gas welding ? Explain different types of oxyacetylene flames.
- (D) What are the objectives of plant layout ? Explain different types of layout with their advantages and disadvantages.
- (E) Explain the working principle and operation of a Milling machine with neat diagram.

SECTION—C

3. Attempt any **two** parts : (2×5=10)
- (A) Classify steel on the basis of carbon percentage. Also write properties and uses of them.
- (B) What do you mean by case-hardening ? Explain different method of case hardening in detail.
- (C) Differentiate Cast Iron on the basis of percentage of carbon. Explain with neat diagram the construction and working of cupola furnace.