

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

PAPER ID : 199216

Roll No.

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**B.Tech.**

(SEM. II) THEORY EXAMINATION 2013-14

**( ) MANUFACTURING PROCESSES**

Time : 2 Hours

Total Marks : 50

Note : Attempt questions from each section as indicated.

**SECTION-A**

**(10×1=10)**

1. Attempt **all** parts. All parts carry equal marks.

(a) Draw a neat sketch of a carburizing flame with various temperature zones.

(b) What is a thermosetting plastic ?

(c) How much carbon content is present in wrought iron ?

(d) List any two purposes of heat treatment of steels.

(e) List the two alloying metals of bronze alongwith their percentage.

(f) List any two rolling defects.

(g) Draw a neat labelled sketch of moulding flask.

(h) State any two applications of ceramics.

(i) Name any two welding defects.

(j) What is the objective of electroplating ?

**SECTION-B****(3×5=15)**

2. Attempt any **three** parts. All parts carry equal marks :

(a) Explain the following :

- (i) Ductile fracture
- (ii) Brittle fracture
- (iii) Creep failure
- (iv) Fatigue failure.

(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****(5×5=25)**

**Note :-** Attempt **all** questions. Each question carries equal marks.

3. (a) Classify steel on the basis of carbon percentage. Also write properties and uses of them.

**OR**

(b) Explain different casting defects and their remedies.

4. (a) What do you mean by case-hardening ? Explain different methods of case hardening in detail.

**OR**

(b) Draw the stress strain diagrams for ductile and brittle material and explain difference.

5. (a) Explain with neat diagram the construction and working of cupola furnace.

**OR**

(b) Classify and explain pattern allowances with neat sketches, why are they needed ?

6. (a) Define weldability. Explain in brief the electric arc welding and different equipment used in electric arc welding. Also explain its advantages and disadvantages.

**OR**

(b) Classify and explain extrusion processes with neat sketches.

7. (a) Write short notes on any **two** of the following :

- (i) Soldering
- (ii) Brazing
- (iii) Centrifugal casting.

**OR**

(b) With the help of schematic diagram, describe the basic working principle and important parts of drilling machine. Also describe different drilling operations.