Printed Pages : 4

ME202

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

PAPER ID : 199219

Roll No.

B.Tech. Ist

(END SEM.) THEORY EXAMINATION, 2014-15

MANUFACTURING PRACTICES

Time : **3** Hours] [Total Marks : **80**

SECTION - A

1 Attempt all parts. **1.6x10=16**

(a) Define elasticity of a material.
(b) What is toughness of a material?
(c) Write the composition of bronze.
(d) Why is quenching done during heat treatment.
(e) Define hardness of a material.
(f) List some applications of extrusion process.
(g) Mention a few components that can be manufactured on a planer machine.
(h) What type of components is produced by casting process?
(i) What type of transformer is used in resistance welding and why?
(j) Explain the difference between galvanizing and electroplating.

SECTION - B

2 Attempt any three parts of the following **8x3=24**

(a) Describe the following :

(i) Creep (ii) Fatigue (iii) Fracture

(b) Draw and explain the stress strain diagram for a ductile material subjected to tensile loading. Explain in detail the significance of important points on the graph.

(c) Distinguish between hot working and cold working process in detail.

(d) Classify steels on the basis of carbon content also list the applications of each type.

(e) Describe the rolling process with neat sketches giving its applications.

SECTION - C

Attempt all parts: **8x5=40**

3 Attempt any two parts of the following :

(a) Describe in detail destructive testing and hardness test.

(b) Elaborate in detail Annealing and case hardening of steels.

(c) With the help of a neat sketch explain the construction and working of a Cupola furnace.

4 Attempt any two parts of the following :

(a) With help of a suitable diagram explain the working of a punch and die assembly. Discuss the products that can be manufactured by the above.

(b) What are the desirable properties of moulding sand, explain.

(c) Describe the principle of working of a Lathe machine and operations performed on it.

5 Attempt any two parts of the following :

(a) Elaborate in detail with suitable diagrams the different types of flames used in Oxyacetylene gas welding give applications of each flame.

(b) With a neat sketch describe the principle of resistance welding. What are the different types of resistance welding describe any two.

(c) Using a suitable diagram describe the working principle of a milling machine. What is the difference between up milling and down milling?

6 Attempt any two parts of the following :

(a) Describe tube drawing operation. What are the products that can be made by tube drawing process?

(b) What are patterns? Explain in detail various allowance provided for pattern making.

(c) What is the difference between shaper and planer machine. What are the various operations that can be performed on a shaper and planer machine?

7 Attempt any two parts of the following :

(a) How does material and advances in manufacturing technology contribute to social and economic growth of a nation?

(b) With help of neat sketches elaborate the different types of plant layout, also mention the application of each.

(c) Describe in detail the various stages of manufacturing a product by powder metallurgy. Also mention the applications of components manufactured by this technique.