



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

**PAPER ID : 199219**

Roll No.

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**B.Tech. I<sup>st</sup>**

(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.
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