



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

PAPER ID : 199118

Roll No.

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B. Tech.

(SEM. I) (ODD SEM.) THEORY
EXAMINATION, 2014-15

MANUFACTURING PROCESSES

Time : 2 Hours]

[Total Marks : 50

- Note :**
- (1) Attempt **all** questions.
 - (2) Answers should be brief and precise.
 - (3) Marks allotted are shown against each questions.

1. Answer the following parts in a maximum of $6 \times 2 \frac{1}{2} = 15$
three lines each :

- (a) What is the difference between Normalising and Annealing ?
- (b) Is a milling cutter single cutting point tool or otherwise ?
- (c) What is meant by "creep" ?
- (d) What is the difference between "batch" and "mass" production ?
- (e) Explain the difference between functional (process) and product (line) layouts.
- (f) What is meant by Coining and Embossing ?

2. Attempt any **five** of the following parts : $5 \times 3 = 15$

- (a) How are steels and cast-irons differentiated ? Your answer should cover both chemical composition and physical properties aspects.
- (b) Distinguish between bronzes and brasses. Write down the names and chemical composition of some well known brasses.
- (c) What is a plastic ? Explain the difference between "thermo plastic" and "thermosetting" plastics. Mention the names of at least two plastics of each kind.
- (d) Define a "ceramic" material. What are their main properties ?
- (e) How are plain carbon steels generally classified ?
- (f) What is meant by hardness ? Describe the essential features of Rockwell hardness testing procedure.

3. Attempt any **two** parts of the following : $2 \times 5 = 10$

- (a) What is the difference between "cold working" and "hot working" of metal deformation ? What are the advantages and disadvantages of hot working ?
- (b) Explain the processes of extrusion and drawing. Explain why extrusion can be done in hot and cold conditions, while drawing is done in cold condition.
- (c) Name at least six casting defects and their causes and remedies.

4. Attempt any **two** of the following : $2 \times 5 = 10$

- (a) Explain the process of metal electrode arc welding. What is the function of the coating ? Make a sketch of a butt and fillet weld.

- (b) What are the common methods of Taper-Tuning on a centre lathe ? In a taper-tuning operation, length of job was 4 cm. Diameter of larger end = 30 mm. Determine the diameter of smaller end, if the compound slide was swivelled by 15° during the operation.
- (c) What do you understand by the terms Abrasive, Bond, Grit, Grade and structure as applied to a grinding wheel ?
