

B.TECH
(SEM-IV) THEORY EXAMINATION 2017-18
MANUFACTURING PROCESS

*Time: 3 Hours**Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief:** **2 X 7 = 14**
- a. Differentiate between strength and hardness.
 - b. Give the classification of different welding processes.
 - c. Differentiate between hot working and cold working.
 - d. What are the advantages of non-destructive testing over destructive testing?
 - e. Define quality.
 - f. Classify non-metallic materials.
 - g. What are the different types of flames generated in gas welding?

SECTION B

2. **Attempt any *three* of the following:** **7 X 3 = 21**
- a. Write a short note on annealing, tempering and quenching.
 - b. Describe the Gating system in casting with neat sketch.
 - c. Explain working principle of lathe machine with neat sketch. List out different operations that can be performed on lathe machine.
 - d. What is control charts. Enumerate the application and importance of control charts?
 - e. Explain galvanizing and electroplating process.

SECTION C

3. **Attempt any *one* part of the following:** **7 X 1 = 7**
- a. Describe the term elasticity, stiffness, fatigue and creep.
 - b. What are the different types of carbon steel available in engineering application, classify on the basis of carbon percentage?
4. **Attempt any *one* part of the following:** **7 X 1 = 7**
- a. What are the different type of patterns and allowances in making of pattern? Explain in brief.
 - b. Draw a neat diagram of die and punch assembly. Also give a brief introduction of rolling process and types of rolling mills.
5. **Attempt any *one* part of the following:** **7 X 1 = 7**
- a. Draw a neat diagram of knee and column type milling machine, list out different parts and differentiate between up milling and down milling.
 - b. What is principle of arc generation in arc welding? Explain any two types of arc welding processes in brief.
6. **Attempt any *one* part of the following:** **7 X 1 = 7**
- a. Write a note on production versus productivity.

- b. Explain the importance of quality inspection in improvement of product quality. Also explain basic quality tools such as flow charts, histograms and pareto diagram.

7. **Attempt any *one* part of the following:**

7 X 1 = 7

- a. What is composite material, give classification and applications of various composites used in engineering field?
- b. Describe step involved in powder metallurgy. Mention advantages and limitations of powder metallurgy