Printed Pages: 02
Paper Id: 1 9 9 4 2 5

Sub Code: ROE040
Roll No. [redacted]

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