Sub Code:ME103

Paper Id: 140104 Roll No:

B TECH
(SEM-I) THEORY EXAMINATION 2019-20
MANUFACTURING SCIENCE

Time: 3 Hours ***Total Marks: 100***

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

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a.	What is the difference between stress and strain?
b.	Define Resilience.
c.	What are the applications of mild steel and carbon steels?
d.	Why we perform heat treatment on carbon steels.
e.	What are the various desirable properties of moldingsand?
f.	Define cold working of metals.
g.	List out the various operations that can be performed on the lathe machine.
h.	For what purpose shaper machines are used for.
i.	List out the current socio economic developments in manufacturing.
j.	What are the applications of powder metallurgy?

SECTION B

2. Attempt any *three* of the following: 10x3=30

a.	Differentiate between creep, fatigue and fracture with proper examples and explanations.
b.	What is cast iron, Write the special feature of it with applications and also give the classification of it.
c.	With neat sketch describe the gating system for casting and explain.
d.	Explain electric arc welding with neat sketch and diagram.
e.	Explain the powder metallurgy process in detail.

SECTION C

3. Attempt any *one* part of the following: 10x1=10

a.	Explain the various steps used in Compression test
b.	Describe the difference between the Hardness test and Impact test.

4. Attempt any *one* part of the following: 10x1=10

a.	Describe the various heat treatment process used for carbon steels in detail.
b.	Briefly describe the classification of carbon steels based on their percentage.

5. Attempt any *one* part of the following: 10x1=10

a.	Describe the different types of casting defects with their remedies.
b.	Define Forging, Rolling and Extrusion with examples of products and applications of each process.

6. Attempt any *one* part of the following: 10x1=10

a.	Describe Soldering and Brazing with their uses.
b.	Explain drilling, shaping and planning with proper applications of each.

7. Attempt any *one* part of the following: 10x1=10

a.	Write short note on Plastic product manufacturing.
b.	Describe the difference between Galvanizing and Electroplating with various applications and products produced by each of them.