12. Write short notes on :

a) Fatigue and Creep

b) Quenching & tempering and case-hardening.

c) Molding sands and its desirable properties.

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

Paper ID : 140121 Roll No.

B.Tech.

(SEM. I) THEORY EXAMINATION, 2015-16

MANUFACTURING PROCESS

[Time:3 hours] **[Total Marks:100]**

Section-A

1. Attempt **All** parts. All parts carry equal marks. Write answer of each part in short. (10×2=20)

(a) What is the importance of flux used in welding operation?

(b) What do you mean by spring back in sheet metal operation?

(c) Define the sintering operation used in powder metallurgy?

(d) Define elasticity and ductility of a material?

(e) Write applications of grey cast iron.

(f) What do you mean by Galvanizing process?

(g) What is the difference between drilling and boring?

(h) What is the difference between the consumable and non-consumable electrode?

(i) What is the function of Riser in casting?

(j) What do you mean by Production and productivity?

Section-B

Attempt **any five** questions from this section. (10×5=50)

2. Classify the various types of Carbon on Steels on basis of percentage of Carbon and mention the properties and applications of each.

3. Explain the working principle of Planer type milling machine with a neat sketch.

4. Explain Electric Arc Welding with suitable sketch. What do you understand by the polarity in Welding?

5. Discuss different types of pattern used in Foundry Shop with neat sketch.

6. What is the importance of heat treatment and explain in detail:

   (i) Normalizing (ii) Tempering

7. a) Explain with neat sketch the gating system used in casting.

   b) What is creep? Explain the various stages.

8. a) Differentiate forward and backward extrusion.

   b) Differentiate between hot and cold working.

9. Write short note on :

   a) Types of Production

   b) Brazing and its uses

   c) Composite materials

Section-C

Answer **any two** questions from this section: (2×15=30)

10. What are the objectives of plant layout? Explain different types of layout with their advantages and disadvantages.

11. a) Discuss in details the properties and applications of Plastics and Composite-materials.

    b) Discuss the Powder metallurgy process & its applications.