

14/12/17 4

SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, BEROZEPUR

ROLL No:

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Total number of pages: 02

Total number of questions: 06

B.Tech. || ME || 5<sup>th</sup> Sem

## Manufacturing Processes - I

Subject Code: BTME-305A

Paper ID:

(for office use)

Time allowed: 3 Hrs

Max Marks: 60

Important Instructions:

- Section A is compulsory.
- Assume any missing data

### PART A (2marks × 10)

Q. 1. Short-Answer Questions:

- a) What do you mean by the terms: 1. Cores, 2. Chaplets?
- b) What is the function of runner and riser in casting?
- c) What are the basic steps involved in any Casting Process?
- d) What is a pattern? Why allowances are provided on a pattern?
- e) What is Heat Affected Zone (HAZ) in welding?
- f) How the heat flow variables influence the HAZ in fusion welding process?
- g) What is electrode? Also explain its types.
- h) What are the various welded joints?
- i) Define the term Weldability.
- j) Why gases in metals during casting are harmful?

### PART B (8marks × 5)

Q. 2. How would you classify the manufacturing processes? Explain.

OR

What are the points that a designer should consider in going for a Casting Process? What is draft allowance? How is it provided for patterns?

[CO1]

Q. 3. (a) Write a short note on Cupola Furnace with neat sketch?

(b) How does Solidification of pure metal takes place in a Casting Process?

OR

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Describe with neat sketches cold-chamber and hot chamber die casting processes. [CO2]

Q. 4. Explain MIG Welding in detail. Also compare MIG Welding and TIG Welding in brief.

OR

Write Short note on followings –

(a) Resistance Seam Welding

(b) Resistance Spot Welding

(c) Soldering and brazing

[CO3]

Q. 5. Explain the principle, working, advantages, disadvantages, applications of Plasma Arc Welding with the help of suitable diagram.

OR

Explain Investment Casting and Centrifugal Casting with suitable diagrams. [CO4]

Q. 6. Explain Destructive and Non Destructive testing and also discuss their types in brief.

OR

What are the various Casting and Welding Defects and how they are caused? [CO5]