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GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (First Semester – Regular) Examinations, June – 2021 MPCMT 1020 – CASTING AND WELDING TECHNOLOGY (Manufacturing Technology)

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A

(2 x 10 = 20 Marks)

Q1. Answer **ALL** questions

- State the functions of core in sand casting.
- Illustrate the importance of gating in casting.
- State the advantages of investment casting over centrifugal casting.
- Why is flux needed in welding?
- Distinguish between soldering and brazing.
- What is hear HAZ?
- List the different joint configurations of butt joint.
- Describe how destructive type of testing is more reliable than the non-destructive testing.
- What is Liquid Penetrant Testing (LPT)
- List the defects that can be identified by NDT techniques

PART – B

(6 x 5 = 30 Marks)

Answer **ANY FIVE** questions

Marks

- Explain the centrifugal casting process with necessary diagram. (6)
- What is a shell in shell mould casting? Which sand is used in shell mould casting? Explain the process in detail. (6)
- Define weldability of materials and mention the factors on which weldability depends. (6)
- Briefly discuss the flash butt welding and its applications with neat diagram. (6)
- Explain the vertical and overhead position welding techniques with suitable examples. (6)
- Discuss the safety measures to be followed for arc welding process. (6)
- Explain how ultrasonic inspection method used for finding welding defects with necessary sketch. (6)

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