



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA,
GUNUPUR
(GIET UNIVERSITY)**

B. Tech (Fourth Semester - Regular) Examinations, April – 2025

23BMPEC24002 - Manufacturing Science-I

(Mechanical)

Time: 3 hrs

Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** questions

- a. Point out the factors to be considered in calculating the shrinkage allowance.
- b. List the advantages of AC equipment over DC equipment in arc Welding.
- c. Classify the various forming processes
- d. Discuss spring back in bending operation.
- e. Define addition polymerization

CO #	Blooms Level
CO1	K4
CO3	K1
CO4	K3
CO5	K2
CO6	K2

PART – B

(10 x 5=50 Marks)

Answer **ALL** the questions

2. a. Name the main steps in the preparation of a sand mould.
- b. Classify the materials used for pattern making and explain
(OR)
- c. Explain types of cores and its application.
- d. Give the sequence of step in pressure die casting process
- 3.a. Describe the constructional feature of cupola furnace.
- b. List the properties of moulding sand
(OR)
- c. Name any five casting defects and explain the remedies
- d. Illustrate the use of neutral, reducing, and oxidizing flames by explaining their features and applications.
- 4.a. Evaluate the equipment and operation of GTAW process
- b. State its advantages and application of submerged arc welding process
(OR)
- c. Classify the types of rolling mills and sketch them.
- d. Evaluate hot working and cold working processes
- 5.a. Distinguish between soldering and brazing.
- b. Describe with a neat sketch any two types of stretch forming operations
(OR)
- c. State the basic steps of direct and indirect extrusion processes and draw a neat sketch
- d. Name and describe the common bending operations.
- 6.a. Write short notes on hydro forming
- b. List out the production processes of metallic powders?
(OR)
- c. State the purpose of the following plastics 1.Plasticizers 2.Filler 3.Stablizers
- d. Discuss in detail the various thermosetting and thermoplastic compound and their application

Marks	CO #	Blooms Level
5	CO1	K1
5	CO1	K2
5	CO2	K4
5	CO2	K2
5	CO1	K2
5	CO1	K1
5	CO2	K2
5	CO3	K3
5	CO3	K3
5	CO3	K1
5	CO4	K2
5	CO4	K3
5	CO3	K2
5	CO5	K1
5	CO4	K1
5	CO5	K2
5	CO5	K2
5	CO6	K1
5	CO6	K1
5	CO6	K2

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