QP Code: R264A017 | Reg. No | | | | | | | | | | | AY 23

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech(Fourth Semester - Regular) Examinations, April2026

23BMEPC24002 Manufacturing Science

(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	CO #	Blooms Level
a. What are the properties of moulding sand?	CO1	K1
b. Explain the function of core prints and chaplets.	CO2	K2
c. Compare resistance spot welding and resistance seam welding.	CO3	K2
d. List out any four parts that can be manufactured by shape rolling operations.	CO4	K2
e. Define Infiltration	CO6	K1

PART – B **(10 x 5=50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Name the pattern allowances provided on the pattern for sand casting and state the reasons why they are provided.	5	CO1	K1
b. Explain shell moulding process with neat labelled sketch.	5	CO1	K3
(OR)			
c. Analyze moulding sand composition and its effects on properties	5	CO1	K4
d. Explain the different types of moulding machines with neat sketch and its applications	5	CO1	K2
3.a. Discuss types of cores and functions of core prints.	5	CO2	K2
b. Outline the function of gating systems in casting.	5	CO2	K3
(OR)			
c. Explain the working principle of investment casting	5	CO2	K2
d. Write down the different types of furnaces used for casting	5	CO2	K2
4.a. Distinguish three types of welding flames and for what applications these are used?	5	CO3	K4
b. Write the applications of plasma arc welding.	5	CO3	K2
(OR)			
c. Illustrate the working of Electron Beam Welding with a neat sketch	5	CO3	K3
d. What is forging? Explain in detail about the open die forging with a neat sketch.	5	CO4	K2
5.a. Discuss the different types of rolling mills with a neat sketch.	5	CO4	K3
b. Write short notes on wire drawing with a sketch.	5	CO4	K2
(OR)			
c. Differentiate the formability and spinning process.	5	CO5	K4
d. Discuss the working principles of rubber pad forming	5	CO5	K2
6.a. Explain the various types of sheet metal operations	5	CO5	K2
b. List out the production processes of metallic powders.	5	CO6	K2
(OR)			
c. Describe the explosive forming with a neat sketch.	5	CO6	K3
d. Summarize in detail of various thermosetting and thermoplastic compound and their application	5	CO6	K2

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