QP Code: R262B030 | Reg. No | | | | | | | | | | | AY 25

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

M.Tech. (Second Semester - Regular) Examinations, May – 2026

24MMTPC12002 – Advanced Manufacturing Processes
(Manufacturing Technology)

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(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. Explain the investment casting process in brief.	CO1	K2
b. Differentiate between water jet machining and abrasive water jet machining.	CO6	K2
c. Explain the working principle of EBW.	CO2	K2
d. Classify various types of surface coating processes.	CO3	K1
e. Name the different types of Laser used in Laser Beam Welding.	CO4	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Define Casting? Briefly explain the different types of casting process.	5	CO1	K2
b. Explain in detail various allowances given to pattern and reasons to provide the allowances.	5	CO1	K2
(OR)			
c. Give a step-by-step procedure for the cold chamber die-casting process. Also discuss the advantages and limitations of hot and cold chamber processes.	10	CO1	K3
3.a. Discuss the sequence of operations in friction welding.	5	CO4	K2
b. Explain how tube welding is done with the help of explosive welding technique.	5	CO6	K2
(OR)			
c. Explain the principle and working of friction welding processes. Discuss the advantages, limitations, and industrial applications of friction welding.	10	CO5	K4
4.a. Explain advantages of hydro chemical forming.	5	CO6	K2
b. Explain formability tests for bulk deformation.	5	CO6	K2
(OR)			
c. Describe the Abrasive Jet Machining (AJM) process with a neat sketch. Explain the effect of process parameters on Material Removal Rate (MRR) and machining performance.	10	CO2	K3
5.a. Discuss the various methods of surface cleaning with suitable examples.	5	CO3	K2
b. Explain the Chemical Vapour Deposition (CVD) process and its industrial applications.	5	CO3	K3
(OR)			
c. Discuss any two advanced surface treatment techniques among thermal spraying, ion implantation, diffusion coating, diamond coating, and cladding.	10	CO3	K3
6.a. Describe the principle and working of Plasma Arc Machining (PAM).	5	CO4	K2
b. Describe the principle and working of electro-chemical machining.	5	CO4	K2
(OR)			
c. Explain the principle, equipment, process parameters, Material Removal Rate (MRR), and applications of Laser Beam Machining (LBM).	10	CO2	K3

--- End of Paper ---