Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S3 (S) Examinations (FT/WP) May 2026 (2024 Scheme)

Course Code: PBMET304

Course Name: MANUFACTURING PROCESSES

Max. Marks: 40 Duration: 2 hours 30 minutes

PART A

(Answer all questions. Each question carries 2 marks)

		CO	Marks
1	Enlist elements of gating system for sand casting	CO1	(2)
2	Distinguish between internal chills and external chills. Which is more effective?	CO1	(2)
3	What is adhesive bonding ? give any two advantages for adhesive bonding	CO2	(2)
4	Write the advantages of laser beam welding?	CO2	(2)
5	Enlist different types of shearing sheet metal operations	CO3	(2)
6	what are the theories of yield criteria	CO3	(2)
7	Write any four defects in forging operation	CO4	(2)
8	What is direct and indirect extrusion process ?	CO4	(2)

PART B

(Answer any one full question from each module, each question carries 6 marks)

Module -1

			CO	Marks
9	a)	Explain any three methods for producing powder in powder metallurgy?	CO1	(3)
	b)	Explain centrifugal casting with the help of a neat sketch and write the applications	CO1	(3)
10	a)	What is a Pattern in casting process? Write any 3 examples for pattern materials used in casting process.	CO1	(3)

	b)	Explain Hot chamber die casting with the help of a neat sketch and enlist its advantages	CO1	(3)

Module -2

11	a)	What are the different types of flames in gas welding	CO2	(3)
	b)	Write the comparison between soldering and brazing?	CO2	(3)
12	a)	What is SMAW in welding ? Enlist the applications of SMAW	CO2	(3)
	b)	Explain Friction welding and write the advantages and disadvantages	CO2	(3)

Module -3

13	a)	Name different Types of die used in sheet metal operations	CO3	(3)
	b)	Describe V- Bending operation With the help of neat sketch	CO3	(3)
14	a)	What are the different types of rolling mills ?	CO3	(3)
	b)	Write the difference between coining and punching?	CO3	(3)

Module -4

15	a)	Explain direct extrusion with neat sketch	CO4	(3)
	b)	Explain different types drawing process	CO4	(3)
16	a)	Enlist the applications of extrusion process	CO4	(3)
	b)	Explain hydrostatic extrusion with suitable sketch	CO4	(3)

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