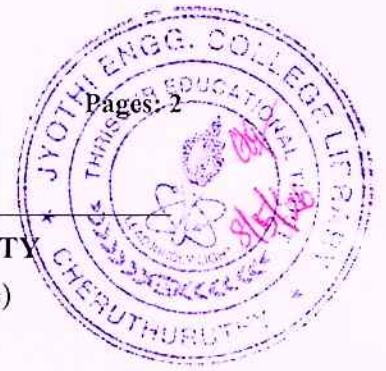


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S4 (R) Examinations April 2026 (2024 Scheme)



Course Code: PBMRT404
Course Name: Manufacturing Process

Max. Marks: 40

Duration: 2 hours 30 minutes

PART A

(Answer all questions. Each question carries 2 marks)

CO	Marks
1	(2)
1	(2)
1	(2)
1	(2)
2	(2)
2	(2)
3	(2)
4	(2)

- 1 What is the need for chaplets in a casting process?
- 2 Explain the wire drawing process.
- 3 Explain the welding used to join railway tracks.
- 4 Differentiate brazing and soldering.
- 5 List and explain different types of chip formed during machining
- 6 Compare micromachining and conventional macro machining.
- 7 Explain AWJM.
- 8 Explain additive manufacturing and its applications

PART B

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

Module -1

- 9 Elaborate on the metal casting process with a neat figure, and discuss any two casting defects. 1 (6)
- 10 a) Explain any three forging defects with neat figures. 1 (3)
b) Explain rolling process and list any two rolling defects 1 (3)

Module -2

- 11 a) Describe the arc welding with a neat diagram. 1 (4)
b) Explain the different types of oxy-acetylene flames. 1 (2)
- 12 a) Explain and differentiate TIG and MIG. 1 (4)
b) Explain adhesive bonding with an example. 1 (2)

Module -3

- 13 a) What are the different work holding devices used in the lathe? Explain any three. 2 (4)

- b) Explain rake and clearance angle with a neat figure. 2 (2)
- a) Differentiate between shaping, planing and slotting. 2 (3)
- A cutting tool made of HSS gave a tool life of 50 min when operated at a speed of 200 m/min. At what speed should the tool have to be operated in order to have a tool life of 2 hours. Assume $n = 0.18$ in Taylor's tool life equation $VT^n = C$.
- 14 b) 2 (3)

Module -4

- 15 With the help of a neat figure explain the working of EDM and discuss its applications. 3 (6)
- 16 a) With the help of a neat figure explain the working of ECM. 3 (4)
- b) Explain LIGA process. 4 (2)

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