



Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S5 (S,FE) / S3 PT Examination May 2025 (2019 Scheme)

Course Code: MET307**Course Name: MACHINE TOOLS AND METROLOGY****Max. Marks: 100****Duration: 3 Hours****PART A***(Answer all questions; each question carries 3 marks)*

		Marks
1	Write any three uses of slotter machine.	3
2	Differentiate between straddle milling and face milling with sketches.	3
3	Distinguish between limit and tolerance.	3
4	List out the various elements of measurement.	3
5	Differentiate between up milling and down milling with sketches.	3
6	List the advantages of broaching process.	3
7	List three operations which can be carried out in lathe with tool held in tailstock.	3
8	How grinding wheels are specified? Explain with an example.	3
9	Differentiate between precision and accuracy.	3
10	List the different type of comparator.	3

PART B*(Answer one full question from each module, each question carries 14 marks)***Module -1**

11	a) Compare planning & shaping machines.	8
	b) Explain various operations performed on lathe.	6
12	a) With a neat diagram explain different parts of a radial drilling machine.	10
	b) Explain the working of a turret lathe.	4

Module -2

13	a) Differentiate between truing and dressing of a grinding wheel.	9
	b) Which are the different milling operations? Explain any two with figures.	5
14	a) Explain different types of grinding methods.	7
	b) Explain with neat sketch a plain cylindrical grinding process.	7

Module -3

15	a) Differentiate between internal and external broaching process.	9
----	---	---

- b) Explain the gear broaching process. 5
- 16 a) Explain the working of a broaching machine. 8
- b) What are the advantage and application of broaching machine? 6

Module -4

- 17 a) Differentiate between hole basis system and shaft basis system. 8
- b) With the help of neat sketch explain the terminology used in limit and fit. 6
- 18 a) Distinguish between interchangeability and selective assembly. 8
- b) Differentiate between gauge tolerance and wear allowance. 6

Module -5

- 19 a) Define the following term used in surface texture 9
 - i. Primary texture
 - ii. Secondary texture
 - iii. Lay
- b) Discuss the different type of probe used in CMM. 5
- 20 a) With the help of neat sketch explain the construction and working of Tomlinson surface meter. 9
- b) Explain the classification of comparator. 5
