

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous College U/s UGC Act 1956)

B. VOC SEMESTER-I, SEMESTER END EXAMINATION – SUMMER 2025

Subject Code: 1PT101	Date: 02-06-2025
Subject Name: MACHINE TOOL TECHNOLOGY	
Time: 11:00 AM to 01:00 PM	Total Marks: 50

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Attempt all questions in the question paper.
3. The figures to the right of each question indicate full marks. Make suitable assumptions with proper justification wherever required.
4. Simple, non-programmable scientific calculators are permitted.
5. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A-Application, N-Analyze, E-Evaluate, C-Create), CO - Course Outcomes.

	Marks	BL	CO
Q.1 Multiple-Choice Questions	[05]		
(a) Machine tools are primarily used to:	1	R	1
<div>(i) Assemble parts</div> <div>(ii) Manufacture machine parts by removing material</div> <div>(iii) Inspect finished parts</div> <div>(iv) Paint surfaces</div>			
(b) Which of the following machine tools uses linear primary motion?	1	R	1
<div>(i) Lathe</div> <div>(ii) Shaper</div> <div>(iii) Milling machine</div> <div>(iv) Drilling machine</div>			
(c) In a milling machine, the primary motion is provided by:	1	U	1
<div>(i) Workpiece rotation</div> <div>(ii) Tool rotation</div> <div>(iii) Tool linear motion</div> <div>(iv) Coolant flow</div>			
(d) Which of the following is NOT a classification basis for machine tools?	1	U	1
<div>(i) Type of motion</div> <div>(ii) Type of cutting tool used</div> <div>(iii) Type of material used</div> <div>(iv) Type of operation performed</div>			
(e) Which machine tool uses both rotational and linear primary cutting motions?	1	U	1
<div>(i) Drill machine</div> <div>(ii) Lathe</div> <div>(iii) Milling machine</div> <div>(iv) Grinding machine</div>			

Q.2	Attempt Any Three	[15]		
(a)	Explain different types of mandrels.	5	U	2
(b)	Differentiate between capstan and turret lathe.	5	U	2
(c)	Explain Turret, step turning, facing, knurling, boring and drilling operations on lathe machine with neat sketch.	5	U	2
(d)	Write the brief classification of lathe machine.	5	R	2
Q.3	Attempt Any Three	[15]		
(a)	Explain twist drill with neat sketch.	5	U	3
(b)	Explain with neat sketch working of horizontal boring machine.	5	U	3
(c)	Enumerate different types of drilling machine and draw neat sketch of radial drilling machine.	5	R	3
(d)	Explain plain milling and gang milling.	5	U	4
Q.4	Attempt Any Three	[15]		
(a)	Enlist different types of milling cutters and explain any two milling cutters.	5	U	4
(b)	Explain up milling and down milling.	5	U	4
(c)	State the operation carried out on shaper machine.	5	R	5
(d)	Classify shaper machine in detail.	5	R	5
