

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

**B. Voc. SEMESTER-I, SEMESTER END EXAMINATION - WINTER 2024**

**Subject Code: 1PT101**

**Date: 10-12-2024**

**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.

	<b>Marks</b>	<b>BL</b>	<b>CO</b>
<b>Q.1 Objective-Type Questions</b>	<b>[05]</b>		
(a) Which of the following is a primary cutting motion in a lathe machine?	<b>1</b>	<b>R</b>	<b>1</b>
(i) Feeding motion			(ii) Rotational motion of the workpiece
(iii) Translational motion of the tool			(iv) None of the above
(b) The main function of the auxiliary motion in a machine tool is to:	<b>1</b>	<b>R</b>	<b>1</b>
(i) Remove the material from the workpiece			(ii) Support the primary cutting action
(iii) Provide finishing to the surface			(iv) Reduce vibrations
(c) In a milling machine, the cutting motion is provided by:	<b>1</b>	<b>R</b>	<b>1</b>
(i) The workpiece rotation			(ii) The reciprocation of the tool
(iii) The rotation of the cutting tool			(iv) Both workpiece and tool rotation
(d) Which of the following is an example of a machine tool with rotational primary cutting motion?	<b>1</b>	<b>R</b>	<b>1</b>
(i) Drilling machine			(ii) Planer machine
(iii) Shaper machine			(iv) Broaching machine
(e) What is the main working motion in a planer machine?	<b>1</b>	<b>R</b>	<b>1</b>
(i) Rotational motion of the tool			(ii) Linear motion of the tool
(iii) Reciprocating motion of the tool			(iv) Reciprocating motion of the workpiece

<b>Q.2 Attempt Any Three</b>	<b>[15]</b>
(a) Classify the lathe machines and explain any one of them	5 U 2
(b) Enlist different operations performed on a lathe machine.	5 R 2
(c) Write short note on different type of chucks used in a lathe.	5 U 2
(d) Draw a line diagram of lathe and explain its parts in brief.	5 R 2
<b>Q.3 Attempt Any Three</b>	<b>[15]</b>
(a) Classify drilling machine.	5 R 3
(b) Draw neat sketch of radial drilling machine.	5 U 3
(c) Classify boring machine.	5 R 3
(d) Enlist different types of milling cutters.	5 R 4
<b>Q.4 Attempt Any Three</b>	<b>[15]</b>
(a) Differentiate between up milling and down milling.	5 U 4
(b) Enumerate various milling operations and explain any one of them.	5 U 4
(c) Classify shaper machine in detail.	5 U 5
(d) Differentiate between a shaper and a planer machine.	5 U 5

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