

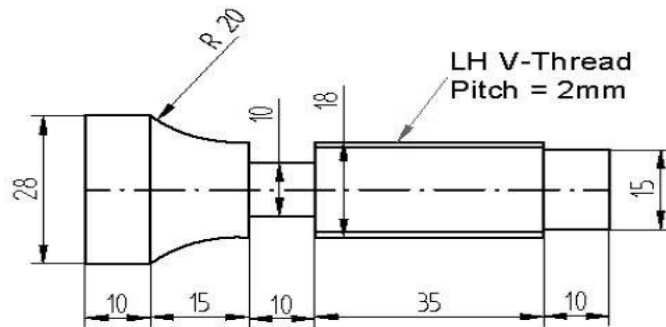
THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026***Fourth Semester**Mechanical Engineering***UMETL24402 – MANUFACTURING TECHNOLOGY***Regulations – 2024**Duration : 3 Hrs**Maximum : 100 Marks***PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Compare orthogonal and oblique cutting.	L2	1	2
2.	Outline the factors responsible for poor surface finish in machining processes.	L2	1	2
3.	What are the various mechanisms that are used for automatic feeding in lathes?	L1	2	2
4.	List the characteristic features of semi-automatic lathes.	L1	2	2
5.	Write down any four operations performed by a shaper.	L1	3	2
6.	What is the process of self-sharpening of the grinding wheel.	L2	3	2
7.	Give two advantages of CNC machines over conventional machines.	L2	4	2
8.	Mention three safety features commonly found in CNC machines.	L1	4	2
9.	Define polar coordinate programming.	L1	5	2
10.	What is the purpose of a Diagnostic System in CNC?	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain the different types of chips formed during metal cutting with diagrams.	L2	1	16
	Or			
	b i Describe the different forms of tool failure in machining and discuss the measures used to improve tool life.	L2	1	10
	ii What do you understand by the term machinability? How it is determined?	L2	1	6
12.	a i Construct a neat sketch showing the tailstock set-over method and apply it to produce a taper on a shaft.	L3	2	8
	ii Illustrate the taper turning operation by swiveling the compound rest with a neat sketch.	L3	2	8
	Or			
	b Show with a neat diagram the constructional features of a single spindle automatic screw machine with its working principle.	L3	2	16

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| 13. | a | i | Interpret the working sequence of cutting and return strokes in a shaper using the quick return mechanism with a suitable sketch. | L3 | 3 | 8 |
| | | ii | Classify various milling cutters used in milling processes and discuss any two in detail. | L3 | 3 | 8 |
| | | | Or | | | |
| | b | | Explain the operational steps involved in spur gear manufacturing using gear hobbing with a neat sketch. | L3 | 3 | 16 |
| 14. | a | | Illustrate the special features of CNC machines with reference to drive systems, ball screw mechanisms, and tool changers. | L2 | 4 | 16 |
| | | | Or | | | |
| | b | | Demonstrate how different work holding devices are applied in CNC machining centres for machining complex components. | L2 | 4 | 16 |
| 15. | a | | Classify the different types of coordinate systems used in CNC machining and discuss their significance when programming complex parts. | L4 | 5 | 16 |
| | | | Or | | | |
| | b | | Write a CNC turning program for the component shown below. | L4 | 5 | 16 |



All dimensions are in 'mm'