

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Fourth Semester

Mechanical Engineering

ME3493- Manufacturing Technology

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

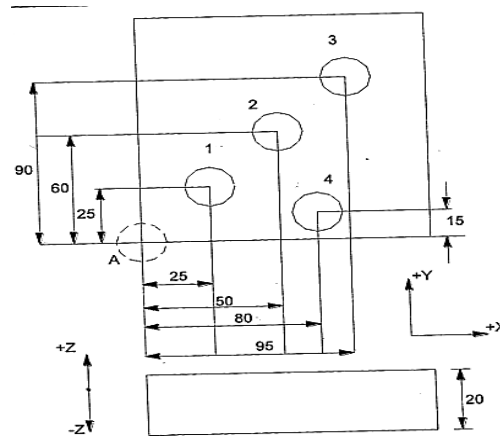
PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Compare orthogonal and oblique cutting.	AN	1	2
2.	Define tool life.	RE	1	2
3.	List any four types of lathes.	RE	2	2
4.	Outline the various methods for taper turning operation.	UN	2	2
5.	How do you classify milling cutters?	RE	3	2
6.	State the differences between a vertical shaper and slotters.	RE	3	2
7.	List the differences between NC and CNC.	AN	4	2
8.	Interpret the type of ball screws.	UN	4	2
9.	Compare the incremental and absolute system.	AN	5	2
10.	Define canned cycles.	RE	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain any four cutting tool materials.	UN	1	8
	ii List any five functions of cutting fluids.	AN	1	5
	Or			
	b i Explain the standard angles of cutting. Illustrate with an example.	UN	1	8
	ii Examine any one type of chip formation with neat sketch.	AN	1	5
12.	a Explain the turret indexing mechanism with neat sketch.	UN	2	13
	Or			
	b Illustrate the constructional features and working of swiss-type automatic screw machine.	UN	2	13
13.	a i Sketch and explain the hydraulic drive of a horizontal shaper.	UN	3	8
	ii Discover any two hole-making processes.	AN	3	5
	Or			
	b i Explain the gear hobbing process over other gear generation processes.	UN	3	8
	ii List the advantages and disadvantages of the gear shaping process.	AN	3	5

14. a i Explain the spindle drives used in CNC machine tools. UN 4 8
- ii Discover the advantages of a computer numerical control system. AN 4 5
- Or
- b i Explain any two work holding methods in machining centers with neat sketches. UN 4 8
- ii List any five safety features in CNC machines. AN 4 5
15. a Construct the part program for drilling holes in the part shown below. The plate thickness is 20mm. AP 5 13



Or

- b Develop the manual programming steps and explain with simple examples. AP 5 13

*PART - C (Marks 1*15 = 15)*

Q.No	Questions	BLT	CO	Marks
16. a i	Experiment with a neat sketch the surface grinding process.	AP	3	8
ii	Choose the factors to be considered to select a grinding wheel and parameters.	AP	3	7
Or				
b i	Develop the tooling layout for the production of a hexagonal bolt in a capstan lathe.	AP	2	8
ii	Identify the purpose of any two attachments used on a center lathe with neat sketch.	AP	2	7