

**THE KAVERY ENGINEERING COLLEGE***(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025*****Fourth Semester******Mechanical Engineering*****ME3493 – Manufacturing Technology*****Regulations - 2021******Duration : 3 Hrs******Maximum : 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10\*2=20)***

| <b>Q.No</b> | <b>Questions</b>                                          | <b>BLT</b> | <b>CO</b> | <b>Marks</b> |
|-------------|-----------------------------------------------------------|------------|-----------|--------------|
| 1.          | Name any two forces involved during machining.            | L1         | 1         | 2            |
| 2.          | List any four factors that affect the life of the tool.   | L1         | 1         | 2            |
| 3.          | Write any four operations performed using the lathe.      | L1         | 2         | 2            |
| 4.          | Compare Turret and Capstan lathe.                         | L2         | 2         | 2            |
| 5.          | State any four major specification of the grinding wheel. | L2         | 3         | 2            |
| 6.          | Name the tool holding devices used in milling machines.   | L1         | 3         | 2            |
| 7.          | Why tool magazine is provided in CNC machines?            | L2         | 4         | 2            |
| 8.          | What is the need for CNC machine?                         | L2         | 4         | 2            |
| 9.          | What is called as APT program?                            | L1         | 5         | 2            |
| 10.         | Why subroutine is important in the part programming?      | L1         | 5         | 2            |

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

| <b>Q.No</b> | <b>Questions</b>                                                                                                   | <b>BLT</b> | <b>CO</b> | <b>Marks</b> |
|-------------|--------------------------------------------------------------------------------------------------------------------|------------|-----------|--------------|
| 11.         | a i List and discuss the various types of chip formation during metal cutting.                                     | L1         | 1         | 8            |
|             | i State the different properties of cutting fluids and explain.                                                    | L1         | 1         | 8            |
|             | <b>Or</b>                                                                                                          |            |           |              |
|             | b With a help of suitable sketch, explain the nomenclature of single point cutting tool with its specified angles. | L2         | 1         | 16           |
| 12.         | a Explain various taper turning methods with diagrammatic illustrations.                                           | L2         | 2         | 16           |
|             | <b>Or</b>                                                                                                          |            |           |              |
|             | b Describe the operations, applications and tool selections of Swiss-                                              | L1         | 2         | 16           |

type automatic lathe.

13. a Discuss the form milling and gang milling operations with a suitable sketch. L2 3 16

**Or**

- b Explain any two gear generation methods with a neat sketch. L2 3 16

14. a Discuss the closed loop and open loop systems in CNC machines. L1 4 16

**Or**

- b i Compare CNC turning center and machining center. L2 4 8

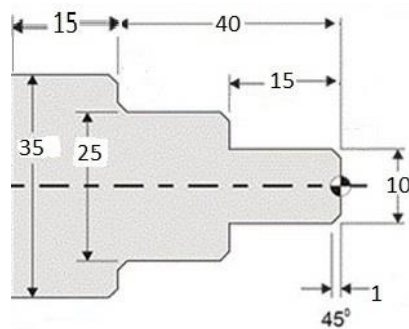
- i Discuss about the point to point motion control system in CNC machines. L1 4 8

15. a i Explain canned cycle with an example. L2 5 8

- i Explain any two interpolations used in CNC system. L2 5 8

**Or**

- b Create a manual part program for the component shown in figure. L6 5 16



All dimensions are in mm with same size of chamfer.