

## MODEL QUESTION PAPER

Programme name: Mechanical Engineering

Semester : 3

Course code: 3023

Course name: MACHINE TOOLS

Time : 3 Hours

Max.Marks : 75

**I. Answer all the following questions**

**(9 x 1 = 9 Marks)**

1	Define Machinability.	MO 1.01	R
2	Write Taylors equation for tool life.	MO 1.03	U
3	What is the use of a clapper box in a shaper?	MO 2.01	U
4	List the operations that can be performed in a drilling machine.	MO 2.04	U
5	List the different types of milling machine.	MO 3.01	R
6	Define indexing	MO 3.02	U
7	Name a suitable cutting fluid for drilling cast iron block	MO 4.04	A
8	Define tool magazine	MO 4.02	R
9	List the natural abrasives used in grinding wheel	MO 3.04	U

**II. Answer any Eight questions from the following  
Marks)**

**8 x 3= 24**

1	Describe speed, feed, and depth of cut in turning operation	MO 1.05	U
2	Illustrate the nomenclature of a single point cutting tool with details	MO 1.02	U
3	Explain crank and slotted lever mechanism in a shaper.	MO 2.01	U
4	Draw and explain any two work holding devices in a shaper.	MO 2.03	U
5	Draw a neat sketch of an arbor and give its function.	MO 3.03	U
6	Give the principle of centerless grinding. What are the limitations of centerless grinding?	MO 3.04	U
7	Write the differences between NC and CNC machines.	MO 4.01	U
8	Explain the classification of lubricants.	MO4.05	R
9	Differentiate between orthogonal and oblique cutting.	MO 1.01	U
10	Explain any three shaper operations.	MO 2.01	R

**III. Answer all questions from the following (6x 7 = 42 Marks)**

1	Draw the figure of a center lathe and list its parts	MO 1.04	R
	<b>OR</b>		
2	List the properties required for a good cutting tool material	MO 1.02	U
3	Draw a neat figure of radial drilling machine and list its parts	MO 2.04	R

	<b>OR</b>		
4	List the main parts of a shaper and explain their functions	MO 2.01	U
5	Differentiate between Upmilling and Downmilling	MO 3.01	U
	<b>OR</b>		
6	Write short note on abrasives and bonding materials used in grinding wheel	MO 3.04	R
7	List and explain the main parts of a NC machine.	MO 4.02	U
	<b>OR</b>		
8	List the factors considered for the selection of cutting fluids.	MO 4.04	U
9	Explain taper turning by tailstock set over method in a lathe.	MO 1.05	U
	<b>OR</b>		
10	Explain the different types of chips formed during metal cutting operation	MO1.01	U
11	Explain the nomenclature of a milling cutter. List the different types of milling cutters	MO3.02	U
	<b>OR</b>		
12	Explain Lapping and Honing with suitable figures	MO 3.01	U

