Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program/s: Mechanical Engineering
Year: 2nd **Semester:** 4th
Examination: End Semester Examination
Examination year: May – 2023

Course Code: TEC 401 **Course Name:** **Manufacturing Technology –I**
Date: 18/05/2023 **Total Marks:** 40
Time: 10 am to 12:00 noon **Total Pages:** 01

Instructions:

- *Write each answer on a new page.*
- ** COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping*

Q.No.1	**Attempt any Five questions.**	Marks (20)	Cos*	BTL#
1.	Explain with neat sketch types of tool wear.		CO1	BT1, BT2
2.	Explain the metal cutting saw characteristics by a neat sketch.		CO4	BT 1, BT 2
3.	With sketch explain reamer and show its different types.		CO3	BT 4, BT6,
4.	With a sketch explain Turret head Indexing mechanism.		CO4	BT 2 BT 4
5.	Describe the tool geometry of a plain milling cutter with the help of a neat sketch.		CO3	BT 1, BT2
6.	What do you understand by deep hole drilling? Explain the methods for deep hole drilling.		Co3	BT 2 BT 4
Q.No.2	**Answer the following questions**	**Marks (20)**		
1.	List reciprocating machine tool. Write the difference between any two reciprocating machine tools.		CO2	BT1, BT2
2.	Estimate the time required to machine a cast iron surface 275 mm long and 100 mm wide in one cut using a cutting speed of 0.33 m/s and a feed rate of 0.25 mm per stroke on a shaper with a cutting-to-return time ratio of 3/2. The available ram strokes on machine are 28,40,60 and 90 strokes.		CO1 CO3	BT1, BT4
3.	What do you understand by tool life? A carbide tool with MS work piece was found to give tool life of 2 hrs while cutting at 0.5 m/min. compute tool life if the same tool is used at a speed of 25% higher than the previous one. Also determine the value of cutting speed if tool is required to have a tool life of 3 hrs. Assume taylor's exponent 'n' to be 0.27.		CO1	BT 4, BT6,
4.	Available index plates are with the following number of hole circles: On one side : 24,25,28, 37,38,39,43 On reverse side : 46,47,49,51,53,54,57,58 holes Calculate the indexing required for the following divisions: (i) 7 (iii) 24° 30′		CO4	BT 2 BT 4

**********End of Question Paper**********