4TH SEM./ AERO/AIR. MAIN.ENG./DIP IN MECH/ AUTO./ MECH./ MECH(MAINT.)/ MECH(PROD.)/ MECH(SAND.)/ MECH(IND.INT.)/ 2023(S)

TH-2 Manufacturing Technology

Full Marks: 80 Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10

   a. State the properties of cemented carbine cutting tool.

   b. Define rake angle.

   c. List the operations carried out in a lathe.

   d. How the material is removed in a shaper?

   e. State the application area of a planer.

   f. Write the functions of diving heads in Milling operations.

   g. How boring operation differs from drilling?

   h. How do you classify the slotting machines?

   i. Name the types of bond used in manufacturing of grinding wheel.

   j. List out various surface finishing operations.

2. Answer **Any Six** Questions 6 x 5

   a. Write down the desirable properties of coolants and lubricants. Give two example of cutting fluids.

   b. Draw a neat sketch of a single point cutting tool indicating its complete geometry.

   c. What are the differences between Capstan and Turret lathe?

   d. Compare between planer and shaper.

   e. With a neat sketch explain quick return mechanism of shaper machine.

   f. Explain the term ‘Grain’, ‘Grit’, ‘Structure’ and ‘Grade’ of a grinding wheel.

   g Discuss hand lapping operation in brief.

3 What are the desirable properties of cutting tool materials? Describe any four with its principal characteristics and applications. 10

4 Describe various methods of taper turning carried out on a lathe. 10

5 With a neat sketch, explain the automatic table feed mechanism of a shaper machine. 10

6 Explain with example the procedures of simple and compound indexing. 10

7 With a block diagram, describe the function and working of Radial drilling machine. 10