

Metal Cuttings and CNC Machine*Time : Three Hours**Maximum Marks : 100**Minimum Pass Marks : 35**Note: Attempt five questions selecting one from each unit. All questions carry equal marks.***Unit - I**

1. a) What are different types of machine tool drives.
- b) What is the principle of thread cutting. State the procedure of thread cutting on lathe.

OR

2. a) With the help of a neat sketch describe the geometry of a single point cutting tool.
- b) What do you mean by tool life. State and explain the factors affecting tool life.

Unit - II

3. a) What do you mean by grinding. Briefly discuss different types of grinding machines available for grinding operation.
- b) What are the advantages of centerless grinding over centre type grinding.

OR

4. Write short notes on :
 - i) Truing and Dressing of wheel
 - ii) Cylindrical and internal grinding.

Unit - III

5. a) What are common milling methods. Compare their merit and demerit.
Explain the drilling procedure of drilling in radial drilling machine.

OR

6. a) What do you understand by Indexing. Explain any one type of indexing mechanism with neat sketch.
- b) Differentiate between drilling and broaching. Explain the principle of broaching.

Unit - IV

7. a) Explain the process of gear shaping and machine set up for shaping operation.
- b) Discuss the various types of quick return mechanism for shaper. Explain any one in detail.

OR

8. Write short notes on :
 - i) Machining time in shaper
 - ii) Die casting
 - iii) Gear shaving
 - iv) Cause of surface irregularities during shaping operation.

Unit - V

9. a) What is a control system. Discuss different types of control systems used in mechatronics.
- b) Discuss the advantage and disadvantages of CNC machines.

OR

10. Write short notes on :

i) Electronic switch	ii) Transducers
iii) Function of servomotor	iv) CD-Rom players.