

Roll No

IP/IEM/ME - 603**B.E. VI Semester**

Examination, December 2014

Metal Cutting and CNC Machine*Time : Three Hours**Maximum Marks : 70*

- Note:** i) Attempt one question from each unit.
ii) All questions carry equal marks.

Unit - I

1. a) Explain briefly the parts of a Lathe.
b) Explain the following operations with a neat diagram
 - i) Threading
 - ii) Knurling
 - iii) Forming
 - iv) Reaming

OR

2. a) What is the working principle of a Lathe.
b) Name the methods by which taper turning can be carried out on Lathe. Explain one method in short.

Unit - II

3. a) What are the advantages of grinding process over other cutting process.
b) Explain the working principle of internal grinding.

OR

4. a) How are grinding machine classified?
b) Discuss mounting of grinding wheel and wheel truing.

Unit - III

5. a) What is a Milling machine? How are they broadly classified?
b) Write short notes on Indexing and Dividing head.

OR

6. a) Explain the working of Radial drilling machine.
b) What are the advantages, limitations and applications of broaching.

Unit - IV

7. a) Explain briefly with a neat sketch the principle parts of a shaper.
b) Define cutting speed, feed and depth of cut in relation to shaper work.

OR

8. a) Explain one method of forming gears in detail.
b) Compare gear hobbing and gear shaping.

Unit - V

9. a) What is control system. Discuss various types of control system used in mechatronics.
b) What is a sensor. Discuss classification of sensors.
- OR
10. a) Discuss advantage and disadvantage of mechatronics.
b) Explain the principle of CD-ROM player.
