Total No. of Questions : 10] [Total No. of Printed Pages :2

Roll No .....

ME/IP-603

B.E. VI Semester

Examination, June 2014

Metal Cuttings and CNC Machine

Time : Three Hours

Maximum Marks : 70

Note: Attempt any five questions. All questions carry equal marks.

1. a) Draw a neat sketch of a lathe machine. How conventional lathe machine is different from capstan and turret lathes? 7

   b) State methods of thread production on lathe machine. Discuss any one in detail. 7

OR

2. a) Define "tool signature." Draw a neat sketch of single point cutting tool. 7

   b) State various operations performed on lathe machine. Explain any four operations. 7

3. a) Define grinding. How a grinding wheel is specified? State advantages of grinding. 7

   b) Explain the working principle of centre-less grinding. 7

OR

4. a) Compare surface and cylindrical grinding. 7

   b) Discuss in detail wheel Turing and dressing. 7

5. a) Compare Drilling, Broaching and Milling processes with advantages and disadvantages. 7

   b) Draw a neat sketch of "radial drilling machine" showing various components. State the functions of any three components. 7

OR

6. a) Classify milling machines. Draw a neat sketch of universal type milling machine. 7

   b) State the principle of broaching. Classify various broaches. State its various parts. 7

7. a) Discuss any five operations performed on shaper machine. 7

   b) Briefly discuss on gear shaving and gear testing. 7

OR

8. a) State various gear cutting methods. Explain die casting method for gear cutting. 7

   b) Explain with neat sketch quick return mechanism used in shaper machine. 7

9. a) What do you mean by mechatronics? Compare analog and digital controls. 7

   b) State the functions of CNC. State its various types and applications. 7

OR

10. Write short note on following (Any two): 7 each

    i) PLC and its applications

    ii) Transducers

    iii) Signal flow diagram

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