(Pages : 2) **3164**

Reg. No. : .....

Name : .....

Fifth Semester B.Tech. Degree Examination, June 2009
(2003 Scheme)
Branch : Automobile
03-506 : MANUFACTURING TECHNOLOGY (U)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions from Part **A**: **(10×4=40 Marks)**

1. Mention the various parts of a lathe.
2. List out the advantages and disadvantages of a Turret Lathe.
3. What are the various operations you can perform in a drilling machine ?
4. What are the advantages and disadvantages of a Jig boring machine over other boring machines ?
5. Explain the difference between a shaper and a planner.
6. Write short notes on an "arbor" used in a milling machine.
7. How the shaping machines are classified ?
8. What are the bonding materials used in a Grinding wheel manufacturing ?
9. Why coding is necessary in a N.C. machine ? Explain.
10. What are the concept of N.C. machines ?

PART – B

Answer **any one** question from **each** Module. **All** questions carry **equal** marks : **(20×3=60 Marks)**

Module – I

11. a) Explain the details of a "twist drill geometry" with necessary sketches.

    b) What are the various operations that can be performed in a Capstan Lathe ? Explain.

P.T.O.

12. a) With a block diagram explain the principle and operation of a pneumatic drilling machine.

    b) Write brief notes on :
    1) Wheel balancing
    2) Centreless grinder.

Module – II

13. a) Write a brief description of a Crank and slotted lever mechanism of a shaping machine.

    b) What is the time required for taking a complete cut on plate 610 × 920 mm, if the cutting speed is 10 m/min ? The return time to cutting time is 1 : 4 and the feed is 3 min. The clearance at each end is 80 mm.

14. a) With a neat sketch describe the principle and operation of a T-slot milling in a milling machine.

    b) With a neat sketch explain a grinding operation perform on a metal piece.

Module – III

15. a) Explain the main elements of a N.C. machine with a block diagram.

    b) For what type of work the Broaching machine is used ? Explain with an explain.

16. a) Based on the control system, how the N.C. machines are classified ? Explain briefly.

    b) 1) Give the applications of N.C. machines
    2) List the advantages and disadvantages of N.C. machines.

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