

G 566

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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, MAY 2014**

**Fourth Semester**

Branch : Mechanical Engineering/Automobile Engineering

**MACHINE TOOLS (M,U)**

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all questions.  
Each question carries 4 marks.*

1. Distinguish between boring and reaming.
2. What is a duplicating lathe ?
3. Differentiate between internal broaching and external broaching.
4. Discuss the significant machining parameters for a shaping machine.
5. Why grinding is known as a 'semifinishing operation' ?
6. Write a note on gear errors.
7. Differentiate between CNC and DNC.
8. What do you mean by a tool magazine ?
9. Define responsive manufacturing.
10. What are the advantages of CIM over conventional manufacturing.



(10 × 4 = 40 marks)

**Part B**

*Answer all questions.  
Each question carries 12 marks.*

11. Explain different drilling methods, tools used and the machines for these operations. (12 marks)

Or

12. Sketch and explain the significant differences between a turret and capstan lathe. Discuss how a component can be machined first in a turret lathe and then in a capstan lathe.

(12 marks)

Turn over

13. Explain :

- (a) Shaping of V-blocks. (4 marks)
- (b) Planing of guide gibs. (4 marks)
- (c) Slotting of keyways. (4 marks)

Or

14. Explain the different milling cutters used in a milling machine. Discuss the specifications of cutters used in certain machining conditions.

(12 marks)

15. Discuss the various methods of gear cutting. Explain the gear generating machines. (12 marks)

Or

16. Explain :

- (a) Ultrasonic impact grinding. (6 marks)
- (b) Grinding of shafts. (6 marks)

17. Explain the classification of CNC controllers and CNC programming techniques. (12 marks)

Or

18. Discuss the construction, working and processing parameters of a Swiss type automatic screw machine.

(12 marks)

19. Define flexible manufacturing system. Discuss the different FMS layouts. (12 marks)

Or

20. Explain the steps in PCB manufacturing. Discuss the productivity and quality issues in manufacture of ICs.

(12 marks)

[5 × 12 = 60 marks]

