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**D – 4345**

Reg. No. : .....

Name : .....

**Fifth Semester B.Tech. Degree Examination, January 2018  
(2008 Scheme)**

**08.505 : MACHINE TOOLS (MN)**

Time : 3 Hours

Max. Marks : 100

**Instructions :** Answer *all* questions from Part – A and *any one* question from *each* Module in Part – B.

**PART – A**

**(10×4=40 Marks)**

1. What is meant by tool signature ?
2. Why relief angles on carbide tools are kept small ?
3. What are the important factors affecting tool life in metal cutting ?
4. Differentiate between steady rest and follower rest.
5. Explain any two types of mandrels used in lathe.
6. List out the different types of abrasives used in grinding process.
7. Explain the principle of chemical machining process.
8. What is chip curl ?
9. Explain the principle of hydroforming process.
10. Explain WEDM.

**PART – B**

**Module – I**

11. a) Explain with neat sketches the various types of chips formed in conventional machining process.  
b) Differentiate between orthogonal cutting and oblique cutting process.

**OR**

12. a) List out the important properties of cutting fluids. Briefly explain the different types of cutting fluids used in metal cutting process.  
b) With a neat sketch explain the working principle of a turning tool dynamometer.

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**Module – II**

13. a) Explain any two taper turning methods used in a lathe.  
b) With a neat sketch explain feeding mechanism of engine lathe.

OR

14. a) With a neat sketch explain quick return mechanism employed in shaper.  
b) Explain with a neat sketch the working of column and knee type milling machine.

**Module – III**

15. a) With a neat sketch explain turret indexing mechanism.  
b) With the help of a schematic diagram explain the working of a capstan lathe.

OR

16. a) Explain LBM process with a neat sketch.  
b) List out the advantages, disadvantages and applications of LBM process.

**(3×20=60 Marks)**

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