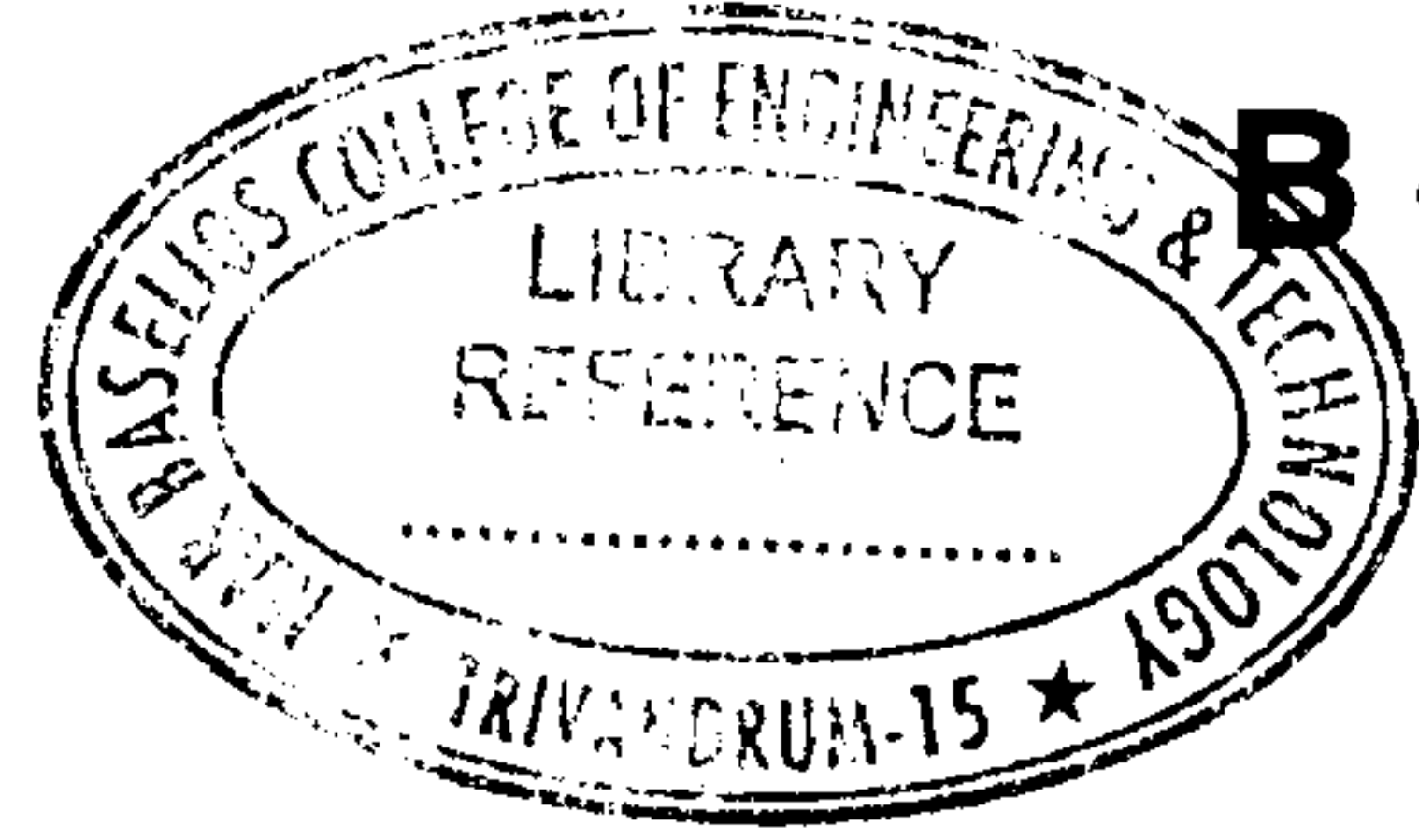




(Pages : 2)



B – 3293

Reg. No. :

Name :

**Fifth Semester B.Tech. Degree Examination, December 2016
(2013 Scheme)
13.505 : MACHINE TOOLS (MN)**

Time : 3 Hours

Max. Marks : 100

Instruction : Answer all questions from Part – A and any one question from each Module of Part – B.

PART – A

1. Distinguish between electrolyte of ECM with dielectric fluid in EDM.
2. Differentiate between Up milling and Down milling.
3. Compare Capstan and Turret lathe.
4. Name three different types of chucks used on lathe and state the advantages of each.
5. Explain electromagnetic forming.
6. List the important properties of a good cutting fluid.
7. Differentiate steady rest and follower rest in lathe.
8. Write down the principle of explosive forming process.
9. List out the advantages of centreless grinding process.
10. What are the factors affecting Machinability ? **(10×2=20 Marks)**

PART – B

Module – 1

11. a) Explain Merchant's model for determining the shear plane angle in orthogonal cutting.
b) Illustrate the tool geometry of a single point cutting tool.

P.T.O



12. a) Explain the various types of chips formed during machining operations with simple sketches.
b) Explain with the help of a neat sketch, the principle of working of a turning tool dynamometer.

Module – 2

13. a) Differentiate between single spindle automat and multi-spindle automat.
b) Explain hydraulic quick return mechanism of shaper.
14. a) With neat sketch, explain the apron mechanism of lathe.
b) What are the various operations that can be performed on a lathe ?

Module – 3

15. a) Explain with suitable example the simple indexing method. How it differ from differential indexing ?
b) Write down the specification of grinding wheels.
16. a) Explain any 4 types of milling cutters and its applications.
b) Explain Glazing and Loading of grinding wheels.

Module – 4

17. a) Explain ECM with neat sketch. What are the features of ECM ?
b) Explain Laser Beam Machining Process. Give two applications.
18. a) With neat sketch explain EDM process. What are the applications ?
b) Explain Wire cut EDM. How it differ from EDM ? **(4x20 = 80 Marks)**
-