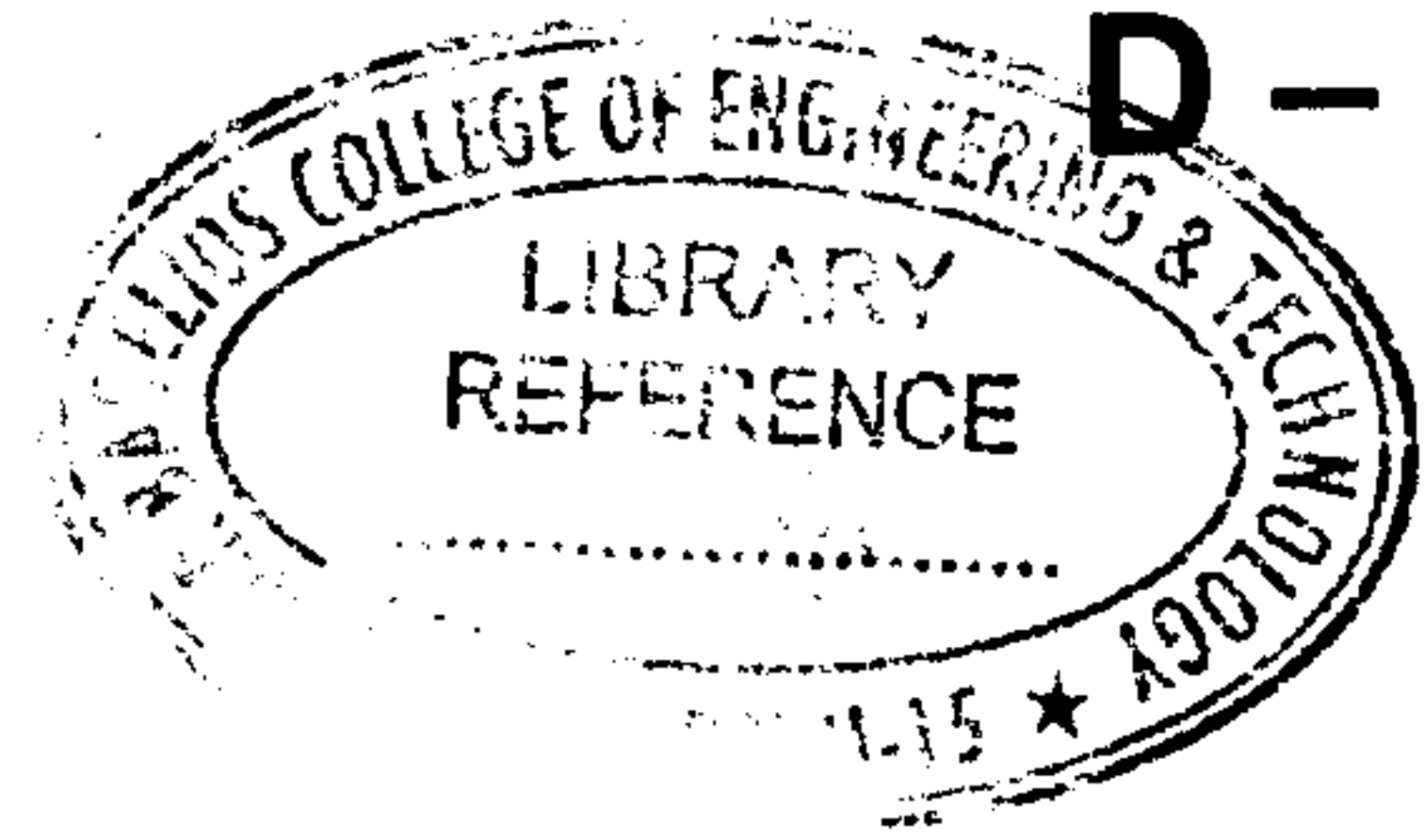




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Reg. No. :

Name :

**Seventh Semester B.Tech. Degree Examination, November 2017
(2013 Scheme)**

13.706.6 : NON CONVENTIONAL MACHINING TECHNIQUES (MPU)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions, **each** question carries **2** marks.

1. What are the various functions of dielectric fluid used in EDM ?
2. Differentiate between EDM and Wire Cut EDM.
3. Why we usually use tool electrode as cathode and work piece as anode in non conventional machining processes ?
4. What do you mean by the term 'pumping' related to laser beam production ?
5. What are the essential requirements of electrolytes used in ECM ? Give any two examples of electrolyte used in ECM.
6. Write a short note on Electro Chemical Honing process.
7. What do you mean by nodal point clamping in USM ?
8. Write short notes on tool materials and abrasives used in USM process.
9. Explain how MRR of AJM varies with nozzle tip clearance.
10. Explain the principle of WJM. **(10x2=20 Marks)**

PART – B

Answer **any one full** question from **each** Module, **each** question carries **20** marks.

Module – 1

11. a) With the help of neat sketches, explain the construction and working of EDM process.
- b) Explain various characteristics of EDM process. Also give the advantages and disadvantages of EDM. **(2x10=20 Marks)**

OR

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12. a) What are the main requirements of tool materials in EDM process ? Explain different tool material that are used in EDM.
- b) Explain advantages, disadvantages and applications of Wire Cut EDM process. **(2×10=20 Marks)**

Module – 2

13. a) Draw a neat sketch of ECM arrangement. Also discuss various advantages, disadvantages and applications of ECM.
- b) Sketch the set up of EBM and explain the principle of operation. Also give various characteristics of EBM. **(2×10=20 Marks)**

OR

14. a) With the help of neat diagram, explain the working of Electro Chemical Grinding process.
- b) Write note on the production of laser beam. Also discuss in detail about the advantages and disadvantages of LBM. **(2×10=20 Marks)**

Module – 3

15. a) Explain the construction and working of magnetostriction transducer in an USM process.
- b) Give the advantages and the disadvantages of USM. Also discuss about the practical applications of USM. **(2×10=20 Marks)**

OR

16. a) Draw a neat sketch of USM arrangement and explain the working of USM process.
- b) Discuss in detail about various process parameters and explain how they influence the Metal Removal Rate in USM. **(2×10=20 Marks)**

Module – 4

17. a) With the help of neat diagram, explain the working of Water Jet Machining process.
- b) Discuss in detail about the characteristics of AJM. Also give the specific applications of AJM. **(2×10=20 Marks)**

OR

18. a) With the help of neat diagram, explain the construction details of AJM.
- b) Briefly explain the process parameters in WJM process. **(2×10=20 Marks)**
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