



Reg. No. :

Name :

Seventh Semester B.Tech. Degree Examination, April 2015
(2008 Scheme)

Elective III – 08.706.12 : NON CONVENTIONAL MACHINING TECHNIQUES
(MPU)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answer **all** questions in Part A.
2) Answer **one** question from **each** module of Part B.

PART – A

Each question carries 4 marks.

1. How is non-conventional machining classified ?
2. Explain the tool feed mechanism of EDM.
3. What are the functions of dielectric fluid ? Name common dielectric fluids.
4. Why tool insulation is needed in ECM process ?
5. Explain the tool feed mechanism of USM.
6. Cutting tool never dulls or breaks in WJM. Explain.
7. Explain the function of concentrator in USM. What is nodal point clamping ?
8. Explain why EBM process needs vacuum.
9. Explain the process ECH.
10. What are the process parameters of AJM ?



(4×10=40 Marks)

PART – B

Each question carries 20 marks.

Module – I

11. a) Explain the method of EDM process with the help of a schematic diagram. 10
b) Explain the mechanism of metal removal in EDM. How is MRR evaluated in terms of crater parameters ? 10



12. a) Explain the different pulse generators used in ED machines with sketches. What are the merits and demerits of each one ? 10
- b) With the help of neat sketches, explain the machine configuration, product applications and advantages of the following processes : 10
- 1) WCEDM 2) EDG

Module – II

13. a) Explain the dynamics of ECM process, while zero feed and constant feed cases. 10
- b) Explain the LBM process. Explain the emission types, process parameters and fields of application. 10
14. a) Explain the chemistry of ECM process on the basis of Faraday's laws of electrolysis. What are the special features of ECG ? 10
- b) Explain the EBM process. Explain the metal removal mechanism, process parameters, product applications and advantages. 10

Module – III

15. a) Explain the USM process with the help of a diagram. Compare the USM process with EDM. Give some applications of USM. 10
- b) With the help of neat sketches, explain the principle, machine configuration, advantages and areas of application of WJM. 10
16. a) With the help of sketches, show the effect of NTD on MRR and width of cut in AJM. 10
- b) Explain how the metal removal rate in USM varies with other process parameters with the help of necessary graphs ? 10