Code No. : **5226/M**

FACULTY OF ENGINEERING

B.E. 4/4 (Mech./Prod.) II Semester (Main) Examination, May/June 2012

MODERN MACHINING AND FORMING METHODS (Elec. – III)

Time : 3 Hours] [Max. Marks : 75

Note : *Answer **all** questions of Part **A**.*
*Answer **five** questions from Part **B**.*

PART – A **(Marks 25)**

1. Describe the principle of USM.
2. What are the abrasive materials used in USM ?
3. What is the role of dielectric medium in EDM process ?
4. Distinguish between wire EDM and EDM.
5. What are sources of laser ?
6. What are the applications of EBM ?
7. Describe the principle of HERF.
8. What are the applications of hydro forming process ?
9. Describe the principle of stretch forming.
10. What are applications of spinning ?

PART – B **(50 Marks)**

11. Explain the effect of : **10**
    a) Amplitude and frequency of vibration
    b) Abrasive grit size
    c) Static load

    on material removal rate and surface finish in USM.

12. a) Discuss the advantages of EDM as compared to other non traditional methods with respect to : 6
    i) MRR
    ii) Accuracy
    iii) Surface finish.
    b) Explain the principle of water jet machining. Give advantages and applications. 4

13. a) Discuss the factors that influences the quality of cut in ECM. 5
    b) Differentiate between hot machining and high speed machining. 5

14. a) Explain with a neat sketch explosive forming. State its advantages and disadvantages. 5
    b) Explain principle of Guerin and Wheelon process forming. 5

15. a) Explain process of water hammer forming with a neat sketch. 5
    b) Explain the methods of tube spinning technique. 5

16. Distinguish between LBM and PAM. 10

17. Write a short note on : 10
    a) ION etching
    b) Shear spinning
    c) Abrasive jet machining.