

Code: ME7T5B

**IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2018**

**ADVANCED MACHINING PROCESSES
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) How non-traditional machining processes are classified?
- b) What is ultrasonic transducer?
- c) What are the Process parameters affecting the MRR in AJM?
- d) What are the advantages of WJC over conventional cutting methods?
- e) What are the factors that influence MRR in ECM?
- f) What are the advantages of ECM?
- g) What are the main elements of the EBM equipment?
- h) Write any four applications of EBM.
- i) What is Laser?
- j) What are the characteristics of Laser beam?
- k) Write the principle of Plasma Arc Machining?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain the factors that should be considered during the selection of an appropriate unconventional machining process for a given job. 8 M
- b) Describe the basic mechanism of material removal in USM. 8 M
3. a) Discuss in detail about the AJM process variables that influence the rate of material removal and accuracy in the machining. 8 M
- b) Differentiate between water and Abrasive water jet machining. 8 M
4. a) Describe the process of electrochemical machining. 8 M
- b) Describe the working principle and elements of chemical machining. What are the factors that govern the selection of a resist for use in chemical machining? 8 M
5. a) With help of neat sketch describe the mechanism of material removal in EDM. 8 M

- b) Discuss the process parameters of EBM and their influence on machining quality. 8 M
6. a) Explain the process of Plasma Arc Machining with a neat sketch. 8 M
- b. List out the advantage and limitation of PAM process. 8 M