

Code: ME7T5B

IV B.Tech - I Semester – Regular Examinations – October 2017

**ADVANCED MACHINING PROCESSES
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

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

11x 2 = 22 M

1. a) State the factors to be consider in selection of Advanced machining processes.
- b) Define the functions of transducers in ultra sonic machining.
- c) Write the advantages and applications of AJM.
- d) Define mixing ratio in abrasive jet machining.
- e) What are the main functions of electrolyte in ECM.
- f) Write the functions and essential characteristics of Dielectric fluids in EDM.
- g) List the factors which influence the tool wear in spark erosion.
- h) Discuss the process parameters in Electron beam machining.
- i) State the characteristics of Laser beam.
- j) State the advantages and disadvantages of LBM.
- k) Name the types of torches used in PAM.

PART – B

Answer any **THREE** questions. All questions carry equal marks. 3 x 16 = 48 M

2. a) Classify the advanced machining processes, justify its use in manufacturing. 8 M
b) Discuss various process parameters in ultrasonic machining. 8 M
3. a) Explain operation characteristics of abrasive jet machine with a neat sketch. 8 M
b) Write a brief note on working principle of water jet machining. 8 M
4. a) Explain the mechanism of material removal involved in the electrochemical machining. 8 M
b) Discuss about various Maskants used in chemical machining. 8 M
5. a) Explain the various factors affecting material removal in EDM. 8 M
b) Explain the working principle of Electron Beam Machining. 8 M
6. a) Explain construction and working of Laser beam machining. 8 M
b) Discuss the factors that influence the quality of cut in PAM. 8 M