Model Question Paper

COURSE: M.TECH. **BRANCH**: Manufacturing Science & Engineering

SEMESTER: 1 . **SUBJECT**: MODERN MANUFACTURING PROCESS

Note: Attempt all questions.

1. **Attempt any four parts of the following.**   **5x4 = 20**
   A. Explain in details the plasma Arc machining process & its application.
   B. Write a short note on (i) sintering (ii) Drying
   C. What are Nontraditional machining processes in details?
   D. Explain the electro forming process
   E. Explain the surface mounting technology in details
   F. Explain the whirling jet machining.

2. **Attempt any two parts of the following.**   **10x2=20**

   A. Explain the principle of PAM with neat sketch.
   B. Describe in brief the process parameters, tool design and material removal rate analysis of Ultrasonic Machining process.
   C. Explain the working principle of AJM process with the help of suitable diagrams.

3. **Attempt any two parts of the following.**   **10x2=20**

   A. Briefly discuss about the effect of high temperature and pressure of electrolyte on the ECM process. Discuss about the Economic of ECM

   B. What are the principal features of ECM process? Briefly explain the various process parameters that affects material removal rate in ECM.

   C. In abrasive jet machining explain the influence of nozzle geometry, abrasive type and types of carrier gas.

4. **Attempt any two parts of the following.**   **10x2=20**
   A Derive the expression for maximum permissible feed rate during ECM?
   B. What are the differences between Water jet machining and Abrasive water jet machining?
   C Define the "Machinability"? Define various ways of evaluating machinability of metals?

5. **Attempt any two parts of the following.**   **10x2=20**

   A. Give a comparison of the unconventional processes in terms of process MRR and its applications.

   B. Discuss the effect of process parameter involved in Electron Beam machining ? Explain laser material Interaction?

   C. What are the methods used for surface treatment process? Explain with example?