

H70

B. Tech. EXAMINATION, 2020

(Eighth Semester)

(B. Scheme) (Main & Re-appear)

(ME, AER)

ME446B

MODERN MANUFACTURING PROCESS

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Classify modern manufacturing processes. Explain the need of non-conventional machining. 8
(b) Differentiate between conventional and non-conventional machining processes. 7
2. (a) Explain the various process parameters of water jet machining. 8
(b) Explain the working principle of Abrasive Jet machining with its advantages and disadvantages. 7

Unit II

3. (a) Discuss the basic technique of chemical machining. Also discuss its advantages, disadvantages and applications. 8
(b) Explain the various process variables of electro chemical machining. 7

4. Explain the mechanism of metal removal in electrochemical grinding (ECG). Discuss the various process parameters of ECG and its application. **15**

Unit III

5. (a) Explain the working principle of wire cut EDM. **5**
(b) Define the following : Tool Electrode design of EDM, Machining accuracy, Electrode feed control. **10**
6. Explain the following : **15**
(a) Working principle of Laser machining process.
(b) Thermal effect of LBM on work piece.

Unit IV

7. Explain the mechanism of metal removal of Plasma arc machining. Also discuss its various process parameters, advantages disadvantages and applications. **15**
8. Write notes on the following :
(a) Electron beam Machining
(b) Process parameters of electron beam welding
(c) Equipments for PAM. **15**