

R09

Code: 9A03708

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

MODERN MANUFACTURING METHODS

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Compare and contrast traditional and non-traditional machining methods.
(b) What are the considerations in selecting the modern manufacturing method?
- 2 (a) Explain the basic metal removal mechanism in USM process.
(b) Explain the economic consideration and recent development in EDM.
- 3 (a) Explain the principle of operation, applications, advantages and limitations of WJM.
(b) Discuss the basic principle, equipment, process variables, accuracy and MRR of AJM.
- 4 (a) What do you mean by metal removal rate? Explain the MRR of electro chemical processes.
(b) What are the advantages, limitations and applications of ECM and ECG processes?
- 5 (a) Discuss the advantages of EDM as compared to other non traditional methods regarding material removal rate, accuracy and surface finish.
(b) With the help of a line diagram, explain the working of R-L-C circuit used in EDM.
- 6 (a) Differentiate between thermal and non thermal processes of metal removal.
(b) Discuss the operating principle, cutting speed and accuracy of cut of LBM.
- 7 (a) Discuss the process parameters, accuracy and surface finish of plasma machining.
(b) Explain the working principle, advantages, limitations and applications of chemical machining.
- 8 (a) Explain with neat sketches the electro stream drilling and shaped tube electrolytic machining.
(b) Explain the classification of rapid prototyping.
