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Total number of printed pages – 2

B. Tech
PEME 5306

Sixth Semester Regular Examination – 2015
MODERN MANUFACTURING PROCESSES

BRANCH : MECH

QUESTION CODE : J 363

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any five from the rest.
The figures in the right-hand margin indicate marks.*



1. Answer the following questions : 2×10
- (a) Define the non-traditional machining process. Give example.
 - (b) What types of tool materials, tool holders are used in ultrasonic machining ?
 - (c) What do you mean by Concurrent Engineering ?
 - (d) State the characteristics and function of dielectric fluid used in EDM.
 - (e) What do you mean by chemical machining ? Explain with neat sketches.
 - (f) What are the process characteristics of PAM ?
 - (g) Distinguish between EDM and LBM on the basis of i) working principle
ii) tool used iii) accuracy.
 - (h) Describe Electron Beam Machining process.
 - (i) Explain Laser Beam Machining.
 - (j) Why Micro and nano machining of glasses and ceramics are important in Advance machining.
- 2 Explain about EDM with neat sketches. Give various advantages, disadvantages and applications of above machine. 10

P.T.O.

3. What are the different equipments available in AJM? How the principle of operation worked ? Explain briefly with neat sketches. 10
4. (a) What is the concept of USM process ? Write the principle of operation of USM. 5
(b) Describe the working principles of ECM. Explain briefly with neat sketches. 5
5. (a) What is the process parameter of AJM? How it is helpful for machining ? 5
(b) What are the equipments required for EBM machine ? Explain briefly with neat sketches. 5
6. (a) What are the parameters that affect the MRR in EDM ? Explain briefly. 5
(b) What is the mechanism of metal removal in electrochemical machining ? What are the functions of electrolyte in ECM ? 5
7. (a) How the Mechanism of metal removal occurs in PAM ? Explain the Applications, Advantages and limitations. 5
(b) Describe High speed machining and grinding. Explain briefly. 5
8. Write Short Notes (**Any Two**): 5 × 2
(a) Rapid prototyping.
(b) Reverse Engineering.
(c) Water Jet Machining.
(d) Stand off distance (SOD).

