Roll No. | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (E-I 2011 onwards) (Sem.–6)

NON TRADITIONAL MACHINING

Subject Code : DE/ME-2.0

Paper ID : [A2411]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Q1. Write briefly :

a) What are the limitations of conventional manufacturing processes?

b) Explain the effect of current during machining with EDM.

c) What will be the effect of standoff distance (SOD) during machining with abrasive jet machining?

d) Write the basic principle of Electro chemical machining.

e) Name the common dielectric fluids used in EDM.

f) What is the difference between ECG and conventional grinding?

g) Explain the function of servo-mechanism in EDM.

h) What is the mechanism of material removal in PAM?

i) Explain why the mechanical properties of workpiece materials are not significant in most of the NTMM?

j) Explain why EBM process is performed usually in a vacuum chamber.

SECTION-B

Q2. Discuss the principle of laser Beam machining, and also discuss its process capability and applications.

Q3. Discuss the main function and types of dielectric fluids used in Electro Discharge Machining.

Q4. Explain the working of abrasive jet machining with suitable sketch.

Q5. What are the limitations of Hot Machining methods?

Q6. Explain any hybrid machining process.

SECTION-C

Q7. With the help of a suitable diagram, explain the working of Ultrasonic Machining and also discuss the effect of various process parameters on material removal rate (MRR) and accuracy of the machined work piece.

Q8. Explain the working principle of Electrochemical Machining (ECM) and also elaborate the electrochemistry of the ECM process.

Q9. Write notes on :

(a) Electrochemical honing

(b) Effect of heat and H_2 bubble generation in ECM process.