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 Answer briefly :

a) Enumerate the situations in which conventional machining process give better results than non- conventional machining processes.

b) Enumerate the applications of non-conventional manufacturing processes.

c) Enumerate various applications of water jet machining process.

d) Name the tool materials used in ultrasonic machining process.

e) Enumerate limitations of water jet machining.

f) What are the prime requirements of tool material in EDM?

g) Enumerate various Etchants used in chemical machining.

h) What are the gases commonly used in LASER?

i) Explain the material removal mechanism in electron beam machining.

j) What is the necessity of hybrid machining?

SECTION-B

Q2 How the unconventional machining processes are classified?

Q3 Describe the working of electro-chemical grinding process with the help of a neat sketch.

Q4 Explain the working and metal removal mechanism of electric discharge machining with the help of a neat sketch.

Q5 What do you understand by hybrid machining processes? Explain the classification, advantages and applications of hybrid machining processes.

Q6 Describe laser beam machining process with the help of a neat sketch.

SECTION-C

Q7 Discuss the working principle, material removal mechanism, and main components of an Ultrasonic machine with the help of a neat sketch.

Q8 a) Explain hot machining process and give various applications of hot machining.

b) Explain the working principle and material removal mechanism in Plasma Arc machining process.

Q9 Describe the working principle of main components of an Electron Beam Machining process with the help of a neat sketch and give its advantages, disadvantages and applications.