

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2012 Onwards E-II) (Sem.-7,8)

NON-TRADITIONAL MACHINING

Subject Code : DE/PE-2.0

M.Code : 72006

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

1. Answer briefly :

- (a) Distinguish between traditional and non-traditional machining processes.
- (b) What do you understand by computer integrated manufacturing?
- (c) Enumerate the applications of non-traditional machining processes.
- (d) Explain the material removal mechanism in water jet machining process.
- (e) Enumerate the advantages of chemical machining.
- (f) Enumerate the main functions of electrolytes used in ECM process.
- (g) Enumerate the process parameters used in USM process.
- (h) Enumerate the basic characteristics of electrode materials in EDM process.
- (i) Explain the working principle of electron beam machining process.
- (j) Enumerate the examples of hybrid machining processes.

SECTION-B

2. How non-traditional machining processes can be classified?
3. Explain the material removal mechanism in EDM process giving a neat sketch. Also explain the process parameters used in EDM process.
4. Describe the working and schematics of electrochemical deburring process with the help of a neat sketch.
5. Explain the construction and working of EDM machines with the help of a neat sketch. Also explain the criteria of selection of electrode material in EDM process.
6. Explain the working and construction of air-plasma machining process giving a neat sketch.

SECTION-C

7.
 - (a) Describe the material removal mechanism of abrasive flow machining process with the help of a neat sketch. Also explain the applications and limitations of AFM machine.
 - (b) Explain the steps involved in material removal in chemical machining process. Also explain the tooling for chemical machining.
8.
 - (a) Differentiate between sludging and non-sludging electrolytes used in electro chemical machining process. How flow of electrolyte is maintained in ECM process?
 - (b) Explain the working and construction of solid state laser machining process giving a neat sketch.
9.
 - (a) Describe the material removal mechanism of ultrasonic machining process with the help of a neat sketch.
 - (b) Explain the construction of electron beam gun and diffusion pump in electron beam machining process giving neat sketches.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.