

# CBCS Scheme

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16MCM24

## Second Semester M.Tech. Degree Examination, June/July 2017 Non Traditional Machining

Time: 3 hrs.

Max. Marks: 80

**Note:** Answer *FIVE* full questions, choosing one full question from each module.

### Module-1

- 1 a. Classify the Non-Traditional machining process on the basis of mechanism of metal removal, Transfer media, Type of energy and energy source. (08 Marks)  
b. With the help of a sketch explain ultrasonic machining process. (08 Marks)

OR

- 2 a. Explain the Abrasive set machining process with the help of a sketch. (08 Marks)  
b. How does the following parameters affect metal removal rate in Abrasive set machining process  
i) Stand – off Distance  
ii) Size of Abrasive Grain  
iii) Carrier Gas  
iv) Velocity of the Abrasive set. (08 Marks)

### Module-2

- 3 a. Explain the principle and operation of water set machining process with the help of a sketch. (08 Marks)  
b. What is flushing? With the help of a sketch explain pressure flushing and section flushing methods in Electrical discharge machining. (08 Marks)

OR

- 4 a. Explain the principle and operation of electrical Discharge machining process with the help of a sketch. (08 Marks)  
b. List the commonly used dielectric fluids in electric discharge machining and mention what properties should they posses. (08 Marks)

### Module-3

- 5 a. With a neat sketch explain Electrochemical machining process. (07 Marks)  
b. What are the advantages, Disadvantages and applications of electro-chemical machining process? (09 Marks)

OR

- 6 a. With the help of a sketch explain Electro chemical grinding, Electro-chemical Honing and Electro chemical Deburring processes. (12 Marks)  
b. What are the functions of Electrolyte? And mention any 2 electrolytes used the Electro chemical machining process. (04 Marks)

### Module-4

- 7 a. Write a note on Maskants and Etchants in chemical machining process. (06 Marks)  
b. List the advantages, Disadvantages of application of chemical machining process. (06 Marks)  
c. What are the parameters which influence metal removal rate in electron beam machining process? (04 Marks)

OR

- 8 a. With the help of sketch explain plasma Arc machining process. (08 Marks)  
b. Sketch and explain Electron Beam machining process. (08 Marks)

Module-5

- 9 a. Explain the laser beam machining process with the help of a neat sketch. (08 Marks)  
b. Sketch and explain the principle and operation of Ion beam machining process. (08 Marks)

OR

- 10 a. With the help of a sketch explain the explosion forming high velocity forming process. (07 Marks)  
b. List the advantages, disadvantages and applications of high velocities forming processes. (09 Marks)

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