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**Sixth Semester B.E. Degree Examination, Aug./Sept.2020**  
**Non-Traditional Machining**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.**

**PART - A**

- 1 a. Give the classification of NTM processes on the basis of energy used. (06 Marks)  
b. Differentiate between conventional and non-conventional machining processes. (08 Marks)  
c. What are the parameters to be considered while selecting a NTM process? (06 Marks)
- 2 a. With the help of neat sketch explain working of ultrasonic machining process. (07 Marks)  
b. With the help of neat sketch explain slurry feeding mechanism in USM. (07 Marks)  
c. What is the effect of static load, frequency and amplitude on MRR in USM? (06 Marks)
- 3 a. With the help of neat sketch explain working of abrasive jet machining. (07 Marks)  
b. Explain the effect of particle size, standoff distance, and jet velocity on MRR in AJM. (07 Marks)  
c. Give the advantages, disadvantages and applications of water jet machining. (06 Marks)
- 4 a. With the help of neat sketch explain the working of electro-chemical grinding. (07 Marks)  
b. Explain the chemical reactions that takes place during ECM process. (06 Marks)  
c. What are the advantages and disadvantages of ECM? (07 Marks)

**PART - B**

- 5 a. With the help of flow diagram explain steps in chemical milling. (08 Marks)  
b. Explain the effect of etchant time and etchant temperature on MRR in CHM. (06 Marks)  
c. Write a short note on etchants and maskants in CHM. (06 Marks)
- 6 a. With the help of neat sketch explain the working of travelling wire EDM. (08 Marks)  
b. Write a note on flushing of dielectric in EDM. (06 Marks)  
c. What is the effect of current density and capacitance on MRR in EDM? (06 Marks)
- 7 a. What is non-thermal generation of plasma in plasma arc machining? List the gases in PAM. (07 Marks)  
b. Give the differences between transferred arc and non-transferred arc mode in PAM. (07 Marks)  
c. Give the applications of PAM. (06 Marks)
- 8 a. With the help of neat sketch explain working of laser beam machining and also give applications of LBM. (10 Marks)  
b. With the help of neat sketch explain electron beam machining process and give advantages and disadvantages of EBM. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg.  $42+8=50$ , will be treated as malpractice.