

CBCS SCHEME



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15ME554

Fifth Semester B.E. Degree Examination, June/July 2018 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. What is NTM? Classify NTM process. (08 Marks)
b. Differentiate between conventional and non-conventional machining processes. (08 Marks)

OR

- 2 a. What are basic factors upon which the unconventional manufacturing processes are classified? Explain. (12 Marks)
b. Explain the need for development of NTM. (04 Marks)

Module-2

- 3 a. What is ultrasonic machining? Explain the ultrasonic machining process with neat sketch. (10 Marks)
b. Mention merits, demerits and applications of AJM. (06 Marks)

OR

- 4 a. Explain with schematic diagram the abrasive jet machining process. (10 Marks)
b. Explain tool feed mechanism in USM with neat sketches. (06 Marks)

Module-3

- 5 a. With a neat sketch, explain the working principle of ECM process. (10 Marks)
b. List the factors to be considered in the selection of etchants in chemical machining. (06 Marks)

OR

- 6 a. With the help of neat sketches, explain the different steps involved in chemical blanking. (08 Marks)
b. With neat sketch, explain electro chemical Honing. (08 Marks)

Module-4

- 7 a. Explain the working principle of EDM with a neat sketch. (10 Marks)
b. What are the important considerations are to be made in the design of plasma torch. (06 Marks)

OR

- 8 a. Explain with neat sketch the principle of PAM. (10 Marks)
b. List the commonly used dielectric fluids in EDM process. What properties should they possess? (06 Marks)

Module-5

- 9 a. Explain with a neat sketch, the principle of operation and mechanism of metal removal in laser beam machining. (10 Marks)
b. State the advantages, disadvantages and application of EBM. (06 Marks)

OR

- 10 a. Sketch and explain electro beam machining process. (10 Marks)
b. What are the advantages and applications of LBM process? (06 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.