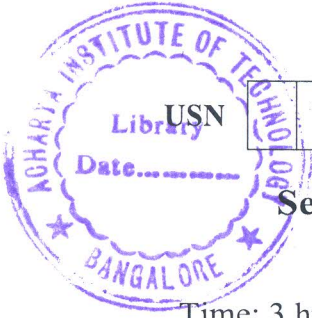


CBCS SCHEME



18MPD243

Second Semester M.Tech. Degree Examination, June/July 2019 Non Traditional Machining Process

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the need of NTM and give the complete classification of NTM. (10 Marks)
b. With schematic diagram explain USM. (10 Marks)

OR

- 2 a. Explain different or (any 2) Feed Mechanisms used in USM. (10 Marks)
b. Explain the parameters that effect on metal removal in USM process. (10 Marks)

Module-2

- 3 a. Explain how the following parameters influence the metal removal rate in Abrasive Jet Machining process: i) Nozzle tip distance ii) Velocity of Abrasive iii) Abrasive flow rate iv) Gas Pressure. (10 Marks)
b. State and explain the working and principle of Abrasive Jet machining. (10 Marks)

OR

- 4 a. Explain the working principle of EDM with a neat sketch. (12 Marks)
b. Explain the Elementary Relaxation Circuit for EDM. (08 Marks)

Module-3

- 5 a. With a neat sketch, explain the working principle of ECM process. (10 Marks)
b. Describe various process parameters affecting ECM process. (10 Marks)

OR

- 6 a. With a neat sketch, explain electro chemical grinding. (10 Marks)
b. List the advantages, limitations and application of ECM process. (10 Marks)

Module-4

- 7 a. Explain in brief the following in chemical machining process: i) Maskants ii) Etchants. (10 Marks)
b. Explain the sequence of operation in chemical machining. (10 Marks)

OR

- 8 a. With a neat sketch, explain the Plasma Arc Machining (PAM) process and also mention applications. (10 Marks)
b. Sketch and explain transferred and nontransferred plasma arc system. (10 Marks)

Module-5

- 9 a. Sketch and explain Electron Beam Machining. (10 Marks)
b. Comment on the parameters influencing MRR in EBM. (10 Marks)

OR

- 10 a. Explain with a neat sketch, principle of operation and mechanism of metal removal in Laser Beam Machining. (10 Marks)
b. State the advantages, disadvantages and applications of LBM. (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.