

CBCS SCHEME

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15ME554

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

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Give a brief history that led to the development of non-traditional machining processes. (04 Marks)
b. Compare between traditional and non-traditional machining processes. (04 Marks)
c. Give a broad classification of NTM processes. (08 Marks)

OR

- 2 a. List out the factors while selecting the NTM process and explain any two factors. (10 Marks)
b. Discuss the advantages and applications of NTM process. (06 Marks)

Module-2

- 3 a. With a neat sketch, explain USM process. (10 Marks)
b. Discuss the effect of abrasive grain diameter, effect of slurry on material removal rate in USM process. (06 Marks)

OR

- 4 a. With a neat sketch, explain AJM process. (08 Marks)
b. Explain applications, advantages and limitations for WJM process. (08 Marks)

Module-3

- 5 a. With a neat diagram, explain ECM process. (08 Marks)
b. Discuss the parameters like current density, S.O.D., velocity of electrolyte on MRR in ECM. (08 Marks)

OR

- 6 a. Explain the different steps involved in Chemical Machining Process (CHM). (08 Marks)
b. Enumerate the various advantages applications and limitations of CHM. (08 Marks)

Module-4

- 7 a. Explain with a diagrams, electrode feed control system in EDM process. (08 Marks)
b. What is flushing? Discuss various methods in flushing for EDM process. (08 Marks)

OR

- 8 a. With a neat sketch, explain the principle and process in PAM. (08 Marks)
b. What safety precautions are to be taken while operating PAM? (05 Marks)
c. Write different applications of PAM process. (03 Marks)

Module-5

- 9 a. With a neat sketch, explain Laser Beam Machining process. (08 Marks)
b. Explain different advantages and limitations for LBM. (08 Marks)

OR

- 10 a. With a neat diagram, explain Electron Beam Machining process. (08 Marks)
b. Enumerate different applications, advantages and limitations for EBM process. (08 Marks)

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.