



CBCS SCHEME

18ME641

Sixth Semester B.E. Degree Examination, June/July 2024 Non – Traditional Machining

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Define Non – Traditional Machining. Give classification of Non – Traditional Machining. (06 Marks)
- b. Discuss the need for Non – Traditional Machining with invension of newer materials. (05 Marks)
- c. Explain the criterias for the selection of Non – Traditional processes. (09 Marks)

OR

- 2 a. Explain with necessary sketch the mechanism of material removal in Ultrasonic Machining. (08 Marks)
- b. Discuss the process parameters in Ultrasonic machining. (06 Marks)
- c. List the advantages and disadvantages of Ultrasonic machining. (06 Marks)

Module-2

- 3 a. Enumerate the difference between Traditional and Non – traditional Machining Processes. (08 Marks)
- b. Discuss the process capability of any two Non – traditional Machining processes. (06 Marks)
- c. List the advantages , disadvantages and application of Non – traditional processes. (06 Marks)

OR

- 4 a. Explain with a neat sketch, the working of Abrasive Jet Machining process. (08 Marks)
- b. Explain with necessary sketches, various tool feed mechanisms used in Ultrasonic machining. (06 Marks)
- c. Write a note on Slurry. (06 Marks)

Module-3

- 5 a. Sketch and explain Electrochemical Machining process. (06 Marks)
- b. Discuss the influence of process parameters in Electro Chemical Machining process. (06 Marks)
- c. Explain with necessary sketch, Electrochemical Grinding process. (08 Marks)

OR

- 6 a. Explain with a flow chart, the principal process steps for chemical Blanking. (08 Marks)
- b. Explain with a flow chart, chemical milling process. (06 Marks)
- c. List the functions of Electrolyte. (06 Marks)

Module-4

- 7 a. With necessary sketch, explain the mechanism of metal removal in EDM process. (06 Marks)
- b. Explain with neat sketches, the Flushing techniques in EDM process. (08 Marks)
- c. Explain with neat sketch, the Electrode feed control used in EDM process. (06 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.

OR

- 8 a. With a neat sketch, explain the mechanism of metal removal in Plasma Arc Machining. (10 Marks)
b. Discuss the Accuracy and surface limits in Plasma Arc Machining. (04 Marks)
c. List the advantages and limitations of Plasma Arc Machining process. (06 Marks)

Module-5

- 9 a. Sketch and explain the mechanism of metal removal in Laser beam machining. (08 Marks)
b. Explain with necessary sketch the generation of Ruby Laser. (06 Marks)
c. List the advantages , limitations and application of Laser Beam Machining. (06 Marks)

OR

- 10 a. Explain with a neat sketch, the material removal in Electron beam machining. (08 Marks)
b. Discuss the effect of process parameters in Electron beam machining. (06 Marks)
c. List the advantages , limitations and application of Electron beam machining. (06 Marks)
