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10ME665

Sixth Semester B.E. Degree Examination, June/July 2015
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. List and explain the various factors to be considered for selection of machining processes. (07 Marks)
b. Classify various non traditional machining process based in energy source used with giving suitable examples. (06 Marks)
c. Based on various parameters of machining, compare the conventional and non – conventions machining processes. (07 Marks)
- 2 a. Explain with graph the effect of various parameters on material removal rate (MRR) in USM process. (10 Marks)
b. With neat sketch, explain the main elements of ultrasonic machining process. (10 Marks)
- 3 a. Draw the schematic diagram of abrasive jet machining and explain working principle. (08 Marks)
b. List the applications of Abrasive jet machining. (04 Marks)
c. Mention the advantages and disadvantages of water jet machining. (08 Marks)
- 4 a. Explain the chemistry of ECM process with diagram. (08 Marks)
b. List the functions of electrolyte in ECM process. (04 Marks)
c. Explain with diagram, working of electro chemical grinding (ECG). (08 Marks)

PART - B

- 5 a. Explain the elements of chemical machining process. (06 Marks)
b. Explain with flow chart the chemical blanking process. (10 Marks)
c. Mention the limitations of chemical machining process. (04 Marks)
- 6 a. Explain with sketch, the mechanism of metal removal in electric discharge machining. (07 Marks)
b. Explain the elementary relaxation circuit for EDM. (07 Marks)
c. Explain the different methods of dielectric flushing in electric discharge machining. (06 Marks)
- 7 a. Explain with diagram the working of plasma arc machining. (10 Marks)
b. What are the factors that govern the performance of plasma arc machining? Explain anyone of them. (06 Marks)
c. Write the applications of plasma arc machining. (04 Marks)
- 8 a. Explain with sketch, the working of electron beam machining (EBM). (10 Marks)
b. What are the Applications of EBM? (04 Marks)
c. What are the advantages and applications of laser beam machining (LBM)? (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.