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10ME665

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Non-Traditional Machining

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting atleast TWO questions from each part.***

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PART – A

1 a. Explain briefly the classification of non-traditional machining process. **(06 Marks)**
b. Justify the need of unconventional machining process **(05 Marks)**
c. Briefly explain the following elements of the ultrasonic machining :
(i) Work material (ii) Amplitude of vibration (iii) Slurry concentration **(09 Marks)**

2 a. With an illustration explain working principle and operations of AJM. **(10 Marks)**
b. Write a note on abrasives used in AJM with applications. **(05 Marks)**
c. What are the advantages and limitations of AJM? **(05 Marks)**

3 a. With an illustration explain working principle and operations of Electro Chemical Machining process. **(10 Marks)**
b. Explain the material removal rate in Electro Chemical Machining process. **(05 Marks)**
c. Briefly discuss merits and demerits of ECM. **(05 Marks)**

4 a. Discuss briefly the following in ECM tool :
(i) Insulation (ii) Slug formation **(10 Marks)**
b. Explain the following :
(i) Electrochemical Grinding (ii) Electrochemical Shaping **(10 Marks)**

PART – B

5 a. Describe the working principle of chemical machining process. **(05 Marks)**
b. Write a note on 'echants' in chemical machining process. **(05 Marks)**
c. Explain chemical blanking with the flow chart showing all the principle process steps. **(10 Marks)**

6 a. With an illustration explain working principle and operations of EDM. **(10 Marks)**
b. Define flushing. Explain any two different types of flushing methods. **(10 Marks)**

7 a. Discuss briefly the "Generation of Plasma" in Plasma arc machining. **(06 Marks)**
b. Explain the process characteristics of Plasma arc machining. **(04 Marks)**
c. Explain the different types of parameters in Plasma arc machining. **(10 Marks)**

8 a. With an illustration explain working principle and operations of EBM. **(10 Marks)**
b. With an illustration explain working principle and operations of LBM. **(10 Marks)**

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