

R16

Code No: 138FA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, July - 2021

UNCONVENTIONAL MACHINING PROCESSES

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Justify the importance of non-traditional machining methods and discuss different applications.
- b) Explain the selection of a typical nontraditional machining process based on the shape to be produced. [7+8]
- 2.a) Explain the influence of various parameters on the metal removal rate in ultrasonic machining.
- b) Comment about the modification brought in for ultrasonic machining in the recent past. [8+7]
- 3.a) Explain the influence of fineness of abrasive particles on metal removal rate and design of nozzle in abrasive jet machining.
- b) What are the limitations of water jet machining? Suggest methods to overcome these limitations. [8+7]
- 4.a) Derive an equation for metal removal rate in electro chemical machining and discuss the parameters.
- b) What are the limitations of chemical machining? [8+7]
- 5.a) Explain how the factors influencing the electric discharge machining process.
- b) What are the applications of electro discharge machining process? [8+7]
- 6.a) Spark eroded surfaces are best suited for tribological applications. Comment the statement.
- b) Discuss the size limitation of work in electron beam machining. [8+7]
- 7.a) Comment about accuracy of cut in laser beam machining and explain the importance.
- b) Explain the application of plasma in manufacturing industries and discuss their merits. [8+7]
8. With the help of a suitable sketch explain the construction, working and applications of electrolyte machining process. [15]

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