

R18

Code No: 156DC

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February/March - 2022

UNCONVENTIONAL MACHINING PROCESSES

(Common to ME, MCT)

Time: 3 hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Give the complete classification of modern machining processes and give their applications.
- b) Explain the recent developments of ultrasonic machining and discuss its importance. [8+7]
2. With the help of a line diagram, explain the constructional details and working principle of ultrasonic machining and discuss its applications. [15]
- 3.a) Explain the basic principle of working of abrasive jet machining with a suitable diagram.
- b) With the help of a line diagram, explain the working of electro chemical deburring process. [8+7]
- 4.a) List out the process variables of abrasive jet machining and explain their influence of metal removal rate and surface roughness.
- b) Discuss about various reactions taking place in electro chemical machining and discuss the salient points. [8+7]
- 5.a) Explain the applications of wire electric discharge machining and compare with electro discharge machining.
- b) What factors are to be considered for the selection of tool electrode in electric discharge machining? Explain. [8+7]
6. List out the control parameters in electric discharge machining and explain how they influence the performance of the process. [15]
- 7.a) Explain how an electron beam is generated and controlled during machining process.
- b) List out the applications of laser beam machining and discuss their importance. [8+7]
- 8.a) Comment about the accuracy and surface finish obtained in plasma arc machining.
- b) Discuss the applications of chemical machining along with the limitations. [8+7]

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