

Code No: 156DC

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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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