

R09

Code No: 09A70309

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, May/June - 2013

**Unconventional Machining Processes
(Mechanical Engineering)**

Time: 3 Hours

Max. Marks: 75

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

1. Differentiate between traditional and non-traditional machining processes. What is the need for the development of non-traditional machining processes? Explain in details. [15]
2. With the help of a neat diagram explain the construction of the horn of an ultrasonic machine. Explain the material applications of ultrasonic machining. [15]
3. Explain the basic principle, construction of equipment and applications of abrasive jet machining. [15]
4. Explain the fundamental laws governing the metal removal in electro chemical machining. Derive an equation for metal removal rate. [15]
5. With the help of a line diagram explain the R-L-C circuit used for controlling of pulses in electric discharge machining. [15]
6. Explain the process of selection and application of electronic beam for machining process. [15]
- 7.a) Explain the application of plasma in manufacturing industry.
b) Explain the characteristics of various etchants used in chemical machining. [7+8]
8. What is the basic principle of metal removal in magnetic abrasive finishing? Describe the process and give the applications. [15]

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