

**R7**

Code: R7410309

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013

**UNCONVENTIONAL MACHINING PROCESSES**

(Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions  
All questions carry equal marks

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- 1 Classify modern machining processes on the basis of the type of energy employed. Also state the mechanism of material removal, transfer media and energy sources used.
- 2 Write short notes on the following:
  - (a) Transducers used in USM machine.
  - (b) Effect of amplitude of vibration, frequency of vibration, grain size and % of abrasive concentration on metal removal rate in USM.
  - (c) Types of abrasives used in USM.
- 3 What are the differences between abrasive jet machining (AJM), Water jet machining (WJM) and abrasive water jet machining (AWJM)?
- 4
  - (a) What are the functions of abrasive particles in ECG?
  - (b) What is the need for electrochemical Deburring? Explain its process.
- 5 Explain the working principle of wire EDM with neat sketch. Also explain how the stratified wire works.
- 6 Explain with a neat sketch the construction and working of LBM.
- 7
  - (a) What is chemical machining? How the material removal takes place in this process?
  - (b) What are the various resists (mask ants) used in practice and mention their properties?
- 8
  - (a) Explain shaped tube electrolytic machining.
  - (b) Explain magnetic abrasive finishing.

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