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## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Sixth Semester, B.E. – Mechanical Engineering

Semester End Examination; June/July - 2015

### Non-Traditional Machining

Time: 3 hrs

Max. Marks: 100

**Note:** Answer any **FIVE** full questions, selecting at least **TWO** full questions from **each part**.

#### PART – A

1. a. Explain the classification of non-traditional machining processes with respect to type of energy and discuss the mechanism of metal removal in each process. 10
- b. Discuss the factors to be considered while selecting a non-traditional machining process. 10
2. a. With a neat sketch explain ultrasonic machining process. 10
- b. Discuss the applications, advantages and limitations of ultrasonic machining process. 10
3. a. Explain any four variables that influence abrasive jet machining process. 10
- b. Discuss the applications, advantages and limitations of water jet machining process. 10
- 4.a. Explain the elements of electrochemical machining (ECM) process. 8
- b. With neat sketches explain electrochemical grinding process and electrochemical honing process. 12

#### PART – B

5. a. Discuss the factors to be considered in selecting etchants for chemical machining. 10
- b. With a block diagram, explain the sequence of operations in chemical blanking process. 10
- 6.a. With a neat sketch explain electrode feed control in EDM. 10
- b. Explain the methods of flushing in EDM process. 10
- 7.a. Explain the parameters that govern the performance of PAM. 10
- b. Discuss the applications, advantages and limitations of PAM. 10
- 8.a. With a neat sketch explain laser beam machining process. 10
- b. With a neat sketch explain electron beam machining process. 10