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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 - 2016**

**Non Traditional Machining**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

### UNIT - I

- |   |    |   |    |
|---|----|---|----|
| 1 | a. | Compare the conventional and non conventional machining process.        | 10 |
|   | b. | Give the detailed classification of non-conventional machining process. | 10 |
| 2 | a. | With a neat sketch explain the working principle of USM.                | 10 |
|   | b. | List the advantage and disadvantages of USM.                            | 10 |

### UNIT - II

- |   |    |   |    |
|---|----|---|----|
| 3 | a. | Explain the schematic diagram of AJM process.                               | 10 |
|   | b. | List and explain the parameters affecting the AJM process.                  | 10 |
| 4 | a. | Explain the mechanism of metal removal of EDM process with a simple sketch. | 10 |
|   | b. | List the advantages and disadvantages of EDM process.                       | 10 |

### UNIT - III

- |   |    |  |    |
|---|----|--|----|
| 5 | a. | Explain with neat sketch ECM process.                      | 10 |
|   | b. | Explain the different Maskants used in chemical machining. | 10 |
| 6 | a. | Explain with neat sketch ECG                               | 10 |
|   | b. | List the advantages and disadvantages of ECM.              | 10 |

### UNIT - IV

- |   |    |  |    |
|---|----|--|----|
| 7 | a. | With simple sketch explain the principle of generation of LASER.       | 10 |
|   | b. | With a sketch, explain the equipment and working of solid state LASER. | 10 |
| 8 | a. | List the advantage, limitation and application of LBM.                 | 10 |
|   | b. | Explain various types of high velocity forming process.                | 10 |

### UNIT - V

- |    |    |  |    |
|----|----|--|----|
| 9  | a. | With sketch explain the equipment and principle of generation of Plasma. | 10 |
|    | b. | List and explain the safety factors to be considered during PAM.         | 10 |
| 10 | a. | Explain the working principle of EBM with a sketch.                      | 10 |
|    | b. | Draw and explain types of torches used in PAM.                           | 10 |