



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

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Mechanical Engineering

Semester End Examination; June - 2017

Non Traditional Machining

Time: 3 hrs

Max. Marks: 100

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

ii) Missing data may suitably assume.

UNIT - I

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|---|----|---|----|
| 1 | a. | Explain the classification of non-traditional machining process with respect to type of energy. | 10 |
| | b. | With a schematic representation, explain the working principle of ultrasonic machining process. | 10 |
| 2 | a. | Explain the factors to be considered while selecting a non-traditional machining process. | 10 |
| | b. | With the help of a schematic diagram, explain any two types of tool feed system used in ultrasonic machining. | 10 |

UNIT - II

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|---|----|---|----|
| 3 | a. | With a schematic representation, explain the working principle of abrasive machining process. | 10 |
| | b. | Explain the methods of flushing in EDM process. | 10 |
| 4 | a. | Explain any five variables that influence abrasive jet machining process. | 10 |
| | b. | With the help of a schematic diagram, explain electrode feed control EDM. | 10 |

UNIT - III

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|---|----|--|----|
| 5 | a. | Explain the elements of electrochemical machining process. | 10 |
| | b. | With a block diagram, explain the sequence of operations in chemical blanking process. | 10 |
| 6 | a. | With a schematic representation, explain the working principle of electro chemical grinding process. | 10 |
| | b. | Discuss any five factors to be considered in selecting etchants for chemical machining. | 10 |

UNIT - IV

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|---|----|--|----|
| 7 | a. | With a schematic representation, explain the working principle of laser beam making process. | 10 |
| | b. | With a schematic representation, explain the working principle of magnetic pulse forming process and state its advantages. | 10 |
| 8 | a. | Discuss the advantages and limitations of laser beam machining process. | 10 |
| | b. | With a schematic representation, explain the working principle of explosion forming process and state its advantages. | 10 |

UNIT-V

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|----|----|--|----|
| 9 | a. | Explain the parameters that govern the performance of PAM. | 10 |
| | b. | With a schematic representation, explain the working principle of electron beam machining process. | 10 |
| 10 | a. | Discuss the applications, advantages and limitations of PAM. | 10 |
| | b. | Explain the factors which affect the performance of EBM. | 10 |