



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

(An Autonomous Institution affiliated to VTU, Belgaum)

Third Semester, B.E. - Industrial and Production Engineering

Semester End Examination; Dec. - 2015

Production Technology - I

Time: 3 hrs

Max. Marks: 100

Note: i) Answer **FIVE** full questions, selecting **ONE** full question from each **unit**.
ii) Assume suitable missing data if any.

UNIT - I

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|------|--|----|
| 1 a. | Explain the basic classification of manufacturing process. | 8 |
| | b. Briefly explain the methods used for sand molding. | 6 |
| | c. What are the basic requirements of a casting process? | 6 |
| 2 a. | With examples explain the properties of a moulding sand. | 10 |
| | b. List and explain the pattern allowances. | 10 |

UNIT - II

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|------|--|----|
| 3 a. | With a neat sketch explain the low pressure Die Casting Process. | 10 |
| | b. Briefly explain: i) Slush casting ii) Squeeze Casting. | 10 |
| 4 a. | With a neat sketch explain Slush casting. | 12 |
| | b. What are the advantages and limitations of a Die Casting process? | 8 |

UNIT - III

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|------|--|----|
| 5 a. | With a neat sketch explain the construction and operation of a cupola furnace. | 12 |
| | b. With neat sketches explain the different types of flames used in gas welding process. | 8 |
| 6 a. | With a neat sketch explain the shielded metal arc welding process. | 10 |
| | b. With example and application, explain the tungsten Inlet Gas welding process (TIG). | 10 |

UNIT - IV

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|------|---|----|
| 7 a. | Explain with a neat sketch the oxy - acetylene welding process. | 8 |
| | b. With sketches briefly explain forward and backward welding techniques. | 8 |
| | c. With simple sketches represent weld appearance. | 4 |
| 8 a. | Explain with sketches the principle of operation of seam welding process. | 10 |
| | b. Explain the concept of explosive welding with neat sketches. | 10 |

UNIT - V

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|-------|--|----|
| 9 a. | List and explain the different defects in welding. | 10 |
| | b. With a neat sketch explain the concept of heat affected zone during seam welding process. | 10 |
| 10 a. | Differentiate between Brazing and Welding with sketches. | 6 |
| | b. Explain the soldering procedure and different solders used. | 8 |
| | c. With sketches explain the Magnetic particle Inspection. | 6 |

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