



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. - 2014

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. Define casting and explain the casting terminology with a neat sketch. | 10 |
| b. What is a pattern and explain the different pattern allowances. | 10 |
| 2 a. List and explain the different properties of moulding sand. | 12 |
| b. What are casting defects? Suggest with remedies. | 8 |

Unit - II

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| 3 a. With a neat sketch explain the squeeze casting techniques. | 10 |
| b. Briefly explain the process of permanent mould casting. | 10 |
| 4 a. With a neat sketch explain the centrifugal casting process. | 10 |
| b. Explain the process of investment casting. | 10 |

Unit - III

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| 5 a. With a neat sketch explain the cupola furnace. | 12 |
| b. Define welding process and explain the classification of welding process. | 8 |
| 6 a. With a neat diagram explain submerged arc welding process. | 12 |
| b. List and briefly explain the advantages of welding process. | 8 |

Unit - IV

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| 7 a. Explain the concept of OXY – acetylene welding process. | 8 |
| b. With a neat sketch explain the different flame characteristics. | 12 |
| 8 a. Explain the concept of resistance welding and list the variables used in the process. | 8 |
| b. With a neat sketch explain the concepts of seam welding process. | 12 |

Unit - V

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| 9 a. List and explain the different defects in welding process. | 10 |
| b. Explain the concept of Heat Affected Zone in a welding process. | 10 |
| 10a. Differentiate between welding and Brazing process. | 6 |
| b. Explain the principle of operation of soldering process. | 7 |
| c. Explain the usual inspection method of Non-destructive testing. | 7 |