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

(An Autonomous Institution affiliated to VTU, Belagavi)

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

Semester End Examination; Dec - 2017 / Jan - 2018

Product Design and Manufacturing

Time: 3 hrs

Max. Marks: 100

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

UNIT - I

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|------|---|----|
| 1 a. | Explain the various essential factors of product design. | 16 |
| b. | Write a note on production consumption cycle. | 4 |
| 2 a. | Explain the Morris Asimow's feasibility study of primary design phases. | 12 |
| b. | Describe the planning for consumption. | 8 |

UNIT - II

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|------|---|----|
| 3 a. | Explain the various product characteristics. | 14 |
| b. | Write a note on standardization. | 6 |
| 4 a. | Mention the basic design considerations and explain briefly. | 10 |
| b. | How functional design is very important in designing engineering products? Explain briefly. | 10 |

UNIT - III

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|------|--|----|
| 5 a. | What are the producibility requirements in the design of machine components? Explain briefly. | 10 |
| b. | What are the principles of casting design must be observed to obtain sound casting? | 10 |
| 6 a. | What are the aspects to be considered in the design of forging component? Explain briefly with practical examples. | 12 |
| b. | Write a note on design and powder metallurgical parts. | 8 |

UNIT - IV

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|------|--|----|
| 7 a. | Explain the various Siddal's classification of design approaches. | 10 |
| b. | List and explain the ten aspects of manufacturing operations which will lower cost of product. | 10 |
| 8 a. | Write a note on design for safety, reliability and environmental considerations. | 10 |
| b. | Write a note on profit and competitiveness. | 10 |

UNIT - V

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| 9 a. | Explain the various types of displays with some practical examples and figure. | 10 |
| b. | Describe Man / Machine Information exchange. | 10 |
| 10 a. | List down and explain the various types of Blocks to creativity. | 10 |
| b. | Explain the various creative techniques. | 10 |