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

(An Autonomous Institution affiliated to VTU, Belagavi)

Fourth Semester, B.E. - Automobile Engineering

Semester End Examination; May / June - 2019

Manufacturing Process - II

Time: 3 hrs *Max. Marks: 100*

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

UNIT - I

1 a. Elaborate with a neat sketch, the nomenclature of single point cutting tool, highlighting the significance of different angles. 10

b. What are the desirable properties or characteristics of an ideal cutting tool material? 10

2 a. With neat sketch, explain orthogonal and oblique cutting. 10

b. Discuss any five cutting tool materials used for machining. 10

UNIT - II

3 a. With necessary sketches, explain the types of tool wear. 10

b. Elaborate with a neat sketch, different heat affected zones during orthogonal cutting. 10

4 a. With a neat sketch, explain measurement of tool tip temperature during machining. 10

b. Explain the factors affecting Machinability. What are the designed properties of cutting fluids? 10

UNIT - III

5 a. With a neat sketch, explain the constructional features of a turret lathe. 10

b. With a neat sketch, explain the working principle of a whitworth quick return motion mecahnism. 10

6 a. Compare between Shaper and Planner machines. 10

b. With a neat sketch, explain the constructional features of capstan lathe. 10

UNIT - IV

7 a. With a neat sketch, explain radial drilling machine. 10

b. Explain with neat sketches the following operations in a drilling machines : 10

i) Reaming ii) Boring

iii) Counter boring iv) Trepanning

8 a. Explain the different types of bonds used in grinding wheel. 10

b. With a neat sketch, explain the constructional features of cylindrical grinding machines. 10

UNIT - V

9 a. With a neat sketch, explain the constructional features of a column and knee type milling machine. 10

b. With a neat sketch, explain the working principle of a Laser beam machining. 10

10 a. With a neat sketch, explain ultarasonic machining. 10

b. Elaborate with a neat sketch the working principle of a honing process. 10

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