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

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Mechanical Engineering

Semester End Examination; Aug. / Sep. - 2020

Maintenance Engineering

M. L. Murali Krishna

Time: 3 hrs

Max. Marks: 100

Note: i) Answer **TWO** full questions, selecting **ONE** full question from **UNIT - I** and **UNIT - II**.

ii) Answer any **THREE** full questions, choosing from **UNIT - III**, **UNIT - IV** and **UNIT - V**.

UNIT - I

- 1 a. Define maintenance and explain the objective of maintenance. 10
b. What are the different types of maintenance? Explain any three. 10

OR

- 2 a. Discuss the various functions of maintenance system. 10
b. Explain the responsibilities of the maintenance department in a well established organization. 10

UNIT - II

- 3 a. Explain repair cycle and repair complexity. 14
b. Average number of breakdown per month is equate to 3 only one inspection. Mean time to perform a repair is 24 hours. Mean time to perform an inspection is 8 hours. The value of output per uninterrupted time equate to Rs.3 lakhs. Cost of repair per uninterrupted time is equal to Rs.3000 cost of inspection per uninterrupted is Rs. 1250. Determine the optimal number of inspection / month in order to maximize the profit. Assuming that the breakdown rate varies inversely with number of inspection. 6

OR

- 4 a. Discuss the different modes of machine failure and its causes. 10
b. Explain the need for performance evaluation in maintenance activity. 10

UNIT - III

- 5 a. Explain maintenance planning procedure with a flowchart. 10
b. Discuss the Long-Range planning and Short-Range planning. 10
6 a. List and explain the activities of scheduling process. 10
b. Write a note on inventory control of spare parts. 10

UNIT - IV

- 7 a. Discuss the applications of computers in maintenance work. 10
b. With the help of a neat diagram, explain the working principle of Centrifugal scrubber. 10
8 a. Explain the features and benefits of computerizing of maintenance system. 10
b. Discuss the noise measurement and noise control techniques. 10

Dr. N. L. MURALI KRISHNA
Controller Of Examinations
P.E.S. College of Engineering
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MANDYA-571 401, Karnataka

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UNIT - V

- 9 a. What is an accident? Explain the economic importance of accidents. 10
- b. List and explain the safety organizations. 10
- 10 a. Explain the safety standards to be followed in plant for good house keeping. 10
- b. Explain the safety standards for exhaust system. 10

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Murali Krishna

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