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**Eighth Semester B.E. Degree Examination, July/August 2021**  
**Maintenance Engineering**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Define maintenance. Explain the different types of maintenance system. (10 Marks)
- b. What are the functions of maintenance? (05 Marks)
- c. Distinguish between preventive and breakdown maintenance. (05 Marks)
- 2 a. Write a note on "Economics in maintenance". (05 Marks)
- b. Explain repair complexity and repair cycle. (10 Marks)
- c. A transport company purchased a motor vehicle for Rs.80,000/-. The resale value of vehicle keeps on decreasing from Rs.70,000/- in the first year to Rs.5000/- in the eight year, while running cost in maintaining the vehicle keeps on increasing with Rs.3000/- in the first year till it goes to Rs.20,000/- in the eighth year as shown below. Determine the optimum replacement policy.

Year	1	2	3	4	5	6	7	8
Scrap value or Resale value in Rs.	70,000	61,000	55,000	49,000	32,000	20,000	10,000	5,000
Running Cost in Rs.	3,000	3,600	4,800	5,000	8,000	11,200	15,000	20,000

- 3 a. Explain the different causes of machine failure. (05 Marks)
- b. Explain briefly the maintenance procedure for complete overhaul of drilling machine. (10 Marks)
- c. Write a note on spare parts control. (05 Marks)
- 4 a. Distinguish between long range planning and short range planning. (05 Marks)
- b. Briefly explain on estimation of maintenance work. (05 Marks)
- c. Explain briefly the importance of maintenance planning with an example. (10 Marks)
- 5 a. Explain briefly the features and benefit of computer aided maintenance system. (10 Marks)
- b. Illustrate with an example the applications of computers to maintenance work. (10 Marks)
- 6 a. Explain the importance of accidents. (05 Marks)
- b. Write a note on analysis of accident records. (05 Marks)
- c. Explain the safety standards for mechanical equipments. (10 Marks)
- 7 Write a note on the safety standards for the following :
  - a. Electrical equipment and systems.
  - b. Material handling.
  - c. Plant house keeping buildings.
  - d. Tool cribs. (20 Marks)
- 8 a. Write a note on classification of dust collectors. (05 Marks)
- b. With a neat sketch, explain the working of a wet type scrubber. (10 Marks)
- c. Write a note on vibration and its control. (05 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.