

Seventh Semester B.E. Degree Examination, Aug./Sept. 2020
Maintenance Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. List out and briefly explain any ten basic functions of maintenance. (10 Marks)
- b. List out and explain any five objectives of maintenance. (10 Marks)
- 2 a. Explain the Repair cycle and its components. What is Repair complexity? Briefly discuss. (10 Marks)
- b. The transistor probability matrix and the cost matrix for an equipment are given below:

Transition Probability Matrix :

Conditions at the beginning	ACTION	Condition at the End	
		Good	Failed
GOOD	Overhaul (o)	$P_{gg}^o = 0.75$	$P_{gf}^o = 0.25$
	Replace (R)	$P_{gg}^R = 0.80$	$P_{gf}^R = 0.20$
FAILED	Repair (r)	$P_{fg}^r = 0.70$	$P_{ff}^r = 0.30$
	Replace (R)	$P_{fg}^R = 0.80$	$P_{ff}^R = 0.20$

Cost Matrix :

GOOD	Overhaul (o)	$C_{gg}^o = 300$	$C_{gf}^o = 1300$
	Replace (R)	$C_{gg}^R = 500$	$C_{gf}^R = 1500$
FAILED	Repair (r)	$C_{fg}^r = 400$	$C_{ff}^r = 1400$
	Replace (R)	$C_{fg}^R = 500$	$C_{ff}^R = 1500$

Obtain the combined overhaul/repair/replacement policy for this equipment for two periods. (10 Marks)

- 3 a. Explain the important causes of machine failure. (10 Marks)
- b. Briefly explain any ten performance evaluation parameters. (10 Marks)
- 4 a. Define maintenance planning and explain the factors involved in it. (10 Marks)
- b. What is maintenance scheduling? Explain. (10 Marks)

PART - B

- 5 a. Briefly explain the classification of maintenance information system giving its components. (10 Marks)
- b. List any objectives of Computerized Maintenance Management System (CMMS). (10 Marks)

- 6 a. Explain the sequence of "Accident Investigation". (10 Marks)
b. Define "Safety Standards". Discuss safety standard for Mechanical equipment. (10 Marks)
- 7 a. List out the safety standards for electrical equipment. (10 Marks)
b. What is "House – keeping". Discuss the basic issues involved in "Housekeeping". (10 Marks)
- 8 a. Explain the fundamental approaches to Dust control giving examples. (10 Marks)
b. Define "Noise Pollution" and explain the methods used to tackle Noise pollution. (10 Marks)

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