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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth semester B.Tech degree examinations (S), September 2020

Course Code: ME376

Course Name: Maintenance Engineering

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any three full questions, each carries 10 marks. Marks

1	a)	Define the concept of maintenance.	(4)
	b)	Explain the objectives of maintenance.	(6)
2	a)	Define the concept of system reliability.	(3)
	b	With necessary sketches discuss the reliability of series and parallel system.	(7)
3	a)	Explain the fundamental steps in condition monitoring.	(5)
	b)	Discuss the limitations of visual, tactile and aural monitoring.	(5)
4	a)	Explain the elements of preventive maintenance.	(5)
	b)	Discuss the advantages and disadvantages of breakdown maintenance.	(5)

PART B

Answer any three full questions, each carries 10 marks.

5	a)	Explain the three characteristics required to define vibration.	(5)
	b)	Explain the working of any one vibration transducer with a neat sketch.	(5)
6	a)	Briefly explain about spectroscopic oil analysis.	(5)
	b)	Define crack monitoring and list out some crack monitoring techniques.	(5)
7		Explain the characteristics of Reliability Centred Maintenance and briefly describe how RCM can be carried out with the help of a case study.	(10)
8	a)	Define the concept of Failure Tree Analysis (FTA).	(3)
	b)	Explain the key elements and steps involved in FTA.	(5)
	c)	State some applications/uses of FTA.	(2)

PART C

Answer any four full questions, each carries 10 marks.

9	a)	State the objectives behind the use of terotchnology.	(5)
	b)	Explain briefly about total productive maintenance (TPM).	(5)

10	a)	Briefly explain the concept of 5S.	(5)
	b)	Explain briefly about the different maintenance performance measuring indices.	(5)
11	a)	What is Lean Maintenance? Explain the steps in Lean Maintenance.	(7)
	b)	Define Overall Equipment effectiveness (OEE).	(3)
12	a)	Discuss about Maintenance Planning and the factors to be considered in maintenance planning.	(8)
	b)	Define maintenance scheduling.	(2)
13		Discuss on maintenance costs and its classification.	(10)
14		Discuss about computer aided maintenance management systems (CMMS), its advantages, disadvantages and applications.	(10)

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