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

(An Autonomous Institution affiliated to VTU, Belgaum)

First Semester, M. Tech – Mechanical Engineering (MCIM)

Semester End Examination; Jan/Feb - 2016

Condition Based Maintenance

Time: 3 hrs *Max. Marks: 100*

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

UNIT - I

1	a.	Discuss the fundamental aspects of information system while introducing CBM.	12
	b.	What are the procedures to be followed in setting up a condition monitoring?	8
2	a.	Explain the two main methods of condition monitoring.	12
	b.	Discuss the performance monitoring of a machine.	8

UNIT - II

3	a.	Describe the commonly used pick-ups used for machinery vibration analysis.	10
	b.	Explain the computer aided condition monitoring system.	10
4	a.	Discuss the importance of SPM in monitoring of a rolling element.	10
	b.	With the help of a diagram, explain REBAM.	10

UNIT - III

5	a.	Explain the concept of fiber-optic scanners and highlight its applications.	10
	b.	Illustrate typical pulse-echo ultrasonic tester.	10
6	a.	Discuss the sources of Gamma-ray Radiography.	10
	b.	Describe the testing methods of dye-penetrate inspection.	10

UNIT - IV

7	a.	With block diagram explain acoustic emission test set-up.	10
	b.	List the different magnetic testing method. Explain any two of them.	10
8	a.	What are the applicational areas of thermography?	7
	b.	Explain corrosion monitoring technique.	8
	c.	Discuss the concept of Eddy current technique.	5

UNIT - V

9	a.	Explain the different lubricant sampling method.	10
	b.	What are the sources of oil contamination?	5
	c.	Discuss the direct debris detection methods.	5
10	a.	Discuss the failure analysis of fan bearing.	10
	b.	Explain the history of failure in a gas compressor.	10

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