27107

Name:.....

Reg.No:.....

EIGHTH SEMESTER B-TECH (ENGINEERING) DEGREE EXAMINATION, MAY 2012

ME 04 804 B – MAINTENANCE ENGINEERING

Time: 3 hours **Max. Marks : 100**

Answer all questions

Part A

I. a) What is the need for maintenance?

b) How condition monitoring helps in the healthy functioning of bearings?

c) What is meant by vibration signature?

d) Explain vibration severity charts.

e) How contaminents can be classified?

f) Differentiate fluid contamination analysis and fluid wear debris analysis.

g) Differentiate failure rate and failure density.

h) Write short note on maintainability.

(8 x 5 marks = 40 marks)

Part B

II. (a) Explain the purpose, method, advantages and disadvantages of predictive maintenance.

OR

(b) What are the different types of maintenance? Explain breakdown maintenance and opportunistic maintenance.

III. (a) Explain shock pulse method.

OR

(b) Explain (i) velocity transducer, (ii) FFT analyzer and (iii) Accelerometer.

IV. (a) Explain the principle of analytical ferrography. How particle identification and composition be obtained using ferrogram.

OR

(b) Briefly explain (i) Spectroscopic oil analysis program, (ii) Corrossion monitoring and (iii) Crack monitoring.

V. (a) (i) Explain mean time between failures.

(ii) A delicate recorder mounted on a platform exposed to a random vibration is likely to fail when the horizontal acceleration exceeds 0.05g. The platform experiences an exponentially distributed horizontal vibration with a mean acceleration of 0.035g. What is the probability that the recorder will fail?

OR

(b) Explain the classification of availability depending on time elements.

(4 x 15 marks = 60 marks)

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