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Question Paper Code: 39717

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Mechanical Engineering

01UME917 - MAINTENANCE ENGINEERING

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define maintenance.
2. Define Mean Time to Repair (MTTR).
3. What is meant by breakdown maintenance approach?
4. Name 5S principles used for implementations of TPM.
5. Name any four instruments commonly used for condition monitoring methods.
6. State the various methods of corrosion monitoring techniques.
7. Define the term failure analysis.
8. Differentiate between fault tree diagrams and reliability block diagrams.
9. State the various phases present in a good maintenance management system.
10. Give the name of automobile used for material handling in industry.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) What are the principles of maintenance? (8)

(ii) Explain various types of maintenance approach with neat sketch. (8)

Or

(b) Explain MTBS, MTBF, MTTF, MTTR and failure rate. (16)

12. (a) Discuss the different types of maintenance system in detail. (16)

Or

(b) Briefly explain the various stages involved in implementation of TPM. (16)

13. (a) Explain briefly the process involved in condition monitoring. (16)

Or

(b) Explain the various wear debris analysis techniques commonly used and compare their performance and uses. (16)

14. (a) Briefly explain the procedure for the repair cycle of gears and lead screw. (16)

Or

(b) Explain the logical fault location methods. (16)

15. (a) State and repair methods for material handling equipment. (16)

Or

(b) Explain the general structure of six phases of good maintenance management. (16)