Reg. No. :

Question Paper Code : 50834

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Seventh/Eighth Semester
Mechanical Engineering
ME 6012 : MAINTENANCE ENGINEERING
(Common to Mechanical and Automation Engineering/Production Engineering)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions.

PART – A (10×2=20 Marks)

1. What is the difference between maintenance and maintainability ?
2. Write the principles of reliability centered maintenance.
3. What are the advantages of preventive maintenance ?
4. What are the lubricant and wear particle tests generally carried out ?
5. What are the condition monitoring techniques generally adapted ?
6. List any four equipments used for temperature monitoring.
7. What are the geometric properties that are checked for slide ways ?
8. Define fault tree diagram.
9. Write the major stages in preventive maintenance of material handling equipments.
10. What are the functions of CMMS ?

PART – B (5×16=80 Marks)

11. a) i) Explain the various costs associated with maintenance. (8)
ii) What are important factors to be considered in maintenance planning ? (8)

(OR)

b) i) Briefly explain the structure of maintenance organization. (8)

ii) Briefly explain MTBF and MTTR. (8)

12. a) Explain various maintenance categories with their merits and demerits. (16)

(OR)

b) i) Briefly explain TPM. (8)

ii) Briefly explain methods of lubrication. (8)

13. a) Explain the various levels/methods of condition monitoring. (16)

(OR)

b) i) Briefly explain the on-line and off-line condition monitoring system. (8)

ii) Briefly explain the basic steps in condition monitoring. (8)

14. a) Briefly explain the following :

i) Failed part analysis. (8)

ii) Any 4 approaches for risk management. (8)

(OR)

b) Briefly explain the following :

i) Repair methods of machine guideways. (8)

ii) FMEA and RPN (8)

15. a) Explain the work order flow diagram. (16)

(OR)

b) Explain the maintenance strategies for

i) Cranes (8)

ii) Conveyors. (8)