G 785 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

Seventh Semester

Branch : Mechanical Engineering/Production Engineering

PE 010 706 L 01/ME 010 706 L 01—PLANT ENGINEERING AND MAINTENANCE
(Elective II) [PE, ME]

(Improvement/Supplementary—2010 Admissions)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 3 *marks.*

1. Write the benefits of preventive maintenance.
2. List different sliding wear tests.
3. Briefly explain failure density.
4. Brief fluorescent dye technique.
5. Explain the need of safety in an industry.

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 *marks.*

6. Explain mean failure rate.
7. Explain the wear of ceramic polymer.
8. Explain with block diagram "series reliability model".
9. Explain RAM.
10. Explain safety analysis technique.

(5 × 5 = 25 marks)

Part C

Answer **all** *questions.*
Each question carries 12 *marks.*

11. Explain with a suitable example "schedule for maintenance".

Or

12. Explain different types of maintenance.

Turn over

13. Explain the mechanism of sliding wear.

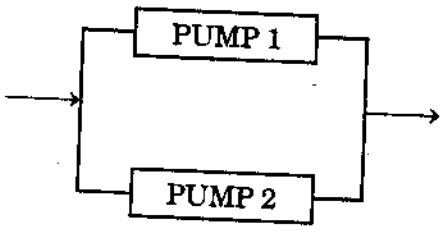
Or

14. Write a note on fretting wear of metals.

15. Name and explain *three* types of availability and explain them.

Or

16. Let us consider *two* units are connected in parallel mode as in figure.



At operation hours of 10000 hrs, reliabilities of pump 1 and pump 2 are 0.90 and 0.95. Calculate the overall reliability and mean time to failure for the system.

17. Discuss the advantages of infrared thermography inspection over other temperature monitoring technique.

Or

18. Explain different NDT techniques used in industries.

19. Explain how Industrial noise can be controlled ?

Or

20. Explain energy conservation and energy audit.

(5 × 12 = 60 marks)