G 1153 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Seventh Semester

Branch : Mechanical Engineering

PLANT ENGINEERING AND MAINTENANCE (Elective I) [M]

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 *marks.*

1. How do you define wear ? List down the types of wear mechanism.
2. What do you mean by fretting wear in lubricated system ?
3. Discuss the importance of lubricants in the context of plant maintenance.
4. Describe the characteristics of solid lubricant.
5. Distinguish between Break down and Preventive maintenance.
6. What are the benefits of maintenance evaluation ?
7. Write short note on 'Reliability' and 'Probability'.
8. Give procedure to examine the reliability of mixed configuration model.
9. Discuss the importance of inventory of spare parts in maintenance function.
10. Write short note on legal provision for safety in industry.

(10 × 4 = 40 marks)

Part B

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

11. Explain different types of wear debris monitoring techniques used in industry.

Or

12. Discuss the various types of wear that are encountered in the industry with suitable examples.

Turn over

13. Explain the physical and chemical properties of solid, fluid and semifluid lubricants along with their application.

Or

14. Explain the importance of additives in lubricants. What are the additives used in mineral oil ?

15. Describe the different types of plant maintenance used in a chemical process industry.

Or

16. Give procedure to develop an Effective Preventive Maintenance Program for an chemical process industry.

17. What are the major causes of failures occur in engineering system ? Highlight the influencing factor associated with failure rate.

Or

18. Estimate the reliability of the system shown in the figure 1.

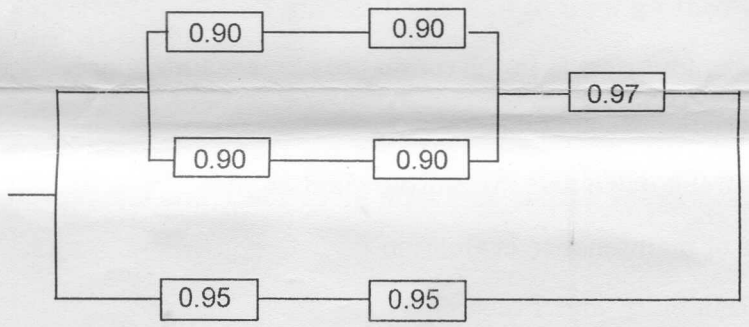

Figure No . 1

19. List down the different types of NDT methods employed in an industry. Explain any *one* NDT method with suitable example.

Or

20. How we can justify the statement 'Safety Promotes Productivity'. What are the precautions to be followed to ensure industrial safety ?

(5 × 12 = 60 marks)