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Reg. No. : .....

Name : .....

Seventh Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)
Elective – III 08.706.4 : PLANT ENGINEERING AND MAINTENANCE
(MPU)

Time : 3 Hours Max. Marks : 100

Instructions : *1) Answer **all** questions from Part – **A**. **Each** carries **4** marks.*
*2) Answer **one full** question from **each** Module in Part – **B**, **each full** question carries **20** marks.*

PART – A

1. List down the useful applications of wear phenomenon.
2. Explain how wear is affected by environmental factors like temperature and moisture.
3. What are the causes of lubrication failure ?
4. Prepare a brief note on PVD.
5. Explain the significance of Weibull distribution in failure data analysis.
6. What are the factors affecting maintainability ?
7. Distinguish between chance failure and wear out failure.
8. Give an account on predictive maintenance.
9. Prepare the organization chart of a maintenance department.
10. What do you mean by 'Accident Proneness' ? **(10×4=40 Marks)**

PART – B
MODULE – I

11. a) Enumerate the various wear theories associated with wear process. **10**
    b) Give the relative merits and demerits of solid and liquid lubricants. **10**

12. a) Explain briefly a test for determining viscosity of a lubricating oil. **10**
    b) What is corrosive wear ? How does it differ from Abrasive wear ? **10**

P.T.O.

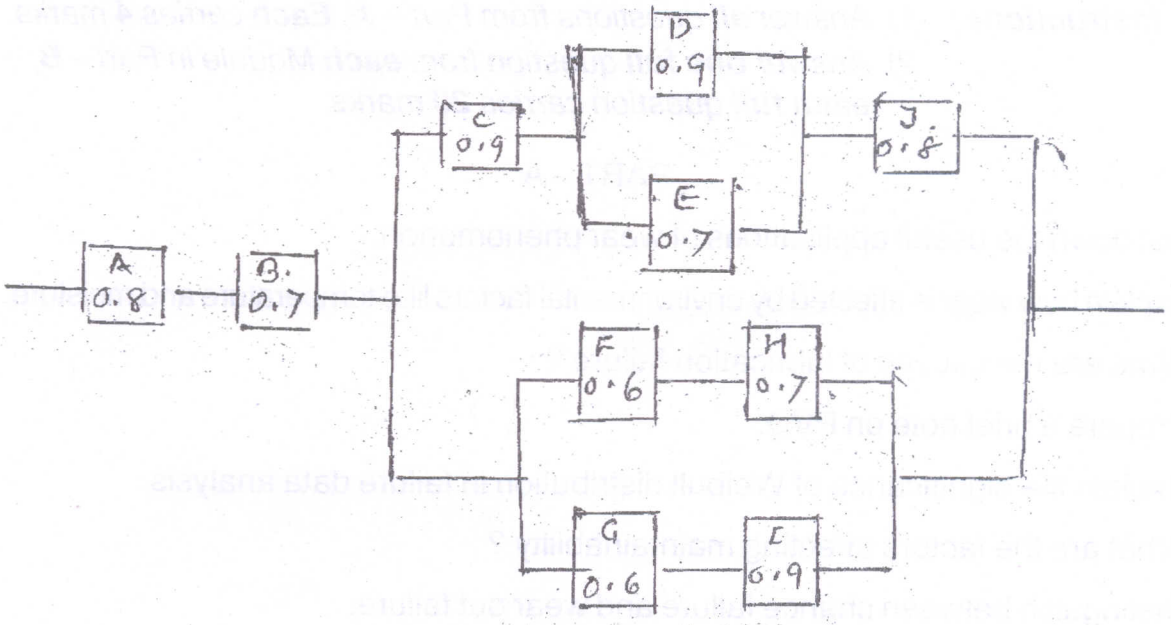
MODULE – II

13. a) Discuss different types of availability and differentiate between them. **10**

    b) Explain the concept of replacement analysis and various reasons for replacement. **10**

14. a) Derive an expression for reliability in the form $R(t) = -\int_{e} z(t)dt$. **10**

    b) Find the system reliability of the following configuration. Element reliabilities are given in the boxes. **10**



MODULE – III

15. a) Give the procedure you would like to introduce for the maintenance of lathe section of a factory. **10**

    b) How an investigation report concerned with industrial accident is to be prepared ? **10**

16. Prepare short notes on following :

    a) Proactive maintenance

    b) Industrial noise control

    c) CBM

    d) TPM. **(4×5=20 Marks)**