Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

AU/ME-801(C) (GS)

B.E. VIII Semester

Examination, May 2018

Grading System (GS)

Reliability and Maintenance

(Elective - III)

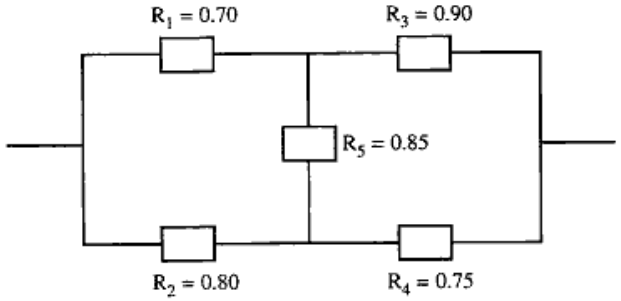
Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions. All questions carry equal marks.
ii) All parts of each question are to be attempted at one place.
iii) Draw neat and clean sketches/diagrams/figures wherever required.

1. a) What is Reliability? Why it is important? Define MTTF as a measure of Reliability.
   b) How will you determine the reliability of series and parallel systems?

2. Evaluate the reliability of the following system using the decomposition method.



3. a) Define the following terms:
   i) Hazard Rate
   ii) Gamma Distribution
   iii) Unreliability
   iv) Maintainability Availability
   b) Write a short note on predictive maintenance.

4. a) Discuss principles of CBM. Discuss its implementation.
   b) Discuss:
   i) Wear debris monitoring
   ii) Corrosion monitoring
   iii) Performance monitoring

5. a) Discuss evaluation of TPM. Explain FMEA.
   b) Explain about FMECA. Write its elements, applications and benefits.

6. a) Compare shut down maintenance and schedule maintenance.
   b) Explain about maintenance organization.

7. a) How reliability and quality are associated? Discuss.
   b) Explain Markov analysis for reliability.

8. Write short technical notes on following (any two):
   a) Visual monitoring
   b) MTTR
   c) K-out-of-m Systems
   d) Risk Evaluation and Priorities

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