

**DIPLOMA - VIEP - ELECTRONICS AND  
COMMUNICATION ENGINEERING (DECVI)**

**00289** **Term-End Examination**  
**December, 2017**

**BIEL-037 : MAINTENANCE OF ELECTRONIC  
EQUIPMENT**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Attempt any five questions. Question no. 1 is compulsory. Missing data, if any, may be suitably assumed and mentioned. Use of calculator is permitted.*

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1. State whether the given statements are True / False : 7×2=14
- (a) Mean Time Between Failures (MTBF) is the mean time between two successive component failures.
  - (b) Reliability is given by the expression  
$$R(t) = te^{-\lambda t}.$$
  - (c) Active redundancy and Standby redundancy are terms related to reliability.
  - (d) Mean Time To Failure (MTTF) is associated with repairable and non-repairable items.

- (e) If the failure rate of component is 0.003/hour, then unreliability for 100 hours life is 0.75.
- (f) Early failures lie in the second zone of the bathtub curve.
- (g) In the wear-out failure region, the hazard rate decreases with time.
2. (a) Discuss different quality standards of electronic equipment. 7
- (b) Why is Maintenance essential ? State and briefly explain various types of maintenance. 7
3. Discuss and explain different types of testing and measuring tools used for troubleshooting of electronic equipment. 14
4. Explain the concepts of In-circuit test and Out-circuit test by giving suitable examples of each. 14
5. What is Component Failure ? How can this fault be diagnosed ? State the possible reasons for component failure. 3+3+8
6. Discuss the steps involved in fault finding flow check. 14

**7. Write short notes on the following :**

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Split-half Method
  - (b) Functional Analysis in Trouble-Shooting
  - (c) Diagnostic Software
  - (d) Preventive Maintenance
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