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**University Examinations 2015/2016**

SECOND YEAR SECOND SEMESTER EXAMINATION FOR DIPLOMA IN ELECTRICAL ENGINEERING

**EEE 2252: ELECTRICAL MEASUREMENT AND TESTING III**

 **DATE: NOVEMBER 2015 TIME: 11/2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Define the terms:
2. Testability
3. Calibration. (4 Marks)
4. Outline briefly, four factors that determine the mean time to repair. (MTTR). (4 Marks)
5. List at least four components that are in test specifications. (2 Marks)
6. Explain briefly the difference between reliability and quality. (4 Marks)
7. In a system the average time to repair any fault is 4 hours. Calculate the value of maintainability for a time of 5 hours. (3 Marks)
8. Explain briefly three effects of temperature on reliability of an equipment. State on each the remedies of these effects. (6 Marks)
9. Explain three types of calibration used for calibration procedures. (3 Marks)
10. Outline the calibration procedure of an equipment. (4 Marks)

**QUESTION TWO (15 MARKS)**

1. Explain briefly three differences between product design and a prototype. (6 Marks)
2. Highlight three purposes of calibration. (3 Marks)
3. Explain briefly three types of preventive maintenance used in industries. (6 Marks)

 **QUESTION THREE (15 MARKS)**

1. Define the terms:
2. Performance specification.
3. Standard specification. (4 Marks)
4. Explain briefly four types of models used in production processes. (8 Marks)
5. Explain briefly what a working standard is. (3 Marks)

**QUESTION FOUR (15 MARKS)**

1. With aid of a sketch, explain three sections of a reliability curve. (6 Marks)
2. Outline the factors that affect the reliability during the product design and development. (5 Marks)
3. What is the difference between accuracy and precision? (4 Marks)