TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology

DEPARTMENT ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

UNIVERSITY EXAMINATION FOR:

CERTIFICATE IN ELECTRICAL POWER ENGINEERING (CEPE 1) PP1

ELECTRICAL INSTALLATION TECHNOLOGY I

EEP 1102

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2HOURS

DATE:

Instructions to Candidates

You should have the following for this examination

Answer Booklet, examination pass and student ID

This paper consists of five questions. Answer ANY THREE QUESTIONS.

Do not write on the question paper.

QUESTION ONE

a (i)Describe three classes of fire and state the method of extinguishing each (6marks)

b (i) State four causes of accidents in workshops and factories

(ii) State the contents of an accident report. (8marks)

c. Explain the action to be taken to save an electric shocked victim still in contact live parts. (6marks)

QUESTION TWO

a. (i) Describe with the aid of a diagram the operation of a trembler bell.

(ii) Explain how a relay works and state where they are used. (8 marks)

b. (i) Describe with the aid of diagram how a closed circuit alarm system operates.

(ii) State the advantages of the system in b (i) above compared to the open circuit type (8marks)

c. Explain the application of the indicator board with alarm systems stating its function and one example where it is commonly used. (4marks)

QUESTION THREE

a Explain :-

(i) Lighting stroke

(ii) Effects of a lighting stoke (6marks)

b (i) State the meaning of " flame proof fitting"

(ii) State the five types of hazards to be considered under flame proof installations. (8marks)

b. (i) Explain why building need protection against lighting discharges

(ii) State parts of a building lighting protection system (6 marks)

QUESTION FOUR

a. (i) Explain the operation of an Automatic fire alarm system

(ii) State the advantage of the system in (c) (i) above over the manual type of system. (6 marks)

b. State:-

(i)Four sensing elements used as afire detectors

(ii)The instances in which heat and smoke detectors give false alarms (6marks)

c. (i) describe with the aid of a diagram the operation of a single stroke bell.

(ii) State where this bell in (c) (i) above is commonly used (8 marks)

QUESTION FIVE

a. (i) State three factors to be considered when designing an electric installation.

(ii) Explain the term "class of excess current protection "and how it affects cable rating (7marks)

b. (i) State two factors to be considered when selecting the type and size of control gear to be used in a particular installation.

(ii) Explain the term 'diversity factor" and state how its application affects installation design (8 marks)

c State the supply control switch gear required at the supply intake to an electrical installation (5marks)