



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SECOND YEAR SECOND TERM EXAMINATION FOR

CERTIFICATE IN ELECTRICAL AND ELECTRONICS ENGINEERING

ELECTRICAL INSTALLATION II

DATE: 10/6/2021

TIME: 2.30-5.30 PM

INSTRUCTIONS

Attempt all questions

1. a) Define the term temporary installation and explain where it is applied (10 marks)
 b) explain the meaning of the following terms as used in special installation (10 marks)
 - i. flame proof enclosure
 - ii. increased safety
 - iii. intristic safety
 - iv. type n
2. a) List any four type of explosives gases or vapors found within industries (4 marks)
 b) Define the following terms (6 marks)
 - i. Special installation
 - ii. Hazardous area
- c) With reference to hazardous location briefly explain the following (10 marks)
 - i. class I
 - ii. class II
 - iii. class III
3. a) State and briefly explain FIVE factors to consider when choosing a wiring system (10 marks)
 b) Briefly describe four type of wiring system indicating where they are used (10 marks)
- 4 a) Define the term tariff (4 marks)

- b) Explain THREE desirable characteristics of a Tariff (6 marks)
- c) State and explain FOUR types of tariff (10 marks)
- 5 a) The output of generating station is 390×10^6 units per annum and installed capacity is 80,000KW. If the fixed annual charge is ksh18 per kw of installed plant and running charges are ksh25 per Kwh. What is the cost per unit at the generating station? (10 marks)
- b) A consumer has the following consumption per day 40kw for 2 hours ,80kw for 1hour and 20kw for 4 hours. The maximum demand is 80kw.Calculate the amount he consumes per month if the maximum demand is charged at ksh5 and kwh at ksh 3. The fixed charges are ksh200 (10 marks)