UGANDA INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
WEEKDAY PROGRAMME END OF SEMESTER TWO EXAMINATIONS

ACADEMIC YEAR 2022/2023

DEPARTMENT: ICT

SEMESTER: TWO

PROGRAMME(S): DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING (DEEE)

YEAR OF STUDY: TWO

COURSE: ELECTRICAL INSTALLATIONS

COURSE CODE : ELT2204

DATE: SUNDAY 27TH, NOVEMBER 2022

TIME: 2:00 PM – 5:00 PM

DURATION: 3 HOURS

INSTRUCTIONS:

(i) This paper contains two Sections: A (40 marks) & B (60 marks).

(ii) Attempt ALL questions in Section A, and ONLY THREE questions in Section B.

(iii) All questions in Section B carry equal marks.

(iv) Credit will be given for use of relevant examples and illustrations.

(v) Begin each number in Section B on a new page of the answer sheet.

(vi) DO NOT write on this question paper.

SECTION A [40 MARKS]

Attempt **ALL** the Questions in this Section.

Question 1 **(8 marks)**

a) Name the **four** common technical tests that are carried out after installation and before commissioning.
b) Draw and name any four electrical installation symbols.

Question 2 **(8 marks)**

a) Define Electrical wiring.
b) List six types of wires that are used in electrical installation.
c) Give **four** factors that determine the selection of cables

Question 3 **(8 marks)**

a) What is a fuse?
b) Name **four** desirable characteristics of fuse elements
c) What are the various advantages of a fuse

Question 4 **(8 marks)**

Explain the following terms commonly used in electrical installation
a) Full conduiting.
b) Half conduiting.
c) Space factor.
d) Sheathing.

Question 5 **(8 marks)**

a) List any **four** circuit protective devices (CPDS) used today.
b) Differentiate between emergency lighting and standby lighting.

SECTION B [60 MARKS]

Attempt **ONLY THREE** Questions in this Section.

Question 1

a) What is electrical earthing? **(1 mark)**
b) What are different reasons for earthing? **(4 marks)**
c) Name and define the three basic components of an earthing system. **(3 marks)**
d) Explain the **three** methods of electric earthing used today. **(12 marks)**

Question 2

a) Define an isolator. **(1 mark)**
b) Mention the various types of isolators **(4 marks)**
c) Outline the operation of isolators **(10 marks)**
d) Give the major factors considered when making choice for a particular wiring system. **(5 marks)**

Question 3

a) Explain the following types of wiring
   i) Cleat wiring **(2 marks)**
   ii) Batten wiring **(2 marks)**
   iii) Conduit wiring **(2 marks)**
b) Give **six** factors that affect the selection of wiring **(6 marks)**
c) Mention **eight** the general rules used while executing electrical wiring work **(8 marks)**

Question 4

a) Name the causes of electrical accidents **(4 marks)**
b) Mention what happens when you get an electrical shock. **(4 marks)**
c) What factors determine the severity of electrical shock **(6 marks)**
d) Mention various measures taken to prevent electric shocks **(6 marks)**

Question 5

a) Differentiate between the following:
   i) Open circuit faults and Short circuit faults **(3 marks)**
   ii) Symmetrical faults and Unsymmetrical faults **(3 marks)**
b) Explain the following classes of fires
   i) Class A **(3 marks)**
   ii) Class B **(3 marks)**
   iii) Class C **(3 marks)**
c) Mention any five types of fire extinguishers. **(5 marks)**