

CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

Technical and Vocational Education Examinations

ELECTRICAL POWER SYSTEMS

ELECTRICAL AND ELECTRONIC CIRCUITS 3
5240



JUNE XXXX

INTERMEDIATE LEVEL

Subject Title	ELECTRICAL AND ELECTRONIC CIRCUITS
Subject Code No.	5240
Paper No.	THREE

DURATION 1 HOUR 30 MINUTES

This PAPER is a practical paper and has a weighting of 40%. Candidates are to **BALLOT** in order to get the TOPIC to work on.

In this paper, each candidate has to elaborate on the preparatory work which includes: Title; Aim; Principle (Theoretical diagram, formulae, expected curves, etc.); List of Materials and Table of values.

Each candidate has to carry out the manipulation and write a report in an invigilated room.

MARKING SCHEME

EXERCISE	DURATION (MINUTES)	MARKS
PREPARATORY WORK	40	40
MANIPULATION	30	40
CONCLUSION	20	20
TOTAL	90	100

You are reminded of the necessity for good English and orderly presentation in your answers.

Turn Over

TOPIC 1: STUDY OF A SINGLE - PHASE HALF WAVE RECTIFIER.

Given the following characteristics:

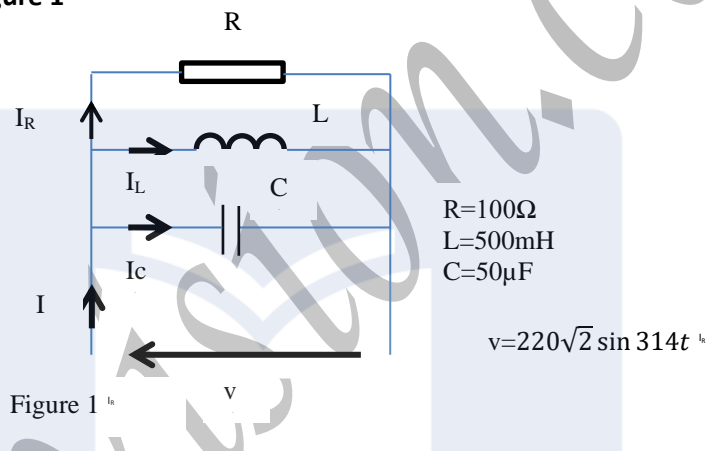
- Supply: 220V, 50Hz
- Diode : 1A; IN4007
- Load : Battery 24V

- (a) Visualise the wave form of the following quantities with an oscilloscope:
- i. Supply voltage
 - ii. Voltage across the diode
 - iii. Load voltage

- (b) Determine the average and effective values of the load voltage

TOPIC 2 STUDY OF RLC PARALLEL CIRCUIT

Considering the circuit of Figure 1



- (a) Calculate the current flowing through R,L,C and the voltages across each of the components
- (b) Measure the current through R,L and C
- (c) Measure the total current from the supply
- (d) Conclude

TOPIC 3: STUDY OF A COIL

Determine the value of the inductance of a given coil using the three voltmeter method

TOPIC 4: STUDY OF RESISTANCE

Given four resistors of different value less than 1K Ω and a dc source of 10V, connect the resistor in parallel across the source and;

- (a) Measure the voltages across each resistor $V_1, V_2, V_3,$ and V_4
- (b) Measure the current across each resistor I_1, I_2, I_3 and I_4
- (c) Verify if $I_1R_1 = I_2R_2 = I_3R_3 = I_4R_4 = 10V$