



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

ELECTRICAL ENGINEERING DEPARTMENT

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN ELECTRICAL AND ELECTRONIC ENGINEERING

TEE 4101: ELECTRICAL ENGINEERING DRAWING

END OF SEMESTER EXAMINATION

SERIES: JULY 2025

TIME: 2 HOURS

DATE: July 2025

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID, appropriate professional computer drawing software (AutoCAD and any One other) and a memory stick

This paper consists of **FOUR** Questions. Answer Question ONE and any other TWO. Question ONE carries 40 marks while each of the remaining THREE questions carry 30 marks each.

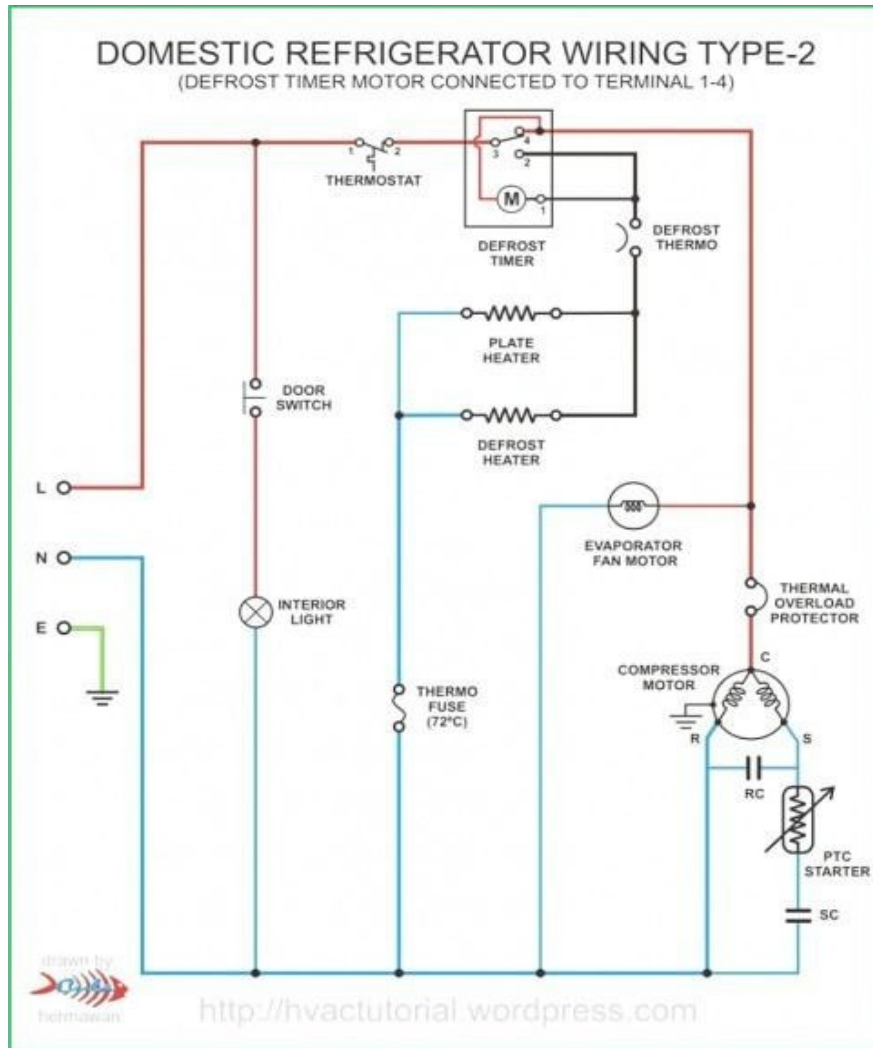
Drawings to be handed in in soft copy form. Your folder should be named with your registration number and SURNAME

Do not write on the question paper.

QUESTION ONE - 40 MARKS (COMPULSORY)

a) Read and interpret to plan **Figure Q1**

Figure Q1



- Identify the circuit and explain its application
- Explain using a block diagram any FIVE significant parts of the circuit
- State the procedure of replacing a component in the circuit.
- Highlight any THREE features of drawing code applied

(18 Marks)

b) State:

- The purpose of cloud-based and co-designing platforms in ECAD/MCAD
- Any FIVE features of ECAD/MCAD collaboration

(7 Marks)

d) Explain what the following AUTOCAD commands causes in drawing.

- SNAP

- ii. PAN
- iii. TRIM
- iv. OFFSET
- v. MIRROR

(5 Marks)

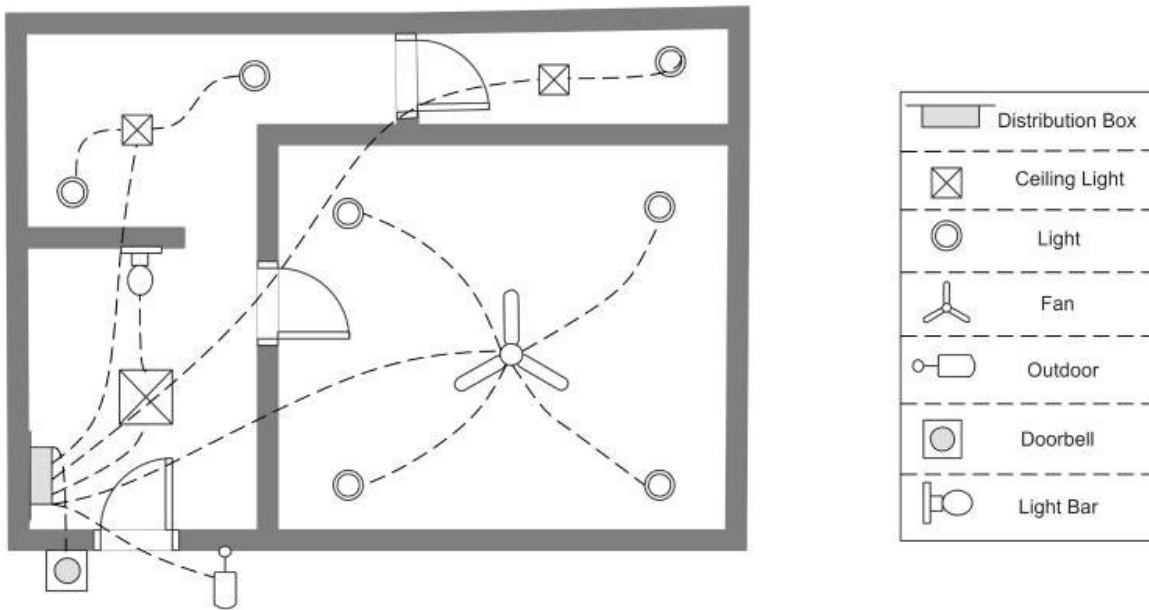
e) Explain any FOUR requirements of:

- i. Drawing computer system.
- ii. Requirements of a drawing office.

(10 Marks)

QUESTION TWO (30 Marks)

Figure Q2 is a drawing of an architectural floor plan of a 4 x 4 m square bed section Bedsitter. The toilet is 1m breadth, while the entry section is 2m wide, stretching to 3m just above the room door as shown.



House Wiring Plan Diagram

Figure Q2

INSTRUCTIONS:

- i. Read and interpret the plan.
- ii. Redraw the plan using professional drawing software
- iii. Insert electrical drafting symbols according to BS3939/IEC60617 Standard
- iv. Open a main folder named using your registration number and SURNAME in the form: **BSEE09560J2020SURNAME.**
- v. Open another folder named EXAM inside main folder and save all your work under it.

- vi. Inside the EXAM folder save the FILE in working format as **QUESTION2**
- vii. Save the same file in PDF format as **QUESTION2PDF**
- viii. Copy the folder and present to examination assessment.

QUESTION THREE (30 Marks)

Figure Q3 below is a sketch shows a vertical layout 2-storey building with a cable shaft. One ground floor section contains intake transformer and equipment.

2 nd Floor Right	2 nd Floor Left Cable Shaft
1 st Floor Right	1 st Floor Left
Main switch Area with intake transformer	Ground Floor Open Space

Figure Q3

INSTRUCTIONS:

- i. Read and interpret the plan
- ii. Draw the electrical power distribution circuit (sub mains only) according to BS3939/IEC60617 Standard for the structure
- iii. Label all devices and components including possible ratings
- ix. Open a main folder named using your registration number and SURNAME in the form: **BSEE09560J2020SURNAME**
- x. Open another folder named EXAM inside the main folder and save all your work under it.
- xi. Inside the EXAM folder save the FILE in working format as **QUESTION3**
- xii. Safe the same file in PDF format as **QUESTION3PDF**
- xiii. Copy the folder and present for examination assessment.

QUESTION FOUR (30 Marks)

Figure Q4 below shows a Hand Sketch of an electronic circuit. Reproduce the circuit using professional software

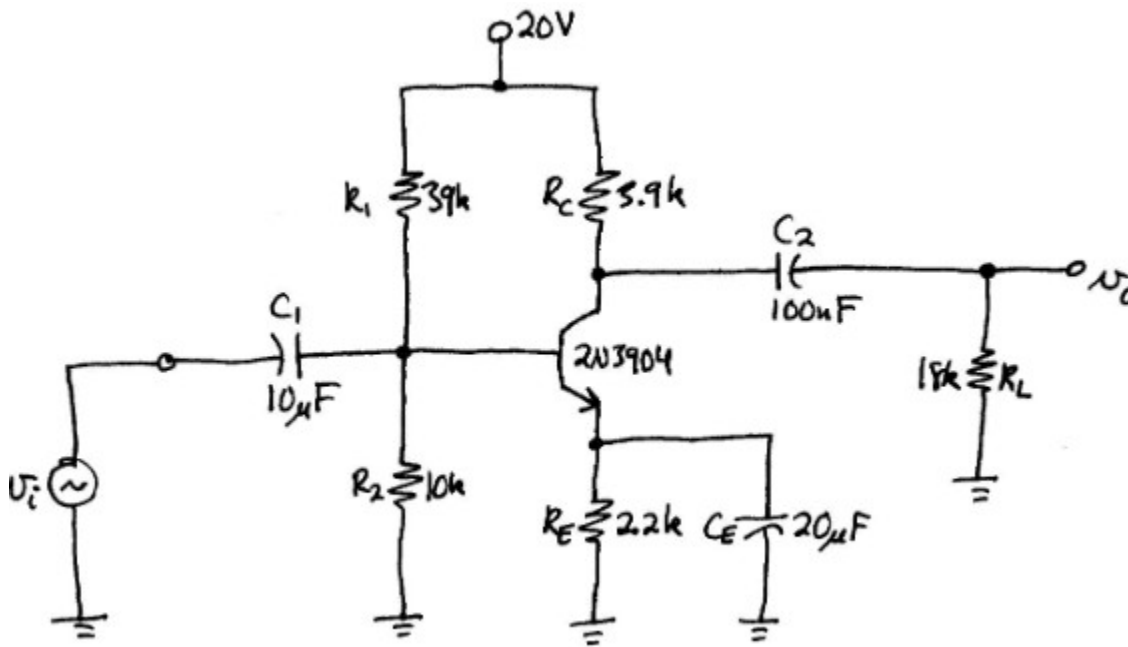


Figure Q4

INSTRUCTIONS:

- i. Read and interpret the electronic sketch
- ii. Draw the electronic circuit according to BS3939/IEC60617 Standard using any professional software.
- iii. Label all devices and components including possible ratings
- xiv. Open a main folder named using your registration number and SURNAME in the form: **BSEE09560J2020SURNAME**
- xv. Open another folder named EXAM inside the main folder and save all your work under it.
- xvi. Inside the EXAM folder save the FILE in working format as ***QUESTION4***
- xvii. Save the same file in PDF format as ***QUESTION4PDF***
- xviii. Copy the folder and present for examination assessment.