

1521/104 1601/106
1522/104 1602/106
TRADE PRACTICE I
Oct./Nov. 2021
Time: 8 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN ELECTRICAL AND ELECTRONIC
TECHNOLOGY
(POWER OPTION)
(TELECOMMUNICATION OPTION)**

MODULE I

TRADE PRACTICE I

8 hours

INSTRUCTIONS TO CANDIDATES

Each candidate will carry out ALL exercises as directed by the examiner.

Time allowed for each exercise is 2 hours.

Performance of each candidate will be assessed during and at the end of every exercise.

NO circuit should be connected to POWER without the approval of the examiner.

All dimensions are in millimetres.

All installations work shall be carried out according to IEE regulations.

All questions are COMPULSORY.

Candidates should answer the questions in English.

This paper consists of 6 printed pages.

**Candidates should check the question paper to ascertain that
all the pages are printed as indicated and that no questions are missing.**

1. (a) Figure 1 (a) shows the layout of a single phase consumer's intake point. The control gear equipment is pre-installed.

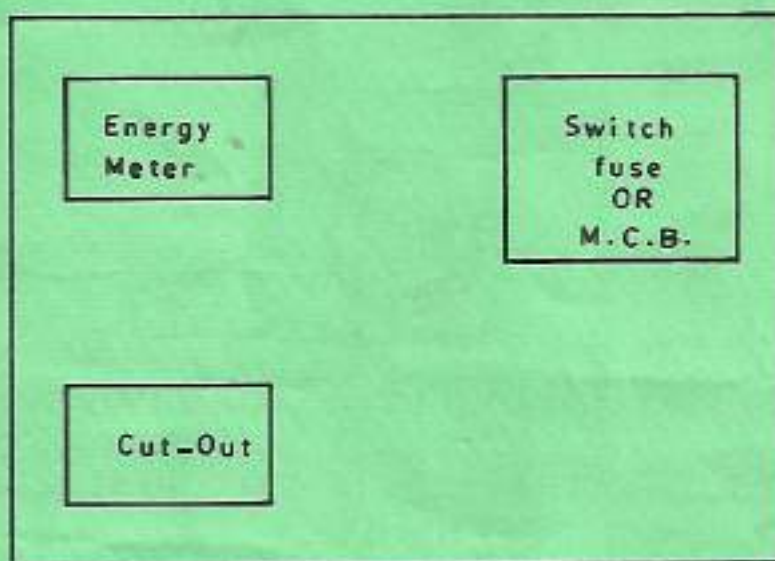


Fig.1 (a)

- (i) Draw the wiring diagram.
(ii) Wire the equipment in the correct sequence.

(6 marks)

- (b) Figure 1 (b) shows the layout of two final circuits.

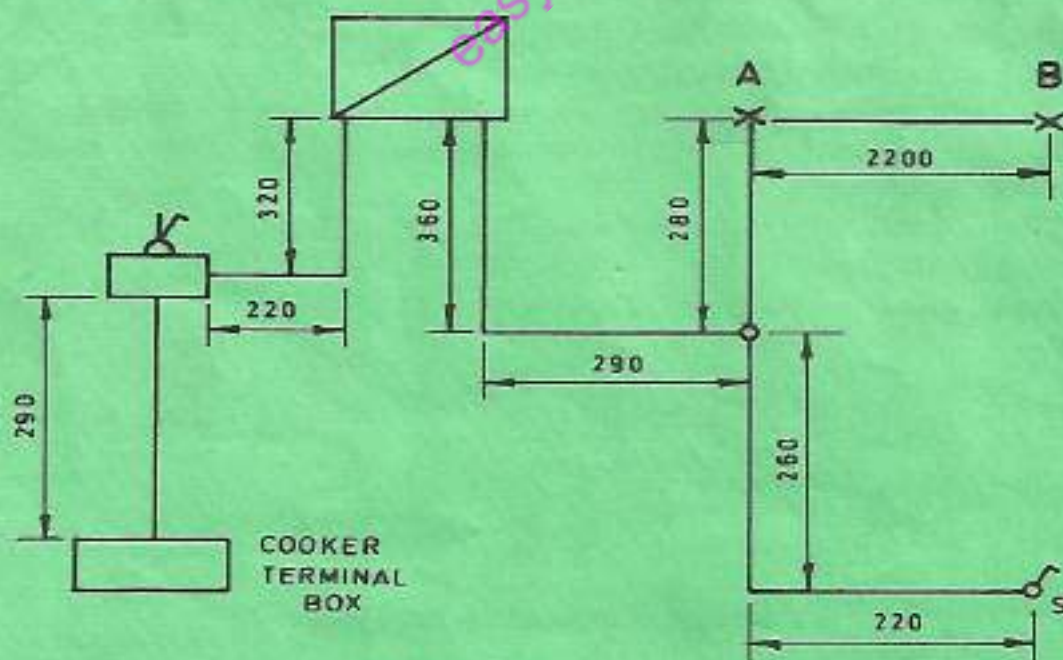


Fig.1 (b)

1521/104 1601/106

2

1522/104 1602/106

Oct/Nov. 2021

- (i) Draw the wiring diagram such that the:
 - (I) lamps A and B are controlled by one way switch S;
 - (II) Cooker control is wired from the consumer unit.
- (ii) Install the circuit using PVC sheathed cable wiring system.
- (iii) Carry out the polarity test.

(19 marks)

2. (a) Figure 2 (a) shows a layout of a solar electric installation. The solar charge controller and inverter are pre-installed.

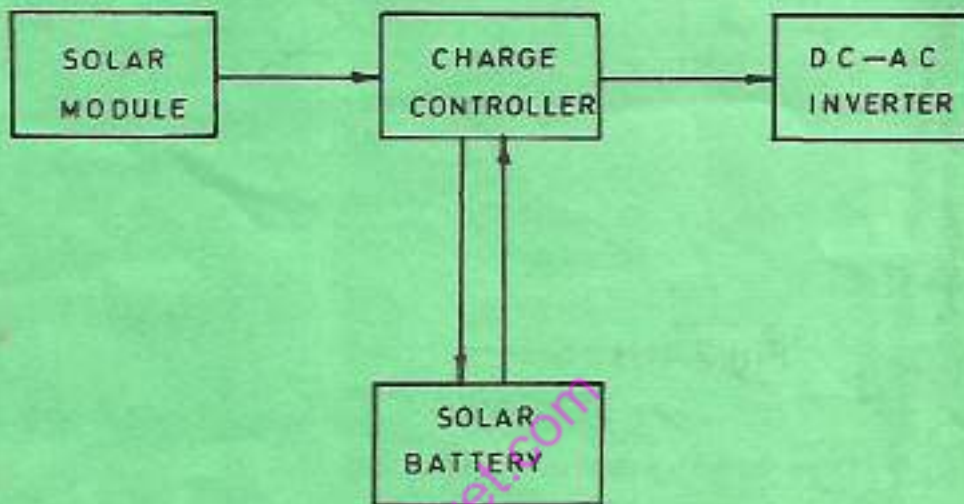


Fig.2 (a)

- (i) Draw the wiring diagram of the layout.
- (ii) Complete the wiring of the solar equipment in correct sequence.

(6 marks)

(b) Figure 2 (b) shows the layout of two final circuits.

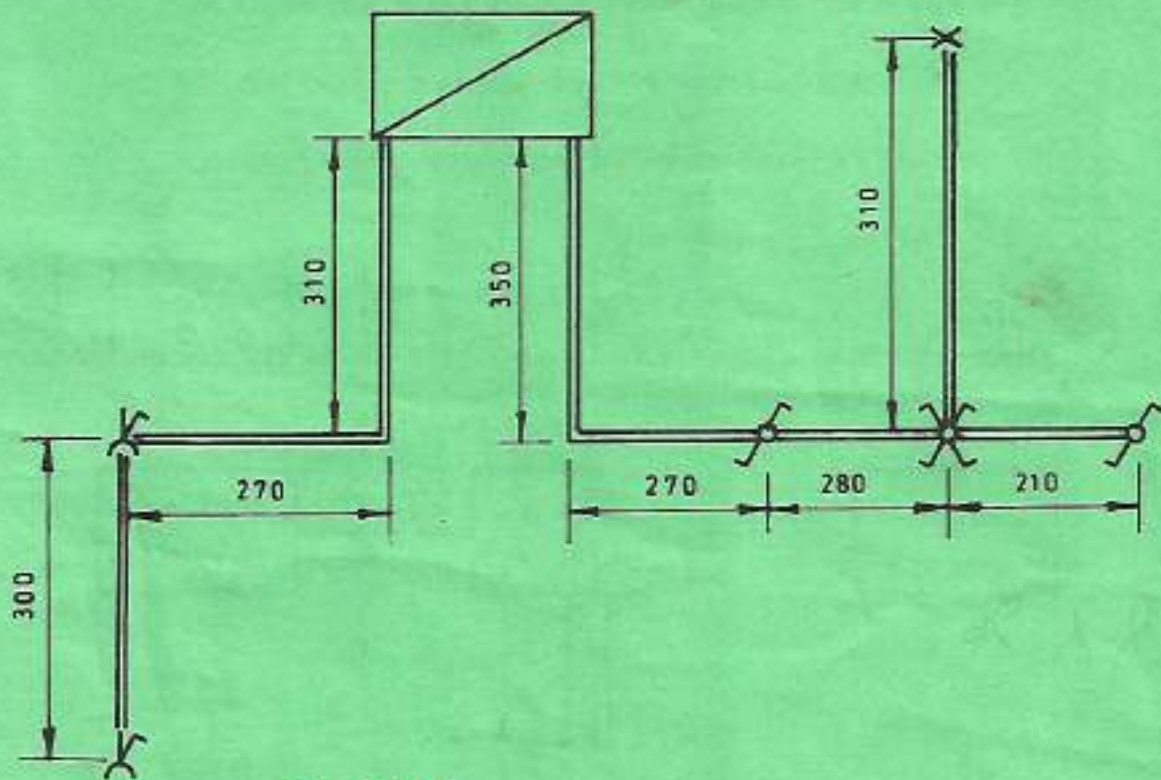


Fig.2 (b)

- (i) Draw the wiring diagram such that the:
 - (I) lamp is operated from three independent positions;
 - (II) socket outlets are wired in radial.
- (ii) Using PVC mini trunking, install the circuits.
- (iii) Carry out the continuity test.

(19 marks)

3. Figure 3 (a) shows the layout of a circuit breaker casing.

Using the materials, tools and equipment provided, fabricate the casing.

(25 marks)

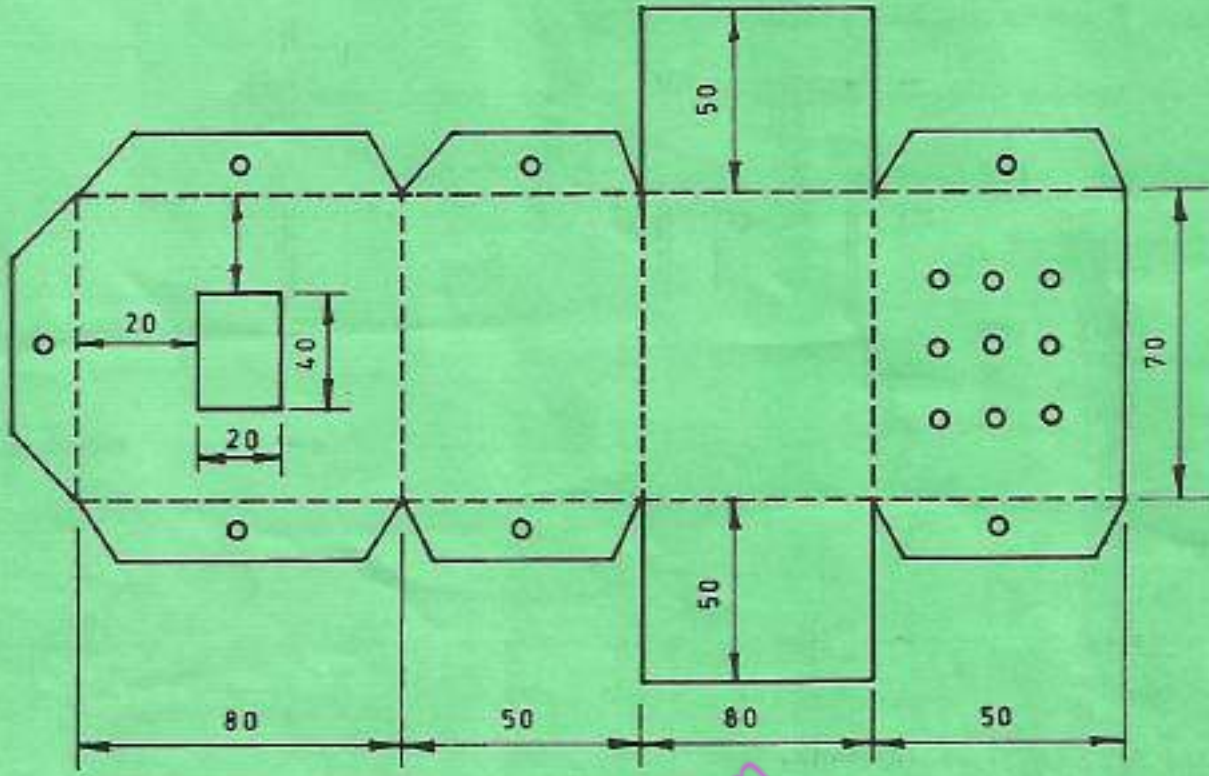
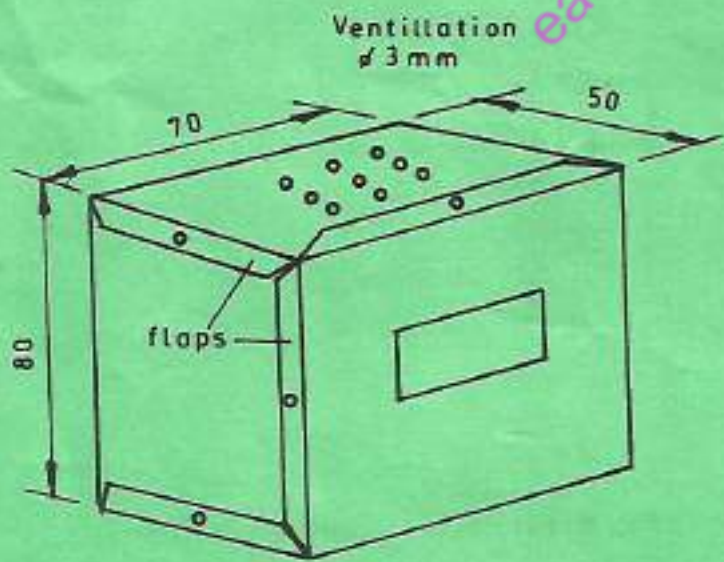


Fig. 3 (a) (i)



NOTE

- ALL FLAPS 10 mm
- SELF TAPPING SCREWS 3 mm
- CIRCUIT BREAKER HOLE 40 x 20 mm

Fig. 3 (a) (ii) Complete Assembly

4. **Figure 4** shows circuit diagram of a stabilised d.c power supply unit.

- (a) Using the components and equipment provided, mount and solder the circuit.
- (b) Power the constructed circuit.
- (c) Measure voltages at the following test points and record your results:
 - (i) TP1;
 - (ii) TP2;
 - (iii) TP3;
 - (iv) TP4.

(25 marks)

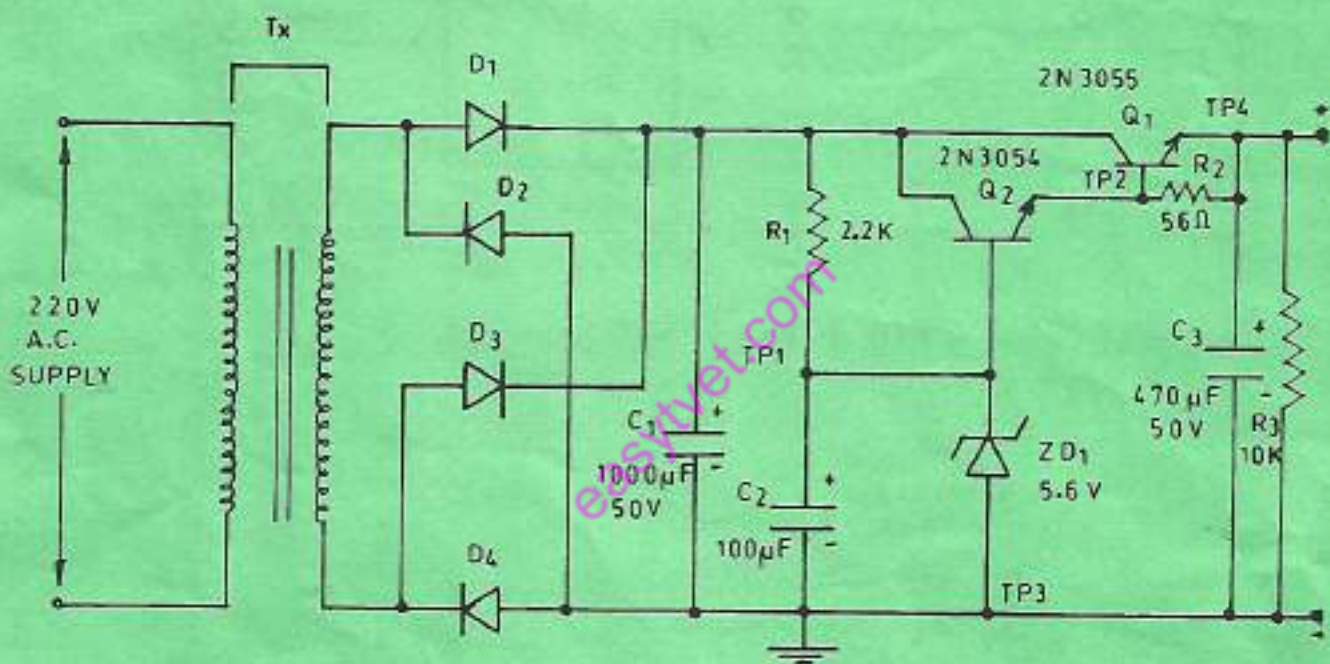


Fig. 4

THIS IS THE LAST PRINTED PAGE.