

1521/104
1522/104
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TRADE PRACTICE I
June/July 2016
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

1. *Each candidate will carry out ALL exercises as directed by examiner.*
2. *Performance of each candidate will be assessed during and at the end of every exercise.*
3. *Time allowed for each exercise is 2 hours.*
4. *Candidates will dismantle their own work.*
5. *NO circuit should be connected to **POWER** without the approval of the examiner.*
6. *All dimensions are in millimetres.*
7. *All electrical installations must be carried out in accordance with relevant IEE regulations and practice.*
8. *All questions are **COMPULSORY**.*
9. *Candidates should answer ALL the questions in English.*

This paper consists of 5 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. Figure 1 shows the layout of consumer equipment at intake point and three final circuits. The consumer equipment at intake point is pre-installed.

- (a) Draw the wiring diagram.
- (b) Complete the wiring at consumer intake point.
- (c) using PVC mini trunking wiring system, install the:
 - (i) Lighting circuit such that L_1 and L_2 are controlled from two independent positions;
 - (ii) Water heater circuit;
 - (iii) Cooker control unit.
- (d) Carry out polarity and insulation tests. (25 marks)

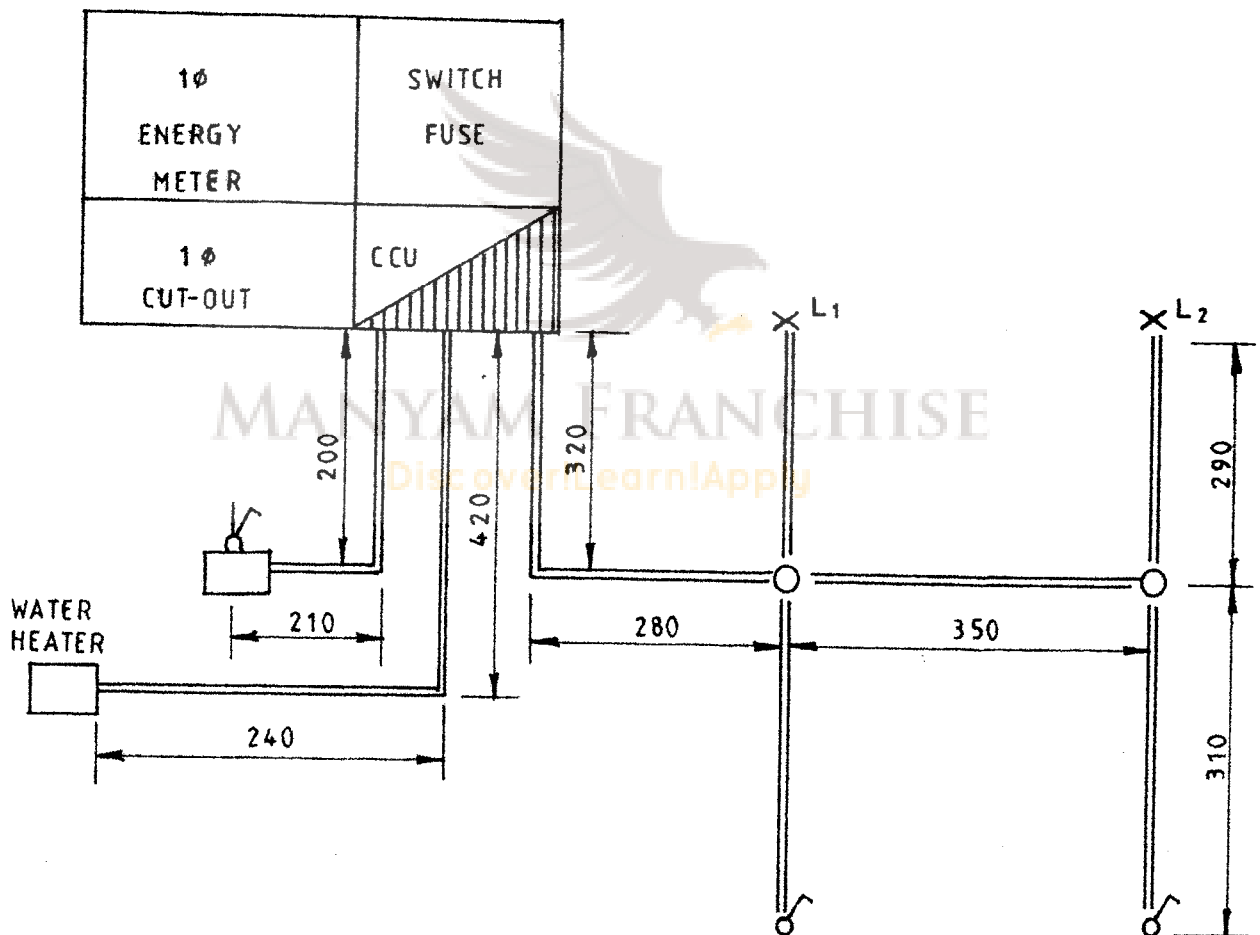


Fig. 1

2. Figure 2 shows a domestic solar electric home system with two final circuits. The solar module and its control gear are pre-installed.
- Draw a wiring diagram.
 - Complete the wiring of control gear of the solar unit.
 - Using PVC sheathed wiring system, install the:
 - Lighting circuit such that the lamp is controlled from three different positions;
 - Socket outlets in radial.
 - Carry out continuity and insulation tests. (25 marks)

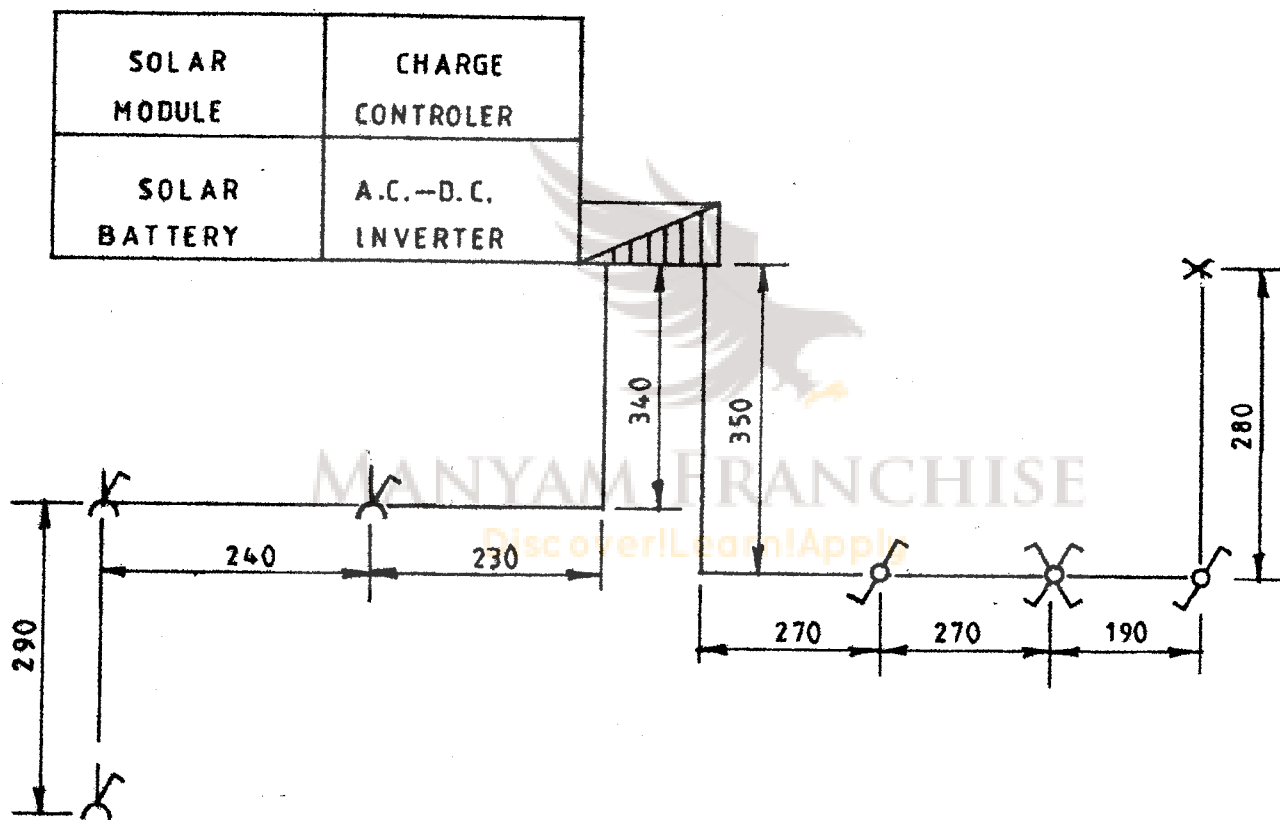
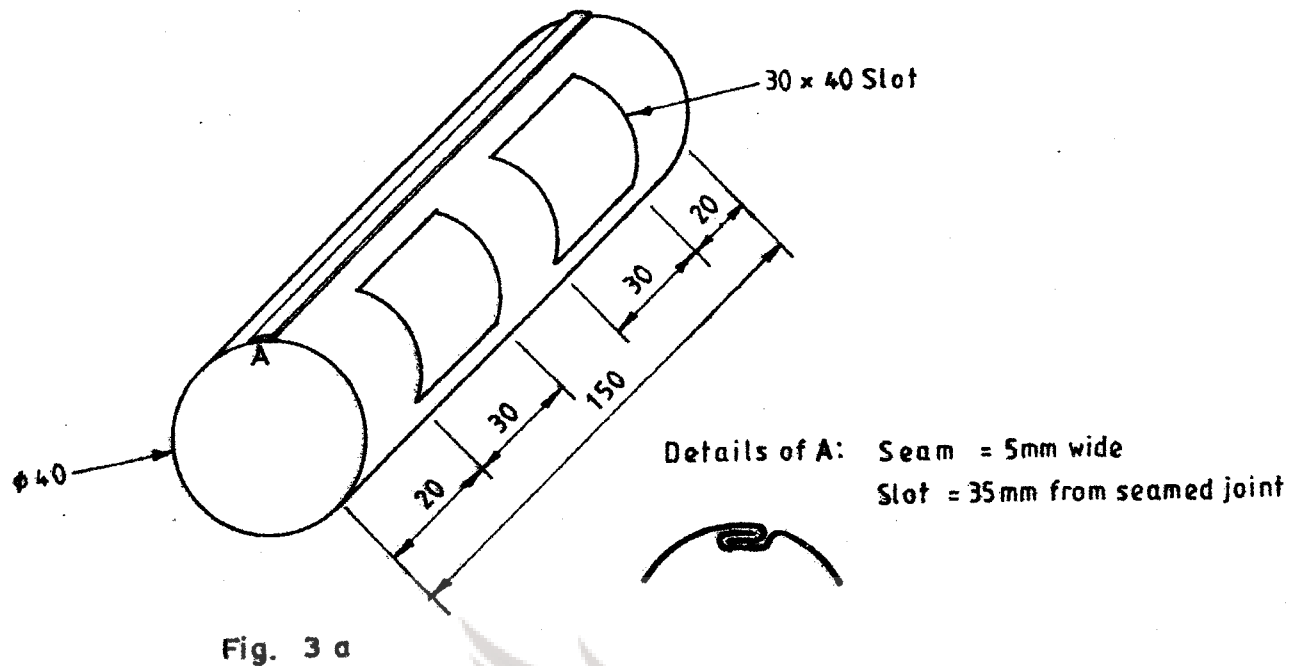


Fig. 2

3. (a) Use the tools, materials and equipment provided to make battery holder shown in Figure 3 a. (15 marks)



- (b) Figure 3 b shows a married joint. Using the cable provided:

- (i) Make the joint;
- (ii) Solder the joint.

(10 marks)

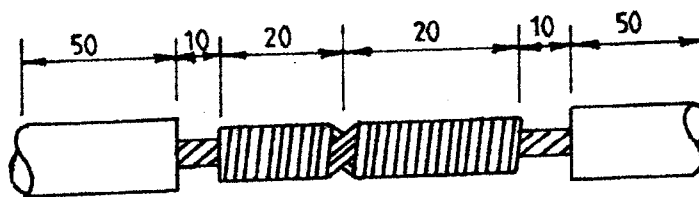


Fig. 3 b

4. Figure 4 shows a stabilised 6 V d.c. power supply. Using the components and equipment provided:

- (a) Mount and solder the components on the copper strip board.
- (b) Power the circuit and measure the voltages at the following test points.

- (i) TP1
- (ii) TP2
- (iii) TP3
- (iv) TP4
- (v) TP5
- (vi) TP6

(25 marks)

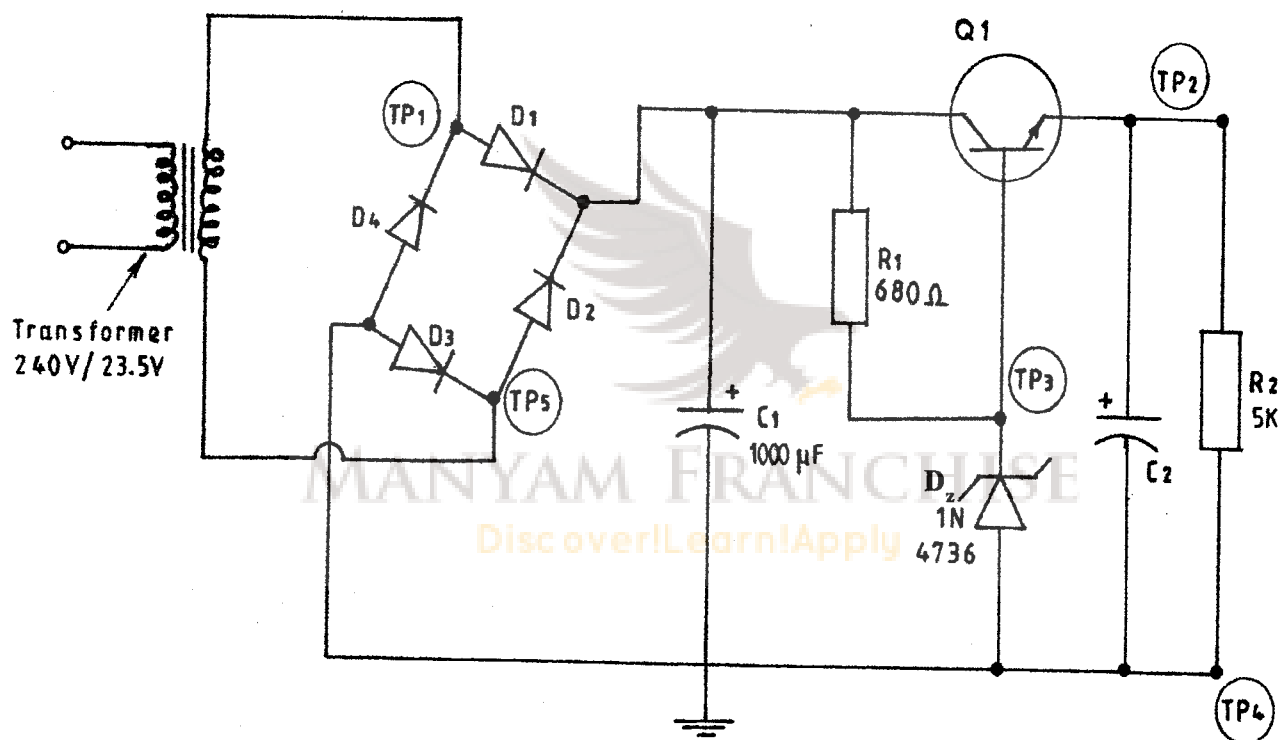


Fig. 4

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