

INSTRUCTIONS:

1. Answer ALL the questions
2. Read ALL the questions carefully
3. Number the answers according to the numbering system used in this question paper
4. Write neatly and legibly

QUESTION 1 - Topic 1 Module 1 – Trade Practices

- 1.1 What is the permit to work used for (2)
- 1.2 List two common signs of poor housekeeping. (2)
- 1.3 An electrical contract is made up of task A to E:
- Task A takes 2 weeks, starting in week 1.
 - Task B takes 3 weeks, starting in week 2.
 - Task C takes 3 weeks, starting in week 3.
 - Task D takes 2 weeks, starting in week 6.
 - Task E takes 2 weeks, starting in week 1. (5)
- 1.4 What systems will you adopt to reduce or to remove the danger of working on electrical systems? (2)
- 1.5 Name five main reasons for planning a task? (5)

SUB TOTAL (16)

2 QUESTION 2 - Topic 2 Module 2 to 3 – Testing and measuring

- 2.1 You are requested to carry out an earthing test on the plug of a two-plate electric stove.
- (a) What instrument will you use to perform the test and what range will you select (1)
- (b) Briefly explain how you will perform the test. (1)
- 2.2 Demonstrate how you will perform an insulation resistance test between two conductors (3)
- 2.3 List three important precautions that you should observe with respect to measuring equipment and give a brief description of each. (6)
- 2.4 Calculate the current drawn by an electric two – bar heater used on a 230V AC supply. The only instrument available to you is an ohmmeter which gives a reading of 22 ohm when connected across the live and neutral pins of the heaters flexible card plug. (3)

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- 2.5 A current transformer has two turns on the primary winding and 20 turns on the secondary winding. Calculate the secondary current if the primary current is 50 (5)

SUB TOTAL (19)

3 QUESTION 3 - Topic 3 Module 4 – Domestic appliances

- 3.1 Match column A to column B with the reference to a twin – tub washing machine control panel (5)

Column A	Column B
4.1 Wash timer	(a) Sets the spin duration
4.2 Wash selector	(b) Connects the water inlet to a tap
4.3 Cycle selector	(c) Washing type selection (normal/heavy)
4.4 Spin-dry timer	(d) Sets the wash-rinse or drain cycle
4.5 Water intake	(e) Sets the wash duration

- 3.2 State whether the following are true or false:

- (a) An electric iron is a heating device which you can use to iron fabric (1)
- (b) In a radiation heater, the heat is produced by an element that glows red hot when the power is switched on. (1)
- (c) A cordless kettle consists of a plastic base that connects to the main socket outlet and a separate kettle. (1)
- (d) All washing machines work by making use of mechanical energy. (1)
- (e) A simmerstat switch works on the same principal as a thermometer (1)

- 3.3 Copy and complete the table below that applies to a washing machine (5)

Problem	Corrective action
Water does not recirculate during agitation	
Water pump not working at all	
Timer will not advance to next cycle	
Washing machine vibrates too much	
Does not work at all	

SUB TOTAL (15)

TOTAL [50]