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BUGESERA DISTRICT

TSS 2nd TERM DISTRICT COMPREHENSIVE ASSESSMENT
SCHOOL YEAR: 2024-2025

SECTOR: Construction and Building Services

...../100 MARKS

TRADE: Building construction

RQF LEVEL: 3

MODULE CODE AND TITLE: DEMONSTRATE BASICS KNOWLEDGE OF DOMESTIC ELECTRICITY

DURATION:

DATE: / / 2025

INSTRUCTIONS TO CANDIDATE:

- ✓ This exam has three sections.
- ✓ Maximum marks...../100Marks
- ✓ Attempt all Questions in A
- ✓ Choose only two questions in section B.
- ✓ Choose only one question in section C.

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SECTION A: Attempt all questions**55 Marks**

1.State whether the following statements is true or false:

- a) Electricity: is the flow of molecules in a circuit from one place to another.
- b) Electrons: can flow through any materials, but does so more easily in some than others.
- c) Voltage: is like the pressure that pushes water through the hose and is measured in volts
- d) A conductor: is a material that allows electrical resistance to oppose current to flow through it.
- e) Electrical cable: is an assembly of one or more wires running side by side or bundled which is used to carry current.

2. Choose the correct answer: the classifications of conductors according to the type of covering they have are: **/2Marks**

A: bare conductors, plastic conductors, PVC conductors

B: PVC and plastic, wood, wires, and cover of insulator

C: bare conductors, Single conductor and plastic cover conductors

D: metal cover, single conductors, cover of transmission cable and insulator conductor

E: Bareconductor and insulated conductor

3. List down any four materials needed while an electrician is making a domestic installation. **/4Marks**

4. a) Define the term earthing **/2Marks**

b) Outlines two types of earthing **/2Marks**

5. a) Define the term Safety **/2Marks**

b) Outline four guidelines to be followed when working on equipment powered by electricity. **/4Marks**

6. What does it mean when Multimeter reads no continuity **/2Marks**

- a) no resistance in the circuit
- b) no capacitance connected in the circuit
- c) no inductance in the circuit
- d) somethings are breaking out
- e) there is a break somewhere in the circuit

7. Choose the correct answer:

/2Marks

- a) Ohmmeter: is a material
- b) Ohmmeter: is a matter
- c) Ohmmeter: is a tool
- d) Ohmmeter: is an object
- e) Ohmmeter: is an instrument

8. Write down the best definition that define voltmeter

/2Marks

- a) Voltmeter is an electrical component that is used for measuring the drops in electrical wires.
- b) Voltmeter is an electrical object that is used for determining the type of electrical supply
- c) Voltmeter is both electrical and electronics apparatus and is used to measure.
- d) Voltmeter is an apparatus designed for regulating the voltage between the point of the circuit.
- e) Voltmeter is an electrical instrument used for measuring electrical potential difference between two points in an electrical circuit.

9. Write down the letter of correct arrangement for asked question:

/5Marks

A complete circuit is made up of

- a. circuit breaker, fuse, switchbox, lamp holder, and conductor
- b. wire, switch, covers and insulator, and protection devices
- c. fuse, wattmeter, voltmeter, electrical matter, conductors and switch gear
- d. power source, alternating current and voltage, wires, switch, control panel and switch
- e. electrical power supply, electrical conductors, protection devices, electrical control devices, electrical load appliances.

10. write down the list contains the minimum precautions to observe when using Ammeter

/5Marks

11. How to use the following instrument during testing an electrical circuit

/4Marks

- a. Voltmeter
- b. Ammeter
- c. Wattmeter
- d. Ohmmeter

12. The list below is any one not a type of electrical installation? True or False **/3Marks**

- i. flush mounted installation
- ii. surface mounted installation
- iii. half-imbedded installation
- iv. Water Proof Installation

13. How many components makes a complete circuit?

/3Marks

- a) six main components
- b) three main components
- C) eight main component
- d) five main components
- e) four main components

14. The current flowing through a resistor is 2 A when a potential difference is ten times the value Ampere given of V is applied. Determine the value of the resistance. Write down the letter of the answer.

/3Marks

- a. $8.2+2$
- b. $2*5^2$
- c. 10^1
- d. 10^2
- e. 10.1

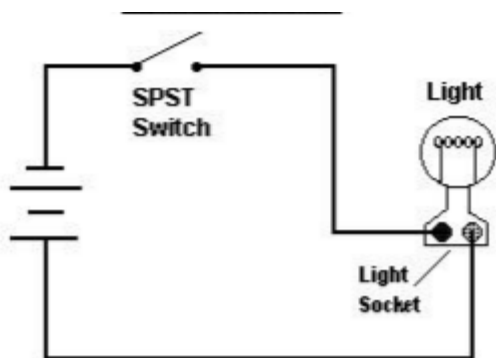
15. A current of 4A flows in the winding of an electric motor, the resistance of the winding being 50. Determine (a) the p.d. across the winding, and (b) the power dissipated by the coil.

16. An electric kettle has a resistance of 30 . What current will flow when it is connected to a 240V supply? Find also the power rating of the kettle.

/5Marks

17. Look the picture below underline the correct function of the listed component:

/2Marks



- a) The switch will allow the passing of wires to reach junction box
- b) The lighting appliances are installed perpendicular to socket outlets
- c) The wires connect all parts of the circuit together.

SECTION B: Choose only three questions

30 Marks

18. Match the instrument with appropriate function:

S/N	INSTRUMENT	FUNCTION
1	Voltmeter	Measures current
2	Ammeter	Measures voltage
3	Multimeter	Used to measure the light
4	Wattmeter	Measures various quantity
5	A photometer	Measure power

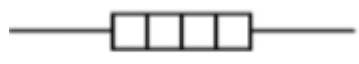
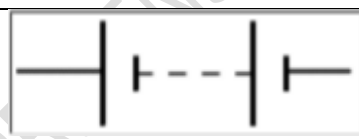
19. By saying true or false give the difference between the following electrical components:

- i.** Electrical bell produces a clear sound and uses a hammer to strike a metal bell, while buzzer create a continuous buzzing sound and vibrates internal contacts to generate sound.
- ii.** A resistor converts electrical energy when opposes electrical current while inductor stores electrical energy.
- iii.** One way switch is used to control lamp from one location while two way switch uses different places and time to control loads connected in series.
- iv.** push to make switch completes a circuit when pressed while push to break switch is a switch which breaks a circuit when pressed.

v. A circuit breaker automatically interrupts the current flow when an overload occurs while fuse breaks the circuit by melting a wire inside when too much current passes through.

20. Match the following:

/10Marks

Electrical equipment	Electrical symbol
a) wire	i. 
b) battery	ii. 
c) Electric heater	iii. 
d) Electrical bell	iv. 
e) DC supply	v. 

21. The following listed some of them are incorrect according to the question asked, write down the letter of false listed.

i. There are many causes of accident some of them are:

A: unawareness of danger

B: planning and arrangement of maintenance

C: unsafe condition

D: improper use of tools

E: unsafe condition

ii. There are four signs of basic safety categories:

A: Prohibition sign: shape is semi or half circular

B: Mandatory sign: the colour is white symbol on a blue background

C: Warning sign: warns of hazard danger

D: Information sign: its symbol is characterized by green colour and white symbol

iii. Electric shock will depend on the following factors:

A: the age of person

B: type of supply

C: healthy condition

D: whether male or female

E: wearing or not wearing wet foot wear

iv. What to do if a person receives electrical shock?

A) Do not waste time

B) Switch off the power

C) Make the patient lie down and rest.

D) Apply pressure to the wound.

E) Remove the victim from the contact with live conductor

v. The effect of electric shock are listed below:

A) Severe bleeding

B) Wound bleeding

C) electric burn

23. Draw an architectural diagram of a house of three rooms,

a) Give and state Ohm's law

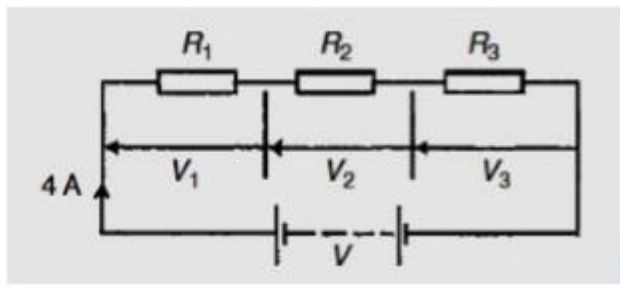
b) The current flowing through a resistor is 0.8 A when a p.d. of 20 V is applied. Determine the value of the resistance.

c) A 100 V battery is connected across a resistor and causes a current of 5 mA to flow. Determine the resistance of the resistor. If the voltage is now reduced to 25 V, what will be the new value of the current flowing?

SECTION C: Choose only one question

15 Marks

23. a) For the circuit shown in Figure below, determine (a) the battery voltage V, (b) the total resistance of the circuit, and (c) the values of resistors R1, R2 and R3, given that the p.d. across R1, R2 and R3 are 4V, 3V and 7V respectively.



- b) A 12V battery is connected in a circuit having three seriesconnected resistors having resistances of 4Ω , 2Ω and 5Ω . Determine the current flowing through and the p.d. across the 9Ω resistor. Find also the power dissipated in the 5Ω resistor.

24. Look the indicated pictures below and rename them respectively :

15Marks

The pictures stands for for a worker.



1.....

2.....

3.....

4.....

5.....

6....

7.....

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