**Question one: Answer by TRUE or FALSE**

1. Student affected by drugs or alcohol are permitted in the workshop. **(…………………..) /1marks**
2. Student can bring food in workshop if they are hungry. **(…………………..) /1marks**
3. Switch is a devices which protect electrical installation from overcurrent fault. **(…………………..) /1marks**
4. In electrical installation all connection must be done in material called junction box. **(…………………..) /1marks**
5. The function of circuit breaker is the same as function of fuse in electrical installation. **(…………………..) /1marks**

**Question two: Choose the correct answer**

1. Overall is used for: **/2marks**
2. Foot protection
3. Eyes protection
4. Head protection
5. All answer are not correct
6. All answer are correct
7. Stripping pliers is used to: **/2marks**
8. Cut wires
9. Strip wires
10. To connect wires
11. All answer are not correct
12. One of the following material is called protective device: **/2marks**
13. Switch
14. Junction box
15. Circuit breaker
16. A device used to switch ON and switch OFF the follow of current in electrical installation is: **/2marks**
17. Wire clips
18. Circuit breaker
19. Fuse
20. All answer are not correct
21. The following symbol stand for: **/2marks**



1. Connected wires
2. DC power supply
3. AC power supply
4. Fuse
5. All answers are not correct

**Learning unit 2: Perform various electrical circuits. /25marks**

**Question one: List the main components of a simple electrical circuit. /2.5marks**

1)………………………………………… 4)……………………………………

2)………………………………………… 5) …………………………………..

3)………………………………………….

**Question two: Answer by TRUE or FALSE**

1. Voltage is define as the opposing forces to the follow of current. **(…………………..) /2marks**
2. Current is defined and the flow of electrons through a conductor. **(…………………..) /2marks**
3. Grounded outlet socket is outlet socket which has two ports for wire connection. **(…………………..) /2marks**
4. In parallel circuit if one lamp burn out other lamps will continue to work. **(…………………..) /2marks**
5. Series circuit is circuit whereby the input of element are connected together and output connect together**. (…………………..) /2marks**

**Question two: complete the following sentences /2 marks**

1. Ohm’s low state that the current in electrical circuit is directly proportional to the ………………..……….……and inversely proportional to the ………………………….……….

**Question three: Choose the correct answer**

1. Selection of circuit breakers depend on: **/2marks**
2. Size of wires used in electrical circuit
3. Load connected on the circuit
4. i & ii are correct
5. All answer are not correct
6. The size of wires used to supply arc welding machine consuming current of 22A is: **/2marks**
7. 1 mm2
8. 1.5 mm2
9. 2.5 mm2
10. 4 mm2
11. All answers are not correct
12. In single phase system, the color of neutral wire can be: **/2marks**
13. White
14. Red
15. Black
16. Blue
17. Blue or black

**Question five: what are the color of the following wires in electrical installation? /1.5marks**

1. Live wire: …………………………
2. Neutral wire: ………………………
3. Ground wire: ………………………

Question six:

Calculate the total current flowing in electrical grinding machine having power of 2200watt (W) and connected to power supply of 220V. **/2marks**

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**Question six:** How do we call a lamp which are new on market and which is energy saving, durable more than others, giving more light than others and cheap on the market? The one you can recommend the customers to use in their electrical installation. **/1marks**

……………………………………………………………………………..

**Learning unit 3: Perform measuring of circuits. /10marks**

**Question one: Answer by TRUE or FALSE**

1. Volt-meter is measuring instrument used to test live wire in electrical installation. **(…………………..) /1marks**
2. Continuity is a test done to verify if the current can flow from one end of wire to the other end. **(…………………..) /1marks**
3. If electrical load has no continuity but has resistance which lesser than 100 ohms, the current can pass through that load. **(…………………..) /1marks**
4. In electrical installation, if push button switch is damaged, we can replace it with single pole one way switch. **(…………………..) /1marks**

**Question two: Choose the correct answer**

1. If voltage in outlet socket installed in plumbing workshop is being tested, what will be the calibration value on instrument if there are the following values on instrument?
2. 2V
3. 20V
4. 200V
5. 220 V
6. 750V
7. For continuity test, multi-meter leads must be connected in the following manner:
8. Black lead connected in COM input jack and red in input jack indicated by letter A
9. Black lead connected in COM input jack and red in input jack indicated by letter V or mV
10. Black lead connected in COM input jack and red in input jack indicated by symbol Ω

**Question three: list four function of multi-meter /2marks**

1. ………………………………………………..
2. …………………………………………….….
3. ………………………………………..………
4. ………………………………………………..
5. **PART TWO (PRACTICAL EXAM) /50 MARKS**
6. **TOPIC ONE /50 marks**
7. Mr Francis want to install long corridor having two interence. Technician advise him to install that corridor with three lamps connected in parallel controlled from two different position so that from each entrance anyone can switch ON or switch OFF those lamps. Mr Francis want to include two outlet socket also in that corridor. As technician having knowledge on domestic electrical installation design wiring diagram and perform practical installation of the work in electrical workshop.
8. NB: Before supplying the installed circuit conduct continuity testing to verify if the circuit will work
9. ……………………………………………………………………………………………………………
10. **PART TWO (PRACTICAL EXAM) /50 MARKS**
11. **TOPIC TWO /50 marks**
12. Mr Gahigi want to install his house of one room and one living room. Suggested that electrician will install two gang one way switch in living room to control one lamp in living room and one lamp on verranda. One lamp in living room will be controlled by single pole one way switch. Mr. Gahigi want also two outlet socket, one in room and other in living room. As technician having knowledge on domestic electrical installation design wiring diagram and perform practical installation of the work in electrical workshop
13. NB: Before supplying the installed circuit conduct continuity testing to verify if the circuit will work
14. ……………………………………………………………………………………………………………
15. **PART TWO (PRACTICAL EXAM) /50 MARKS**
16. **TOPIC THREE /50 marks**
17. Gishali health center want to install lights in two patient rooms but they want the lights in those room to be half of the lights of normal lamp. Technician advise them to install those rooms with two lamps connected in series and controlled by single pole one way switch. The health center want also one outlet socket in each room. As technician having knowledge on domestic electrical installation design wiring diagram and perform practical installation of the work in electrical workshop.
18. NB: Before supplying the installed circuit conduct continuity testing to verify if the circuit will work