

UMMUL-QURAL HIGH SCHOOL

AROWONA BUS-STOP, AKANRAN ROAD, IBADAN.

2018/2019 THIRD TERM EXAMINATION.

SUBJECT: ELECT.

CLASS: SSS 1

TIME: 2:15min.

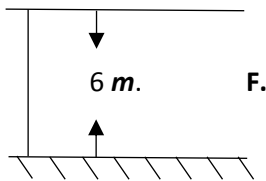
SECTION A: Answer **all** the questions.

1. The end of a metallic conduit is prepared for installation to *avoid* cable abrasion by using;

- A. Reamer.
- B. Spanner.
- C. Chisel.
- D. Flat-file.

2. The *illumination* at point F in the figure below is;

$I = 260 \text{ cd}$.



- A. 106.1 lux.
- B. 51.8 lux.
- C. 14.4 lux.
- D. 7.2 lux.

3. Where a large number of cables are required for an installation, it is recommended to use;

- A. light gauge conduit.
- B. ducting.
- C. heavy duty conduit.
- D. trucking.

4. A circuit in which a domestic electrical appliance is connected to a supply is called;

- A. sub-circuit.
- B. final sub-circuit.

C. sub-main circuit.

D. main circuit.

5. The **main** purpose of testing electrical installation is to;

- A. dismantle equipment.
- B. maintain equipment.
- C. detect faults.
- D. identify conductors.

6. For the purpose of *safety*, switches **must** be connected to which of the following conductors?

- A. Live only.
- B. Neutral only.
- C. Earth only.
- D. Both Live and the Earth.

7. In preparing cables for installations, *strippers* are used for;

- A. cutting insulations.
- B. removing insulations.
- C. terminating insulations.
- D. Joining insulations.

8. The basic types of lamp holders are;

- A. straight, cross and pendant.
- B. straight, angle and pendant.
- C. parallel, angle and straight.
- D. parallel, cross and straight.

9. The **two** main types of ceiling roses used in domestic installations are;

- A. 3 and 4 plate pattern.
- B. 2 and 4 plate pattern.
- C. 1 and 2 plate pattern.
- D. 2 and 3 plate pattern.

10. The intermediate switching circuit provides a way of controlling a lamp from;

- A. one position.
- B. two positions.
- C. three positions
- D. four positions.

11. Which of the following is a **major** source of electricity in Nigeria?

- A. Nuclear.
- B. Wind.
- C. Hydro.
- D. Solar.

12. The measure of light falling on a surface is *called*?

- A. Luminance.
- B. Luminous Flux.
- C. Illumination.
- D. Luminous Intensity.

13. Overhead conductors are **mostly** made from;

- A. copper.
- B. silver.
- C. iron.
- D. aluminum.

14. A *ring* circuit can be protected by a;

- A. 30A.
- B. 20A.

C. 15A.

D. 10A.

15. Which of the following tools is **most** suitable for cutting a conduit pipe?

- A. Hacksaw.
- B. Hand-Drill.
- C. Jigsaw.
- D. Side Cutter.

16. A side cutter is used to carry-out which of the following operations in electrical installations?

- A. Braiding.
- B. Cutting.
- C. Grinding.
- D. Stripping.

17. Which of the following fitting is **not** used in conduit wiring?

- A. Clips.
- B. Tee-box.
- C. Terminal stop end.
- D. Through box.

18. The colour code of earth conductor cable is;

- A. black.
- B. blue.
- C. brown.
- D. green.

19. Which of the following tools is used to create small hole for starting a drilling job in the workshop?

- A. Hammer.
- B. Chisel.
- C. Trowel.
- D. Hacksaw.

20. A domestic electrical appliances are linked to the supply through;

- A. Joint box.
- B. switches.
- C. plugs.
- D. ceiling rose.

21. Which of the following types of socket-outlet is **mostly** used for domestic installations?

- A. 5A.
- B. 13A.
- C. 15A.
- D. 10A.

22. Which of the following cable size is used in wiring a lighting point?

- A. 1.5 mm².
- B. 2.5 mm².
- C. 4.0 mm².
- D. 6.0 mm².

23. The correct **order** for conduit installations is;

- A. wiring, piping and fitting.
- B. piping, fitting and wiring.
- C. fitting, piping and wiring.
- D. piping, wiring and fitting.

24. PVC as used in electrical fittings refers to;

- A. positive voltage control.
- B. polyvinyl chloride.
- C. power voltage control.
- D. poor voltage control.

25. The **main** reason of dividing installations into sub-circuit is to;

- A. avoid hazard and make fault finding easy.
- B. ensures simplicity of work.

C. comply with popular practices.

D. allow the circuit to energize.

26. A township distribution network (TDN) is a/an;

- A. extra low tension.
- B. extra high tension.
- C. high tension.
- D. low tension.

27. *Photometric* bench is an instrument used in measuring;

- A. heat formation.
- B. humidity.
- C. speed of light.
- D. luminous intensity.

28. The following are overhead line support **except**;

- A. disc insulator.
- B. pin insulator.
- C. stay insulator.
- D. wooden insulator.

29. IEE regulations allow the installation of the following in the bathroom **except**;

- A. cable.
- B. clips.
- C. conduit.
- D. socket-outlet.

30. A typical control sequence comprises the following **except**;

- A. circuit breaker.
- B. cut-out fuse.
- C. distribution board.
- D. feeder pillar.

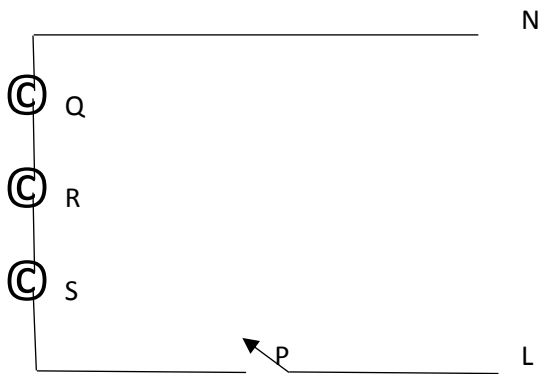
31. Which of the following factors is **not** to be considered when proposing a wiring system?

- A. Material cost.
- B. Durability.
- C. Electrical part seller's shop
- D. Suitability.

32. In the transmission and distribution of electrical power, the term **grid** comprises of;

- A. Overhead conductors and poles.
- B. Overhaul conductors and poles.
- C. Overhead conductors only.
- D. Transformers only.

Use the diagram below to answer questions **33-35**.



33. Which of the lamps would shine **brightest** when **P** is closed?

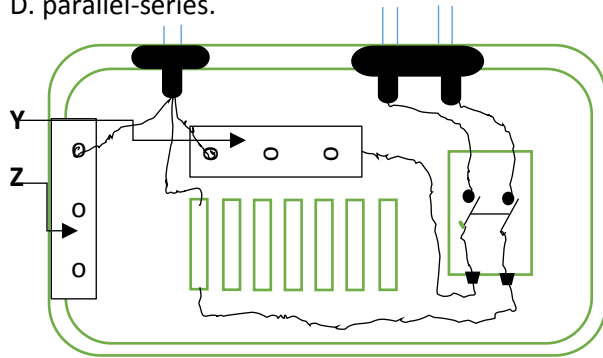
- A. **R** and **S**.
- B. **S**.
- C. **Q**.
- D. **S** and **Q**.

34. The part labelled **P** is;

- A. 1-gang 1-way switch.
- B. 3-gang 2-way switch.
- C. 2-gang 2-way switch.
- D. 3-gang intermediate switch.

35. The lamps in the circuit are wired in;

- A. radial or series.
- B. ring or parallel.
- C. series-parallel.
- D. parallel-series.



Use the fuse board above to answer questions **36-37**.

The part labelled **Y** is called;

- A. neutral terminal.
- B. line terminal.
- C. earth terminal.
- D. switched terminal.

37. The part labelled **Z** is used for;

- A. switching.
- B. isolation.
- C. connectivity.
- D. earthing.

38. Which of the following is **not** a typical transmission/distribution voltage level?

- A. 100 **V**.
- B. 415 **V**.
- C. 11 **KV**.
- D. 33 **KV**.

39. Which of the following materials is **required** for surface conduit wiring?

A. Cleat.

B. Clips and Nails.

C. Duct.

D. Joint box.

40. A *pendant* switch is used for control of a/an;

A. boiler.

B. breaker.

C. hanging lamp.

D. socket-outlet.

41. Which of the following is an *advantage* of cleat wiring?

A. It can be easily pull in to a pipe.

B. It can be buried underground.

C. It is easily install.

D. It is easily lay in a duct.

42. A coupler is used to join **two**;

A. armored cables.

B. conduit pipes.

C. earth continuity conductors.

D. fluorescent fittings.

43. *Illumination* on a work bench can be measured by a/an;

A. calorimeter.

B. hydrometer.

C. light meter.

D. pyrometer.

44. Which of the following boxes is surface wiring accessory?

A. Angle.

B. 4-way.

C. Joint.

D. Tee.

45. Which of these is an operation in a surface work?

A. Conduit bending.

B. Clipping wires.

C. Planning the lay-out.

D. Threading conduit.

46. Which of these is a typical aluminum cable *size* for township distribution network?

A. 10 mm².

B. 15 mm².

C. 100 mm².

D. 150 mm².

47. Which of the following is an *accessory* in wiring system?

A. Ceiling rose.

B. Hammer.

C. Gimlet.

D. Screwdriver.

48. A switched socket-outlet is designed to make and break the;

A. earth conductor.

B. ground conductor.

C. live conductor.

D. neutral conductor.

49. Erection of a concrete pole can be made easier by the use of a;

A. crane.

B. fork-lift.

C. grader.

D. tipper.

50. A double pole, one-way switch has **how many** number of terminals?

- A. 2.
- B. 4.
- C. 6.
- D. 8.

SECTION B: Answer **Four** questions in **all**. Question **1** and any other **three**.

1a. List **four** wiring methods. (4 marks).

1b. Make a single line sketch to show stages of generations, transmission and distribution of electric power. (7 marks).

1c. Name any **four** types of power generating stations. (4 marks).

2a. With the appropriate and a well labelled diagram, illustrate the wiring of a lamp controlled independently by **two** 2-way switches. (4 marks).

2b. State **two** advantages of using flexible conduit for motor connections. (3 marks).

2c. What is the **maximum height** specified by IEE regulations for the following electrical devices from finished floor level?

- i. Switches;
- ii. 13 A socket-outlets;
- iii. 15 A socket-outlets; (3 marks).

3a. Sketch a line diagram showing the sequence of supply from the service cable of supply authority to a consumer's final sub-circuit. (7 marks).

3b. State **two** precautions needed for proper electrical installations in the room. (2 marks).

3c. State **two** reasons why sodium lamps are used for street lighting. (1 mark).

4a. List **four** electrical accessories. (4 marks).

4b. State **one** use of **each** of the accessories mentioned 4a. (4 marks).

4c. Draw the electrical symbols for;

- i. Multi-light bar. (1 mark).
- ii. Down light. (1 mark).

5a. Define the **term** illumination. (2 marks).

5b. List **three** factors that would affect the illumination of a room. (3 marks).

5c. State **five** factors to be considered in selecting the type of wiring system to be used for an installation. (5 marks).

