

GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination

JUNE 2025

KAWLO

INTERMEDIATE LEVEL

Specialty Name and Acronym	ELECTRICAL POWER SYSTEMS – EPS
Centre No.	
Centre Name	
Candidate No.	
Candidate Name	

Mobile phones are NOT allowed in the examination room.

5245 ELECTRICAL TECHNOLOGY AND DIAGRAM 1 : MULTIPLE CHOICE QUESTION PAPER

Duration: One and a half Hours

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Before the examination begins:

3. Check that this question booklet is headed "Intermediate Level –5245 Electrical Technology And Diagram 1
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number.

Take care that you do not erase or fold the answer sheet or make any marks on it other than those asked for in these instructions.

How to answer the questions in this examination:

6. Answer ALL the 50 questions in this Examination. All questions carry equal marks.
7. Each question has FOUR suggested answers: A, B, C and D. Decide which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.
For example, if C is your correct answer, mark C as shown below:
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet, using, where necessary, the blank spaces in the question booklet.
11. You must not take this booklet and the answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.

1. In an electrical installation, PROMOTELEC Label requires:

- A 8 lamps per circuit and 5 sockets per circuit
- B 5 lamps per circuit and 8 sockets per circuit
- C 5 lamps per circuit and 5 sockets per circuit
- D 8 lamps per circuit and 8 sockets per circuit

2.



Figure 1

Figure 1 represents:

- A A switch
- B A Residual Current Switch
- C An isolator
- D An isolator switch

3. The life span of an incandescence lamp is estimated to around:

- A 2000 hours of functioning
- B 1000 hours of functioning
- C 4000 hours of functioning
- D 6000 hours of functioning

4. If a hydroelectric power generation used a Francis turbine; hence the height of water fall,

- A Less than 30 meters
- B Greater than 200 meters
- C Less than 200 meters
- D Between 30 meters and 200 meters

5.



Figure 2

Figure 2 represents

- A The symbol of a coil
- B The symbol of a tele-switch
- C The symbol of a timer
- D The symbol of a time-switch

6.



Figure 3

What does the symbol in figure 3 represent?

- A A Residual Current switch
- B A switch
- C A Residual Current Circuit-breaker
- D An isolator

7. In Cameroon, low voltage used for distribution of electrical energy is:

- A 220V/380V – 50Hz
- B 380V/660V – 50Hz
- C 230V/400V – 50Hz
- D 400V/690V – 50Hz

8. The starting current of a three phase induction motor using direct On line starting is between:

- A $3I_n$ to $4I_n$
- B $2.5I_n$ to $8I_n$
- C $4I_n$ to $8I_n$
- D $2.5I_n$ to $4I_n$

9. Buchholz relay used in power transformers ensures:

- A Protection against low voltage
- B Protection against internal faults
- C Protection against overcurrent
- D Protection against over leakage current

10. In an electric conduit, the maximum volume to be occupied by conductors should be:

- A One-third
- B Half
- C One-quarter
- D Three-quarter

11. The protection of persons against direct contact in electrical installation is ensured by

- A High sensistivity
- B Medium sensitivity
- C Residual current
- D Residual current device

12.

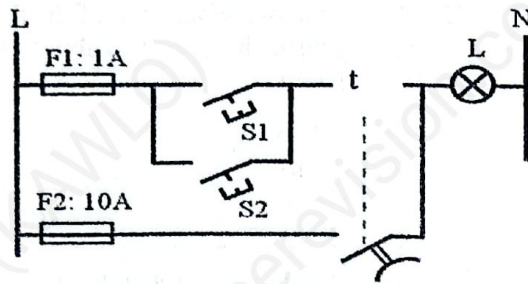


Figure 4

The lamp L of figure 4 is controlled using:

- A A tele - switch
- B A time switch
- C A coil
- D A contactor

13.

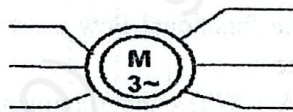


Figure 5

The motor seen in figure 5 is best applicable in:

- A STAR-DELTA statoric starting
- B STAR-DELTA series starting
- C STAR-DELTA rotoric starting
- D STAR-DELTA parallel starting

14. For the following transformer winding couplings; which is best suitable to supply single phase load?

- A
- B
- C
- D

15.

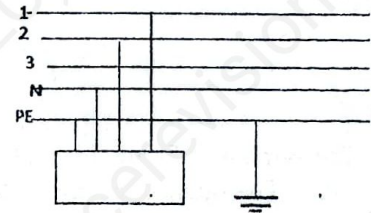


Figure 6

The eathing system indicated in figure 6 is:

- A TT System
- B IT System
- C TN-C System
- D TN-S System

16. Holding an iron bar at one end and placing the other end into fire for a certain duration, the heat transmitted to your hand is due to;

- A Burning
- B Radiation
- C Convection
- D Conduction

17. The type of voltage value found at the output of a generation station before transmission is;

- A Heavy voltage
- B Low voltage
- C High voltage
- D Medium voltage

18. When you receives electric shock in an attempt to open your fridge, the shock is described as:

- A Hand to shock contact
- B Indirect contact
- C Direct contact
- D Hand to hand contact

19. Single phasing occurs when;

- A Motor starts humming
- B Three phase supply is disconnected
- C One line of the three phase supply is inactive
- D There is serious spark at meter.

20. Short circuit occurs when;

- A Phase and neutral conductors meet accidentally.
- B Two conductors at different potential meet accidentally.
- C Two phase conductors meet accidentally.
- D Two current carrying conductors meet accidentally.

Turn Over

21.



Figure 7

The symbol of figure 7 is that of:

- A Two-gang one way switch.
- B Intermediate switch.
- C Two way switch.
- D Two way switch with off position.

22.

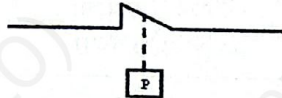


Figure 8

The symbol of figure 8 is that of:

- A A pulling switch
- B A pressure switch.
- C A temperature sensor.
- D A permanent switch

23.

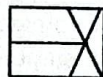


Figure 9

Figure 9 represents the symbol of

- A Thermal power plant.
- B Hydro-electric power plant.
- C Solar power plant.
- D Wind power plant

24. The highest voltage level currently used in Cameroon electrical network is:

- A 735kV
- B 110kV
- C 225kV
- D 400kV

25. Which of the following is not an insulator?

- A Polyvinyl chloride
- B Asbestos
- C Lead
- D Paper

26. Tarrif is:

- A The rate at which electrical energy is produced in the plant
- B The rate at which electrical energy is supplied to the consumers
- C The rate at which electrical energy is consumed.
- D A means of power factor improvement

27. The acceptable lethal level of shock current passing through a person is about

- A 10mA
- B 20mA
- C 30mA
- D 50mA

28. The direction of rotation of a three-phase induction motor can be reversed by

- A Connecting a capacitor in between any phase and neutral
- B Connecting an inductor in between any phase and neutral
- C Changing one phase
- D Interchanging any two phases

29. The functional flow chart (GRFCET) level 2 is one

- A Where the technological specification is given in symbolic notation
- B Where the functional specification is given in full statement
- C In which the initial stage is represented by a double square
- D Which contains many stages, transitions and links

30. Which of the following generating stations has the minimum running cost?

- A Hydro-electric station
- B Nuclear power station
- C Thermal power station
- D Diesel power station

31.

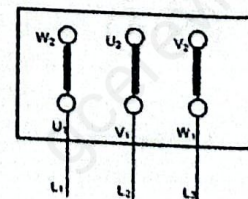


Figure 10

The motor whose terminal plate is represented in figure 10 is coupled in:

- A Star
- B Star - delta
- C Delta
- D Delta - star

32.

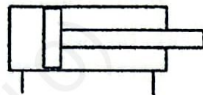


Figure 11

What is the name of the symbol represented in figure 11?

- A Double effect acting cylinder
- B Tandem acting cylinder
- C Simple effect acting cylinder
- D Double rod acting cylinder

33.

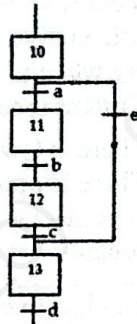


Figure 12

The sequence of the uncompleted GRAFCET shown in figure 12 represents

- A OR Convergent
- B AND Divergent
- C Stage Jumping
- D Stage Repeating

34.

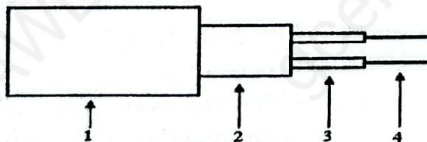


Figure 13

The element (2) of the electrical cable of figure 13 is a

- A Cable jacket or external cover
- B Plastic insulation
- C Wire insulator
- D Conductor or Wire

35.

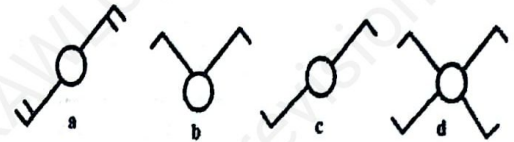


Figure 14

From figure 14, a double gang two-way switch is represented by

- A a
- B b
- C c
- D d

36. Primary transmission is done by a

- A Three phase, three wire system
- B Three phase, four wire system
- C Three phase, five wire system
- D Single phase, two wire system

37. A technology for the application of mechanical, electronics, and computer-based systems to control and operate the systems is called

- A Automation
- B PLC
- C Sequential Controller
- D Microprocessor – based system

38.



Figure 15

Figure 15 shows how electrical power is transferred from power stations to consumer using the Grid. What is the function of transformer 2?

- A To increase the voltage for domestic use
- B To reduce the current for domestic use
- C To reduce supply voltage
- D To increase and reduce the voltage for domestic use

Turn Over

39. What is the name of pneumatic pre-actuator represented in figure 16?



Figure 16

- A 2/3 Directional control valve
- B 3/2 Directional control valve
- C 5/2 Directional control valve
- D 2/5 Directional control valve

40.

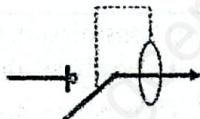


Figure 17

The symbol in figure 17 represent a;

- A Differential switch
- B Differential Circuit breaker
- C Differential contactor
- D Residual current device

41. One reason why all electrical installation must be divided into many circuits is in order to:

- A Avoid the circuit to have the same supply
- B Limit the consequences of a fault of a circuit only to the circuit, by putting OFF only the circuit
- C Permit the consequences of a fault to the whole installation
- D Avoid the circuit to have the current

42.

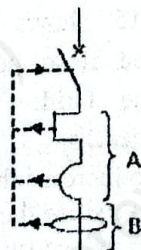


Figure 18

Figure 18 represents the symbol of a differential circuit breaker. The circuit breaker protects a circuit against

- A Overload and short circuit faults
- B Short circuit, overload and Earth leakage faults
- C Over load and short circuit faults
- D Earth leakage and short circuit faults

43. An electrical installation is comprised of
- A voltages and currents
 - B one or more loads
 - C one or more circuits connected together to realize a function or functions:
 - D one or more circuits connected differently

44. In a four wire flexible cable, the colour of the neutral conductor is

- A Blue
- B Black
- C Brown
- D Yellow

45. An electric arc is a spark which occurs in electricity when ;

- A Current is supplied to the load
- B There is low voltage in the load
- C There is power interruption
- D A contact is broken or re-established brutally

46. The main objective of the earthing is to:

- A Prevent low voltage in electric installations
- B Protect persons from an indirect shock
- C Protect electrical installations against short circuit
- D Prevent earth leakage current

47. The three main parts of a programmable logic controllers are:

- A CPU, Memory, Power supply
- B Input Interface, Output Interface, Processor
- C CPU, Processor, Memory
- D Input Interface, CPU, Output interface

48. The Current Rating of a fuse is the current which

- A the fuse element will carry continuously without deterioration
- B determines the type of fuse
- C determine the size of fuse
- D the fuse element will not be able to carry continuously

49. The power plants used in Cameroon for massive production of electrical energy are:

- A Solar and Nuclear
- B Solar and wind
- C Thermal and Hydro
- D Nuclear and Hydro

50. A conductor is a material which offers

- A Low current to the passage of electricity
 - B Low resistance to the passage of electric current
 - C Low power to the passage of electric current
 - D Low voltage to the passage of electric current
-

STOP

GO BACK AND CHECK YOUR WORK