CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD
Technical and Vocational Education Examination

ELECTRICITY OF REFRIGERATION 1
5305

JUNE 2020 **INTERMEDIATE LEVEL**

Centre No. & Name	
Candidate No.	
Candidate Name	

Mobile phones are **NOT** allowed in the examination room.

5305 ELECTRICITY OF REFRIGERTION 1: MULTIPLE CHOICE QUESTION PAPER

1 hour 30 minutes

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 – 5305 ELECTRICITY OF REFRIGERATION 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. An ammeter is an instrument used to measure current. It is connected in ..... with the circuit.

A	Parallel
B	Series
C	Delta
D	Star

2.According to ohms law, the amount of current is directly proportional to

A	Voltage
B	Speed
C	Length
D	Current

3.The S.I unit of power is

A	Volt
B	Ampere
C	Watt
D	Ohms

4. Refrigeration systems use a …… as their electrical defrosting device.

A	Pressure control
B	Fuse
C	Switch
D	Timer

5. In an electric circuit, the voltmeter is always connected in

A	Parallel
B	Series
C	Delta
D	Star

6. In how many different ways can a three phase motor be started?

A	2
B	4
C	3
D	7

7. The capacitance of a capacitor is measured in

A	Volts
B	Farads
C	Ohms
D	Amperes

8. In a refrigeration system, the electrical component is

A	Sight glass
B	Drier
C	Thermostat
D	Condenser

9. The S.I unit of current density is

A	Ampere/meter square
B	Meters/second
C	Volts/meter
D	Volts

10.When two or more capacitors are connected in series, the total capacitance

A	Increases
B	Reduces
C	Remains the same
D	Doubles

11.An example of a semi conductor material is

A	Capacitor
B	Diode
C	Resistor
D	Isolator

12. D.C signifies ?

A	Direct Coulomb
B	Direct Current
C	Direct Colour
D	Direct Charge

13. In an A.C circuit , the active power (p) is given by

A	$P= V \times I$
B	$P= V \times I \times \sin \sigma$
C	$P= V \times I \times \cos \sigma$
D	$P= V \times I \times \tan \sigma$

14.Electric charge Q, has as S.I units the

A	Farad
B	Volt
C	Ampere
D	Coulomb

15. The electrical element that assures the flow of refrigerant in only one direction is

A	Solenoid valve
B	Pressure valve
C	Check valve
D	4 way valve

16.1micro farads equals to

A	$10^{-6}F$
B	$10^{6}F$
C	$10^{3}F$
D	$10^{-9}F$

17. A transformer is made up of how many windings ?

A	1
B	2
C	3
D	4

18. In an electrical wiring, the circuit breaker is used for ?

A	Protection
B	Regulation
C	Controlling

D	Security

19. Electric charges can be stored in a

A	Fuse
B	Switch
C	Capacitor
D	Relay

20.The frequency of a A.C supply source is given in

A	Farads
B	Hertz
C	Ohms
D	Volts

21. …… can be used to lower or raise the voltage in a circuit.

A	Machine
B	Motor
C	Relay
D	Transformer

22.An example of an insulator is

A	Plastic
B	Iron
C	Copper
D	Silver

23.In an A.C circuit, the apparent power is calculated using

A	P = V x I
B	P = V x I x sin σ
C	P = V x I x cos σ
D	P = V x I x tan σ

24.A ……., regulates the functioning of a refrigeration system according to temperature

A	Thermometer
B	Temperature gauge
C	Temperature
D	Thermostat

25. Inductance is measure in

A	Hertz
B	Farads
C	Henry
D	Ohms

26.On a refrigerating system, the solenoid valve helps to

A	Permit refrigerant passage
B	Stop the system
C	Start the system
D	Controls the refrigerant flow rate

27.The formula of Electric Charge is

A	Q = It
B	Q = IR
C	Q = VI
D	Q = VR

28.The S.I unit of charge is is

A	Coulomb
B	Farads
C	Henry
D	Tesla

29. An example of a conductor is

A	Zinc
B	Rubber
C	Wood
D	Silicon

30.In an A.C circuit, 1/f is the formula for calculating

A	Pressure
B	Power
C	Potential
D	Period

31.A boiler takes a current of 10A and is supplied by 110V. What is the power absorbed by the stove?

A	0.1W
B	11W
C	110W
D	1100W

32.A hair coiling machine is rated; 20A, 220V. What is the resistance of the hair coiling machine?

A	4400 Ω
B	44 Ω
C	4Ω
D	11 Ω

33. Calculate the amount of current flowing in a circuit of R=110 Ω, supplied by a 220V source.

A	21A
B	10A
C	8A
D	2A

34. A current of 4A flows through a lamp of resistance 10Ω. Calculate the power dissipated

A	100W
B	160W
C	40W
D	400W

35. A capacitor of 10F is supplied by a 24V source. What is the amount of charge stored?

A	0.24C
B	2.4C
C	24C
D	240C

36. In an RLC circuit, resonance condition is when

A	$X_L = X_C$
B	$X_L < X_C$
C	$X_L > X_C$
D	$X_L = 0$

37.Calculate the p.d across a 5μF capacitor when charged with a 30mC

A	110V
B	160V
C	6000V
D	1250V

38.A voltage of 24V is being supplied to 10F capacitor. What is the charged stored?

A	0.24C
B	24C
C	100C
D	240C

39.An electric cell converts chemical energy into

A	Mechanical energy
B	Electrical energy
C	Solar energy
D	Wind energy

40.When a capacitor of charge 5μC is connected across a 22V supply, what is the capacitance?

A	0.043μF
B	0.023μF
C	0.23μF
D	2.33μF

41.The conductance of an 8Ω resistor is

A	0.05
B	0.125
C	1
D	2

42. If you connect two resistors of 3Ω and 7Ω in series across a 24V source. Calculate total resistance in the circuit?

A	2.4 Ω
B	240 Ω
C	10Ω
D	14 Ω

43. One Tesla is equal to

A	$1wb/mm^2$
B	1wb/m
C	$1wb/m^2$
D	1wb.m2

44.In an ideal transformer, the power input is

A	Greater than the power output
B	Equal to the power output
C	Less than the power output
D	Half the power output

45. ."The sum of current entering an electrical junction is equal to the sum of the current leaving" refers to which law?

A	Kirchhoff's law
B	Ohm's law
C	Kirchhoff's voltage law
D	Pascal's law

46. A 12 Ω resistor, a 40 μF capacitor and an 8mH coil are connected in series across an A.C source. The resonance frequency is

A	28.2Hz
B	281Hz
C	2810Hz
D	10Hz

47. What will be the power dissipated when a current of 2A flows through a resistance of 5Ω?

A	0.04W
B	10W
C	20W
D	W

48. If the value of C in an RLC circuit is decreased, the resonance frequency is

A	Is not affected
B	Increases
C	Is reduced to zero
D	Decreases

49. When two capacitors of 4F and 11F are connected in parallel across a 30V source. What is the total capacitance in the circuit?

A	44F
B	15F
C	12F
D	3 F

50. Find the total power dissipated when resistances of 30Ω, 40Ω and 50Ω are connected in series in a circuit supplied by 240V energy source

A	120W
B	200W
C	220W
D	480W