UNITY TRAINING
ACADEMY FOR DDCET

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Practice Set 1

Electric CURRENT

Topics :

1. Ohm's Law and application
2. Charge, interaction of charges, Coulomb's force.
3. Electric field, electric potential, electric flux, electric current.

DDCET final exam weightage of this topic : 3 Questions (6 Marks)

Total Practice sets of this topic : 2 (sets) x 30 (questions) = 60 Questions

Total Practice tests of this topic : 2 (exams) x 20 (questions) = 40 Questions

Offline / Online during lecture : 4 (lectures) X 50 (Questions) = 200 Question

DDCET 2025

Total 300 Questions to practice this topic

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Section 1 :

1. Ohm's Law and application
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1 Ohm's Law is mathematically expressed as:

A) V=IR
B) I=VR
C) R=VI
D) P=VI

2 The SI unit of resistance is:

A) Ohm (Ω)
B) Ampere (A)
C) Volt (V)
D) Coulomb (C)

3 What happens to current if resistance is doubled and voltage remains the same?

A) It doubles
B) It remains the same
C) It halves / half
D) It becomes zero

4 The reciprocal of resistance is called:

A) Conductance
B) Capacitance
C) Inductance
D) Reactance

5 Ohm's Law is applicable to:

A) Linear circuits
B) Non-linear circuits
C) Superconductors
D) Semiconductors

6 Which of the following is a conductor?

A) Wood
B) Copper
C) Plastic
D) Rubber

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7 Which device measures current?

A) Voltmeter
B) Ohmmeter
C) Ammeter
D) Galvanometer

8 A 10Ω resistor has a voltage of 20V across it. The current is:

A) 2A
B) 5A
C) 10A
D) 0.5 A

9 In a parallel circuit, the voltage is:

A) The same across all branches
B) Different across each branch
C) Zero
D) Inversely proportional to resistance

10 If resistance is 5Ω and current is 2A, voltage is:

A) 10 V
B) 0.5 V
C) 2 V
D) 2.5 V

11 A potentiometer is used to:

A) Measure charge
B) Measure electric field
C) Increase current
D) Measure voltage accurately

12 The SI unit of electric field is:

A) Newton per Coulomb (N/C)
B) Coulomb per meter (C/m)
C) Joule per Coulomb (J/C)
D) Ampere per meter (A/m)

Section 1 :

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13 The direction of the electric field is always:

A) From negative to positive charge
B) From positive to negative charge
C) Perpendicular to the charge
D) Along the direction of motion of the charge

14 Electric potential is defined as:

A) Work done per unit charge
B) Force per unit charge
C) Energy per unit mass
D) Rate of flow of charge

15 The SI unit of electric potential is:

A) Newton (N)
B) Joule (J)
C) Volt (V)
D) Ampere (A)

16 Electric field lines never:

A) Start from negative charges
B) End on positive charges
C) Intersect each other
D) Exist in a vacuum

17 The electric flux through a closed surface is given by:

A) Gauss's Law
B) Ohm's Law
C) Faraday's Law
D) Coulomb's Law

18 Electric flux is measured in:

A) Volt (V)
B) Coulomb (C)
C) Newton-meter squared per Coulomb (Nm^2/C)
D) Ampere (A)

Section 1 :

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19 Which of the following is a property of electric field lines?

A) They can form closed loops
B) They always start from negative charges
C) They never intersect
D) They are circular in nature

20 A charge moves in an electric field. The work done on the charge depends on:

A) The magnitude of the charge
B) The displacement of the charge
C) The electric field strength
D) All of the above

21 The SI unit of electric current is:

A) Coulomb (C)
B) Volt (V)
C) Ampere (A)
D) Watt (W)

22 Electric current is defined as:

A) The amount of charge flowing per unit time
B) The force exerted by a charge
C) The potential difference per unit charge
D) The work done by an electric field

23 The direction of conventional current is:

A) From negative to positive
B) From positive to negative
C) In a circular motion
D) None of the above

24 The relationship between current, voltage, and resistance is given by:

A) Faraday's Law
B) Ohm's Law
C) Coulomb's Law
D) Gauss's Law

Section 1 :

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25 Electric field inside a conductor is:

A) Zero
B) Constant
C) Maximum
D) Infinite

26 Electric potential is higher at a point where:

A) Electric field is stronger
B) Electric field is weaker
C) Charge density is lower
D) Work done per unit charge is greater

27 A conductor has an excess of electrons. It will have:

A) Positive charge
B) Negative charge
C) Zero charge
D) No effect

28 Electric potential difference is measured using a:

A) Ammeter
B) Voltmeter
C) Galvanometer
D) Multimeter

29 Which of the following materials is a good conductor of electricity?

A) Rubber
B) Wood
C) Copper
D) Glass

30 A capacitor stores energy in the form of:

A) Magnetic field
B) Electric field
C) Mechanical energy
D) Kinetic energy