UNITY TRAINING
ACADEMY FOR DDCET

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Practice Set 1 Solution

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)

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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

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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