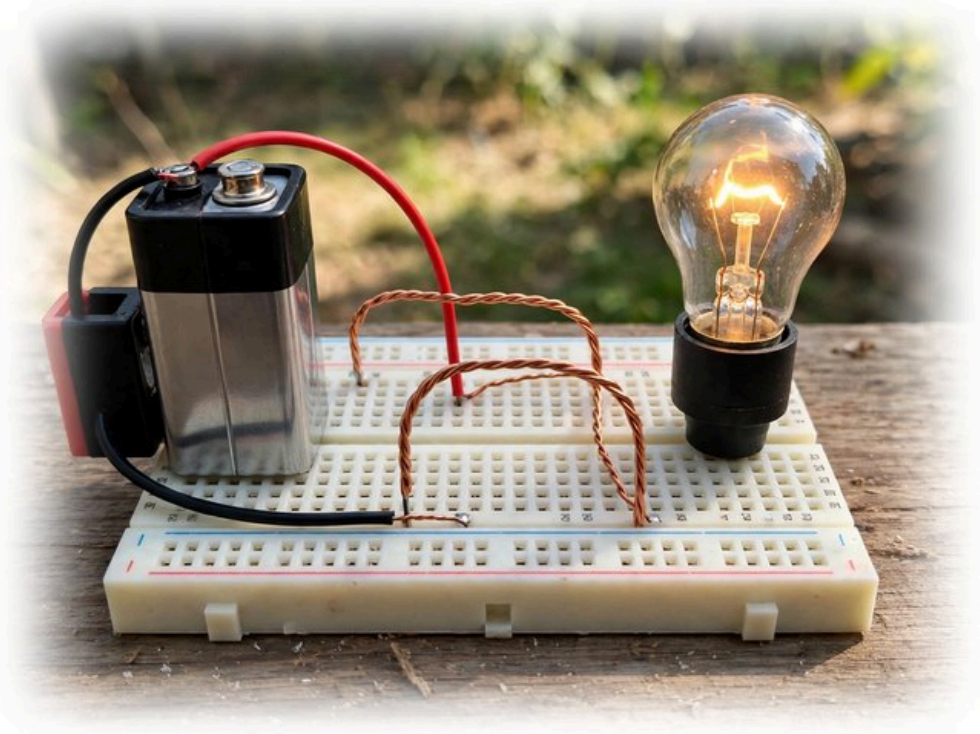
NEWFOUNDLAND AND LABRADOR PHYSICS 3204 · UNIT C · 25 QUESTIONS

Electricity and Magnetism — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Electric field strength at a point is defined as electric force per unit**



A charge

B mass

C distance

D time

Understand It with Pulse | Flag a mistake

2 **Electric field lines start on positive charges and end on**



A positive charges

B negative charges

C neutral objects

D magnets only

Understand It with Pulse | Flag a mistake

3 **Like charges repel and unlike charges**

A repel

B cancel mass

C attract

D create magnetism only

Understand It with Pulse | Flag a mistake

4 **Coulomb law states that electric force is proportional to the product of charges and inversely proportional to the square of the**

A mass

B time

C charge sum

D distance

Understand It with Pulse | Flag a mistake

5 **The electric field inside a hollow conductor in electrostatic equilibrium is**

A zero

B at a maximum

C uniform

D negative

Understand It with Pulse | Flag a mistake

6 **A magnetic field is produced by moving charges and by**



A stationary charges only

B magnets

C insulators only

D gravity

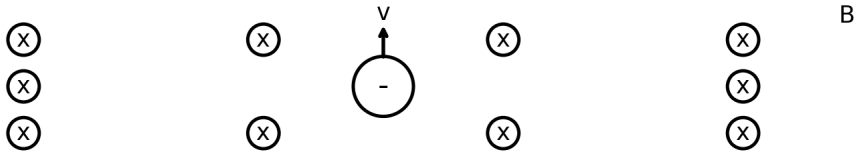
Understand It with Pulse | Flag a mistake

7 **A current carrying wire in a magnetic field experiences a force when the current is not parallel to the**

- **A** wire
- **B** voltage
- **C** field
- **D** resistance

Understand It with Pulse | Flag a mistake

8 **The diagram shows an electron in a magnetic field. The magnetic force on it points**



- **A** To the right
- **B** To the left
- **C** Up
- **D** Down

Understand It with Pulse | Flag a mistake

9 **An electric motor converts electrical energy into**



A mechanical energy

B heat only

C chemical energy only

D light only

Understand It with Pulse | Flag a mistake

10 **A generator converts mechanical energy into**



A heat only

B electrical energy

C chemical energy only

D sound only

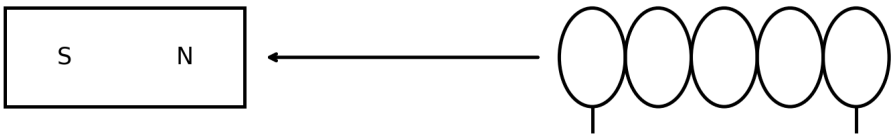
Understand It with Pulse | Flag a mistake

11 **Electromagnetic induction occurs when magnetic flux through a coil**

- A stays constant
- B is zero only
- C changes
- D is uniform only

Understand It with Pulse | Flag a mistake

12 **The diagram shows a bar magnet and a coil. The induced current in the coil, when viewed from the magnet, flows**



- A clockwise
- B counterclockwise
- C into the page at the top of the coil
- D no current is induced

Understand It with Pulse | Flag a mistake

13 **A transformer works only with alternating current because it needs a changing**



A magnetic flux

B resistance

C voltage sign only

D wire length

Understand It with Pulse | Flag a mistake

14 **In a step up transformer, the secondary voltage is higher and the secondary current is lower for the same**

A resistance

B power

C charge

D frequency

Understand It with Pulse | Flag a mistake

15 **Ohm law states that current through a resistor is directly proportional to voltage across it when temperature is**

A rising

B falling

C constant

D zero

Understand It with Pulse | Flag a mistake

16 **A charge of 2 coulombs experiences a force of 10 newtons. The electric field strength in newtons per coulomb is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A voltage of 12 volts drives a current of 3 amperes. The resistance in ohms is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A current of 4 amperes flows through a 5 ohm resistor. The voltage in volts is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A voltage of 20 volts drives a current of 2 amperes. The power in watts is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A charge of 3 coulombs moves through 10 volts. The energy in joules is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A force on a wire is given by current 2 amperes times length 3 metres times field 0.5 tesla. The force in newtons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A charge of 2 coulombs moves at 5 metres per second perpendicular to a 0.4 tesla field. The magnetic force in newtons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **Two resistors of 4 ohms and 6 ohms are in series. The total resistance in ohms is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **Two resistors of 6 ohms and 3 ohms are in parallel. The total resistance in ohms is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A transformer has 100 primary turns and 200 secondary turns with primary voltage 120 volts. The secondary voltage in volts is**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	B	**19.**	40
2.	B	**11.**	C	**20.**	30
3.	C	**12.**	A	**21.**	3
4.	D	**13.**	A	**22.**	4
5.	A	**14.**	B	**23.**	10
6.	B	**15.**	C	**24.**	2
7.	C	**16.**	5	**25.**	240
8.	A	**17.**	4		
9.	A	**18.**	20		

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