NOVA SCOTIA PHYSICS 12 · UNIT D · 25 QUESTIONS

Fields, Circuits and Electromagnetism — 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 **A charge of 2 coulombs in an electric field feels a force of 10 newtons. The electric field strength, in newtons per coulomb, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A charge of 1 coulombs in an electric field feels a force of 20 newtons. The electric field strength, in newtons per coulomb, is**

ANSWER _____

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3 **A charge of 4 coulombs in an electric field feels a force of 12 newtons. The electric field strength, in newtons per coulomb, is**

ANSWER _____

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4 **Two charges attract with a force of 80 newtons. If the distance between them doubles, the new force, in newtons, is**

ANSWER _____

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5 **Two charges attract with a force of 160 newtons. If the distance between them doubles, the new force, in newtons, is**

ANSWER _____

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6 **Two charges attract with a force of 40 newtons. If the distance between them doubles, the new force, in newtons, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A current of 2 amperes flows through a resistor of 10 ohms. The potential difference, in volts, is**

ANSWER _____

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8 **A current of 3 amperes flows through a resistor of 4 ohms. The potential difference, in volts, is**

ANSWER

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9 **A current of 5 amperes flows through a resistor of 6 ohms. The potential difference, in volts, is**

ANSWER

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10 **Resistors of 10 ohms, 20 ohms and 30 ohms are connected in series. The total resistance, in ohms, is**

ANSWER

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11 **Resistors of 5 ohms, 5 ohms and 10 ohms are connected in series. The total resistance, in ohms, is**

ANSWER

Understand It with Pulse | Flag a mistake

12 **Resistors of 2 ohms, 3 ohms and 5 ohms are connected in series. The total resistance, in ohms, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **Resistors of 10 ohms and 10 ohms are connected in parallel. The total resistance, in ohms, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **Resistors of 6 ohms and 3 ohms are connected in parallel. The total resistance, in ohms, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **Resistors of 12 ohms and 4 ohms are connected in parallel. The total resistance, in ohms, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A device operates at 10 volts and draws 2 amperes. Its power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A device operates at 12 volts and draws 3 amperes. Its power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A device operates at 5 volts and draws 4 amperes. Its power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **Electric field lines point away from**

A positive charges

B negative charges

C neutral objects

D magnets only

Understand It with Pulse | Flag a mistake

20 **The direction of the electric field at a point is the direction of force on a**

A negative test charge

B positive test charge

C neutral charge

D moving charge only

Understand It with Pulse | Flag a mistake

21 **In a series circuit the current is the**

A largest at the battery

B smallest at the battery

C same everywhere

D split equally

Understand It with Pulse | Flag a mistake

22 **In a parallel circuit the potential difference across each branch is the**

A split equally

B zero

C largest in the first branch

D same

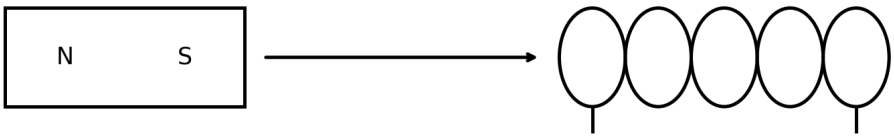
Understand It with Pulse | Flag a mistake

23 **A transformer works only with**

- **A** alternating current
- **B** direct current
- **C** static charge
- **D** batteries only

Understand It with Pulse | Flag a mistake

24 **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

25 **The magnetic field around a straight wire forms**

A straight lines along the wire

B no pattern

C circles around the wire

D squares

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	5	**10.**	60	**19.**	A
2.	20	**11.**	20	**20.**	B
3.	3	**12.**	10	**21.**	C
4.	20	**13.**	5	**22.**	D
5.	40	**14.**	2	**23.**	A
6.	10	**15.**	3	**24.**	A
7.	20	**16.**	20	**25.**	C
8.	12	**17.**	36		
9.	30	**18.**	20		

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