ELECTROSTATICS AND FIELDS - PRACTICE TEST | NEW BRUNSWICK PHYSICS 121-122 · UNIT E · 25 QUESTIONS

Electrostatics and Fields — 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 **Two charges of 2 microcoulombs each are 1 metre apart. The Coulomb force is proportional to the product of charges. If one charge doubles the force doubles. A force of 36 millinewtons becomes**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A charge of 4 microcoulombs in an electric field of 10 newtons per coulomb experiences a force in millinewtons of**

ANSWER _____

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3 **A force of 60 millinewtons acts on a charge of 3 microcoulombs. The field strength in newtons per coulomb is**

ANSWER _____

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4 **A parallel plate capacitor has voltage 100 volts and separation 0.02 metres. The field strength in volts per metre is**

ANSWER

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5 **A parallel plate capacitor has voltage 200 volts and separation 0.04 metres. The field strength in volts per metre is**

ANSWER

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6 **A field of 4000 volts per metre across 0.05 metres gives a voltage in volts of**

ANSWER

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7 **An electron charge is 1.6×10^{-19} coulombs . Two electrons have total charge magnitude in units of 10^{-19} coulombs of**

ANSWER

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8 **A charge moves 2 metres in a field of 500 volts per metre. The potential difference in volts is**

ANSWER _____

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9 **The Coulomb force at distance d is 90 newtons. At distance 3d the force in newtons is**

ANSWER _____

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10 **The Coulomb force at distance d is 80 newtons. At distance 2d the force in newtons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **A point charge field at distance 2 metres is 9 newtons per coulomb. At distance 6 metres the field is**

ANSWER _____

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12 **A charge of 2 coulombs gains 100 joules moving through a potential difference. The potential difference in volts is**

ANSWER

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13 **Like charges exert forces that are**

A attractive

B repulsive

C zero

D neutral

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14 **Opposite charges exert forces that are**

A repulsive

B attractive

C zero

D neutral

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

A positive charges

B infinity only

C negative charges

D neutral charges

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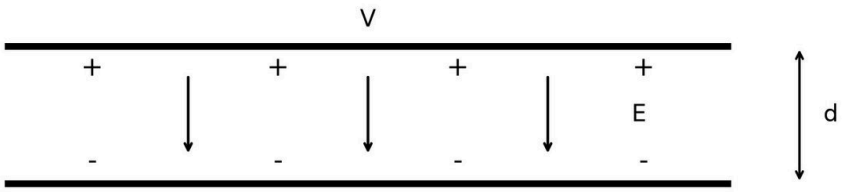
16 **The diagram shows field lines from a positive plate to a negative plate. The field direction is from positive to**



- **A** negative to positive
- **B** left only
- **C** right only
- **D** negative

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17 **Electric field strength is defined as force per unit**

- **A** charge
- **B** mass
- **C** distance
- **D** time

Understand It with Pulse | Flag a mistake

18 **The unit of electric field strength is newtons per**

A metre

B coulomb

C second

D volt

Understand It with Pulse | Flag a mistake

19 **A conductor allows charge to move**

A not at all

B only on heating

C freely

D only in fields

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20 **An insulator does not allow charge to move**

A at all in fields

B only on heating

C only in vacuum

D freely

Understand It with Pulse | Flag a mistake

21 **Charging by induction involves a grounded conductor and a nearby**

A charged object

B magnet

C battery

D wire only

Understand It with Pulse | Flag a mistake

22 **The electric field inside a hollow conductor in equilibrium is**

A maximum

B zero

C uniform

D outward

Understand It with Pulse | Flag a mistake

23 **Potential difference is energy per unit**

A mass

B distance

C charge

D time

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24 **A volt is one joule per**

A metre

B second

C newton

D coulomb

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25 **Field lines never cross because the field at a point has one**

A direction

B magnitude

C charge

D source

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	72	**10.**	20	**19.**	C
2.	40	**11.**	1	**20.**	D
3.	20	**12.**	50	**21.**	A
4.	5000	**13.**	B	**22.**	B
5.	5000	**14.**	B	**23.**	C
6.	200	**15.**	C	**24.**	D
7.	3.2	**16.**	D	**25.**	A
8.	1000	**17.**	A		
9.	10	**18.**	B		

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