

Question 1

Not yet answered

Marked out of 2.00

Calculate the electric force acting on the charged particle if $q=1 \cdot 10^{-4}$ C. Electric field strength $E= 29735.6$ V/m (Inscribe in the field the only value, e.g. 1.234).

Answer:

Question 2

Not yet answered

Marked out of 2.00

The amount of point charge placed into the closed surface is equal to $1 \cdot 10^{-9}$ C. Electric field flux increased m -times when two more point charges of amount: $38 \cdot 10^{-9}$ C and $-18 \cdot 10^{-9}$ C were added to the surface. Determine, and write down the value of m into the data field (e.g. 1.234).

Answer:

Question 3

Not yet answered

Marked out of 2.00

Calculate the uniform electrostatic field strength, when along the field lines potential difference between two points is 0.08 V. Distance between these points equals 4 cm (inscribe in the field the value, e.g. 1.234).

Answer:

Question 4

Not yet answered

Marked out of 2.00

How will be changed the electric field strength of point charge when the value of charge increases 4-times and r decreases 8.2-times (inscribe in the field only value e.g. 1.23).

Answer:

Question 5

Not yet answered

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Distance between the plates of the parallel-plate capacitor is decreased 8- times and the plate area is increased 7-times, therefore capacitance of the capacitor has increased by the factor K . Determine the value of K (inscribe answer in the data field, e.g.1.234).

Answer:

Question 6

Not yet answered

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The capacitance of the capacitor is the ratio of its ----- to the potential difference between conductors:

- a. electric induction
- b. charge
- c. area

Question 7

Not yet answered

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The electric field at a distance r from a charge Q is equal to E . What is the electric field at a distance $r/2$ from a charge $Q/2$?

- a. $4 E$
- b. $E / 2$
- c. $E / 4$
- d. $2 E$
- e. E

Question 8

Not yet answered

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Is it true or false: "Relation between electric field vector (\vec{E}) and electric potential (φ) along the x-axis is given by the formula:

$$E_x = -d\varphi/dx.$$

Select one:

- True
- False

Question 9

Not yet answered

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Is it true or false: The relation between the polarization vector and electric field vector for isotropic dielectric in SI unit system is given by the formula $\vec{P} = \chi\epsilon_0\vec{E}$ (χ is the coefficient of polarization).

Select one:

- True
- False

Question 10

Not yet answered

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36 J is used to move charge of 4 coulombs through a potential difference of V. What is value of V?

- a. 9 v
- b. 144 v
- c. 32 v
- d. 1/9 v
- e. 40 v

Question 11

Not yet answered

Marked out of 2.00

Ohm's law in differential form is given by the formula (ρ is the resistivity, E - electric field strength):

Select one:

- a. $j = \rho E$
- b. $j = \sigma E$
- c. $j = E/\rho$

Question 12

Not yet answered

Marked out of 1.00

Complete the definition: two point charges attract each other with the force, which is ----- (2 correct answers).

Select one or more:

- a. proportional to the distance between them
- b. inversely proportional to the square of distance between them
- c. directly proportional to the sum of their charges
- d. directly proportional to the product of their charges
- e. proportional to the square of distance between them

Question 13

Not yet answered

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The potential difference is defined as a measure of ----- .

- a. the force per unit charge
- b. the work done per unit charge
- c. the electric field per unit charge
- d. the power per unit charge

Question 14

Not yet answered

Marked out of 1.00

Electric dipole is the system consisting of ----- .

- a. two unequal charges of opposite sign, separated by a distance
- b. two unequal point charges of the same sign
- c. two equal point charges of opposite sign, separated by a distance
- d. two equal point charges of the same sign, separated by a distance

Question 15

Not yet answered

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Formula $E = E_0/\epsilon$ defines an electric field in (ϵ is constant quantity):

- a. inhomogeneous dielectric
- b. vacuum
- c. homogeneous dielectric
- d. anisotropic dielectric

Question **16**

Not yet answered

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Electric Field Strength is given by an expression (q is the charge)

- a. $E = q/F$
- b. $E = qF$
- c. $E = F/q$

Question **17**

Not yet answered

Marked out of 1.00

Electric (I) current is (t is the time):

Select one:

- a. $I=q^2t$
- b. $I=qt$
- c. $I=q/t$

Question 18

Not yet answered

Marked out of 1.00

In SI units system the units of Electric Field Strength are ----- .

Select one or more:

- a. N/C
- b. V/m
- c. Volt
- d. Ampere

Question 19

Not yet answered

Marked out of 1.00

The statement that the current through a metal conductor is proportional to the applied voltage is known as:

Select one:

- a. Joule-Lenz's law
- b. Coulomb's law
- c. Ohm's law
- d. Kirchhoff's law

