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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur

(Autonomous)

Department of Physics

ICT based CIE

on

B.Sc. I: Internal Examination of Electricity, Magnetism and Electromagnetic Theory

Conducted by

Mr. S. I. Inamdar

on

Date:21/01/2021, Time: 12:00 to 01:00 pm

(2020 – 21)

B.Sc. I, SEM II Physics 2020-21

Paper II, ELECTRICITY ,MAGNETISM AND ELECTROMAGNETIC THEORY
Date:21/01/2021, Time: 12:00 to 01:00 pm
Attempt any 20   Total marks : 40

* Indicates required question

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     _____

5.   Email ID *

     _____

6. Faraday's law gives ----- of induced emf. *   2 points

Mark only one oval.

I. Magnitude

II. Direction

III. Both

IV. Unit

7. The Equation of continuity is accordance with the law of conservation of----- *   2 points

Mark only one oval.

I. energy

II. momentum

III. charge

IV. mass

8.   The gradient of the scalar function $\nabla\emptyset$ is------------ *   2 points

Mark only one oval.

I. A scalar

II. a vector

III. used to represent scalar field

IV. used to represent vector field

9.   If the vector is called solenoid vector then *   2 points

     Mark only one oval.

     ◯ I. gradφ=0

     ◯ II. div V=0

     ◯ III. curl V=0

     ◯ IV. Curl(Div V)=0

10. The Mutual inductance is measured in *   2 points

     Mark only one oval.

     ◯ I. ohm

     ◯ II. farad

     ◯ III. Henry

     ◯ IV. volt

11. Gauss divergence theorem gives transformation of --- *   2 points

     Mark only one oval.

     ◯ I. surface integral into volume integral

     ◯ II. Line integral into surface integral

     ◯ III. Volume integral into surface integral

     ◯ IV. surface integral into line integral

12.   The divergence of a vector field $(\nabla .)\overline{V}$ is *   2 points

Mark only one oval.

◯ I. a scalar

◯ II. a vector

◯ III. a constant

◯ IV. tensor

13.   If a vector is called solenoidal vector then ----- *   2 points

Mark only one oval.

◯ grad ø =0

◯ div V=0

◯ curl V=0

◯ div .curl V=0

14.   Electric field is always directed from…… *   2 points

Mark only one oval.

◯ I. positive to negative

◯ II. negative to positive

◯ III. no any direction

◯ IV. none of these

15.   The direction of electric dipole moment is given as…… *   2 points

Mark only one oval.

◯ I. Electric field

◯ II. magnetic field

◯ III. both electrical and magnetic field

◯ IV. none of these

16.   In dielectric polarization, P ☐ gives…… *   2 points

Mark only one oval.

◯ I. electric dipole moment

◯ II. charge polarities

◯ III. electric dipole moment per unit area

◯ IV. electric dipole moment per unit volume

17.   Electric field is _____   *   2 points

Mark only one oval.

◯ directly proportional to q^2

◯ inversely proportional to q^2

◯ directly proportional to r^2

◯ inversely proportional to r^2

18.   Most sensitive galvanometer is *   2 points

Mark only one oval.

◯ i. Elastic galvanometer

◯ ii. Vibration galvanometer

◯ iii. Dubble galvanometer

◯ iv. Spot ballistic galvanometer

19.   Damping of the Ballistic galvanometer is made small to *   2 points

Mark only one oval.

◯ i. Get first deflection large

◯ ii. Make the system oscillatory

◯ iii. Make the system critically damped

◯ iv. Get minimum overshoo

20.   A ...... device prevents the oscillation of the moving system and enables   * 2 points
       the latter to reach its final position quickly

Mark only one oval.

◯ I. Deflecting

◯ II. Controlling

◯ III. Damping

◯ IV. Any of the above

21.   Application of Norton's theorem to a circuit yields *   2 points

Mark only one oval.

○ I. Equivalent current source and impedance in series

○ II. Equivalent current source and impedance in parallel

○ III. Equivalent impedance

○ IV. Equivalent current source

22.   For a voltage source *   2 points

Mark only one oval.

○ I. Terminal voltage is always lower than source e.m.f.

○ II. Terminal voltage cannot be higher than source e.m.f.

○ III. The source e.m.f. and terminal voltage are equal

○ IV. None of these

23.   The unit of frequency is *   2 points

Mark only one oval.

○ I. Cycle

○ II. Cycle-second

○ III. Hertz/second

○ IV. Hertz

24.   A parallel AC circuit in resonance will *   2 points

Mark only one oval.

◯ I. Have current in each section equal to the line current

◯ II. Have a high-voltage developed across each inductive and capacitive section

◯ III. Act like a resister of low value

◯ IV. Have a high impedance

25.   A circuit component that oppose the change in the circuit voltage *   2 points

Mark only one oval.

◯ I. Resistance

◯ II. Capacitance

◯ III. Inductance

◯ IV. All of the above

26.   For which of the following is magnetic susceptibility negative? *   2 points

Mark only one oval.

◯ I. Paramagnetic and Ferromagnetic materials

◯ II. Paramagnetic Materials only

◯ III. Ferromagnetic Materials only

◯ IV. Diamagnetic Materials

27. Which of the following is the unit of magnetic flux density? *   2 points

Mark only one oval.

○ I. Weber/meter2

○ II. Tesla

○ III. Newton/ampere-metre

○ IV. All of the above

28. Which of the following statements is true about magnetic field intensity? *   2 points

Mark only one oval.

○ I. Magnetic field intensity is the number of lines of force crossing per unit volume.

○ II. Magnetic field intensity is the number of lines of force crossing per unit area.

○ III. Magnetic field intensity is the magnetic induction force acting on a unit magnetic pole.

○ IV. Magnetic field intensity is the magnetic moment per unit volume.

29. Magnetic field can be produced by _____ *   2 points

Mark only one oval.

○ I. Conduction current

○ II. Displacement current

○ III. Both conduction and displacement current

○ IV. It is produced naturally

30. In electromagnetic waves the phase difference between electric field vector * 2 points
     and magnetic field vector is

Mark only one oval.

◯ I. zero

◯ II. π/2

◯ III. π

◯ IV. π/3

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298 responses

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Name

298 responses

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Sachin

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Dhanashri Popat Chavan

Rifa Farukh Gadkari

Prathmesh

Swapnali dinkar nadale

Kumbhar Dhanashree Dattatray

Shifa Ashapak Pathan

Pranav Tanaji Shinde

Muskan Maurya

Sakshi Mohan Kamate

Vidira Rajaram Vibhute

Shankar Gajanan Jadhav

Prachi Prashant Maskar

Shruti Jaysing Thorat

Abhishek sanjay mali

Prathamesh Abaji Dongare

Nupur Sujit kulkarni

Pratiksha Rajaram Chougale

Akash sangat

Kedar krushnat powar

Jafar Nisar Mujawar

Atharva Jasud

Aditya Ganpat Chilgonde

Samruddhi mali

Omkar Sanjay Sutar

Vinayak Devekar

Suyash Sanjay Dongare

Payal Sampat jambhale

Sanket Santosh patil

Nishikant nivruti khatangle

Bhagyashri savanta shinde

Prashant Pandurang Shinde

Vinayak rajaram teli

Samrudhi suresh Borage

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siddhesh vishnu jadhav

Shweta Bandu Patil.

Aditya Dattatray Kamble

Pratiksha namdev chougale

Omkar Vijay Patil

Siddhi mohan pandharpatte

Kamble Rohit baban

Nikita Ashok Patil

Anurag Bharat Jadhav

Patil Anirudha Vitthal

Patil Sandeep Jaysing

Komal Prakash Chavan

Prathamesh Baburao Kharase

Harshavardhan kopardekar

Rajnandini Ganesh Gaikwad

Chavan Sakshi suwarnsing

huzefa ajijahmad shaikh

Vaishnavi krushnat Adsul

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Pruthviraj Powar

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Devendra somnath chavan

Swapnil Anil khamkar

Shruti Vinay Gutte

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Prajakta sunil bidre

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Parth jadhav

Saee Sandeep Jadhav

Vivek Janardan Shinde

Sachin Uttam Patil

Patil Divya Umeshchandra

Manjusha rangrao awale

Aryan Karekar

Simantini Patil

Mrinal Umesh Pise

Adityashivajipatakure

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Shweta rajput

Miss.ummeaiman Umarfaruk Mujawar

Ajay Mohan Suryavanshi

Shubham Durugale

Kamble Rutuja Raghunath

Rohini Arjun Mane

Varsha Rajesh Kumawat

Shubham jayram rathod

Ankit Vinayak Kadwale

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293 responses

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298 responses

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None

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191 more responses are hidden

The unit of self inductance is _____   Copy

298 responses

- a) Tesla
- b) Henry
- c) Weber
- d) Sabine

96.6%
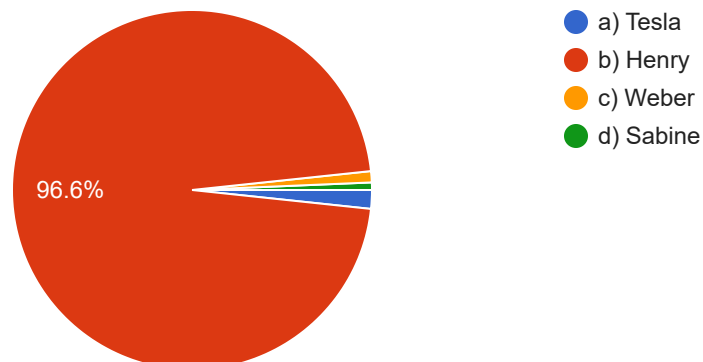
Lenz's law describes _____ of induced e.m.f.

Copy

298 responses

- 🔵 a) amount
- 🔴 b)polarity
- 🟠 c) direction
- 🟢 d) both b & c

56.4%

37.9%
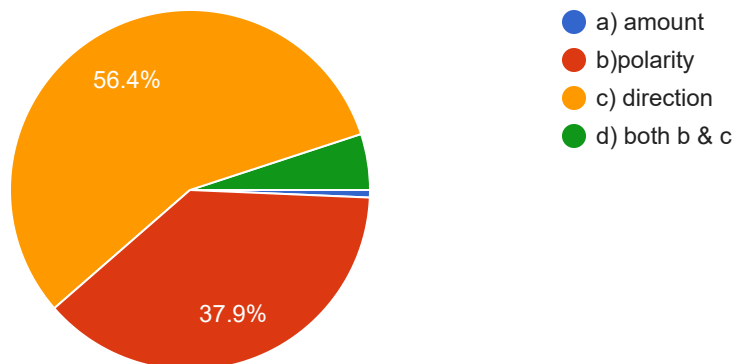
Inductor is a device where energy is stored in _____

Copy

298 responses

- 🔵 a) electric field
- 🔴 b) magnetic field
- 🟠 c) gravitational field
- 🟢 d) potential field

96.6%
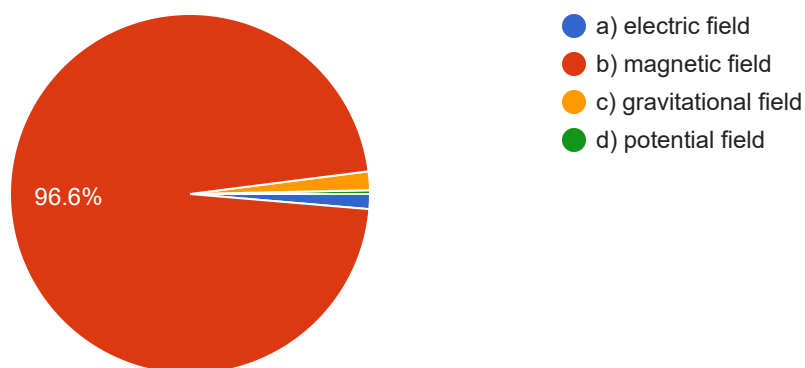
Faraday's two laws together with Lenz' law known as laws of ___

Copy

298 responses

- 🔵 a) magnetism
- 🔴 b) electricity
- 🟠 c) mechanics
- 🟢 d) electromagnetic induction

89.6%
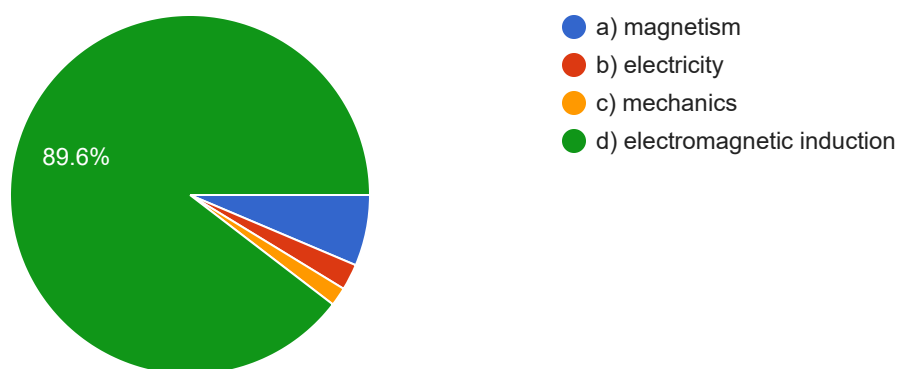
Magnetic flux linked with a coil directly proportional to

Copy

297 responses

- a) current
- b) resistance
- c) voltage
- d) electric field

16.2%

78.1%
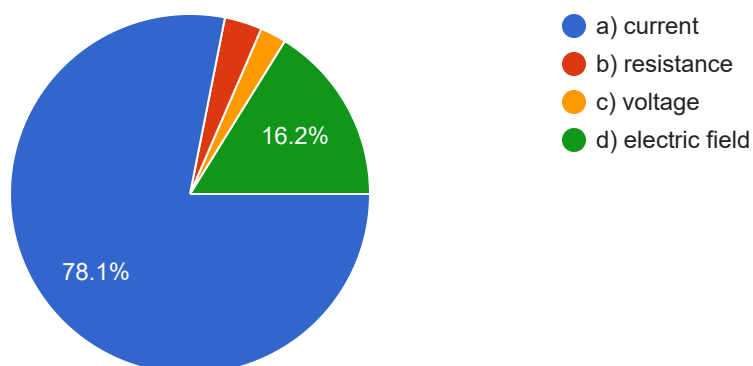
In mutual induction circuit there are _____ coils.

Copy

298 responses

- a) three
- b) six
- c) two
- d) four

96.3%
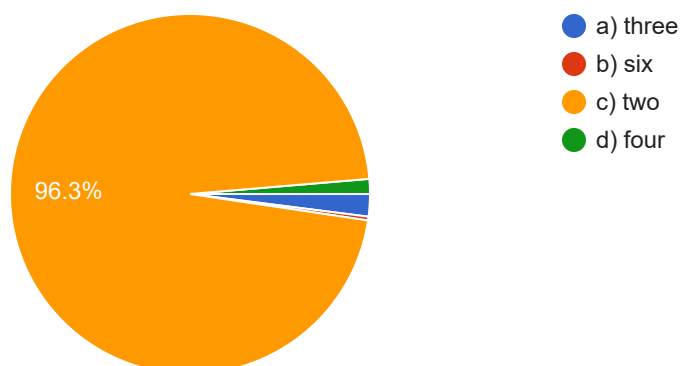
The time period of oscillation of a ballistic galvanometer is..............

Copy

298 responses

- a) Small
- b) Large
- c) Zero
- d) Extremely large

16.1%

76.2%
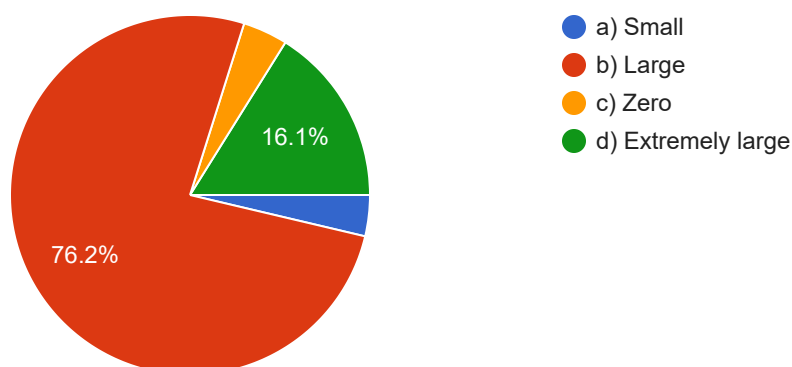
The damping in ballistic galvanometer is due to ……………

Copy

298 responses

- a) air damping
- b) electromagnetic damping
- c) Torque
- d) both (a) and (b)

39.3%

8.1%

47.7%
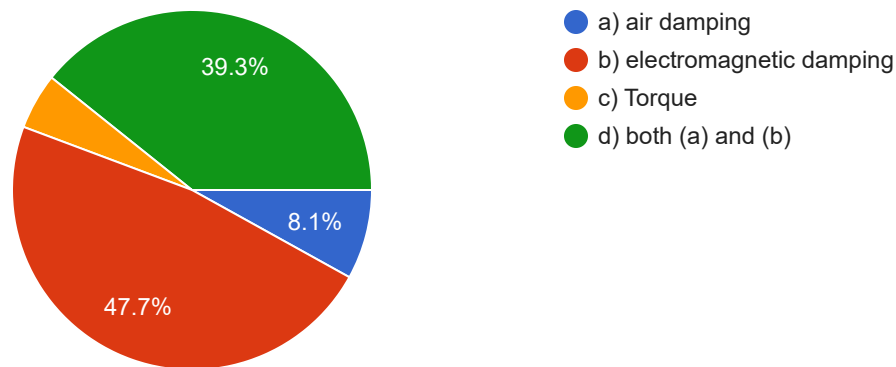
the time required for the response reaches to ……………% of its final values.
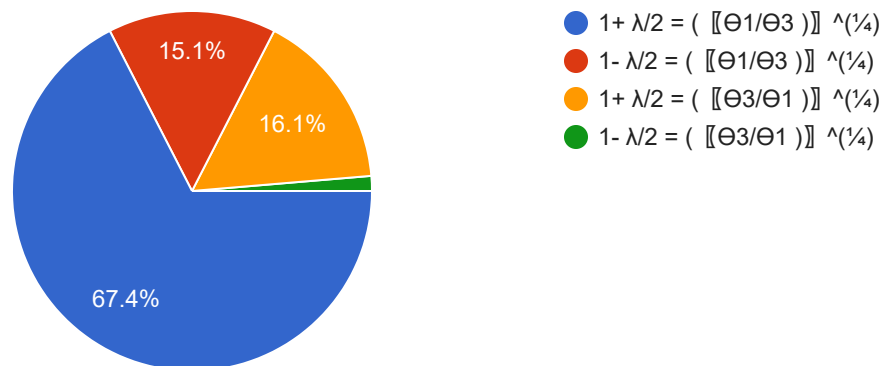
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298 responses

- a) 67.4%
- b) 36.8%
- c) 63.2%
- d) 76%

62.1%

29.9%
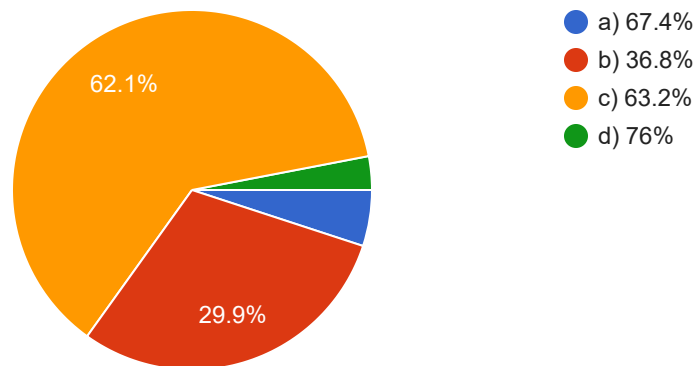
If Θ1 and Θ3 are the successive throws on the same side after charge is passed through a ballistic galvanometer …
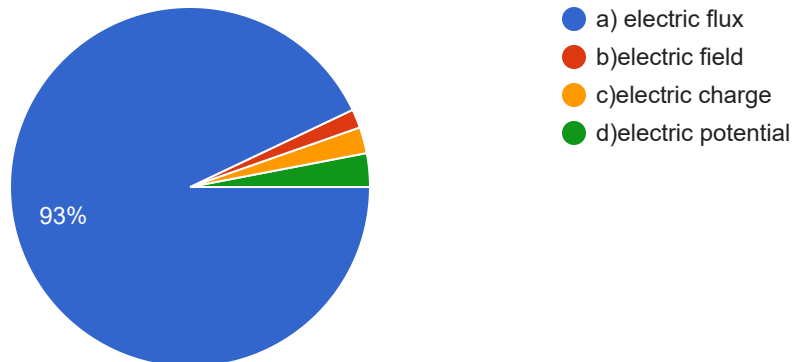
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298 responses

- 1+ λ/2 = (〖Θ1/Θ3)〗 ^(¼)
- 1- λ/2 = (〖Θ1/Θ3)〗 ^(¼)
- 1+ λ/2 = (〖Θ3/Θ1)〗 ^(¼)
- 1- λ/2 = (〖Θ3/Θ1)〗 ^(¼)

15.1%

16.1%

67.4%

Total number of electric field lines passing given area in unit time is known as……

Copy

298 responses

- a) electric flux
- b)electric field
- c)electric charge
- d)electric potential
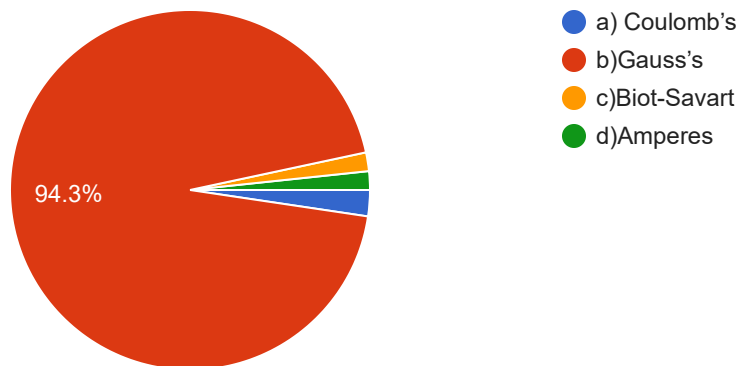
93%

The total electric flux through a closed surface is equal to ratio of total charge enclosed by the surface to the permittivity in which surface is placed. This is ……law.
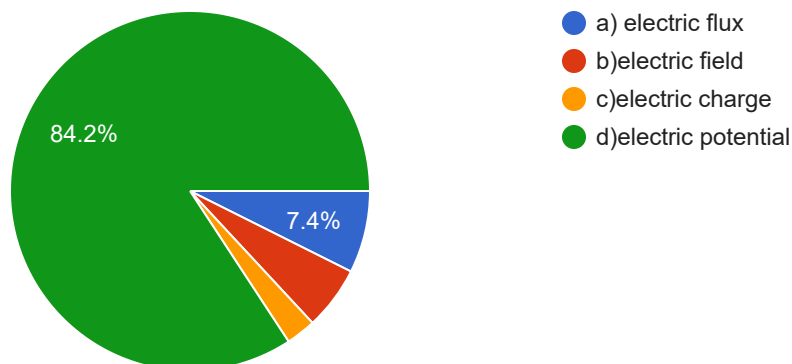
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298 responses

- a) Coulomb's
- b)Gauss's
- c)Biot-Savart
- d)Amperes

94.3%

The amount of work done in bringing unit positive charge from infinity to given point against the direction of electric field is known as …… at that point.
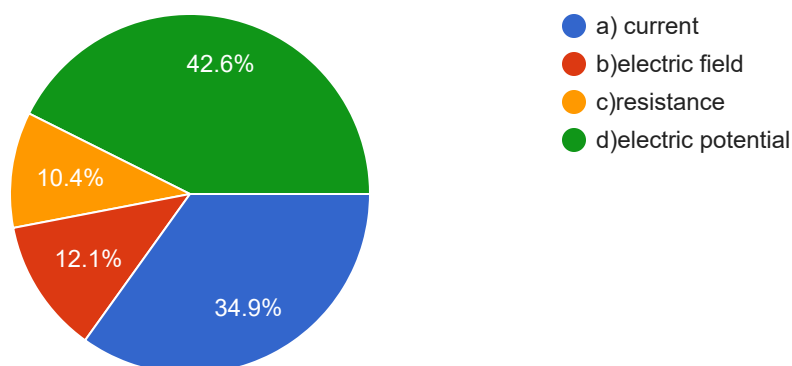
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298 responses

- a) electric flux
- b)electric field
- c)electric charge
- d)electric potential

84.2%

7.4%

Charge on capacitor is directly proportional to the ……..

Copy

298 responses

- a) current
- b)electric field
- c)resistance
- d)electric potential

42.6%
10.4%
12.1%
34.9%

SI unit of admittance is

Copy

298 responses

- ohm
- volt
- mho
- ampere
- Option 1

93%
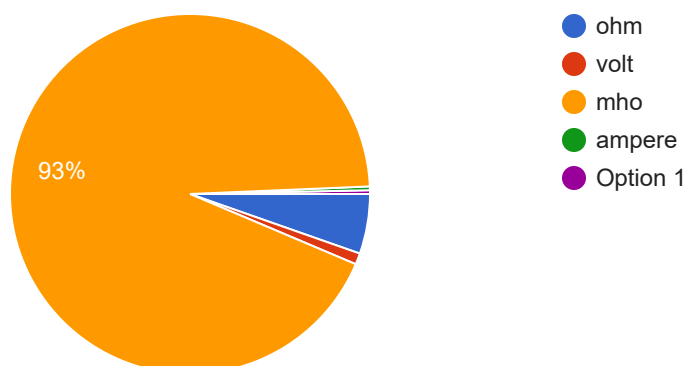
Susceptance is the reciprocal of

Copy

298 responses

- Admitance
- Impedance
- reactance
- Non of above
- magnetic induction

85.6%
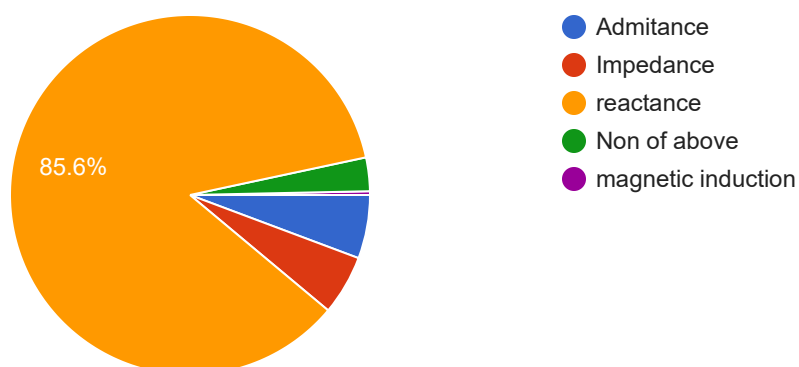
the scalar product of a vector with itself is equal to ---

Copy

298 responses

- its magnitude
- square of its magnitude
- Zero
- infinity

79.2%

13.8%
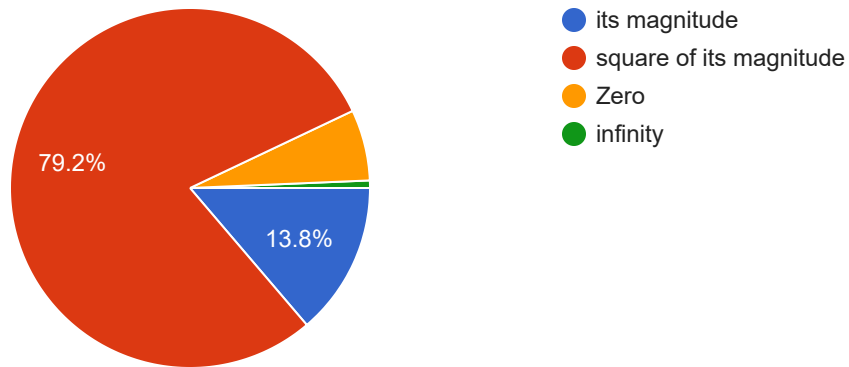
is the vector product of two non zero vectors is zero, then the vectors must be

Copy

298 responses

- either parallel or antiparallel
- perpendicular
- inclined at an angle 45° with each other
- always antiparallel

79.2%

15.8%

Copy

298 responses

- parellel to each other
- antiparellel to each other
- perpendicular to each other
- co-planer

71.1%

20.1%

298 responses

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- Option 1
- Option 2
- Option 3
- Option 4

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