

مذكرة شاملة وحدات الفصل الأول مع الإجابات



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الثاني عشر العام ← فيزياء ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 20:07:35 2025-09-26

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
فيزياء:

إعداد: مهند سامي كراجة

التواصل الاجتماعي بحسب الصف الثاني عشر العام



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف الثاني عشر العام والمادة فيزياء في الفصل الأول

ملخص و أوراق عمل الوحدة الأولى Electricity Static منهج انسباير

1

أوراق عمل الوحدة الأولى الكهرباء الساكنة باللغتين العربية والانجليزية

2

كتاب الطالب منهج انسباير Inspire

3

مقرر الدروس المطلوبة الفصل الأول حكومي وخاص

4

ملخص وأوراق عمل الوحدة الأولى Electricity Static الكهرباء الساكنة

5

الفيزياء

الصف الثاني عشر
الفرع العام

إعداد الأستاذ

مهند سامي

مراجعة شاملة

العين

Choose the correct answer for the following questions:

1- Which of the following statements is correct?

- A. Like charges attract
- B. Opposite charges repel
- C. Charges always attract.
- D. Like charges repel

2- An object is electrically neutral, this means...

- A. Number of negative charges $>$ Number of positive charges
- B. Number of negative charges $<$ Number of positive charges
- C. Number of negative charges $=$ Number of positive charges
- D. Number of negative charges $\geq$ Number of positive charges

3- How to give an object the charge $-3e$?

- A. Remove 3 protons to the object
- B. Add 3 electrons to the object
- C. Remove 3 electrons to the object
- D. Add 3 protons to the object

4- Which of the following statements is correct?

- A. The individual charge can be destroyed
- B. The individual charge can be created
- C. The individual charge never destroys nor creates
- D. The individual charge never destroys but can be created

5- Why copper is a good conductor?

- A. Copper does not allow charges to move about easily
- B. Copper allows charges to move about easily
- C. Copper has no free electrons to move.
- D. Copper has no protons to move.

6- Which of the following materials is conductor?

- A. Rubber
- B. Plastic
- C. Plasma
- D. Dry wood

7- Which of the following materials is insulator?

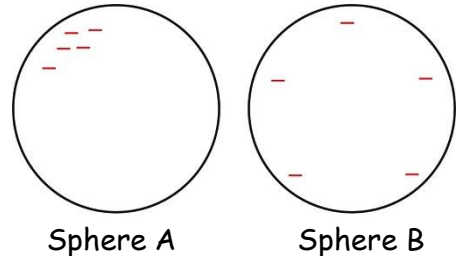
- A. Aluminum
- B. Copper
- C. Glass
- D. Iron

8- Two materials are rubbed to each other, one of them get a charge of $+3.0\ \mu\text{C}$, what is the charge of the other object?

- A. $+3.0\ \mu\text{C}$
- B. $-3.0\ \mu\text{C}$
- C. $-6.0\ \mu\text{C}$
- D. Zero

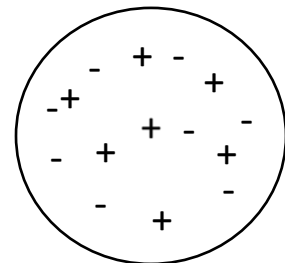
9- The negative Charge distribution over the surface of two isolated spheres as shown in the figure. Which of the following is correct?

	Sphere A	Sphere B
A	Copper	Plastic
B	Plastic	Copper
C	Copper	Copper
D	Plastic	Plastic



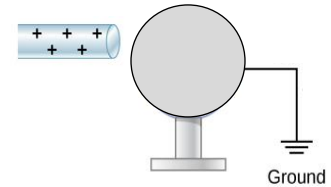
10- What is the electrostatic status of the sphere shown in the figure?

- A. Positively charged.
- B. Negatively charged.
- C. Neutral.
- D. We can't determine.



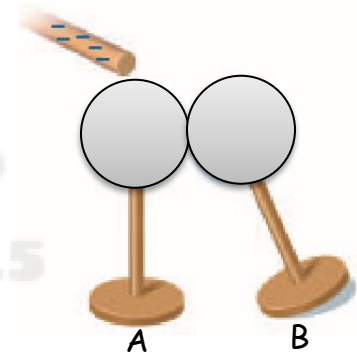
11- A positively charged rod is brought close to an isolated neutral conducting sphere as shown in the figure, what is the charge of the sphere after removing the grounding wire and then taking the rod away?

- A. Neutral
- B. Positive
- C. Negative
- D. We can't determine the charge



12- Two conducting isolated neutral spheres (A,B) touching each other as shown in the figure, a negatively charged rod is brought close to sphere A, what is the charge of each sphere if we take sphere B away from A and then take the rod away?

	Sphere A	Sphere B
A	Positive	Positive
B	Negative	Negative
C	Negative	Positive
D	Positive	Negative

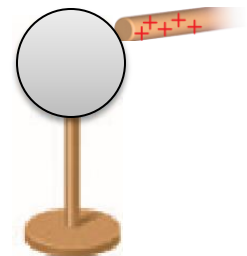


13- When two bodies are charged by each other. The total charge before charging is The total charge after charging.

- A. Not equal
- B. Equal
- C. More than
- D. Less than

14- If a positively rod touch a neutral isolated conducting sphere which of the following is true about the charge of the sphere?

- A. It will be positive because of losing negative charges.
- B. It will be negative because of gaining negative charges.
- C. It will be positive because of gaining positive charges.
- D. It will be negative because of losing positive charges.



15- If a positively charged conducting sphere is grounded, which of the following is true?

- A. The sphere will stay positively charged
- B. The sphere will be negatively charged
- C. The sphere will discharge.
- D. The sphere will lose some of its charge.

16- A negatively charged rod brought close to a negatively charged electroscope, how to describe the behavior of the leaves?

- A. The leaves fall closer together.
- B. The leaves spread apart farther.
- C. The leaves hang loosely.
- D. Nothing will change.



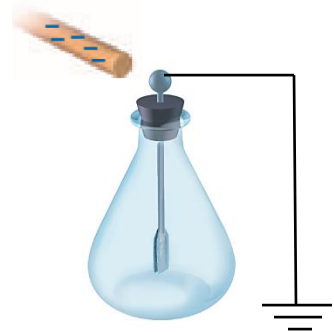
17- A rod with unknown charge is brought close to a positively charged electroscope, the leaves of the electroscope are spread apart farther, what is the charge of the rod?

- A. Positive
- B. Negative
- C. Neutral
- D. We can't determine



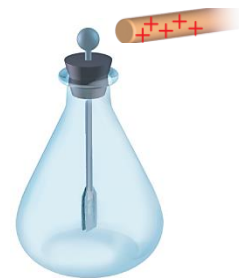
18- A negatively charged rod is brought close to a neutral grounded electroscope, what is the charge of each (Knob and leaves) when the grounding is removed and then the rod is taken away?

	Knob	leaves
A	Negative	Positive
B	Negative	Negative
C	Positive	Positive
D	Positive	Negative



19- A positively charged rod is brought close to a neutral electroscope, what is the charge of each (Knob and leaves) while the rod still close to the knob?

	Knob	leaves
A	Negative	Positive
B	Negative	Negative
C	Positive	Positive
D	Positive	Negative



20- The process of charging a conductor by bringing it near another charged object is called

- A. Conduction
- B. Induction
- C. Polarization
- D. Grounding

21- Two-point charges $q_1 = +3.0 \mu\text{C}$, $q_2 = -4.0 \mu\text{C}$ separated by 0.3 m distance, what is the magnitude of the electrostatic force exerted on q_2 ?

- A. 0.36 N
- B. 0.97 N
- C. 2.6 N
- D. 1.2 N

22- Two-point charges $q_1 = q_2$ separated by 0.6 m distance, if the electrostatic force exerted on each of them is equal to 3.0 N, what is the magnitude of q_1 and q_2 ?

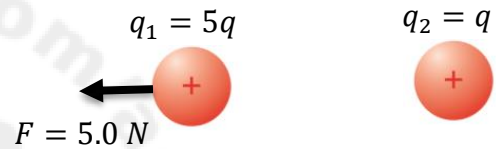
- A. $1.1 \times 10^{-5} \text{ C}$
- B. $1.4 \times 10^{-5} \text{ C}$
- C. $2.6 \times 10^{-5} \text{ C}$
- D. $3.8 \times 10^{-5} \text{ C}$

23- Two-point charges $q_1 = +4.0 \mu\text{C}$, $q_2 = +5.0 \mu\text{C}$, if the magnitude of the electrostatic force exerted on each of the is equal to 12 N what is the separation distance between the charges?

- A. 2.7 m
- B. 1.3 m
- C. 0.12 m
- D. 0.015 m

24- Rely on the figure and determine the magnitude and the direction of the force on q_2 ?

- A. 5.0 N, to the left.
- B. 5.0 N, to the right.
- C. 1 N, to the left.
- D. 1 N, to the right.



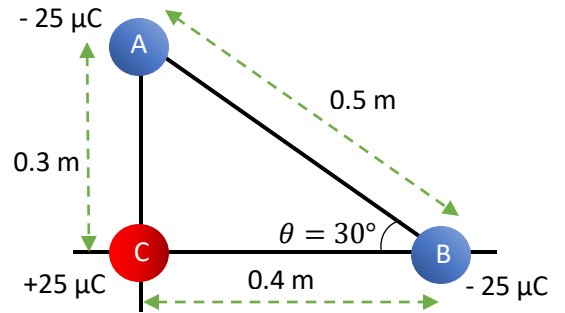
25- The magnitude electrostatic force between two charges is equal to 12 N, what is the new magnitude of the force if the distance between them is doubled?

- A. 24 N
- B. 12 N
- C. 6.0 N
- D. 3.0 N

26- Two point charges, initially 2 cm apart, are moved to a distance of 10 cm apart. By what factor does the resulting electric force between them change?

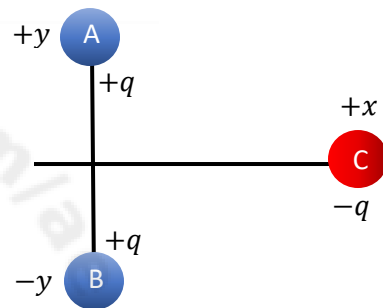
- A. 25
- B. $1/25$
- C. 5
- D. $1/5$

27- Three charged spheres are at the positions shown in the figure. Find the magnitude of the net force on sphere B.



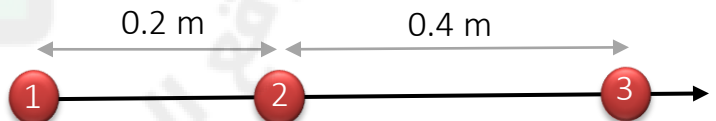
- A. 20 N
- B. 19 N
- C. 18 N
- D. 17 N

28- According to the diagram, what is the correct direction of the net force exerted by charges A and B on charge C?



- A. To the left
- B. To the right
- C. Upward
- D. Downward

29- Three charges $q_1 = q_2 = q_3 = +5.0 \mu\text{C}$ are placed on x-axis as shown in the figure. What is the electrostatic force on charge q_1 ?



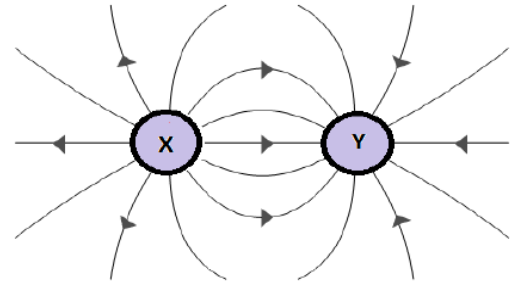
- A. $F = 9.2 \text{ N}$, to the left
- B. $F = 6.3 \text{ N}$, to the right
- C. $F = 6.3 \text{ N}$, to the left
- D. $F = 9.2 \text{ N}$, to the right

30- Which of the following is true for the direction of an electric field, it is ...?

- A. In the same direction of the force exerted on a negative test charge
- B. In the opposite direction of the force exerted on a positive test charge
- C. In the same as direction of the force exerted on a positive test charge
- D. perpendicular to the direction of the force exerted on a negative test charge

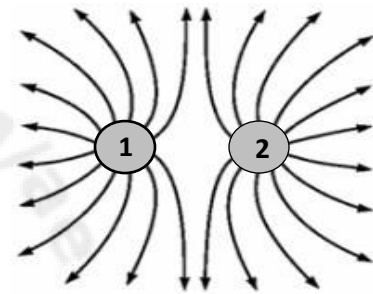
31- Electric field lines around two spheres are shown in the diagram. Identify the type of charges on the spheres X and Y

	Sphere X	Sphere Y
A	+	+
B	+	-
C	-	+
D	-	-



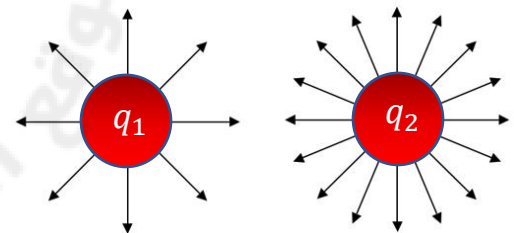
32- Which of the following is true about the charges Q1, Q2?

	The magnitude	The type
A	$Q_1 = Q_2$	Opposite charges
B	$Q_1 > Q_2$	Like charges
C	$Q_1 < Q_2$	Opposite charges
D	$Q_1 = Q_2$	Like charges



33- What is the possible value for q_1 and q_2 shown in the figure?

- A. $q_1 = +3 \text{ C}$, $q_2 = -3 \text{ C}$
- B. $q_1 = +3 \text{ C}$, $q_2 = -6 \text{ C}$
- C. $q_1 = -3 \text{ C}$, $q_2 = +6 \text{ C}$
- D. $q_1 = +3 \text{ C}$, $q_2 = +6 \text{ C}$



34- what is the electric field magnitude at a point 0.5 m away from a point charge $q = +12 \mu\text{C}$?

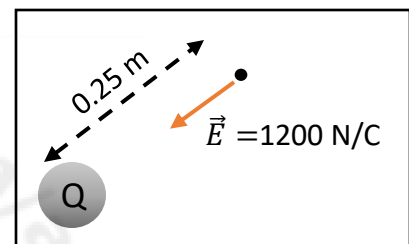
- A. $4.3 \times 10^5 \text{ N/C}$
- B. $2.2 \times 10^5 \text{ N/C}$
- C. $1.6 \times 10^5 \text{ N/C}$
- D. $1.1 \times 10^5 \text{ N/C}$

35- An electrostatic force of 9.0 N is exerted on a test charge of $+1.0 \mu\text{C}$ is placed at a point in the space, what is the electric field at that point?

- A. $5.2 \times 10^6 \text{ N/C}$
- B. $6.8 \times 10^6 \text{ N/C}$
- C. $8.1 \times 10^6 \text{ N/C}$
- D. $9.0 \times 10^6 \text{ N/C}$

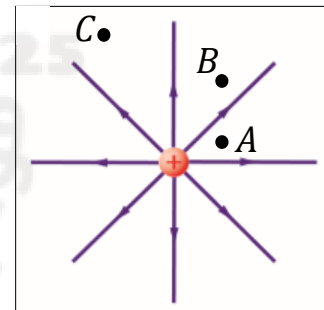
36- The electric field at 0.25 m from a point charge Q is equal to 1200 N/C as shown in the figure, what is the (magnitude and type) of charge Q?

- A. 3.3 nC
- B. 4.6 nC
- C. 6.5 nC
- D. 8.3 nC



37- Compare between the strength of the electric field at the three points (A,B,C) shown in the figure?

- A. $E_A < E_B < E_C$
- B. $E_A = E_B < E_C$
- C. $E_A > E_B > E_C$
- D. $E_A = E_B = E_C$



38- How does the electric field at a point change if the test charge is doubled?

- A. It will reduce by 2
- B. It will increase by 2
- C. It will reduce by 4
- D. It will stay the same

39- How does the electric field at a point change if the distance is halved?

- A. It will increase by 4
- B. It will reduce by 4
- C. It will increase by 2
- D. It will reduce by 4

40- Which of the following is not valid unit for the measurement of electric potential difference?

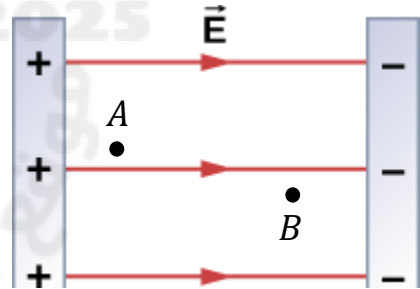
- A. V
- B. J/C
- C. N.m/C
- D. C/J

41- How much work done on a charge of $3.0 \mu\text{C}$ to move it through 12V electric potential difference?

- A. $1.2 \times 10^{-5} \text{ J}$
- B. $2.8 \times 10^{-5} \text{ J}$
- C. $3.1 \times 10^{-5} \text{ J}$
- D. $3.6 \times 10^{-5} \text{ J}$

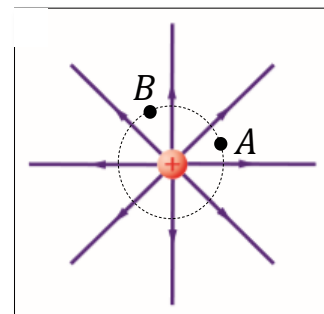
42- Which of the following is true about the electric potential of the points A, B in the uniform electric field E?

- A. $V_A = V_B$
- B. $V_A > V_B$
- C. $V_A < V_B$
- D. $V_A = V_B = 0$



43- Which of the following is true about the electric potential of the points A, B in the uniform electric field E?

- A. $V_A = V_B$
- B. $V_A > V_B$
- C. $V_A < V_B$
- D. $V_A = V_B = 0$



44- What is the electric potential difference between the plates of capacitor with $2.0 \mu\text{F}$ capacitance and $6.0 \mu\text{C}$ charge?

- A. 3.0 V
- B. 2.9 V
- C. 2.1 V
- D. 1.2 V

45- What is the potential difference between two parallel plates that are 18 cm apart with a field of $4.8 \times 10^3 \text{ N/C}$?

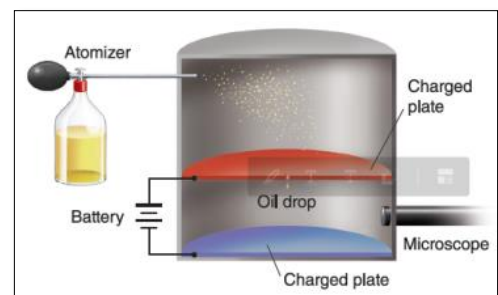
- A. 126 V
- B. 864 V
- C. 530 V
- D. 470 V

46- Which of the following is the correct definition of (Farad)?

- A. $F = \text{C} / \text{N}$
- B. $F = \text{C} / \text{V}$
- C. $F = \text{V} / \text{C}$
- D. $F = \text{J} / \text{V}$

47- In an oil drop experiment a drop with weight of $2.0 \times 10^{-14} \text{ N}$ was suspended motionless in a uniform electric field of 300 N/C strength, what is the charge of the drop?

- A. $6.7 \times 10^{-17} \text{ C}$
- B. $5.2 \times 10^{-17} \text{ C}$
- C. $4.6 \times 10^{-17} \text{ C}$
- D. $3.9 \times 10^{-17} \text{ C}$



48- Which of the following devices uses to measure the electric potential difference?

- A. Voltmeter.
- B. Van De Graff generator.
- C. Battery.
- D. Capacitor.

49- What did Millikan conclude from his experiment?

- A. The mass of the electron.
- B. The charge of the electron.
- C. The mass of the proton.
- D. The charge of the neutron.

50- Which of the following is the elementary charge?

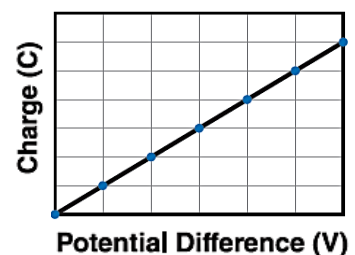
- A. The charge of the atom.
- B. The charge of the proton.
- C. The charge of the electron.
- D. The charge of the neutron.

51- The exchange force between two point charges q_1 and q_2 separated by distance r , is F , how does this force change if the distance between the charges is increases?

- A. The force will not change.
- B. The force will increase.
- C. The force will decrease.
- D. We can't determine.

52- What does the slope of the line in the next figure represent?

- A. The electric field strength.
- B. The distance between the plates of capacitor.
- C. The capacitance of a capacitor.
- D. The charge on the capacitor plates.



53- The exchange force between two point charges q_1 and q_2 separated by distance r , is F , how does this force change if one of the charges is decreases?

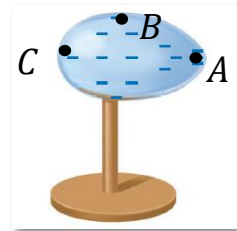
- A. The force will not change.
- B. The force will increase.
- C. The force will decrease.
- D. We can't determine.

54- The exchange force between two point charges q_1 and q_2 separated by distance r , is F , how does this force change if one of the charges is doubled and the distance is halved?

- A. The force will not change.
- B. The force will increase by a factor of 8
- C. The force will decrease by a factor of 4
- D. The force will increase by a factor of 4

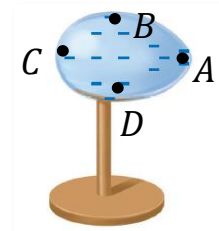
55- From the next figure, at which point the electric potential is the largest?

- A. At point A
- B. At point B
- C. At point C
- D. All points have the same electric potential.



56- From the next figure, at which point the electric field is the strongest?

- A. At point A
- B. At point B
- C. At point C
- D. At point D



57- If a solid conducting sphere is charged, how does the charge distribute on it?

- A. Uniformly and inside the sphere
- B. Uniformly and outside the sphere
- C. Non-uniformly and inside the sphere
- D. Non- uniformly and outside the sphere



58- Which of the following devices convert the chemical energy to electrical energy?

- A. The motor
- B. The lamp
- C. The heater
- D. The battery

59- How is the energy converted in the motor?

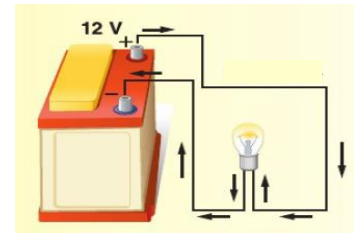
- A. From electrical energy to chemical energy
- B. From chemical energy to mechanical energy
- C. From heat energy to electric energy.
- D. From electrical energy to mechanical energy

60- Which of the following is true about the conventional current?

- A. It is the direction of the negative charges in the circuit
- B. It is the direction of the positive charges in the circuit
- C. It is the unit of measuring power.
- D. It is the rate of converting energy.

61-The lamp power shown in the figure is 120 W what is the current through the lamp when it is connected to a 12 V battery?

- A. 14 A.
- B. 12 A.
- C. 11 A.
- D. 10 A.

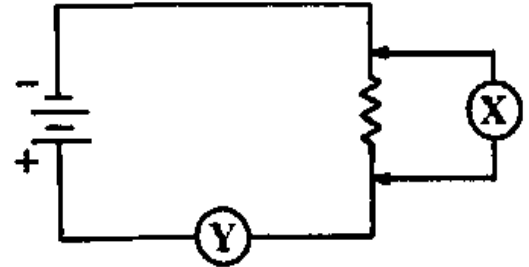


62- How much time needed to transform energy of 120 J to mechanical energy in a motor of 60 W power?

- A. 4.1 s
- B. 3.5 s
- C. 2.0 s
- D. 1.6 s

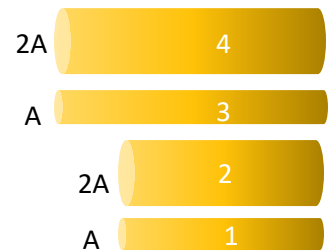
63- According to the circuit shown in the figure. Which of the following is correct?

	X	Y
A	Voltmeter	Ammeter
B	Ammeter	Voltmeter
C	Voltmeter	Voltmeter
D	Ammeter	Ammeter



64- Which of the following wires has the largest resistance (all wires are at the same temperature and made from the same material)?

- A. Wire 1
- B. Wire 2
- C. Wire 3
- D. Wire 4.



65- A 25Ω resistor is connected to 12 V battery in a closed circuit, what is current flowing through the resistor?

- A. 0.15 A
- B. 0.27 A
- C. 0.39 A
- D. 0.48 A

66- An electric circuit contains a switch, variable resistor, and an electric potential difference source, which of the following increases the current in a circuit?

- A. Increasing the resistance.
- B. Decreasing the voltage.
- C. Increasing the voltage
- D. Opening the switch

67- How does the electric current through an electric circuit change, if we double the resistance in this circuit?

- A. The current will decrease by a factor of $1/2$.
- B. The current will decrease by a factor of $1/4$.
- C. The current will increase by a factor of 2.
- D. The current will stay the same.

68- Which of the following is not a conventional unit of Watt (W)?

- A. J/s
- B. A.V
- C. $A^2 \cdot \Omega$
- D. $V^2 \cdot \Omega$

69- How much power is delivered to 3.0Ω device, when it is connected to 24 V battery?

- A. 8.0 W
- B. 25 W
- C. 89 W
- D. 190 W

70- A 125.0 W light bulb is 35 percent efficient. How many joules does the light bulb convert into light each minute it is in operation?

- A. 2625 J
- B. 1764 J
- C. 1650 J
- D. 1389 J

71- How do distribution companies reduce the dissipated power during the transmission process?

- A. By raising the current to very high values
- B. By reducing voltage to very low values
- C. By raising the resistance of the transmission wires
- D. By raising voltage to very high values