مؤسسة الإمارات للتعليم المدرسي
EMIRATES SCHOOLS ESTABLISHMENT

Final Review

Mohannad Karajah

Grade 12G / Ministry of education syllabus

The academic year 2021-2022

Teacher: Mohanned Karajah

Chose the correct answer for each of the following questions.

1- Which of the following statements is correct?

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

2- Which of the following represent the neutral objects?

A. Objects in which the number of negative charges more than the positive
B. Objects in which the number of negative charges less than the positive
C. Objects in which the number of positive charges more than the negative
D. Objects in which the number of negative charges equal the positive

3- How does neutral objects becomes negatively charged?

A. By losing protons
B. By gaining electrons
C. By losing neutrons
D. By gaining protons

4- Which of the following statements is correct?

A. The individual charges can be destroyed
B. The individual charges can be created
C. The individual charges never are destroyed or created.
D. The individual charges never are destroyed but can 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.

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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?

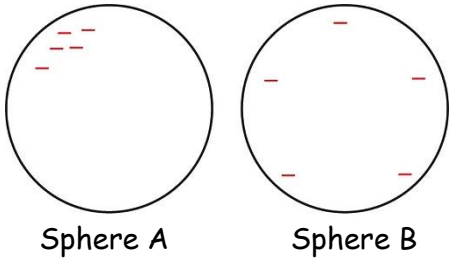
A. Aluminum
B. Copper
C. Glass
D. Iron

8- Tow materials are rubbed to each other, one of them get a charge of + 3.0 μC, what is the charge of the other object?

A. +3.0 μC
B. -3.0 μC
C. -6.0 μC
D. Zero

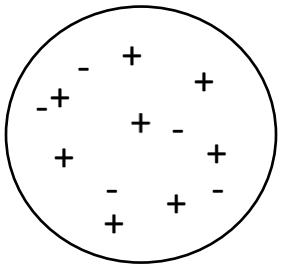
9- The negative Charge distribution over the surface of two isolated spheres as shown in the figure. Which of the following is correct?

	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.



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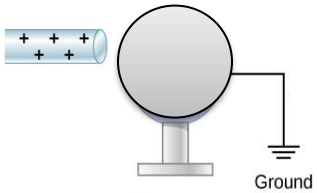
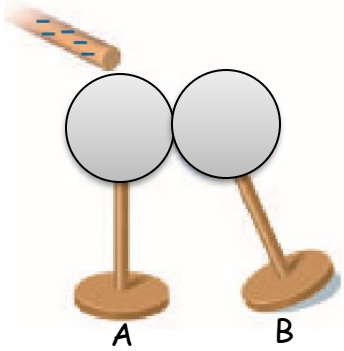
11- A negatively charged rod is brought near an isolated neutral conducting sphere shown in the figure, what is the charge of the sphere after removing the grounding wire and then taking the rod away?



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. 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 by losing negative charges.
B. It will be negative by gaining negative charges.
C. It will be positive by gaining positive charges.
D. It will be negative by losing positive charges.

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15- If a positively charged isolated 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 near a positively 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- Two-point charges q_1= +3.0 μC, q_2= -4.0 μC 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

18- 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. 1.1×10^{-5} C
B. 1.4×10^{-5} C
C. 2.6×10^{-5} C
D. 3.8×10^{-5} C

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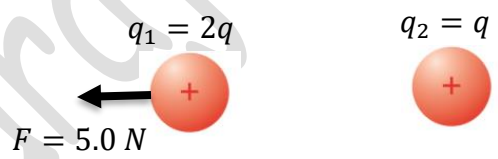
19- Two-point charges q_1= +4.0 μC, q_2= +5.0 μC, if the magnitude of the electrostatic force exerted on each of the is equal to 12 N what is the separation distance between the charges?

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

20- 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. 10 N, to the left.
D. 10 N, to the right.

21- 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

22- 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.

23- 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.

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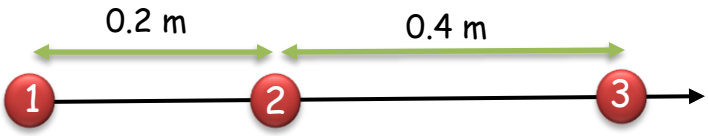
24- Three charges $q_1=q_2=q_3= +5.0\ \mu C$ are placed on x-axis as shown in the figure What is the electrostatic force on charge q_1?



A. F=9.2 N, to the left
B. F= 6.3 N, to the right
C. F= 6.3 N, to the left
D. F= 9.2 N, to the right

25- 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

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

A. 4.3×10^5 N/C
B. 2.2×10^5 N/C
C. 1.6×10^5 N/C
D. 1.1×10^5 N/C

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

A. 5.2×10^6 N/C
B. 6.8×10^6 N/C
C. 8.1×10^6 N/C
D. 9.0×10^6 N/C

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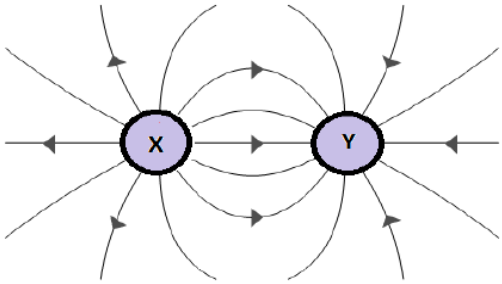
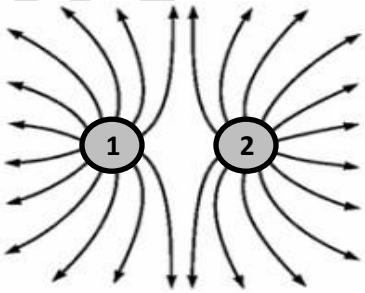
28- Electric field lines around two spheres are shown in the diagram. Identify the type of charges on the spheres X and Y

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



29- Which of the following is true about the charges Q_1,Q_2?

	The magnitude	The type
A	Q1 = Q2	Opposite charges
B	Q1 > Q2	Like charges
C	Q1 < Q2	Opposite charges
D	Q1 = Q2	Like charges



30- 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

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

A. 1F= 1C/1N
B. 1F= 1C/1V
C. 1F= 1V/1C
D. 1F= 1J/1V

32- How much work don on a charge of 3.0 μC to move it through 12V electric potential difference?

A. 1.2×10^{-5} J
B. 2.8×10^{-5} J
C. 3.1×10^{-5} J
D. 3.6×10^{-5} J

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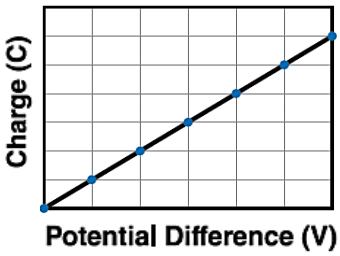
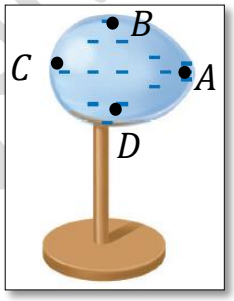
33- What does the slope of the line in the next figure represent?



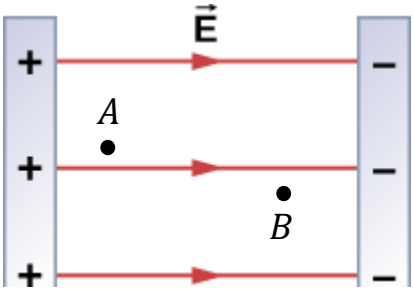
A. The electric field strength.
B. The distance between the plates of capacitor.
C. The capacitance of a capacitor.
D. The charge on the capacitor plates

34- From the next figure, at which poit the electric filed is the strongest?



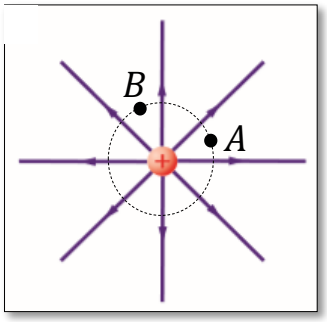
A. At point A
B. At point B
C. At point C
D. At point D

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



A. VA= VB
B. VA> VB
C. VA< VB
D. VA= VB = 0

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



A. VA= VB
B. VA> VB
C. VA< VB
D. VA= VB = 0

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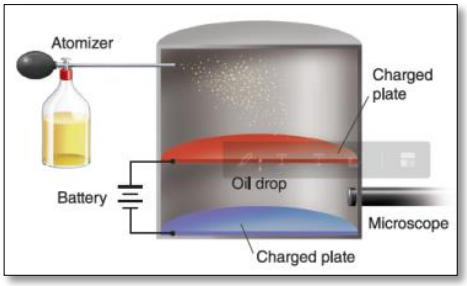
37- What is the electric potential difference between the plates of capacitor with 2.0 μF capacitance and 6.0 μC charge?

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

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

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

39- In an oil drop experiment a drop with weight of 2.0×10^{-14} N was suspended motionless in a uniform electric field of 300 N/c strength, what is the charge of the drop?



A. 6.7×10^{-17} C
B. 5.2×10^{-17} C
C. 4.6×10^{-17} C
D. 3.9×10^{-17} C

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

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

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41- 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.

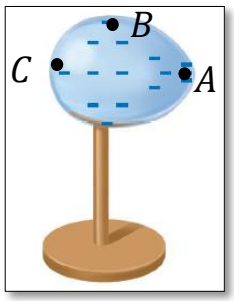
42- The exchange force between two point charges q_1 and q_2 separated by distance r, is F, how does this force change if one of the charges is decreases?

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

43- 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

44- From the next figure, at which point the electric potential is the strongest?



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

Best regards

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