Exercise MCQs

Sr. No.	Questions	A	B	C	D
1	A positive electric charge	attracts other positive charge	✓repels other positive charge	attracts a neutral charge	repels a neutral charge
2	An object gains excess negative charge after being rubbed against another object, which is:	Neutral	✓negatively charged	positively charged	either A, B or C
3	Two uncharged objects A and B are rubbed against each other. When object B is placed near a negatively charged object C, the two objects repel each other. Which of the following statements is true about object A?	remains uncharged	becomes positively charged	becomes negatively charged	✓Unpredictable
4	When you rub a plastic rod against your hair several times and put it near some bits of paper, the pieces of papers are attracted towards it. What does this observation indicate?	✓the rod and the paper are oppositely charged	the rod acquires a positive charge	the rod and the paper have the same charges	the rod acquires a negative charge
5	According to Coulomb's law, what happens to the attraction of two oppositely charged objects as their distance of separation increases?	Increases	✓Decreases	remains unchanged	cannot be determined
6	The Coulomb's law is valid for the charges which are	moving and point charges	moving and non-point charges	✓stationary and point charges	stationary and large size charges
7	A positive and a negative charge are initially 4 cm apart. When they are moved closer together so that they are now only 1 cm apart, the force between them is	4 times smaller than before	4 times larger than before	8 times larger than before	✓16 times larger than before
8	Five joules of work is needed to shift 10 C of charge from one place to another. The potential difference between the places is	✓0.5 V	2 V	5 V	10 V
9	Two small charged spheres are separated by 2 mm. Which of the following would produce the greatest attractive force?	$+1q$ and $+4q$	$-1q$ and $-4q$	$+2q$ and $+2q$	✓$+2q$ and $-2q$
10	Electric field lines	always cross each other	✓never cross each other	cross each other in the region of strong field	cross each other in the region of weak field
11	Capacitance is defined as	VC	✓$\frac{Q}{V}$	QV	$\frac{V}{Q}$

Additional MCQs

Sr. No.	Questions	A	B	C	D
1	Charges are of type	1	✓2	3	4
2	Unit of charge	V	✓C	A	Ω
3	The electroscope is an instrument which is used for	✓Detecting charge	Detecting current	Detecting radiations	None of these
4	The value of k in SI	✓$9 \times 10^{9}\ Nm^2C^{-2}$	$9 \times 10^{-9}\ Nm^2C^{-2}$	$9 \times 10^{10}\ Nm^2C^{-2}$	$9 \times 10^{13}\ Nm^2C^{-2}$
5	Michael Faraday belongs to	✓UK	USA	KSA	Russia
6	5 J work is needed to shift 5 C charge from one place to another, the P.D. between plates is	✓1 V	2 V	3 V	4 V
7	If 4 J work is done on a 2 C charge against the direction of electric field the value of electric potential is	1 V	✓2 V	3 V	4 V
8	The formula of electric field intensity is	$E = \frac{q_\circ}{F}$	✓$E = \frac{F}{q_\circ}$	$E = Fq_\circ$	$E = \frac{1}{Fq_\circ}$
9	The unit of electric intensity is	Ns	ms^{-1}	Nm	✓NC^{-1}
10	The unit of electric potential is	J	Js	✓JC^{-1}	Jm^{-1}
11	SI unit of electric potential is	C (coulomb)	✓V(volt)	F(farad)	J(joule)
13	The formula of electric potential is	$V = \frac{q}{W}$	✓$V = \frac{W}{q}$	$q = VW$	$V = QF$
14	In mica capacitor the dielectric is	Aluminum	Plastic	Paper	✓Mica
15	Capacitor are used to store	Resistance	Voltage	✓Charge	Current
16	SI unit of capacitance is	Newton	Coulomb	Volt	✓Farad
17	If 4 C charge is given to the plates of capacitor and potential between plates is 2 V, then capacitance is	✓2 F	4 F	6 F	8 F
18	If three capacitors of 3 pF, 4 pF and 5 pF are connected in parallel with a battery of 6 V. Total capacitance will be	6 pF	✓12 pF	1.2 pF	1.3 pF
19	If three capacitors of 3 pF, 4pF and 5 pF are connected in series with a battery of 6 V. Total capacitance will be	1.1 pF	1.2 pF	✓1.3 pF	12 pF
20	Capacitors can be used to differentiate between high frequency and low frequency signals, such circuit is called	Series circuit	Parallel circuit	✓Filter circuit	None of these
21	It blocks DC current but allow AC current to pass through a circuit	✓Capacitor	Resistance	Specific resistance	Thermometer
22	Each bolt of lightning contains the energy	✓1k million joule	2k million joule	3k million joule	3k million joule
23	Which is incorrect when two capacitors are connected in parallel	$V = V_1 = V_2$	$Q = Q_1 + Q_2$	$C_{eq} = C_1 + C_2$	✓$Q = Q_1 = Q_2$
24	Which is incorrect when two capacitors are connected in series	$Q = Q_1 = Q_2$	$V = V_1 + V_2$	$\frac{1}{C_{eq}} = \frac{1}{C_1} + \frac{1}{C_2}$	✓$V = V_1 = V_2$
25	The electric field lines are used to representation of	Capacitance	Electric potential	Potential diddernce	✓Electric field