CPP-01
ONE YEAR
MEDICAL

Physics

Chapterwise Practise Problems (CPP) for NEET

Chapter - Electric Charges and Fields

1. A bar magnet of magnetic dipole moment 10 Am^2 is in stable equilibrium. The work done to rotate the magnet through 60° in a magnetic field of 0.2T is

(1) $\frac{1}{2}J$ (2) 2J

(3) 1J (4) 4J

1. Charge q_2 of mass m revolves around a stationary charge q_1 in a circular orbit of radius r. The orbital periodic time of q_2 would be $\left(\text{assume } \frac{1}{4\pi \in_o} = k\right)$

(1) $\left\{\frac{4\pi^2 mr^3}{kq_1q_2}\right\}^{1/2}$ (2) $\left\{\frac{kq_1q_2}{4\pi^2 mr^3}\right\}^{1/2}$

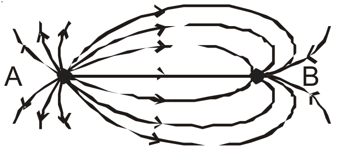
(3) $\left\{\frac{4\pi^2 mr^4}{kq_1q_2}\right\}^{1/2}$ (4) $\left\{\frac{4\pi^2 mr^2}{kq_1q_2}\right\}^{1/2}$

2. Two positive ions, each carrying a charge q are separated by a distance d. If F is the force of repulsion between the ions, then the number of electrons missing from each ion will be (e being the charge on an electron)

(1) $\frac{4\pi\varepsilon_0 Fd^2}{e}$ (2) $\sqrt{\frac{4\pi\varepsilon_0 Fe^2}{d^2}}$

(3) $\sqrt{\frac{4\pi\varepsilon_0 Fd^2}{e^2}}$ (4) $\frac{4\pi\varepsilon_0 Fd^2}{e^2}$

3. Distribution of electric field lines due to point charges A and B is shown in figure. Which one of the following is correct statement ?



(1) A is positive and B is negative and |A| > |B|

(2) A is negative and B is positive |A| = |B|

(3) Both are positive but |A| > |B|

(4) Both are negative but |A| > |B|

4. An electric dipole is placed in an uniform electric field with dipole axis making an angle θ with the direction of electric field. For dipole to be in stable equilibrium, θ equals to

(1) $\frac{\pi}{6}$ (2) $\frac{\pi}{3}$

(3) 0 (4) $\frac{\pi}{2}$

5. What is the angle between the electric dipole moment and the electric field due to itself on the equatorial line ?

(1) 0° (2) 90°

(3) 180° (4) None of these

6. A charge q is placed at the corner of a cube of side a. The electric flux through the cube is :

(1) $\frac{q}{\varepsilon_0}$ (2) $\frac{q}{3\varepsilon_0}$

(3) $\frac{q}{6\varepsilon_0}$ (4) $\frac{q}{8\varepsilon_0}$

7. An insulating solid sphere of radius R is charged in a non-uniform manner such that volume charge density $\rho = \frac{A}{r}$, where A is positive constant and r is the distance from the center. Electric field at any inside point at $r = r_1$ is :

(1) $\frac{1}{4\pi\varepsilon_0}\frac{4\pi A}{r_1}$ (2) $\frac{1}{4\pi\varepsilon_0}\frac{A}{r_1}$

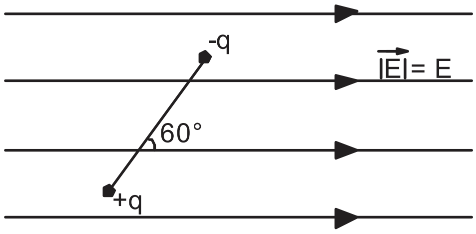
(3) $\frac{A}{\pi\varepsilon_0}$ (4) $\frac{A}{2\varepsilon_0}$

8. An electron moving with the speed 5×10^6 m/s is projected parallel to the electric field of intensity 1×10^3 N/C. Field is responsible for the retardation of motion of electron. Find the distance travelled by the electron before coming to rest for an instant ($m_e = 9 \times 10^{-31}$ kg, $e = 1.6 \times 10^{-19}$ C)

(1) 7 m (2) 0.7 mm

(3) 7 cm (4) 0.7 cm

9. Two charges (–q, m) and (+q, m) are connected by a massless rod of length ℓ and released in a region of uniform electric field as shown :

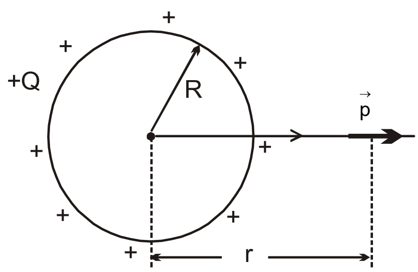


Find the maximum speed of the charges :

(1) $\sqrt{\frac{qE\ell}{2m}}$ (2) $\sqrt{\frac{3q\ell E}{2m}}$

(3) $\sqrt{\frac{3qE\ell}{m}}$ (4) $\sqrt{\frac{qE\ell}{3m}}$

10. A short electric dipole is placed along a radial line of a uniformly charged sphere as shown :

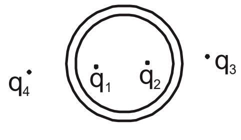


If the force experienced by dipole at r = 2R and r = 4R are F_1 and F_2 respectively, then $\frac{F_2}{F_1}$ is

(1) $\frac{1}{8}$ (2) $\frac{1}{4}$

(3) $\frac{1}{16}$ (4) $\frac{1}{32}$

11. Consider a conducting shell as shown in figure. Two point charges are inside the shell and two are outside the shell. Then induced charge on the outer surface of conducting shell is :



(1) $(q_1 + q_2)$ (2) $-(q_1 + q_2)$

(3) $(q_3 + q_4)$ (4) $-(q_3 + q_4)$

12. An electric dipole consists of two opposite charges each 0.05μC, separated by 30 mm. The dipole is placed in an uniform electric field of 10^6 N/C. The maximum torque exerted by the field on the dipole is :-

(1) 6×10^{-3} Nm (2) 3×10^{-3} Nm

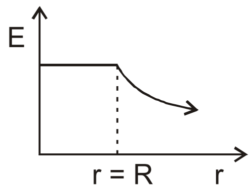
(3) 15×10^{-3} Nm (4) 1.5×10^{-3} Nm

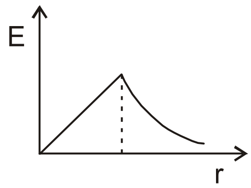
13. The magnitude of electric field due to an short electric dipole at a distance 'r' from its centre in equatorial position is E. If the dipole is rotated through an angle of 90° about its perpendicular axis, the magnetude of electric field at the same point will be:-

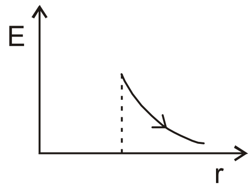
(1) E (2) $\frac{E}{4}$

(3) $\frac{E}{2}$ (4) 2E

14. Which one of the following graphs represents the variation of electric field with distance 'r' from the centre of a charged spherical conductor of radius R?

(1)


(2)


(3)


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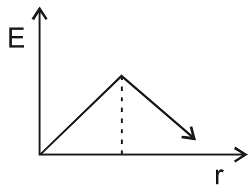
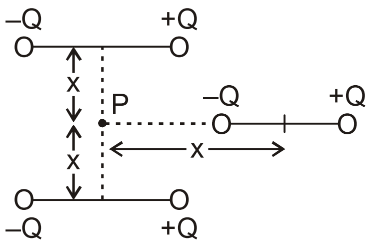


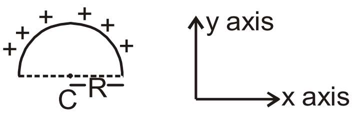
15. Three short dipoles identical in nature are arranged as shown below. Find net electric field at P. $\left(k = \frac{1}{4\pi\varepsilon_o}\right)$



(1) $\frac{kP}{x^3}$ (2) $\frac{2kP}{x^3}$

(3) Zero (4) $\frac{\sqrt{2}kP}{x^3}$

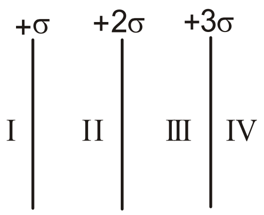
16. If λ is the linear charge density of wire bent in form of semicircular shape as shown. Then electric field intensity at the centre will be



(1) $\frac{2k\lambda}{R}\hat{j}$ (2) $\frac{2k\lambda}{R}\left(-\hat{j}\right)$

(3) $\frac{k\lambda}{R}\hat{j}$ (4) $\frac{k\lambda}{R}\left(-\hat{j}\right)$

17. Three large non conducting plane sheets of charge with charge densities σ, 2σ and 3σ are arranged as shown. The net electric field in region III will be



(1) $\frac{3\sigma}{\epsilon_0}$ (towards left) (2) $\frac{2\sigma}{\epsilon_0}$ (towards left)

(3) 0 (4) $\frac{3\sigma}{\epsilon_0}$ (towards right)

18. Electric field inside the cavity of uniformly charged sphere is

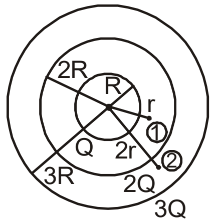
(1) Non uniform

(2) Uniform

(3) Zero

(4) Same as that on the surface of charged solid sphere

19. In the arrangement of concentric shells as shown in the given figure, the ratio of electric field at points (1), (2) is



(1) 1 : 2 (2) 3 : 4

(3) 4 : 3 (4) 2 : 3

20. A charged particle of mass m=1 kg and charge q=2μC is thrown from a horizontal ground at an angle θ=45° with speed 25 m/s. In space a horizontal electric field $E=2\times10^7$ v/m exist. The range of charged particle on ground is closest to (Take $g=10m/s^2$)

(1) 216m (2) 298m

(3) 312.5m (4) 322m

21. If four identical charged particles of charge q are kept at the vertices of regular pentagon, then force acting on charge –q kept at centre of polygon (here r is the distance of vertex from centre of polygon)

(1) $\frac{kq^2}{r^2}$ (2) $\frac{5kq^2}{r^2}$

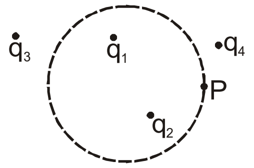
(3) $\frac{6kq^2}{r^2}$ (4) Zero

22. A particle of charge –q and mass m is released at a distance x from axis of ring having charge Q and radius R. For x << R the time period of oscillation of charged particle is

(1) $2\pi\sqrt{\frac{4\pi\epsilon_0 mR^3}{Qq}}$ (2) $\sqrt{\frac{4\pi\epsilon_0 mR^3}{Qq}}$

(3) $2\pi\sqrt{\frac{Qq}{4\pi\epsilon_0 mR^3}}$ (4) $\sqrt{\frac{Qq}{4\pi\epsilon_0 R^3}}$

23. Select from the four particles that contribute to the electric field at point P on the surface.



(1) q_3 and q_4 (2) q_1, q_2, q_4

(3) q_1, q_2, q_3 and q_4 (4) q_1 and q_2

24. Electric field at a distance x from the centre of uniformly positively charged ring having radius R is given by (R>>x)

(1) $\frac{kQx}{\left(x^2+R^2\right)^{1/2}}$ (2) $\frac{kQx}{R^3}$

(3) $\frac{kQ}{x^2}$ (4) $\frac{4kQ}{3\sqrt{3}\,R^2}$

25. Three identical charges are placed at the corners of an equilateral triangle. If the force between any two charges is F, then the net force on any one charge will be :

(1) $\sqrt{2}$ F (2) 2F

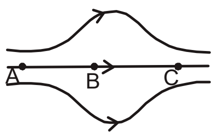
(3) $\sqrt{3}$ F (4) 3F

26. A charge q is placed at the mid point of the line joining two equal charges Q. The system of the three charges will be in equilibrium if q is equal to :

(1) $-\frac{Q}{2}$ (2) $-\frac{Q}{4}$

(3) $+\frac{Q}{4}$ (4) $+\frac{Q}{2}$

27. The figure shows some of the electric field lines corresponding to an electric field. The figure suggests



(1) $E_A > E_B > E_C$ (2) $E_A = E_B = E_C$

(3) $E_A = E_C > E_B$ (4) $E_B > E_A = E_C$

28. Electric field due to an electric dipole at a distance r from its center in axial position is E. If the dipole is rotated through an angle of 90° about its perpendicular axis, the electric field in magnitude at the same point will be :

(1) E (2) E/4

(3) E/2 (4) 2E

29. Electric flux through a closed surface area S enclosing charge Q is ϕ. If the surface area is doubled, then the flux is :

(1) 2ϕ (2) $\phi/2$

(3) $\frac{\phi}{4}$ (4) ϕ

30. The locus of zero potential points for a dipole is -

(1) not available (2) a plane

(3) a straight line (4) a circle

31. A particle of mass 6.4×10^{-27} kg and charge 3.2×10^{-19}C is situated is an uniform electric field of 1.6×10^5 V/m. The velocity of the particle at the end of 2×10^{-2} m path when it starts from rest is

(1) $2\sqrt{3}\times10^5$ m/s (2) 8×10^5 m/s

(3) 16×10^5 m/s (4) $4\sqrt{2}\times10^5$ m/s

32. The charge q is projected into an uniform electric field E, maximum work done when it moves a distance y is :

(1) qEy (2) $\frac{qy}{E}$

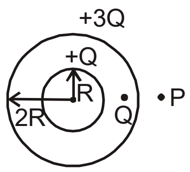
(3) $\frac{qE}{y}$ (4) $\frac{y}{qE}$

33. Force of interaction between two small dipoles at axial positions of each other is directly proportional to r^n, where r is distance between the center of dipoles. Value of n is

(1) –1 (2) –2

(3) –3 (4) –4

34. Two concentric conducting thin shells of radius R and 2R carry charges +Q, +3Q respectively. The magnitude of electric field at a distance x outside (P) and inside (Q) from the surface of outer sphere is same. Then the value of x is :



(1) $\frac{R}{3}$ (2) $\frac{2R}{3}$

(3) $\frac{R}{4}$ (4) $\frac{R}{2}$

35. If E_a and E_{eq} are the magnitude of electric field at the axial and equatorial points due to a short electric dipole, then the correct relation is

(1) $E_{eq} = 2E_a$ (2) $2E_{eq} = E_a$

(3) $E_{eq} = E_a$ (4) None of these

36. In a uniformly charged solid sphere of radius R it is found that electric field at distances R_1 and R_2 from the centre of the sphere is same. Then the correct relation is, ($R_1 < R < R_2$)

(1) $R_2^3 = R^2R_1$ (2) $R_1^3 = R^2R_2$

(3) $R^3 = R_1^2R_2$ (4) $R^3 = R_1R_2^2$

37. Two identical small conducting spheres A and B have charges +1 mC and –3 mC on them and they attract each other with a force F. Two other identical spheres C and D each containing +5 mC are touched separately to A and B respectively and removed. The magnitude of force between sphere A and B now is

(1) 12F (2) 4F

(3) 2F (4) F

38. On each of the three corners of an equilateral triangle of side D three equal charges Q are placed. The coulombic force experienced by one charge due to the other two charges is

(1) Zero (2) $\frac{\sqrt{2}Q^2}{4\pi\varepsilon_0 D^2}$

(3) $\frac{\sqrt{3}Q^2}{4\pi\varepsilon_0 D^2}$ (4) $\frac{2Q^2}{4\pi\varepsilon_0 D^2}$

39. If the coulombic force acting between two protons separated by a distance r is F, what would be the force acting between two alpha particles, separated by a distance 2r?

(1) F/2 (2) F

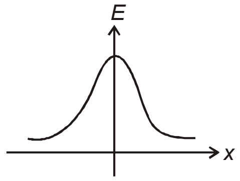
(3) 2 F (4) 3 F

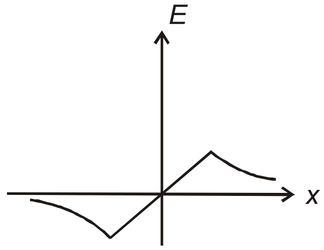
40. A charge Q is placed at the corner of a cube of edge length L. The electric flux linked to one of the faces not touching the charge Q is

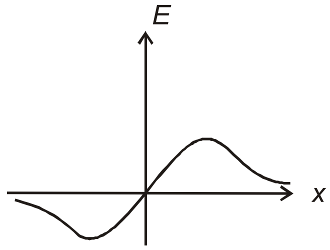
(1) $\frac{Q}{24\varepsilon_0}$ (2) $\frac{Q}{6\varepsilon_0}$

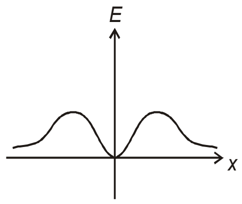
(3) $\frac{Q}{8\varepsilon_0}$ (4) Zero

41. Variation of electric field intensity due to charged ring along axis with respect to distance measured from centre is given as

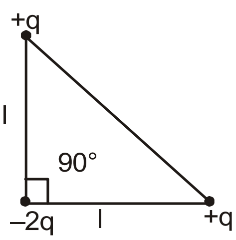
(1) 

(2) 

(3) 

(4) 

42. What is the magnitude of dipole moment of the system shown in figure?



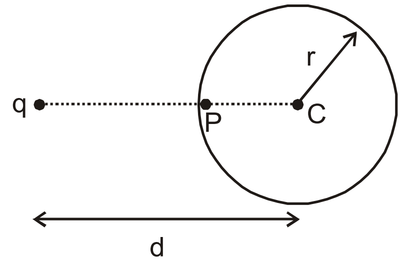
(1) q l

(2) $\sqrt{3}$ (q l)

(3) $\sqrt{2}$(q l)

(4) $\frac{ql}{\sqrt{2}}$

43. A uncharged solid conducting sphere of radius r is placed at a distance d from a particle having charge q. Find electric field at point P just inside the surface due to induced charge appearing on the sphere



(1) $\frac{1}{4\pi\varepsilon_0}\frac{q}{d^2}$ along PC

(2) $\frac{1}{4\pi\varepsilon_0}\frac{q}{(d-r)^2}$ along CP

(3) $\frac{1}{4\pi\varepsilon_0}\frac{q}{(d-r)^2}$ along PC

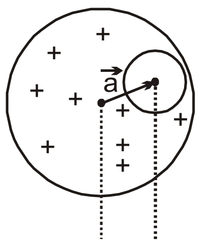
(4) Zero

44. A long cylindrical wire carries a positive charge of linear density λ. An electron (e^-) revolves around it in circular path of radius r. The speed of the electron is proportional to the distance (r)

(1) r^0 (2) r

(3) r^2 (4) $1/r^2$

45. Charge is uniformly distributed with volume charge density ρ in a spherical volume of radius R. A cavity of radius r is made in the charge distribution such that the centre of the cavity is at distance a from the centre of the charge distribution, then the electric field in the cavity is



(1) Zero

(2) Non-zero and non-uniform

(3) Non zero, uniform and equal to $\frac{\rho}{2\varepsilon_0}\vec{a}$

(4) Non-zero, uniform and equal to $\frac{\rho}{3\varepsilon_0}\vec{a}$

46. An electric dipole is placed at the origin and is directed along x-axis. At a point P, far away from dipole, the electric field is parallel to y-axis. OP makes an angle θ with x-axis

(1) $\tan\theta = \sqrt{3}$ (2) $\tan\theta = \sqrt{2}$

(3) $\theta = 45°$ (4) $\tan\theta = \frac{1}{\sqrt{2}}$

47. Four identical charges i.e. q each are placed at the corners of a square of side 'a'. The charge that must be placed at the centre of the square such that the whole system of charges is in equilibrium, is

(1) $-\frac{q}{4}$ (2) $\frac{q}{4}(2\sqrt{2}+1)$

(3) $-\frac{q}{4}(2\sqrt{2}+1)$ (4) $-\frac{q}{4}(3\sqrt{3}+1)$

48. In a uniform electric field,

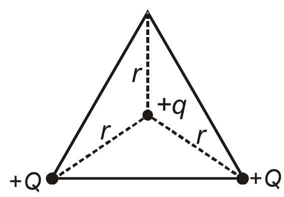
(1) All points are at the same potential

(2) No two points can have the same potential

(3) Points separated by the same distance must have the same difference in potential

(4) None of the above

49. Two equal point charges +Q each are kept at the two corners of an equilateral triangle. Another charge +q is kept at the centre of the triangle as shown in figure. The distance between the centre and vertex is r. The resultant force on +q is



(1) $\frac{Qq}{\pi\varepsilon_0 r^2}$ (2) $\frac{Qq}{2\pi\varepsilon_0 r^2}$

(3) $\frac{\sqrt{2}Qq}{4\pi\varepsilon_0 r^2}$ (4) $\frac{Qq}{4\pi\varepsilon_0 r^2}$

50. There are two charges +1 μC and +5 μC. The ratio of the forces acting on one charge dut to the other charge will be

(1) 1 : 5 (2) 1 : 1

(3) 5 : 1 (4) 1 : 25

51. A thin film soap bubble of radius R is given a uniform negative charge –Q. The radius R

(1) Becomes $\frac{R}{2}$ (2) Increases

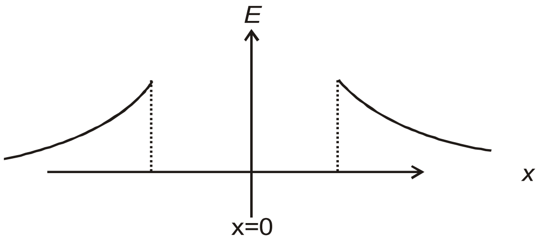
(3) Decreases (4) Becomes $\frac{R}{\pi}$

52. A point charge q is placed at the centre of a hemispherical bowl. The electric flux through the bowl is

(1) $\frac{q}{6\varepsilon_0}$ (2) $\frac{q}{12\varepsilon_0}$

(3) $\frac{q}{18\varepsilon_0}$ (4) $\frac{q}{2\varepsilon_0}$

53. Variation of magnitude of electric field intensity due to uniformly charged non-conducting solid sphere with respect to distance from centre along x-axis, is best represented by

(1)


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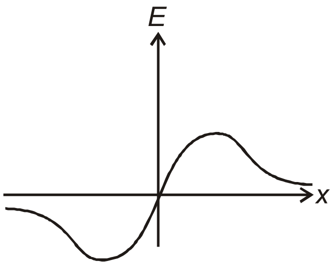

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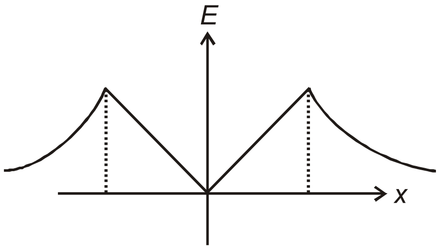

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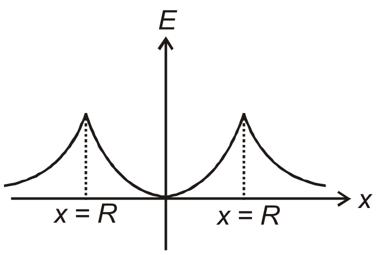


54. An electric dipole of dipole moment P is rotated in a uniform electric field of strength E from position of stable equilibrium to unstable equilibrium. Then work done by external agent in this process is

(1) Zero (2) PE

(3) 2PE (4) –2PE

55. A given charge situated at a certain distance from an electric dipole in the end-on position experiences a force F. If the distance of the charge is doubled, the force acting on the charge will be

(1) 2F (2) F/2

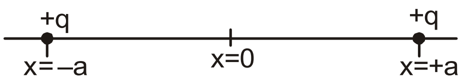
(3) F/4 (4) F/8

56. An electric dipole is situated in an electric field of uniform intensity E whose dipole moment is P and moment of inertia is I. If the dipole is disturbed slightly from the equilibrium position, then the angular frequency of its oscillations is

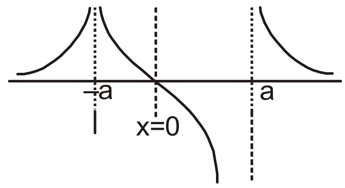
(1) $\left(\frac{PE}{I}\right)^{\frac{1}{2}}$ (2) $\frac{1}{2\pi}\left(\frac{PE}{I}\right)^{\frac{1}{2}}$

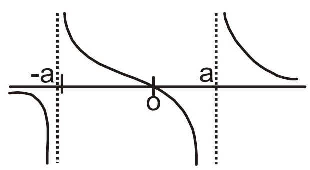
(3) $2\pi\left(\frac{I}{PE}\right)^{\frac{1}{2}}$ (4) $2\pi\left(\frac{PE}{I}\right)^{\frac{1}{2}}$

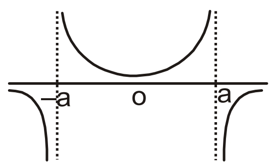
57. Consider the charge configuration shown in the figure



Variation of electric field along x axis is

(1)


(2)


(3)


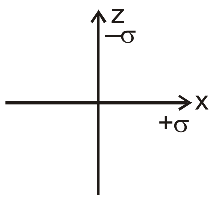
(4) None of the above

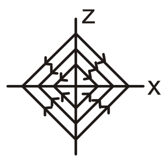
58. A small dipole of dipole moment P is kept at the centre of a ring of radius R and charge Q. The dipole moment has direction along the axis of ring. The resultant force on the ring due to dipole is

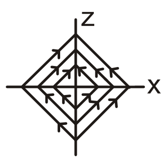
(1) Zero (2) $\frac{KPQ}{R^3}$

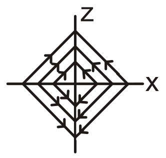
(3) $\frac{2KPQ}{R^3}$ (4) $\frac{KPQ}{2R^3}$

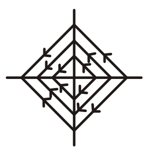
59. Two infinitely large charged planes having uniform surface charge density $+\sigma$ and $-\sigma$ are placed along xy plane and yz plane respectively as shown in figure. Then the nature of electric field lines is best represented in



(1) 

(2) 

(3) 

(4) 

60. Two equal negative charges '–q' are fixed at points (0, –a) and (0, a) on y-axis. A positive charge Q is released from rest at the point (2a, 0) on the x-axis. The charge Q will

(1) execute simple harmonic motion

(2) move to the origin and remains at rest

(3) move to infinity

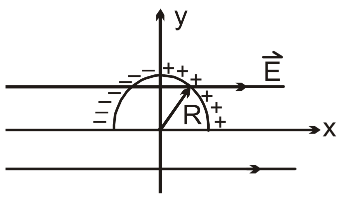
(4) execute oscillatory but not simple harmonic motion

61. An uniform electric field of magnitude 'E' is set up is a region of gravity free space in upward direction. An electron of mass m_e is projected at an angle 'θ' with the field with a speed 'u' at time t=0. If the electron is at same height at 't_1' and 't_2'. The value of t_1+t_2 will be

(1) $\frac{2m_e u\sin\theta}{eE}$ (2) $\frac{m_e u\cos\theta}{eE}$

(3) $\frac{m_e u\sin\theta}{eE}$ (4) $\frac{2m_e u\cos\theta}{eE}$

62. One half of a semicircular ring of radius R has charge -Q while the other half has +Q. The ring is placed in xy plane where a uniform electric field exists $\vec{E}=E_0\hat{i}$



Find the work required to be done by external agent to rotate the ring about z axis by 90° in clockwise direction.

(1) $\frac{2}{\pi}(QER)$ (2) $\frac{8}{\pi}(QER)$

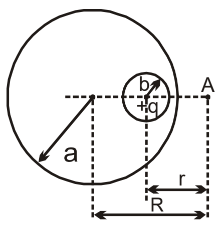
(3) $\frac{4}{\pi}(QER)$ (4) zero

63. A short dipole of dipole moment p is placed with its axis perpendicular to a long thin uniformly charged rod with linear charge density λ at a distance r. Find the force acting on the rod due to field of dipole.

(1) $\frac{p\lambda}{2\pi \in_0 r^3}$ (2) $\frac{p\lambda}{\pi \in_0 r^3}$

(3) $\frac{p\lambda}{\pi \in_0 r^2}$ (4) $\frac{p\lambda}{2\pi \in_0 r^2}$

64. A point charge q is placed at the centre of a non concentric cavity of a neutral metallic sphere

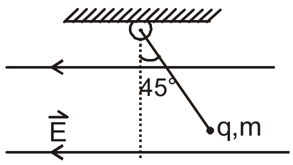


Find the electric field at point A. $\left(K = \frac{1}{4\pi \in_0}\right)$

(1) $\frac{Kq}{r^2}$ (2) $\frac{Kq}{R^2}$

(3) 0 (4) None of these

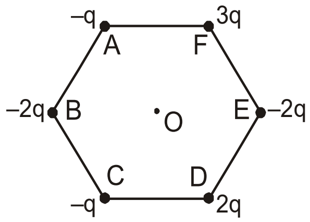
65. Horizontal electric field exist as shown in figure. A mass 'm' with charge 'q' attached to a massless rod of length ℓ is released from the position shown in figure, find the angular velocity of the rod when it passes through the bottom most position $\left(E = \frac{mg}{q}\right)$



(1) $\sqrt{\frac{g}{l}}$ (2) $\sqrt{\frac{2g}{l}}$

(3) $\sqrt{\frac{3g}{l}}$ (4) $\sqrt{\frac{5g}{l}}$

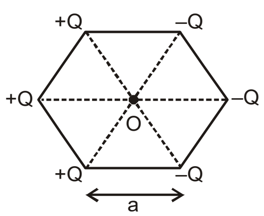
66. Six charges are placed at the corners of a regular hexagon as shown. If an electron is placed at its centre O, force on it will be



(1) Zero (2) Along OF

(3) Along DC (4) None of these

67. Six charges are placed at the vertices of a regular hexagon of side length a as shown in the figure. The electric field on the line passing through centroid O and perpendicular to the plane of the figure at a distance x (>>a) from O is



(1) $\frac{Qa}{\pi \epsilon_0 x^3}$ (2) $\frac{2Qa}{\pi \epsilon_0 x^3}$

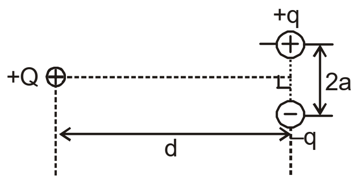
(3) $\frac{\sqrt{3}Qa}{\pi \epsilon_0 x^3}$ (4) Zero

68. The locus of points such that electric field due to a short dipole is perpendicular to the direction of dipole moment is

(1) Parabola (2) Circle

(3) Pair of straight lines (4) Hyperbola

69. Force on the short dipole due to the point charge kept on the equator of the dipole in the configuration shown in the figure is



(1) Zero (2) $\frac{Qqa}{\pi \epsilon_0 d^3}$

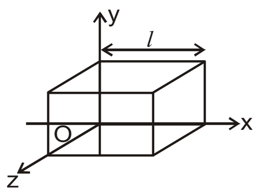
(3) $\frac{Qqa}{2\pi \epsilon_0 d^3}$ (4) $\frac{Qqa}{4\pi \epsilon_0 d^3}$

70. The total electric flux through a sphere due to a point charge placed at the centre of the sphere is

(1) zero (2) greater than $\frac{q}{\epsilon_0}$

(3) $\frac{q}{\epsilon_0}$ (4) lesser than $\frac{q}{2\epsilon_0}$

71. Electric field of a region varies as $\vec{E} = bx\hat{i}\ NC^{-1}$. Find the net charge enclosed by the cube as shown in figure



(1) $\frac{bl^3}{2\epsilon_0}$ (2) $\frac{bl^3}{3\epsilon_0}$

(3) $bl^3\epsilon_0$ (4) $\frac{bl^3\epsilon_0}{2}$

ANSWERS

1.	(1)	2.	(3)	3.	(1)	4.	(3)	5.	(3)	6.	(4)	7.	(4)
8.	(3)	9.	(2)	10.	(1)	11.	(1)	12.	(4)	13.	(4)	14.	(3)
15.	(3)	16.	(2)	17.	(3)	18.	(2)	19.	(3)	20.	(3)	21.	(1)
22.	(1)	23.	(3)	24.	(2)	25.	(3)	26.	(2)	27.	(3)	28.	(3)
29.	(4)	30.	(2)	31.	(4)	32.	(1)	33.	(4)	34.	(2)	35.	(2)
36.	(4)	37.	(4)	38.	(3)	39.	(2)	40.	(1)	41.	(3)	42.	(3)
43.	(2)	44.	(1)	45.	(4)	46.	(2)	47.	(3)	48.	(4)	49.	(4)
50.	(2)	51.	(2)	52.	(4)	53.	(3)	54.	(3)	55.	(4)	56.	(1)
57.	(2)	58.	(2)	59.	(3)	60.	(4)	61.	(4)	62.	(3)	63.	(4)
64.	(2)	65.	(2)	66.	(4)	67.	(1)	68.	(3)	69.	(3)	70.	(3)
71.	(3)												