1. A 2μC point charge is located a distance "d" away from 6μC point charge, what is the ratio of $\dfrac{F_{12}}{F_{21}}$?

   (a) 1/3   (b) 3
   (c) 1   (d) 12

2. The minimum charge on an object can not be less than:
   (a) $1.6 \times 10^{-19} c$ (b) $3.2 \times 10^{-19} c$
   (c) $9.1.6 \times 10^{9} c$ (d) No definite value exist

3. Two charges are placed at a certain distance. If the magnitude of each charge is doubled the force will become
   (a) I /4th of its original value   (b) 4 times of its original value
   (c) I/8th of its original value   (d) 8 times of its original value

4. Which of the following can be deflected while moving in the electric field?
   (a) neutron   (b) photon
   (c) electron   (d) (a) and (b)

5. The flux through a flat surface of are "A" in a uniform electric field "E" is maximum when the surface area is:
   (a) Parallel to E   (b) perpendicular to E
   (c) placed 45° to E   (d) placed 60° to E

6. The product of charge "q" and small separation "d" between two charges of same magnitude and opposite in nature is known as:
   (a) Electric dipole   (b) Moment arm
   (c) Electric dipole moment   (d) Flux of electric field

7. 12 J of work is to be done against an existence electric field to take a charge of 0.01 C from one-point A to another point B. The potential difference between B and A is
   (a) 120 V   (b) 1200 V
   (c) 1.2 V   (d) 12 V

8. The force between two charges placed in air is F. if air is replaced by a medium of relative permittivity ϵ_r then force is reduced to:
   (a) $F \epsilon_r$ (b) $\dfrac{F}{\varepsilon_r}$
   (c) $\dfrac{\epsilon_r}{F}$ (d) $\varepsilon \epsilon_r$

9. The negative gradient of the potential is:
   (a)   potential energy   (b) voltage
   (c) electric field intensity   (d) electric flux

10. The electric flux through a plane area wi ll be half of its max imum value when area is held at angle of…………..with electric field
    (a) 30°   (b) 45°
    (c) 60°   (d) 90°

1. When a dielectric is placed in an electric field, it becomes:
   a) negatively charged only　　　　b) positively charged only
   c) polarized　　　　　　　　　d) conductive
2. An electric field cannot deflect
   a) Proton　　　　　　　　　　　　b) Electron
   c) Positron　　　　　　　　　　　**d) neutron**
3. The change in potential energy per unit charge between the two points in an electric field is called:
   a) Intensity　　　　　　　　　　　b) Flux
   c) Potential difference　　　　　d) Permittivity
4. The introduction of a dielectric between the oppositely charged plates causes the intensity
   a) to increase　　　　　　　　　　**b) to decrease**
   c) to remain constant　　　　　　　d) all of these
5. Two positive point charges repel each other with a force of 4×10^{-4} N when placed at a distance of 1.0 metre. If the distance between them is increased by 2.0 m, the force of repulsion will be:
   a) 1×10^{-4}N　　　　　　　　b) 8×10^{-4} N
   c) 2×10^{-4} N　　　　　　　　d) 4×10^{-4}N
6. Electric flux through the surface of a sphere which contains a charge at its centre depends on:
   a) the radius of sphere
   b) the surface area of the sphere
   c) the amount of charge inside the sphere
   d) the amount of charge outside the sphere

7. Decreasing the separation of two positive charges by one-half will cause the force of repulsion to be changed by:
   a) 1/4 time　　　　　　　　　　　b) 2 times
   c) 1/2 time　　　　　　　　　　　**d) 4 times**
8. The electric field due to a positive point charge
   a) $varies\ as\ \dfrac{1}{r^2}$　　　　　　b) points towards the charge
   c) points away from the charge　　d) has the finite range
9. Which of the following cannot be the unit of electric intensity
   a) N/coulomb　　　　　　　　　　b) volt / meter
   c) Joule/coul-meter　　　　　　　**d) Joule / coulomb**
10. If the distance from the charge is double, is the magnitude of the electric field.
    a) 2　　　　　　　　　　　　　　b) 4
    c) $\dfrac{1}{2}$　　　　　　　　　　　　**d) $\dfrac{1}{4}$**

11. The quantity $\frac{\Delta v}{\Delta s}$ is called:
   a)   electric potential   b) electric field intensity
   c)   potential gradient   d) electric induction
12. The minimum electrical charge possible in isolated form is:
   a) $1.6 \times 10^{-19} C$ b) $1 \times 10^{12} C$
   c) $1 \times 10^{-6} C$ d) One coulomb
13. The change in potential energy of a unit charge between two points in an electrical field is called:
   a) intensity   b) permittivity
   c) potential difference   d) flux
14. The force on a proton placed between two parallel plates having equal positive charge is:
   a) $\frac{\rho\sigma}{\varepsilon_o}$ b) $\frac{\varepsilon_o\sigma}{\rho}$
   c) $\frac{\rho\sigma}{2\varepsilon_o}$ **d) zero**
15. The magnitude of electric field intensity between two oppositely charged plates is
   a) $\frac{2\,\sigma}{\varepsilon_o}$ b) $\frac{\sigma}{2\,\varepsilon_o}$
   c) $\frac{\sigma}{3\,\varepsilon_o}$ **d) $\frac{\sigma}{\varepsilon_o}$**
16. The SI unit of electric flux are
   a) N/C^2 b) Nm/C
   c) $N\,m^2/C$ d) $C/N\,m$

17. Two charges are separated by 0.4m .When this distance is reduced to 0.2m,the electric force would become
   a)   One fourth   b)   half
   c)   double   **d)   four time**

18. At what distance from the proton is the magnitude of the electric field $1.0 \times 10^5 \, Nm^{-2}$
   a) $1.2 \times 10^{-7}\,m$ b) $1.2 \times 10^{-5}\,m$
   c) $4.6 \times 10^{-2}\,m$ d) $4.6 \times 10^{-4}\,m$

19. How many electron will have a charge of one coulomb?
   a) 6.25×10^{16} b) 6.25×10^{17}
   c) 6.25×10^{18}   d) 6.25×10^{19}
20. The SI unit of permittivity of a free space (ε_o) are

   a) $\frac{Nm^2}{C^2}$ **b) $\frac{C^2}{Nm^2}$**

   c) $\frac{N}{mC^2}$ d) $N\,m\,c$

21. A million electron are added to a pitch ball, .Its charge is
    a) 1.6×10^{-6} C
    b) 1.6×10^{-9} C
    c) 1.6×10^{-13} C
    c) 1.6×10^{-16} C

22. The electric field intensity between two similar charged plates is
    a) $\dfrac{2\sigma}{\varepsilon_o}$
    b) $\dfrac{\sigma}{2\varepsilon_o}$
    c) zero
    d) $\dfrac{\sigma}{\varepsilon_o}$

23. The electric flux through a surface will be minimum, when the angle between $\vec{E}$ and $\vec{\Delta A}$ is
    a) 90^0
    b) $zero^0$
    c) 45^0
    d) 60^0

24. Which of the following cannot be the unit of electric intensity
    a) N/coulomb
    a) volt / meter
    c) Joule/coul-meter
    d) Joule / coulomb

25. One joule per coulomb is called:
    a) Ampere
    b) Volt
    c) Farad
    d) Tesla

26. The force per unit charge is known
    a) Electric flux
    b) Electric field intensity
    c) Electric potential
    d) Electric current

27. The force between two charges is 28N .If the paraffin wax of relative permitivity 2.8 is introduced between the charges as a medium the force become
    a) 25N
    b) 20N
    c) 15N
    d) 10N

28. When a 5×10^{-9} C test charge is placed at a certain point, it experiences a force of 2×10^{-4} N. what is the electric field at that point.
    a) 4×10^{4} N/C
    b) 4×10^{2} N/C
    c) 2.5×10^{-5} N/C
    d) 12.5×10^{-4} N/C

29. The electric flux through a closed surface depends on the
    a) Magnitude of the charge enclosed by the surface
    b) the shape of the surface
    c) Position of the charged enclosed by the surface
    d) none of the above option

30. The unit of electric field intensity is
    a) $\dfrac{\text{Newton - coulomb}}{\text{meter}}$
    b) Volt meter
    c) Newton coulomb
    d) $\dfrac{Volt}{meter}$