

10.06.19

Holiday Material-Physics

STD: XII

50x1=50

I. Mark the correct answer:

1. A field line and an equipotential surface are
 - a) inclined at any angle 0°
 - b) always parallel
 - c) always at 90°
 - d) none
2. A dielectric material must be
 - a) insulator
 - b) good conductor
 - c) inclined at any angle 0°
 - d) semiconductor
3. Which of the following material has the highest value of dielectric constant?
 - a) ceramics
 - b) Glass
 - c) vacuum
 - d) oil
4. 4 points charge each $+q$ is placed on the circumference of a circle of diameter $2d$ in such a way that they form a square. The potential at the centre is
 - a) $\frac{4d}{q}$
 - b) 0
 - c) $\frac{q}{4d}$
 - d) $\frac{4q}{d}$
5. The sparking between two electrical contacts can be reduced by inserting a
 - a) capacitor in series with each contact
 - b) capacitor in parallel with contacts
 - c) resistance in line
 - d) none
6. The ability of charged bodies to exert force on one another is attributed to the existence of
 - a) neutrons
 - b) electric field
 - c) electrons
 - d) protons
7. A hollow metal sphere fixed on an insulating stand is charged positively. The electric potential inside the sphere is
 - a) zero
 - b) everywhere same as on the surface
 - c) higher than that on the surface
 - d) lower than that on the surface
8. If the surface density of charge is s , electric field near the surface would be
 - a) $\frac{\sigma}{\epsilon_0}$
 - b) $\frac{1}{r^2}$
 - c) $\frac{\sigma}{2\epsilon_0}$
 - d) $\frac{2\sigma}{\epsilon_0}$
9. The power dissipated in a pure capacitor is
 - a) zero
 - b) proportional to applied voltage
 - c) proportional to value of capacitance
10. The relative permittivity of free space is given by
 - a) 10
 - b) 100
 - c) 1
 - d) 1000
11. When 4 volts e.m.f is applied across a 1 farad capacitor, it will store energy of
 - a) 4 J
 - b) 6J
 - c) 8J
 - d) 2 joules
12. Dielectric constant for mica is nearly
 - a) 3 to 8
 - b) 1 to 2
 - c) 200
 - d) 100
13. The electric field at a point situated at a distance d from straight charged conductor is
 - a) proportional to d
 - b) inversely proportional to d
 - c) equal to d
 - d) none
14. The dielectric constant of glass is given by (ϵ_r)
 - a) 2 to 4
 - b) 0.1 to 0.4
 - c) 5 to 100
 - d) 0.5 to 1
15. The relative permittivity has the following units
 - a) F/m
 - b) m/F
 - c) Wb/m
 - d) no units
16. The force between two charges is 120N. If the distance between the charges is doubled, the force will be
 - a) 40N
 - b) 60N
 - c) 30N
 - d) 15N
17. The lines of force due to charged particles are
 - a) always curved
 - b) always straight
 - c) sometimes curved
 - d) none
18. If three $15\mu\text{F}$ capacitors are connected in series, the net capacitance is
 - a) $5\mu\text{F}$
 - b) $30\mu\text{F}$
 - c) $45\mu\text{F}$
 - d) $50\mu\text{F}$
19. Which of the following material has least value of dielectric constant?
 - a) Ceramics
 - b) paper
 - c) oil
 - d) glass
20. Electric intensity at any point in an electric field is equal to the _____ at that point.
 - a) electric flux
 - b) magnetic flux density
 - c) potential gradient
 - d) none
21. The unit of dielectric strength is given by
 - a) V^2/m
 - b) m/v
 - c) V/m
 - d) m/v^2
22. The electric potential at the surface of an atomic nucleus ($Z=50$) of radius $9 \times 10^{-15}\text{m}$ is
 - a) 9V
 - b) $9 \times 10^5\text{V}$
 - c) 80V
 - d) $8 \times 10^6\text{V}$
23. The bridge used for the measurement of the value of the capacitance is
 - a) Wien's bridge
 - b) Schering bridge
 - c) Wheatstone bridge
 - d) Hay's bridge
24. When a dielectric slab is introduced in a parallel plate capacitor, the potential difference between plates will
 - a) remain unchanged
 - b) increase
 - c) decrease
 - d) become zero
25. A copper sphere of mass 2gm contains about 2×10^{22} atoms. The charge on the nucleus of each atom is $29e$. The fraction of electrons removed
 - a) 2.16×10^{-11}
 - b) 2×10^{-10}
 - c) 1.19×10^{-12}
 - d) 1.25×10^{-11}

26. A region around a stationary electric charge has
 a) an electric field b) a magnetic field
 c) both a & b d) none
27. Two conducting charge spheres of radius R and 2R lying far apart, are connected by a conducting wire. If a charge Q is given to the system, the common potential will be
 a) $\frac{1}{4\pi\epsilon_0} \frac{Q}{R}$ b) $\frac{1}{4\pi\epsilon_0} \frac{Q^2}{R}$ c) $\frac{1}{4\pi\epsilon_0} \frac{Q}{3R}$ d) $\frac{1}{4\pi\epsilon_0} \frac{Q}{5R}$
28. The magnitude of the electrostatic force between two charges each of one coulomb and separated by a distance of 1m is
 a) $10 \times 10^9 \text{N}$ b) $9 \times 10^9 \text{N}$ c) $9 \times 10^{-9} \text{N}$ d) None
29. A proton is brought towards another proton. The electrostatic potential energy of the system will
 a) decrease b) increase c) may increase or decrease
 d) none of these
30. The protonic charge in 100gm of water is
 a) $5.4 \times 10^6 \text{C}$ b) $3.6 \times 10^4 \text{C}$ c) $4.8 \times 10^5 \text{C}$ d) $4.9 \times 10^6 \text{C}$
31. An electric dipole is placed at an angle of 60° , with an electric field of intensity 10^5NC^{-1} . It experiences a torque equal to $8\sqrt{3} \text{Nm}$. If the dipole length is 2cm then the charge on the dipole is
 a) $-8 \times 10^3 \text{c}$ b) $8.54 \times 10^{-4} \text{c}$ c) $8 \times 10^{-3} \text{c}$ d) $0.85 \times 10^{-6} \text{c}$
32. Two metal plate form a parallel plate capacitor. The distance between the plates is d. A metal sheet of thickness $d/2$ and of the same area is introduced between the plates. What is the ratio of the capacitance in the two cases?
 a) 4:1 b) 2:1 c) 5:1 d) 3:1
33. Current is the rate at which charges move through (n)
 a) insulator b) voltage c) conductor d) amperes
34. The energy stored in a capacitor of capacitance C and potential V is given by
 a) $\frac{1}{2} cv^2$ b) $\frac{1}{2} cv$ c) $\frac{1}{2} c^2v$ d) $\frac{1}{2} c^2v^2$
35. Watt-hour meter measures
 a) electrical energy b) power c) voltage d) current
36. In S.I unit of electric field is
 a) Am^{-1} b) cm^{-1} c) NC^{-1} d) cm^{-2}
37. Kilowatt-hour is the unit of
 a) potential difference b) electrical energy
 c) charge d) electric power
38. Charging the objects through rubbing is called
 a) Electrostatics b) Potential difference
 c) elastic potential d) tribo electric charging
39. A charge of $-1\mu\text{c}$ is kept at a point where the potential is 100V. The electric potential energy of the charge is
 a) 10^{-4}J b) 10^4J c) -10^{4}J d) -10^{-8}J
40. A charge Q is distributed over two hollow concentric spheres of radii R and r ($R > r$) such that the surface densities are equal. The potential at the common centre is
 a) $\frac{Q}{4\pi\epsilon_0} \left(\frac{R^2+r^2}{R+r} \right)$ b) $\frac{Q}{4\pi\epsilon_0(R+r)}$ c) $\frac{1}{4\pi\epsilon_0} \frac{(r+R)}{(r^2+R^2)}$ d) 0
41. The unit of gravitational constant is
 a) $\text{Nm}^2\text{Kg}^{-2}$ b) $\text{Nm}^{-1}\text{Kg}^{-1}$ c) $\text{Nm}^3\text{Kg}^{-2}$ d) $\text{Nm}^{-2}\text{Kg}^{-2}$
42. Who found that the value of $e=1.6 \times 10^{-19} \text{c}$?
 a) J.J.Thomson b) Rutherford
 c) Benjamin Franklin d) Robert Millikan
43. If the distance of a point from a positive charge increases, the value of the potential at the point
 a) increases b) may increase or decrease
 c) decreases d) remain the same
44. When a piece of polythene is rubbed with wool, a charge of -2×10^{-7} is developed on polythene. The mass transferred to polythene is
 a) $9.63 \times 10^{-19} \text{kg}$ b) $5.69 \times 10^{-19} \text{kg}$ c) $2.25 \times 10^{-19} \text{kg}$ d) $11.38 \times 10^{-14} \text{kg}$
45. The work done in carrying a charge 'Q' once round the circle of radius 'r' with another charge Q at the centre of the circle is
 a) $\frac{1}{4\pi\epsilon_0} \frac{Q}{r}$ b) $\frac{Q}{4\pi\epsilon_0} \frac{Q}{r}$ c) zero d) $\frac{Q.Q}{2r}$
46. Two charged spheres of radii R_1 and R_2 having equal surface charge density. The ratio of their potential is
 a) $\frac{R_2}{R_1}$ b) $\left(\frac{R_2}{R_1} \right)^2$ c) $\left(\frac{R_1}{R_2} \right)^2$ d) $\frac{R_1}{R_2}$
47. The value of relative permittivity of water is
 a) $\epsilon_r=70$ c) $\epsilon_r=60$ c) $\epsilon_r=80$ d) $\epsilon_r=65$
48. A point charge q is located at the centre of a cube of side L, then the electric flux emerging from the cube is
 a) $\frac{q}{\epsilon_0}$ b) $\frac{q}{\alpha L^2 \epsilon_0}$ c) $\frac{6qL^2}{\epsilon_0}$ d) zero
49. In a charged capacitor, energy is stored in
 a) both the positive and negative charge
 b) the positive charge c) the negative charge
 d) the electric field between the plates
50. The plates of a charged parallel plate capacitor are brought closer after disconnecting the battery, the energy stored will
 a) increase b) decrease c) remain the same d) first increase

1. The General Theory of Employment, Interest and Money published in
a) 1932 b) 1942 c) 1936 d) 1939
2. Ragnar Frisch is a _____ economist.
a) Russian b) Indian c) Norwegian d) American
3. Socialist economy is also known as _____ economy.
a) mixed b) free c) planned d) traditional
4. The word 'Macro' is derived from _____ word.
a) Greek b) Italic c) Spanish d) German
5. _____ was the father of capitalism.
a) J.S.Mill b) Marshall c) Ricardo d) Adam Smith
6. In socialist economy, income distribution is
a) unequal b) equal c) less d) unequal
7. _____ was the father of socialism.
a) Ricardo b) Samuelson c) Karl Marx d) Robbins
8. The basic identities of the two-sector economy are as under
a) $Y=C+I+G$ b) $Y=C+I+G+X-M$ c) $Y=C+I$ d) $K=\frac{1}{1-MPC}$
9. In Socialist economy _____ is the main motive behind all economic activities.
a) Profit b) Welfare c) Profit & Welfare d) None

10. In Mixedism economic freedom is _____.
a) complete freedom b) lack of freedom
c) limited freedom d) all of these
11. _____ variables are measured over a period of time.
a) Foreign exchange b) Capital c) Stock d) Flow
12. _____ was the First Nobel Prize Winner.
a) Marshall b) Adam Smith c) Samuelson
d) Ragnar Frisch
13. The Exchange activity supports the _____ and _____ activities.
a) Production & distribution b) Exchange & production
c) Distribution & exchange d) Production & consumption
14. Macro Economics is also known as _____ Theory.
a) Expenditure b) Income c) Employment d) None
15. _____ was the father of Modern Macro Economics.
a) J.M.Keynes b) Ricardo c) Robbins d) J.S.Mill
16. _____ refers to the quantity of commodity measures to the point of time.
a) flow b) consumption c) income d) stock
17. "A system by which people earn their living" defined by
a) J.R.Hicks b) J.M.Keynes c) A.J.Brown d) J.S.Mill

18. Capitalist economy is also termed as a _____ economy.
 a) free b) command c) traditional d) none
19. In capitalist economy, government role is
 a) complete involvement b) limited role
 c) Internal Regulation only d) None
20. _____ is the feature of Capitalist Economy.
 a) Economic planning b) Absence of Price Mechanism c) Price Mechanism d) None
21. The _____ is the price that consumers will pay for the product when they purchase it from the sellers.
22. $MP = FC + \text{_____} - \text{Subsidies}$
23. _____ is the value of goods available for sale in the beginning of an Accounting period.
24. $\text{Gross Value Added} = \text{Value of output} - \text{_____}$
25. The factor cost does not include the _____ that are paid to the government.
26. _____ introduced the concept of National Income.
27. $\text{National Income at constant price} = \text{National Income at current price} + \text{_____}$
28. _____ = $\text{Nominal GDP} / \text{Real GDP} \times 100$
29. $\text{Value of output} = \text{_____}$
30. _____ makes payments in the form of pensions, unemployment allowance, subsidies etc.,
31. _____ undertake productive activities.
32. $FC = MP - \text{Indirect taxes} - \text{_____}$
33. Product method is also called as _____.
34. Public enterprises like _____ and _____ are separated from the Government sector and included as “firms”.
35. _____ refers to saving and investment activities.
36. _____ is considered a better indicator of economic welfare.
37. _____ = $C + I + G + (X-M)$
38. The _____ refers to the cost of production.
39. _____ received are included in the factor cost.
40. The total output of each commodity is valued at _____.
41. Income method is otherwise called as _____.
42. _____ is to be avoided under Value added method.
43. $Y = W + \text{_____} + i + \text{_____} + (R-P)$
44. $\text{GNP at Market prices} = \text{_____} + \text{Net factor income from abroad}$.
45. $\text{NNP} = \text{GNP} - \text{_____}$.
46. $\text{NNP at factor cost} = \text{NNP at Market prices} - \text{_____}$.
47. _____ is also known as Disposable Personal Income.
48. $\text{Disposable Income} = \text{_____} - \text{Direct tax}$
49. _____ are not to be included in Income method.
50. $\text{Personal Income} = \text{National Income} - \text{Social security contribution and undistributed corporate profits} + \text{_____}$.