KENDRIYA VIDYALAYA SIKAR

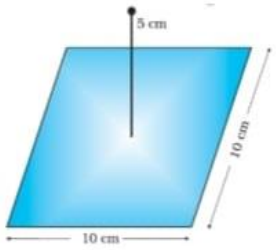
HOME ASSIGNMENT FOR SUMMER VACATIONS (2023-2024)

CLASS XII

SUBJECT - PHYSICS

2 Marks Questions

1. Four-point charges $q_A = 2\ \mu C$, $q_B = -5\ \mu C$, $q_C = 2\ \mu C$, and $q_D = -5\ \mu C$ are located at the corners of a square ABCD of side 1m. What is the force on a charge of 0.5 μC placed at the centre of the square?(ans-zero)
2. An attractive force of 5N is acting between two charges of +2.0 μC & -2.0 μC placed at some distance. If the charges are mutually touched and placed again at the same distance, what will be the new force between them?
3. Two identical charges, Q each are kept at a distance r from each other. A third charge q is placed on the line joining the two charges such that all the three charges are in equilibrium. What is magnitude, sign and position of the charge q?
4. A polythene piece rubbed with wool is found to have a negative charge of 3×10^{-7} C.
   (a) Estimate the number of electrons transferred
   (b) Is there a transfer of mass from wool to polythene?
5. Two point charges +3μC and +8μC repel each other with a force of 40N . If a charge of −5μC is added to each of them, find the new force between them.(ans:10N)
6. An electric dipole with dipole moment 4×10^{-9} C m is aligned at 30° with the direction of a uniform electric field of magnitude 5×10^{4} NC^{-1}. Calculate the magnitude of the torque acting on the dipole.
7. A system has two charges $q_A = 2.5 \times 10^{-7}$ C and $q_B = -2.5 \times 10^{-7}$ C located at points A: (0, 0, −15 cm) and B: (0,0, +15 cm), respectively. What is the total charge and electric dipole moment of the system?
8. Consider a dipole of length 2a. What is the magnitude and direction of electric field at the midpoint of the length of the dipole?
9. An infinite line charge produces a field of 9×10^{4} N/C at a distance of 2m. Calculate the linear charge density.
10. A point charge +10 μC is a distance 5 cm directly above the centre of a square of side 10 cm, as shown in Fig. What is the magnitude of the electric flux through the square?

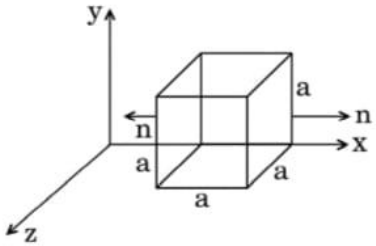


3 Marks Questions

1. Careful measurement of the electric field at the surface of a black box indicates that the net outward flux through the surface of the box is 8.0×10^3 Nm^2/C.
   (a) What is the net charge inside the box?
   (b) If the net outward flux through the surface of the box were zero, could you conclude that there were no charges inside the box? Why or Why not?
2. Consider a uniform electric field $E = 3 \times 10^3 \hat{i}$ N/C.
   (a) What is the flux of this field through a square of 10 cm on a side whose plane is parallel to the yz plane?
   (b) What is the flux through the same square if the normal of its plane makes a 60° angle with the x-axis?
3. Derive an expression for the electric field intensity at a point on the equatorial line of an electric dipole of dipole moment P and length 2a. What is the direction of this field?
4. A thin conducting spherical shell of radius R has charge Q spread uniformly over its surface. Using Gauss's law, derive an expression for an electric field at a point outside the shell. Draw a graph of electric field E(r) with distance r from the centre of the shell for $0 \le r \le \infty$
5. A conducting sphere of radius 10 cm has an unknown charge. If the electric field 20 cm from the centre of the sphere is $1.5X\ 10^3$ N/m and points radially inward, what is the net charge on the sphere?

5 Marks questions

1. What is an electric dipole? Deduce an expression for the torque acting on an electric dipole placed in a uniform magnetic field. Hence define dipole moment. An electric dipole of length 2 cm is placed with its axis making an angle of 60^o to a uniform electric field of 10^5 NC^{-1}. If it experiences a torque of $8\sqrt{3}$ Nm, calculate the; (i) Magnitude of charge on the dipole. (ii) Potential energy of the dipole.
2. Define electric flux. Write its S.I. unit. State and explain Gauss's law. Find out the outward flux due to a point charge + q placed at the centre of a cube of side 'a'. Why is it found to be independent of the size and shape of the surface enclosing it ? Explain
3. Define the term 'electric field'. Write its S.I. unit. Given the components of an electric field as $E_x = \alpha x$, $E_y = 0$ and $E_z = 0$, where α is a dimensional constant. Calculate the flux through each face of the cube of side 'a', as shown in the figure, and the effective charge inside the cube.



4. (a) An electric dipole of dipole moment $\vec{p}$ consists of point charges +q and −q separated by a distance 2a apart. Deduce the expression for the electric field $\vec{E}$ due to the dipole at a distance x from the centre of the dipole on its axial line in terms of the dipole moment $\vec{p}$.
   Hence show that in the limit x >> a, $\vec{E} = \frac{\vec{2p}}{4\pi\varepsilon_0 x^3}$
   (b) Given the electric field in the region $\vec{E} = 2x\,\hat{i}$, find the net electric flux through the cube and the charge enclosed by it.

5. (a) State Gauss' law. Using this law, obtain the expression for the electric field due to an infinitely long straight conductor of linear charge density λ.
(b) A wire AB of length L has linear charge density $\lambda = kx$, where x is measured from the end A of the wire. This wire is enclosed by a Gaussian hollow surface. Find the expression for the electric flux through this surface.

6. (a) State Gauss's law in electrostatics. Show, with the help of a suitable example along with the figure, that the outward flux due to a point charge 'q', in vacuum within a closed surface, is independent of its size or shape and is given by q / ε_0.

(b) Two parallel uniformly charged infinite plane sheets, '1' and '2', have charge densities $+\sigma$ and -2σ respectively. Give the magnitude and direction of the net electric field at a point

(i) in between the two sheets and

(ii) outside near the sheet '1'.

Case study based question

The Faraday cage is a type of enclosure designed to keep external electric fields out of conductive materials. Faraday shield is another name for it. Faraday's cage was invented by Michael Faraday in the year 1800. He discovered that when he charged the metal cage, which works as an electrical conductor, the charges appeared just on the surface and had no effect on the interiors. On a larger scale, he lined a chamber in metal foil, permitting high-voltage discharges from an electrostatic generator. He utilized an electroscope, a device that detects electric charges, to validate his idea that the outer surface of the metal foil was conducting current while the inside of the room was empty of electric charges.

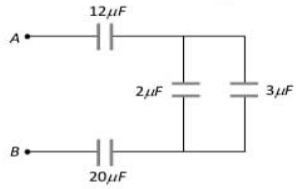
(i) Why is the electric field within a cavity zero?
(ii) What is the use of electroscope?
(iii) Write any two applications of The Faraday Cage or electric shielding.

Or

(iii) Why the surface charge density high at the sharp edges of a charged conductor.

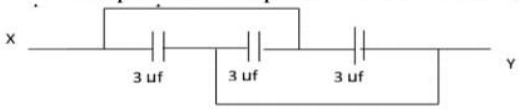
2 Marks Questions

1. A regular hexagon of side 0.1m has charge 5μC at all vertices. Calculate the electric potential at the centre. (2.7 X10^{6}V)
2. Find the ratio of the potential differences that must be applied across the parallel and series combination of two identical capacitors so that energy stored, in two cases, becomes the same. (1:2)
3. (i) Two circular metal plates, each of radius 10cm are kept parallel to each other at a distance of 1mm. What kind of capacitor do they make?
   (ii) If the radius of each of the plates is increased by a factor of $\sqrt{2}$ and distance of separation reduced to half, calculate the ratio of capacitance in both cases.
4. Two-point charges +Q1 and -Q2 are placed at a distance 'r' apart. Obtain the expression for the amount of work done to place a third charge Q_3 at the midpoint of the line joining the two.
5. A capacitor has charge Q , voltage V and field E. If the dielectric is introduced with K= 3 find the new values of charge, voltage and field.
6. Two identical capacitors are first connected in series and then connected in parallel. If the combinations are connected in constant voltage source, Find the ratio of energy stored in these two combinations.
7. Find the equivalent capacitance between points A and B of the combinations of capacitors



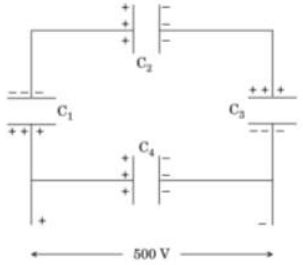
8. A point charge Q is placed at point O as shown. Is the potential difference (V_A-V_B) positive, negative or zero if Q is

   (i) positive (ii) negative
9. A parallel plate capacitor is charged and the charging battery is then disconnected. What happens to the potential difference and the energy of the capacitor, if the plates are moved further apart using an insulating handle?
10. Find the equivalence capacitance between X and Y.

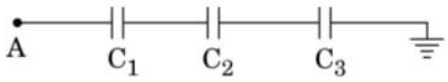


3 Marks Questions

1. 5A network of four 10 μF capacitors is connected to a 500 V supply as shown in the figure. Determine the (a) equivalent capacitance of the network and (b) charge on each capacitor.

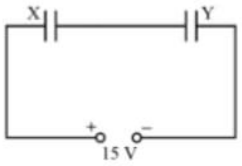


2. Calculate the potential difference and the energy stored in the capacitor C_2 in the circuit shown in the figure. Given potential at A is 90 V, C_1 = 20 μF, C_2 = 30 μF and C_3 = 15 μF.

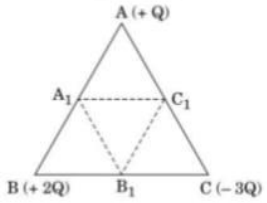


3. Two capacitors of unknown capacitances C_1 and C_2 are connected first in series and then in parallel across a battery of 100 V. If the energy stored in the two combinations is 0.045 J and 0.25 J respectively, determine the value of C_1 and C_2 . Also calculate the charge on each capacitor in parallel combination.

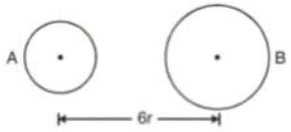
4. Two capacitors of capacitance 10 μF and 20 μF are connected in series with a 6 V battery. After the capacitors are fully charged, a slab of dielectric constant (K) is inserted between the plates of the two capacitors. How will the following be affected after the slab is introduced?
   (a) the electric field energy stored in the capacitors
   (b) the charges on the two capacitors
   (c) the potential difference between the plates of the capacitors Justify your answer.
5. A parallel plate capacitor of capacitance C is charged to a potential V by a battery. Without disconnecting the battery, the distance between the plates is tripled and a dielectric medium of k = 10 is introduced between the plates of the capacitor. Explain giving reasons, how will the following be affected : (i) capacitance of the capacitor (ii) charge on the capacitor, and (iii) energy density of the capacitor.
6. A capacitor of unknown capacitance is connected across a battery of V volt. A charge of 360 μC is stored in it. When the potential across the capacitor is reduced by 120 V, the charge stored in the capacitor becomes 120 μC. Calculate V and the unknown capacitance. What would have been the charge on the capacitor if the voltage were increased by 120 V ?
7. Two parallel plate capacitors X and Y have the same area of plates and same separation between them. X has air between the plates while Y contains a dielectric medium of $\varepsilon_r = 4$.



   (i) Calculate capacitance of each capacitor if equivalent capacitance of the combination is 4 μF.
   (ii) Calculate the potential difference between the plates of X and Y. (iii) Estimate the ratio of electrostatic energy stored in X and Y.
8. Three-point charges, + Q, + 2Q and – 3Q are placed at the vertices of an equilateral triangle ABC of side l. If these charges are displaced to the mid-points A_1 , B_1 and C_1 respectively, find the amount of the work done in shifting the charges to the new locations.

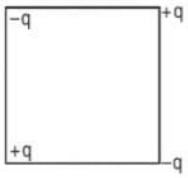


9. Two metal spheres A and B of radius r and 2r whose centers are separated by a distance of 6r are given charge Q, are at potential V_1 and V_2. Find the ratio of V_1/V_2. These spheres are connected to each other with the help of a connecting wire



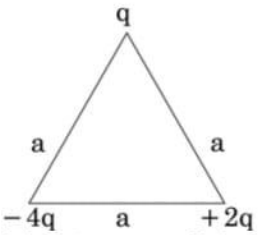
keeping the separation unchanged, what is the amount of charge that will flow through the wire?

10. Four-point charges are placed at the corners of the square of edge a as shown in the figure. Find the work done in disassembling the system of charges.



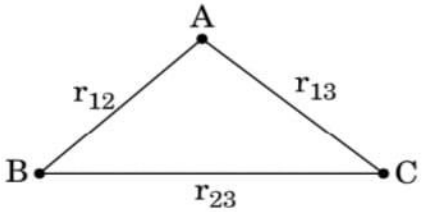
5 marks Questions

1. (a)Derive the expression for the energy stored in a parallel plate capacitor. Hence obtain the expression for the energy density of the electric field.
   (b) A fully charged parallel plate capacitor is connected across an uncharged identical capacitor. Show that the energy stored in the combination is less than that stored initially in the single capacitor.
2. (a)Explain why, for any charge configuration, the equipotential surface through a point is normal to the electric field at that point.
   Draw a sketch of equipotential surfaces due to a single charge (−q), depicting the electric field lines due to the charge.
   (b) Obtain an expression for the work done to dissociate the system of three charges placed at the vertices of an equilateral triangle of side 'a' as shown below.



3. Explain briefly the process of charging a parallel plate capacitor when it is connected across DC battery. A capacitor of capacitance 'C' is charged to 'V' volts by a battery. After sometime battery is disconnected and distance is doubled. Now a dielectric slab of constant, $1 < K < 2$, is introduced to fill the gap between the plates. How will the following get affected: (i) the electric field between the plates (ii) the energy stored in the capacitor. Justify your answer by writing necessary expressions.

4. (a)Define electrostatic potential at a point. Write its S.I. unit. Three-point charges q_1, q_2 and q_3 are kept respectively at points A, B and C as shown in the figure. Derive the expression for the electrostatic potential energy of the system.



   (b) Depict the equipotential surfaces due to (i) an electric dipole, (ii) two identical positive charges separated by a distance.

5. Deduce the expression for the torque acting on a dipole of dipole moment $\vec{p}$ placed in a uniform electric field $\vec{E}$. Depict the direction of the torque. Explain it in vector form.
   b) Show that the potential energy of a dipole making angle Θ with direction of field is given by U=-$\vec{p}$. $\vec{E}$. Hence find out the amount of work done in rotating it from the position of unstable equilibrium to the stable equilibrium.

Case Study based Questions

1. *Capacitors* are devices that can store electric charge and energy. Capacitors have several uses, such as filters in DC power supplies and as energy storage banks for pulsed lasers. Capacitors pass AC current, but not DC current, so they are used to block the DC component of a signal so that the AC component can be measured. Plasma physics makes use of the energy storing ability of capacitors. In plasma physics short pulses of energy at extremely high voltages and currents are frequently needed. A capacitor can be slowly charged to the necessary voltage and then discharged quickly to provide the energy needed. It is even possible to charge several capacitors to a certain voltage and then discharge them in such a way as to get more voltage (but not more energy) out of the system than was put in.

(i) A capacitor can store electric energy but cannot be used as a battery, why?
(ii) What is the role of dielectric in storing the electrical energy in a capacitor?
(iii) What are the factors on which energy stored in a capacitor depend?

Or

(iii) What are the factors on which capacitance of a capacitor depend?

SUBJECT - CHEMISTRY

CHAPTER 02 **SOLUTION** **MARKS 05**

2001 set I

Q1 What do you understand by colligative properties?Write them. 03M

Q2 (a)Show graphically that the freezing point of a liquid will be depressed when a non volatile solute is dissolved in it. 02M

(b)The freezing point of a solution containing 0.3gm of acetic acid in 30.0gm of benzene is lowered by 0.45^0C.calcualte the vant Hoff factor (K_f for benzene = 5.12KKgmol$^-$) 03M

Q3 One litre aqueous solution of sucrose (mm =342gmmol$^-$) weighting 1015gm is found to record on osmotic pressure of4.82 atm at 293K. What is the molarity of the sucrose solution?(R= 0.0821 atm mol$^-$K$^-$) 3M

2001 set II

Q1 (a) Show graphically how the vapour pressure of solvent and a solution in it of a nonvolatile solute change with temperature . Show on this graph the boiling points of the solvent and solution . Which is higher and why? 02M

(b) A solution containing 3.00g of $BaCl_2$ in 250g of water boils at 100.083^0C.Calculate the value of vant hoff factor and molality of $BaCl_2$ in this solution.($K_b$for water =0.52KKmol$^-$ molar mass of $BaCl_2$ =208.3gmol-) 3M

2002

Q1 Calculate the number of moles of methanol in 5 litre of its 2m solution. If the density of the solution is 0.981Kg/l (Molecular mass of methanol = 32.0gmmol$^-$) 02M

Q2 Explain with suitable diagram and appropriate example, why some non ideal solution shows negative deviations. 03M

2003 SET 1

Q1 An aqueous solution containing 1.248g of $BaCl_2$(mm = 208.34gmol$^-$) in 100 g of water boils at 100.0832^0C.Calcualate the degree of dissociation of $BaCl_2$ (Kb for water is 0.52KKgmol$^-$) 03M

Q2 What are ideal non ideal solutions.Explain with the suitable diagram the behavior of ideal solution **OR** 05M

Assuming complete dissociation, Calculate the expected freezing point of a solution , prepared by dissolving 6.00g of Glaubers salt ($NaSO_4.10H_2O$) in 0.100Kg of water)K_f = 1.86KKgmol$^-$ 05M**2003set II**Q1 What is meant by Vant Hoff factor? The osmotic pressure of a 0.0103 molar solution of an electrolyte is found to be 0.70 atm at 27^0C. Calculate the Vant Hoff factor (R = 0.082Latm-mol-K-) What conclusion do you draw about the molecular state of the solute in the solution? 5

2004

Q1 What is the sum of the molecular fraction of all the components in the 3 component System 1M

Q2 Define following terms(i)Mole fraction (ii) molarity 02M

Q3 The elements A and B form purely covalent compounds having molecular formulae AB_2 and AB_4. When dissolved in 20g of benzene 1gm of AB_2 lowers the freezing point by 2.3K whereas 1gm of AB_4 lowers it by 1.3K .The molar depression constant for benzene is 5.1KKgmol$^-$. Calculate the atomic mass of A and atomic mass of B. 3M

2005

Q1 Calculate the molality of a solution containing 20.7g of K2CO3. Dissolved in 500ml of solution assume density is 1g/ml3 2M

Q2 What would be the value of Vant Hoff factor for a dilute solution of K_2SO_4 in water 1M

Q3 State Henrys law for solubility of a gas in a liquid. Explain the significance of Henrys law

constant(K_H). at the same temperature , hydrogen is mole soluble in water than helium. Which will have a higher value of K_H and why? 3M

2006

Q1 Define mole fraction .1M Q2. Define an ideal solution. 1M

Q3 (a)Urea forms an ideal solution in water. Determine the vapour pressure of an aqueous sol^n containing 10% by mass of urea at 40^0C vapour pressure of water at 40^0C is 55.3 mmHg.3M

(b)Why is freezing point depression of 0.1 M NaCl solution twice that of 0.1 M glucose solution.1M

2007

Q1. State the condition resulting in reverse osmosis. 1M

Q2 A 0.1539 molal aqueous solution of cane sugar (M=342 g mol^-) has a freezing point of 271K while the freezing point of pure water is 273.15K. What will be the freezing point of on aqueous solution containing 5g of glucose (M=180 g mol^-) per 100 g of solution. 3M

2008

Q1 State Raoult's law for solution for volatile liquids components. Taking a suitable example. Explain the meaning of deviation from Raoult's law. 2M

Q2 Define osmotic pressure and describe how the molecular mass can be determined on the basis of osmotic pressure measurement. 02M

2008 compartment

1State the law, correlating the pressure of a gas and its solubility in a liquid. State an application of this law.

2State Raoults law for Solution of volatile liquid components. Taking a suitable example explain the meaning of (+) deviation.

3A Solution containing 8 gm of a substance in 100 gm of diethyl ether boils at 36.86 C whereas pure ether boils at 35.60^0C. Determine the mole mass of solute K_b=2.02 KKg/ mol)

4Calculate the temp. at which a sol^n containing 54 gm of glucose in 250 g of water will freeze (K_f=1.)

2009

Q1 a) Define i) Mole fraction ii) Vant Hoff factor 2M

b) 100mg of a protein is dissolved in enough water to make 10ml of a solution. If this solution has an osmotic pressure of 13.3mm Hg at 25^0 C. What is the molar mass of the protein? R=0.0821 Latm $mol^- k^-$) and 760 mm Hg=1atm 3M

OR

What do you know by 1) Colligative properties and 2) Molality of solution 2M

b) What con. of nitrogen should be present in a glass of water at room temperature? Assume a temp of 25^0C, total pressure is 1 atm and mole fraction of Nitrogen in air is 0.78. K_H is 8.42 $X10^{-7}$M/mmHg for nitrogen. 3M

2010

Q1 Differentiate between molarity & molality. 1M

Q2 Define the terms - Osmosis and Osmotic pressure. What is the advantage of using osmotic pressure as compared to other colligative properties for the determination of molar masses of solutes in Solution . 2M

Q3 What mass of ethylene glycol (M=62.0g/mol) must be added to 5.50kg of water from 0^0C to -10^0C (K_f for water = 1.86kg/mol) 3M

Q4 15g of an unknown molecular substance was dissolved in 450g of water. The resulting solution freezes at -0.34^0C. What is the molar mass of the substance (K_f for water is 2.86KKg mol^-)3M

Q5 What mass of NaCl (58.5g/mol) must be dissolved in 65g of water to lower the freezing point by 7 . The freezing point depression constant K_f is 1.86KKg/mol. Assume vant Hoff faction forNaCl. Is 1.87. 3M

2011

Q1 State the followings.1Raoult's law in its general form in reference to solutions.

2Henry's law about partial pressure of a gas in a mixture.

Q2 A solution prepared by dissolving 8.95mg of a gene fragment in 35 ml of water has an osmotic pressure of 0.335 tarr at 25^0C. Assuming that the gene fragment is a non-electrolyte, calculate its molar mass.

Q3 What mass of NaCl must be dissolved in 65.0gm of water to lower the freezing point of water by 7.50^0C.The freezing point depression constant K_f 1.86KKg/mol. Assume vant Hoff factor for NaCl is 1.87 (M=58.5 gm)

Q4What is meant by reverse osmosis.

Q5 Differentiate between molarity and molality values for a soln. What is the effect of change in temperature on molarity & molality value.

2012

Q1 Define the following terms (i) mole fraction and (ii) Ideal solution

Q2 15.0 g of an unknown molecular material is dissolved in 450g o water .The resulting solution freezes at -0.34^0C.What is the molar mass of the material?(K_f for water is 1.86KKg/mol)

OR

Explain the followings1Henry's law about dissolution of a gas in a liquid.

2Boiling point elevation constant for a solvent.

Q3 A solution of glycerol($C_3H_8O_3$)) in water was prepared by dissolving some glycerol in 500g of water. This solution has a boiling point of 100.42^0C.What mass of glycerol was dissolved to make this solution?(Kb for water is 0.512KKg/mol)

Q1 When is the value of Vant Hoff factor more than one?

Q2 An aqueous solution of 10gm of glucose ($C_6H_{12}O_6$) in 90gm of water at 303K. If the vapor pressure of pure water at 303K be 32.8mmHg. What would be the vapour pressure of the solution.

Q3 With the help of a suitable diagram show that the lower vapour pressure of a solution then the pure solvent causes a lowering of freezing point for the solution compared to that of pure solvent.

2013 SET III

Q1 (a) State Raoults law for a solution containing volatile components. How does Raoults law become a special case of Henrys law.

(b)1.00g of a non electrolyte solute dissolved in 50g of benzene by 0.40K. Find the molar mass of the solute (Kf for benzene is 5.12KKg/mol)

OR

Q1Define the following terms (i)Ideal solution (ii) Azeotrope (iii) Osmotic pressure

Q2A solution of glucose($C_6H_{12}O_6$) in water is labeled as 10% by weight. What would be the molality ot the solution?(molar mass of glucose is $180mol^{-}$)

2014

Q1 (a) Define the following terms(i)Molarity (ii) molal elevation constant 2M

(b)A solution containing 15g urea (M = 60) per litre of solution in water has the same osmotic pressure (isotonic) as a solution of glucose (M180) in water. Calculate the mass of glucose present in one litre of its solution. 3M

OR

Q1What type of deviation is shown by a mixture of ethanol ad acetone? Give reason. 2M

Q2 A solution of glucose (M180) in water is labeled as 10% by mass. What would be the molality and molarity of the solution .(Density of solution is 1.2g/mol) 3M

2015 all 3 sets have same type of questions

Q1 (i)Why are aquatic species more comfortable in cold water than in warm water? 1M

(ii) What happens when we place the blood cell in saline water solution(hypertonic solution)? Give reason 2M

Q2 Vapour pressure of water at 20^0C is 17.5mmHg.Calculate the vapour pressure of water at 20^0C When

15 gm of glucose is dissolved in 150gm of water. 3M

2016 all 3 sets have same type of questions

Q1(i)Write the colligative property which is used to find the molecular mass of macromolecules.

(ii)In non ideal solution what type of deviation shows the formation of minimum boiling Azeotropes 1M

Q2 Calculate the boiling point of solution when 2g of Na_2SO_4 was dissolved in 50g of water, assuming Na_2SO_4 undergoes complete ionization. 2M

2017 (SET I/SET II / SET – III)

Q1 (a)A 10% solution (by mass) of sucrose in water has a freezing point of 269.15K. Calculate the freezing point of10% glucose in water if the freeing point of pure water is 273.15K Given (Molar mass of sucrose = 342gmol^{-1} and Molar mass fo glucose = 180gmol^{-1})3M

(b) Define the following terms i. Molality(m) and (ii) Abnormal molar mass 2M

OR

(a) 30g of urea (M=60gmol-1) is dissolved in 846 g of water. Calculate the vapour pressure of water for this solution if vapour pressure of pure water at 298K in 23.8 mmHg.3M

(b) Write two differences between ideal solutions and non-ideal solutions. 2M

2018

Q1 Calculate the freezing point of a solution containing 60 g of in 250 g ofwater(k_f of water = 1.86 KKgmol^{-}) 2M

Q2 Give reasons for the following 3M

a. Measurement of osmotic pressure method is preferred for the determination of molar masses of macro molecules such as proteins and polymers.
b. Aquatic animals are more comfortable in cold water than in warm water.
c. Elevation of boiling point of 1M KCl solution is nearly double than that of 1M sugar solution

2019

Q1 Give reason for followings 2M

a. Cooking is faster in pressure cooker than in cooking pan
b. RBC shrink when placed in saline water but swell in distilled water.

Q2 A solution containing 1.9 g per 100 ml of KCl (M = 74.5 g mol^{-}) is isotonic with a solution containing 3 g per 100 ml of Urea (M = 60). Calculate the degree of dissociation of KCl solution. Assume that both the solution have same temperature. 3M

2020 set 1

Q1What happens when

(i) A pressure greater than osmotic pressure is applied on the solution side separated from solvent by a semipermeable membrane ?

(ii) Acetone is added to pure ethanol ?

Q2 State Henery's law. Calculate the solubility of CO_2 in water at 298K under 760mm Hg. (K_H for CO_2 in water at 298 K is 1.25 X 10^6 mmHg) 2M

Q3 The freezing point of a solution containing 5g of benzoic acid (M = 122g mol^{-1}) in 35 g of bezene is depressec by 2.94 K. What is the percentage association of benzoic acid if it forms a dimer in solutions? (K_f for benzoic acid = 4.9 Kg mol^{-1}) 3M

2021 exam suspended due to covid 19

2022 term i

Q1 Which of the following conditions is correct for an ideal solution?

Ans. H_{mix}= 0 and V_{mix} = 0

Q2 For determination of molar mass of polymers and proteins, which colligative property is used ?

Ans. Osmotic pressure

Q3Pure water boils at 373.15K and nitric acid boils at 359.15K.An azeotropic mixture of H_2O boils at 393.55 K. Distilling the azeotropic mixture will cause?

Ans. Both of them to distill over in the same composition as that of the mixture being distilled.

Q 4 A 5% (by mass) solution of glucose (180mm) is isotonic with 1% solution by mass of a substance X . The molar mass of X is

Q5 When 2.5g of a non-volatile solute was dissolved in 50ml of water , it gave boiling point elevation of 0.52^0C. The molar mass of the solute is (K_b for water = 0.52 Km^{-1})

Ans. 50g mol^{-1}

Q6 The solution of a pair of volatile liquids A and B shows negative deviation from Raloult's law. This is because –

Ans. The intermolecular force A-A,B-B<A-B

Q7 Assertion (A) Relative lowering in vapour pressure is a colligative property.

Reason (R) Relative lowering in vapour pressure depends upon mole fraction of pure solvent

Q8 Which of the following analogies is correct?

Ans π = CRT:Osmotic pressure :: P> π : Reverse osmosis

Electrochemistry

1. Conductivity of 0.00241M acetic acid is $7.896X10^{-5}$ Scm^{-1}. Calculate its molar conductivity and it the limiting molar conductivity of acetic acid is 390.5 Scm^2 mol-1. What is its degree dissociation?

2.Write the Nernst equation for the cell and find the emf of the cell at 298K

$Mg(s)\ /Mg^{2+}(0.001M)llCu^{2+}(0.0001m)/Cu(s)$Given that $E^0\ Mg^{2+}/Mg$= -2.36V, E^0Cu^{2+}/Cu = +0.34V

3.Represent the cell in which the following reaction takes place

$Mg(s) + 2Ag^+ (0.0001M) \longrightarrow Mg^{2+} (0.130\ M) + 2Ag(s)$

Calculate its E_{cell} if E^o_{cell} = 3.17 V .Calculate Gibb s free energy change and equilibrium constant

4.Can a Nickel spatula be used to stir a solution of copper sulphate? Justify your answer.

($E^\circ_{Ni^2/Ni}$= -0.25V $E^\circ_{Cu^2+/Cu}$=0.34V)

5.The conductivity of 0.20M KCl solution at 298K is $0.0248Scm^{-1}$. Calculate its molar conductivity.

6. How much charge is required for the following reduction? $Al^{3+} \rightarrow Al(s)$

7. Write the Nernst equation for the following cell.

$Ni(s) + 2Ag^{+}(0.01M) \rightarrow Ni^{2+}(aq)(0.001M) + 2Ag(s)$

8. Given that standard electrode potentials,of different metal ion are:

$K^{+}/K = -2.93V$, $Ag^{+}/Ag = 0.80V$, $Hg^{2+}/Hg = 0.79V$, $Mg^{2+}/Mg = 2.37V$, $Cr^{3+}/Cr = -0.74V$

Arrange these metals in their increasing order of reducing power.

9.Why does conductivity of a solution decrease with dilution?

10.The EMF of a cell corresponding to the reaction ($E^{\circ}_{Zn^{2+}/Zn} = -0.76V$)

$Zn(s) + 2H^{+}(aq) \rightarrow zn^{2+}(0.1M) + H_2(g,1atm)$ is 0.28V at 25^0c

Write the half cell reaction and calculate the PH of the solution at Hydrogen electrode

11. EMF =0.2V at 298K $Cd(s)/Cd^{2+}(?)llNi^{2+}(2.0M)/Ni(s)$

Given that $E^0Cd^{2+}/Cd = -0.40V$ $E^0Ni^{2+}/Ni = -0.25V$

KENDRIYA VIDYALAYA SIKAR

HOLIDAY HOMEWORK 2023-24

CHAPTERWISE QUESTION BANK FROM PREVIOUS YEAR BOARD PAPERS

SUBJECT-BIOLOGY **CLASS XII**

CHAPTER 2-SEXUAL REPRODUCTION IN FLOWERING PLANTS

1 MARK

Q 1 Write one advantage and one disadvantage of cleistogamy to flowering plants.

2 MARKS

Q 2. Differentiate between perisperm and pericarp.

Q 3 A mature embryo sac in a flowering plant may possess 7-cells , but 8 nuclei. Explain with the help of a diagram only.

Q 4 In a flowering plant a microspore mother cell produce four male gametophytes while a megaspore mother cell form only one female gametophyte. Explain.

Q 5 Mention the ploidy of different type of cells present in the female gametophyte of an angiosperm.

3 MARKS

Q 6 a) Do all pollen grains remain viable for the same length of time? Support yourvanswer with two suitable examples.

b) How are pollen grains stored in pollen banks? State the purpose of storing polen grains in these banks.

Q 7 a) How are parthenocarpic fruits produced by some plants and apomictic seeds by some others ? Explain.

b) When do farmers prefer using apomictic seeds?

Q 8 Parthenocarpy and apomixes have been observed in some plants. Give an example of each . State similarity and a difference observed between the two processes.

Q 9 Differentiate between parthenocarpy and parthenogenesis. Give one example of each.

Q 10. If the meiocyte of a maize plant contains 20 chromosomes, write the number of chromosomes in the endosperm and embryo of the maize grain and give reasons to support your answer.

Q 11. Do you think apomixes can be compared with asexual reproduction? Support your answer giving one reason.

5 MARKS

Q12 a) With labelled diagrams depict stages in embryo development in a dicotyledonous plant.

b) Endosperm development precedes embryo development. Why?

Q13 a) As a senior biology student you have been asked to demonstrate to the students of secondary level in your school , the procedures that shall ensure cross pollination in a hermaphrodite flower. List the different steps that you should suggest and provide reason for each of them.

b) Draw a diagram of a section of a megasporangium of an angiosperm and label funiculus, micropyle, embryo sac and nucellus.

Q 14 Read the following statement and answer the questions below:

“A guava fruit has 200 viable seeds”.

a) What are viable seeds?

b) Write the total number of:

i) pollen grains

ii) gametes in producing 200 viable guava seeds.

c) Prepare a flow chart to depict the post pollination events leading to viable seeds production in a flowering plant.

Q 15 a) A flower of brinjal has 520 ovules in its ovary. However it produces fruits with only 480 viable seeds. Explain giving reason.

b) Describe the development of a dicot embryo in a viable seed.

c) Why certain angiospermic seeds are albuminous while others are ex albuminous?

Q 16 a) Describe any 2 devices in a flowering plant which prevent both autogamy and geitonogamy.

b) Explain the events upto double fertilization after the pollen tube enters one of these synergids in an ovule of an angiosperm.

Q 17 a) Draw a diagrammatic sketch of a transverse section of an anther of an angiosperm . Label its different walls and the tissue forming microspore mother cells

b) Describe the process of microsporogenesis upto the formation of a microspore.

c) Write the function of germ pore in a pollen grain of an angiosperm.

Q18 a) Draw a diagram of a fertilized embryo sac of a dicot flower. Label all its cellular components.

b) Explain the development of a mature embryo from this embryo sac.

CHAPTER-3 –HUMAN REPRODUCTION

3 MARKS

Q 1 Name the male accessory glands in humans and write their function.

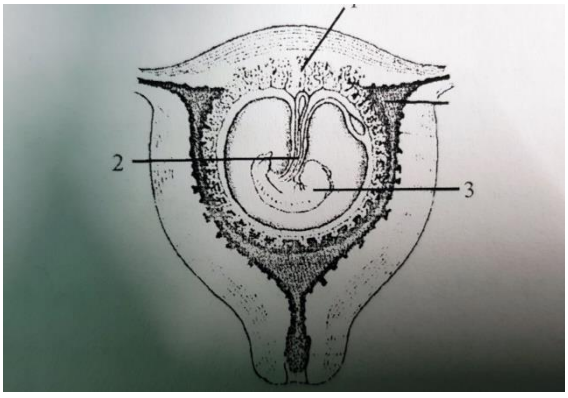
Q 2 Draw a labelled diagrammatic sectional view of a human seminiferous tubule.

Q 3 Medically it is advised to all young mothers that breast feeding is the best for their new born babies. Do you agree? Give reasons to support your answer.

Q 4 Draw a diagram of a mature human sperm. Label any 3 parts and write their functions.

5 MARKS

Q. 5 a) Identify the parts labelled 1,2 and 3 in the diagram given.



b) Draw a labelled diagram of human blastocyst.

c) What is parturition and how is it induced at the end of pregnancy in a human female

Q 6 a) Arrange the following hormones in sequence of their secretion in a pregnant woman- LH, RELAXIN, FSH, HCG.

b) Mention their source and the function they perform.

Q 7 Name the hormones secreted and write their functions:

i) by corpus luteum and placenta (any 2)

(ii) during follicular phase and parturition.

b) Name the stages in a human female where :

i) Corpus luteum and placenta co exist.

ii) Corpus luteum temporarily ceases to exist.

Q 8 a) Where in the fallopian tube does fertilization occur in humans? Describe the development of a fertilized ovum upto implantation.

b) How is polyspermy prevented in humans?

Q 9 a) Explain menstrual cycle in females.

b) How can the scientific understanding of the menstrual cycle of human females help as a contraceptive measure?

Q 10 a) Draw a diagram of the adult human female reproductive system and label the different:

i) Parts of fallopian tube

ii) Layers of uterus wall

b) Explain the events during fertilization of an ovum in humans.

Q 11 a) Explain the menstrual phase in a human female. State the levels of ovarian and pituitary hormones during this phase.

b) Why is follicular phase in the menstrual cycle also refered as proliferative phase? Explain.

c) Explain the events that occur in Graffian follicle at this time of ovulation and thereafter.

d) Draw a Graffian follicle and label antrum and secondary oocyte.

CHAPTER 4-REPRODUCTIVE HEALTH

1 MARK

Q 1 Our government has intentionally imposed strict conditions for MTP in our country. Justify giving a reason.

2 MARKS

Q 2 A childless couple has agreed for a test tube baby program. List only the basic steps the procedure would involve to conceive the baby.

Q3. Why is “Saheli” considered a good contraceptive pill?

Q4. What is RCH? Write its two aims.

3 MARKS QUESTION

Q 3 a) Name a terminal method to prevent pregnancy in humans.

b) Describe the procedure of the terminal method carried in human male and female.

Q 4 .Name two hormones that are constituents of contraceptive pills. Why do they have high and effective contraceptive value? Name a commonly prescribed non steroidal pill.

Q5. Write a short note on various types of IUDs and explain how they prevent fertilization.

Q6. What is the difference between ZIFT, GIFT and IUT.

Q7. In what situation AI is done?

Q8. DO NCERT IN TEXT QUESTIONS OF CHAPTERS 2, 3 AND 4 IN NOTEBOOK.

Q9. DO ALL THE WORK CAREFULLY. CORRECTION WORK 100 TIMES FOR EACH SPELLING MISTAKE.

HOLIDAY HOMEWORK (Maths)

1. Let R be a relation on the set N be defined by {(x, y) ∀ x, y ∈N, 2x + y = 41}. Then, R is
   a. (a) Reflexive (b) Symmetric (c) Transitive (d) None of these
2. For real numbers x and y, we write x R y ↔ x − y + $\sqrt{2}$ is an irrational number. Then, the relation R is
   (a) Reflexive (b) Symmetric (c) Transitive (d) None of these
3. The relation R = {(1, 1), (2, 2), (3, 3), (1, 2), (2, 3), (1, 3)} on set A = {1, 2, 3} is
   (a) Reflexive but not symmetric
   (b) Reflexive but not transitive
   (c) Symmetric and transitive
   (d) Neither symmetric nor transitive
4. Consider the non-empty set consisting of children in a family and a relation R defined as a R b if a is brother of b. Then R is
   (a) symmetric but not transitive
   (b) transitive but not symmetric
   (c) neither symmetric nor transitive
   (d) both symmetric and transitive
5. Let P = {(x, y) : x^2+ y^2= 1, x, y ∈R}. Then, P is
6. Reflexive (b) Symmetric (c) Transitive (d) Anti-symmetric
7. Let S be the set of all real numbers. Then, the relation R = {(a, b) : 1 + ab > 0} on S is
   (a) Reflexive and symmetric but not transitive
   (b) Reflexive and transitive but not symmetric
   (c) Symmetric, transitive but not reflexive
   (d) Reflexive, transitive and symmetric
8. Let R be the relation in the set Z of all integers defined by R = {(x, y) : x − y is an integer}. Then R is
9. reflexive (b) symmetric (c) transitive (d) an equivalence relation

10. For the set A = {1, 2, 3}, define a relation R in the set A as follows R = {(1, 1), (2, 2), (3, 3), (1, 3)} Then, the ordered pair to be added to R to make it the smallest equivalence relation is
    a. (a) (1, 3) (b) (3, 1) (c) (2, 1) (d) (1, 2)
11. Let A = {1, 2, 3}and R = {(1, 2), (2, 3)} be a relation in A. Then, the minimum number of ordered pairs may be added, so that R becomes an equivalence relation, is
    a. (a) 7 (b) 5 (c) 1 (d)4
12. Let A = {1, 2, 3}. Then, the number of relations containing (1, 2) and (1, 3), which are reflexive and symmetric but not transitive, is
    a. (a) 1 (b) 2 (c) 3 (d) 4
13. Let f : R → R be a function defined by f(x) =x^3+ 4, then f is
    a. (a) Injective (b) Surjective (c) Bijective (d) None of these
14. Let X = {0, 1, 2, 3} and Y = {−1, 0, 1, 4, 9} and a function f :X →Y defined by y =x^2, is
15. one-one onto (b) one-one into (c) many-one onto (d) many-one into
16. Let g:R→R g(x) = x^2− 4x − 5, then
17. g is one-one on R (b) g is not one-one on R
18. g is bijective on R (d) None of these
19. The mapping f : N → Ngiven by f(n) = 1 +n^2 , n ∈N when N is the set of natural numbers, is
20. The function f: R → R given by f(x) = x^3 − 1 is
    a. (a) a one-one function (b) an onto function
    b. (c) a bijection (d) neither one-one nor onto
21. A function f : X→Y is said to be onto, if for every y ∈Y, there exists an element x in X such that
    a. (a) f(x) = y (b) f(y) = x (c) f(x) + y = 0 (d) f(y) + x = 0

22. Let R be the relation in the set {1, 2, 3, 4} given by R = {(1, 2), (2, 2), (1, 1), (4, 4), (1, 3), (3, 3), (3, 2)}.

(a) R is reflexive and symmetric but not transitive

(b) R is reflexive and transitive but not symmetric

(c) R is symmetric and transitive but not

(d) R is equivalence relation

23. Let A = {1, 2, 3} and B = {a, b, c}, then the number of bijective functions from A to B are

a. (a) 2 (b) 8 (c) 6

(d) 4

24. The number of surjective functions from A to B where A = {1, 2, 3, 4} and B = {a, b} is

a. (a) 14 (b) 12 (c) 2

(d) 15

25. The function f : R $\rightarrow$ R defined by f (x) = (x – 1) (x – 2) (x – 3) is

a. (a) one-one but not onto (b) onto but not one-one

26. (c) both one-one and onto (d) neither one-one nor onto

27. If $[2\ 1\ 3\ 2]A[-3\ 2\ 5\ -3]=I_2$,then A=

a. (a) $[1\ 1\ 1\ 0]$ (b) $[1\ 1\ 0\ 1]$ (c) $[1\ 0\ 1\ 1]$

(d) $[0\ 1\ 1\ 1]$

28. If A=$[3\ 2\ 0\ 1]$,then$(A^{-1})^3$ is equal to

a. (a)$\frac{1}{27}\ [1\ -26\ 0\ 27]$ (b)$\frac{1}{27}\ [1\ 26\ 0\ 27]$ (c)$\frac{1}{27}\ [1\ -26\ 0\ -27]$ (d)$\frac{1}{27}\ [-1\ -26\ 0\ -27]$

29. If A= $[0\ 3\ 2\ 0]$ and A^{-1}=mA,then m is equal to

a. (a)-1/6 (b)1/3 (c)-1/3 (d)1/6

30. If I_3 is the identity matrix of order 3,then ${I_3}^{-1}$=

a. (a)O (b)3I_3 (c) I_3

(d)Not necessarily exist

31. If A and B are 2 non-zero matrices such that AB=0,then

(a)both A and B are singular (b)either of them is singular

(c)neither of them is singular (d)none of these

32. If A is a singular matrix then **A.adjA**=

(a)is a scalar matrix (b)is a zero matrix

(c) is an identity matrix (d)none of these

33. For how many integral values of x in the closed interval [-4,-1], matrix $[3\ -x-1\ 2\ 3\ -1\ x+2\ x+3\ -1\ 2\ ]$is singular?

(a) Zero (b) 2 (c) 1 (d) 3

34. If A and B are square matrices of sixe nXn,such that A^2-B^2=(A+B)(A-B),then which one of the following is always true-

(a)AB=BA (b) either of A or B is a zero matrix

(c) Either of A or B is an identity matrix (d) A=B

35. If$[\ a_{ij}]_{nxn}$ be a diagonal matrix with diagonal element all different and B=$[\ b_{ij}]_{nxn}$ be some matrix .Let AB=$[\ c_{ij}]_{nxn}$,then c_{ij} is equal to

a) $a_{jj}b_{ij}$ (b) $a_{ii}b_{ij}$ (c) $a_{ij}b_{ij}$ (d) $a_{ij}b_{ji}$

36. If A is a skew matrix of odd order, then $|adjA|$ is equal to

(a) 0(b) n (c) n^2 (d) none of these

37. A square matrix P satisfies $P^2 = I - P$ where I is the identity matrix. If $P^n = 5I - 8P, then\ n =$

(a) 4(b) 5 (c) 6 (d) 7

38. If A=$[4\ x+2\ 2x-3\ x+1\ ]$ is symmetric ,then x=

(a) 3(b) 5 (c) 2 (d) 4

39. If A is 3X4 matrix and B is a matrix such that A'B and BA' are defined, then B is of the type

(a)3X 4 (b) 3X3 (c) 4X4 (d) 4X3

CASE STUDY QUESTIONS

1. Aman and Ramesh are playing Ludo at home during Covid-19.While rolling the dice, Aman's sister Lata observed and noted the possible outcomes of the throw every time belongs to set {1,2,3,4,5,6}.Let A be the set of players while B be the set of all possible outcomes. Let A={A,R},B={1,2,3,4,5,6}.Using the information given above, answer the following:

(i)Let R:B→B be defined by R ={(x,y): y =x}is

(a) Reflexive and transitive but not symmetric
(b) Reflexive and symmetric but not transitive
(c) Reflexive but not symmetric and transitive
(d) Equivalence

(ii) Let R :B→B be defined by R={(1,2)(2,2)(1,3)(3,4)(3,1))(4,3)(5,5)}.Then R is

(a)Symmetric (b) Reflexive
(c) Transitive (d) None of these three

(iii) Let R :B→B be defined by R={(2,1)(1,2)(2,2)(3,3)(4,4)(5,5)(6,6)},then R is

(a)Symmetric (b) Reflexive and Transitive (c) Transitive and symmetric (d) Equivalence

(iv) Lata wants to know the number of relations possible from A to B .How many relations are possible?

(a)36 (b) 64 (c) 6! (d) 2^{12}

(v) Lata wants to know the number of functions from A→B, How many numbers of functions are possible?

(a)36 (b) 64 (c) 6! (d) 2^{12}

2.A Robot works on the software which follows function f(x)=$\frac{x-2}{x-1}$ .If the value of domain is put in place of x.This robot works and performs various works. Based on the above in information, answer the following:

(i) What will the value/values of x ,on which this robot works

(a)On all real values (b)On all real values except 1

(c)On all real values except 2 (d)On all real values except {1,2}

(ii) If range denotes the number of works performed, then range of the works performed will be

(a) $R-\{1\}$ (b) $R-\{2\}$

(c) $R-\{1,2\}$ (d)On all real values

(iii) If this function is defined from f:R-{1}$\rightarrow R-\{1\}$

(a)Injective (b) Surjective

(c)Bijective (d) Into

(iv) If a Robot follows the f:R-{1}$\rightarrow R$,then f(x) is

(a)Injective (b) Surjective

(c)Bijective (d) Into

(v) If a Robot follows the f:N-{1}$\rightarrow R-\{1\}$,then f(x) is

(a)Injective (b) Surjective

(c)Bijective (d) Into

SUBJECT-HINDI

पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया

पाठ के प्रमुख एवं ध्यातव्य बिंदु-

पत्रकारीय लेखन

● अखबार या अन्य समाचार माध्यमों में काम करने वाले पत्रकार अपने पाठकों, दर्शकों और श्रोताओं तक सूचनाएँ पहुँचानेके लिए लेखन के विभिन्न रूपों का इस्तेमाल करते हैं। इसे ही पत्रकारीय लेखन कहते हैं।

● पत्रकारिता या पत्रकारीय लेखन के अंतर्गत संपादकीय, समाचार, आलेख, रिपोर्ट, फ़ीचर, स्तम्भ, कार्टून आदि आते हैं।

● पत्रकारीय लेखन का प्रमुख उद्देश्य- सूचना देना, जागरूक और शिक्षित बनाना, मनोरंजन करना आदि।

● पत्रकारीय लेखन का संबंध समसामयिक घटनाओं, समस्याओं और मुद्दों से है।

● पत्रकारीय लेखन एवं साहित्यिक और सृजनात्मक लेखन में मुख्य अंतर यह है कि पत्रकारीय लेखन में तथ्यों कि प्रधानता होती है। पत्रकार इसमें कल्पना का पुट नहीं दे सकता जबकि साहित्यिक एवं सृजनात्मक लेखन में कल्पना की प्रधानता होती है।

पत्रकार को लिखते समय निम्नलिखित बातों का ध्यान रखना चाहिए-

● उसकी लेखन शैली और भाषा सहज, सरल एवं रोचक होनी चाहिए ताकि आसानी से सबकी समझ में आ जाए।

● वाक्य छोटे एवं सहज होने चाहिए।

● भाषा को प्रभावी बनाने के लिए अनावश्यक विशेषणों,जार्गन्स (ऐसी शब्दावली जिससे बहुत कम पाठक परिचित होते हैं) और क्लीशे / पिष्टोक्ति (एक ऐसा वाक्य, विचार, या कला का तत्त्व जो बहुत अधिक प्रयोग होने की वजह से अपना मूल अर्थ खो चुका है) का प्रयोग नहीं करना चाहिए।

पत्रकार के प्रकार

पत्रकार तीन प्रकार के होते हैं-

● पूर्णकालिक पत्रकार- इस श्रेणी के पत्रकार किसी समाचार संगठन मेंकाम करने वाले नियमितवेतनभोगी कर्मचारी होते हैं।

● अंशकालिक पत्रकार(स्ट्रिंगर)-इस श्रेणी के पत्रकार किसी समाचार संगठन के लिए एक निश्चित मानदेय पर काम करने वाले कर्मचारी होते हैं।

● फ्रीलांसर यानी स्वतंत्र पत्रकार-इसश्रेणी के पत्रकारों का संबंध किसी विशेष अखबार से नहीं होता है बल्कि वे भुगतान के आधार पर अलग-अलग अखबारों के लिए लिखते हैं।

समाचारलेखन

● पत्रकारीय लेखन का सबसे जाना-पहचाना रूप समाचार लेखन है।

● अखबारों में समाचार मुख्यतः पूर्णकालिक या अंशकालिक पत्रकार लिखते हैं, जिन्हें संवाददाता या रिपोर्टर कहते हैं।

● समाचार उलटा पिरामिड-शैली (इंवर्टेड पिरामिड शैली) में लिखे जाते हैं।

● यह समाचार लेखन की सबसे लोकप्रिय एवं उपयोगी शैली है।

● उलटा पिरामिड-शैली में किसी भी घटना के सबसे महत्त्वपूर्ण तथ्य या सूचना को सबसे ऊपर रखा जाता है उसके बाद घटते हुए महत्त्वक्रम मेंसूचनाएँ प्रस्तुत कीजातीहैं।

● समाचार में इंट्रो (मुखड़ा), बॉडी और समापन के क्रम में तथ्य या सूचनाएँ प्रस्तुत की जाती हैं।

● उलटा पिरामिड-शैली कहानी या कथा लेखन शैली की उलटी है क्योंकि कहानी या कथा लेखन शैली में क्लाइमेक्स बिलकुल अंत में आता है जबकि उलटा पिरामिड-शैली में क्लाइमेक्स शुरू में ही आ जाता है।

● उलटा पिरामिड-शैली का प्रयोग 19वीं सदी के मध्य में शुरू हो गया था लेकिन इसका विकास अमेरिका में गृहयुद्ध के दौरान हुआ।

समाचार लेखन और छह ककार

किसी समाचार को लिखते हुए जिन छह सवालों का जवाब देने की कोशिश की जाती है, वे हैं-

1. क्या हुआ? 2. किसके साथ हुआ?/कौन था? 3. कब हुआ? 4. कहाँ हुआ? 5. कैसे हुआ? 6. क्यों हुआ?

● क्या, किसके साथ (या कौन), कब, कहाँ, कैसे और क्यों को ही छह ककारों के रूप में जाना जाताहै।

● समाचार के मुखड़े (इंट्रो) यानी पहले पैराग्राफ़ या शुरुआती दो-तीन पंक्तियों में आमतौर पर तीन या चार ककारों को आधार बनाकर खबर लिखी जाती है। ये चार ककार हैं- क्या, कौन, कब और कहाँ? इसके बाद समाचार की बॉडी में और समापन के पहले बाकी दो ककारों- "कैसे और क्यों" का जवाब दिया जाता है। इस तरह छह ककारों के आधार पर समाचार तैयार होता है। इनमें से पहले चार ककार- क्या, कौन, कब और कहाँ- सूचनात्मक और तथ्यों पर आधारित होते हैं जबकि बाकी दो ककारों-कैसे और क्यों- में विवरणात्मक, व्याख्यात्मक और विश्लेषणात्मक पहलू पर जोर दिया जाता है।

फ़ीचर

● फ़ीचर एक सुव्यवस्थित, सृजनात्मक और आत्मनिष्ठ लेखन है।

● फ़ीचरलेखन का उद्देश्य पाठकों को सूचना देना, शिक्षित करना एवं उनका मनोरंजन करना है।

समाचार एवं फ़ीचर में अंतर

● समाचार लेखन में वस्तुनिष्ठता और तथ्यों की शुद्धता पर ज़ोर दिया जाता है यानी समाचार लिखते हुए रिपोर्टर उसमें अपने विचार नहीं डाल सकता जबकि फ़ीचर में लेखक के पास अपनी राय, दृष्टिकोण और भावनाओं को ज़ाहिर करने का अवसर होता है।

● समाचार उलटा पिरामिड शैली में लिखें जाते हैं जबकि फ़ीचर लेखन की कोई निश्चित शैली नहीं है।

● फ़ीचर लेखन की भाषा समाचारों के विपरीत सरल, रूपात्मक, आकर्षक और मन को छूने वाली होती है।

● फ़ीचर में समाचारों की तरह शब्दों की कोई अधिकतम सीमा नहीं होती। फ़ीचर आमतौर पर समाचार रिपोर्ट से बड़े होते हैं। अखबारों और पत्रिकाओं में 250 शब्दों से लेकर 2000 शब्दों तक के फ़ीचर छपते हैं।

फ़ीचर लेखन के समय ध्यान रखने योग्य बातें

● फ़ीचर को सजीव बनाने के लिए उसमें उस विषय से जुड़े पात्रों की मौजूदगी ज़रूरी है।

● कहानी को पात्रों के ज़रिये कहा जाए यानी पात्रों के माध्यम से उस विषय के विभिन्न पहलुओं को सामने लाया जाए।

● कहानी को बताने का अंदाज़ ऐसा हो कि पाठक ऐसा महसूस करें कि वे खुद देख और सुन रहे हैं।

● फ़ीचर को मनोरंजक होने के साथ-साथ सूचनात्मक होना चाहिए।

● फ़ीचर का प्रारम्भ आकर्षक और उत्सुकता पैदा करने वाला होना चाहिए।

● फीचर लेखन का कोई निश्चित ढांचा या फार्मूला नही है |

● आप फीचर कही से भी शुरू कर सकते हैं |

● हर फीचर का प्रारम्भ, मध्य और अंत होता है | प्रारम्भ आकर्षक और जिज्ञासापूर्ण होना चाहिए |

● यदि आप व्यक्तिपरक फीचर तैयार कर रहे है तो उसकी शुरुआत ऐसी घटनाओं से कर सकते हैं, जिसने उसके जीवन की दिशा ही बदल दी |

● इसके बाद कुछ करीबी लोगों के दिलचस्प, आकर्षक और खास वक्तव्यों को उद्धृत करते हुए उसके जीवन के विभिन्न पहलुओं को उजागर किया जा सकता है |

● फीचर लेखन की प्रक्रिया में निम्नलिखित अपेक्षाएँ रहती हैं :-

1 विषय चयन : समसामयिक विषय का चयन, जनरुचि के अनुकूल |

2 सामग्री संकलन : विभिन्न स्थलों पर जाकर सामग्री एकत्रित करना |

3 निरीक्षण शक्ति : तर्कशक्ति ,सूक्ष्म निरीक्षण शक्ति का प्रयोग |

फ़ीचर के प्रकार

● समाचार फ़ीचर, खोजपरक फ़ीचर, साक्षात्कार फ़ीचर, जीवनशैली फ़ीचर, रूपात्मक फ़ीचर, व्यक्तिचित्र फ़ीचर, यात्रा फ़ीचर और विशेषरुचि के फ़ीचर प्रमुख हैं।

विशेष रिपोर्ट

● अखबारों एवं पत्रिकाओं में सामान्य समाचारों के अलावा गहरी छानबीन, विश्लेषण और व्याख्या के आधार पर जो रिपोर्टें प्रकाशित होती हैं, उन्हें विशेष रिपोर्ट कहते हैं।

विशेष रिपोर्ट के प्रकार

● खोजी रिपोर्ट (इंवेस्टिगेटिव रिपोर्ट)- खोजी रिपोर्ट में रिपोर्टर मौलिक शोध और छानबीन के ज़रिये ऐसी सूचनाएँ या तथ्य सामने लाता है जो सार्वजनिक तौर पर पहले से अनुपलब्ध हैं। खोजी रिपोर्ट का प्रयोग आमतौर पर भ्रष्टाचार, अनियमितताओं और गड़बड़ियों को उजागर करने के लिए किया जाता है।

● इन-डेप्थ रिपोर्ट- इन-डेप्थ रिपोर्ट में सार्वजनिक तौर पर उपलब्ध तथ्यों, सूचनाओं, और आँकड़ों की गहरी छानबीन की जाती है और उसके आधार पर किसी घटना, समस्या या मुद्दे से जुड़े महत्त्वपूर्ण पहलुओं को सामने लाया जाता है।
● विश्लेषणात्मक रिपोर्ट- विश्लेषणात्मक रिपोर्ट में किसी घटना या समस्या से जुड़े तथ्यों के विश्लेषण और व्याख्या पर विशेष बल दिया जाता है।
● विवरणात्मक रिपोर्ट- विवरणात्मक रिपोर्ट में किसी घटना या समस्या के विस्तृत और बारीक विवरण को प्रस्तुत करने की कोशिश की जाती है।

विचारपरक लेखन

● समाचार पत्रों में समाचार एवं फ़ीचर के अतिरिक्त संपादकीय, लेख, पत्र, टिप्पणी, वरिष्ठ पत्रकारों व विशेषज्ञों के स्तम्भ छपते हैं। ये सभी विचारपरक लेखन के अंतर्गत आते हैं।

संपादकीय

● संपादक द्वारा किसी प्रमुख घटना या समस्या पर लिखे गए विचारात्मक लेख को, जिसे संबंधित समाचार पत्र की राय भी कहा जाता है, संपादकीय कहलाता है।
● संपादकीय किसी एक व्यक्ति का विचार या राय न होकर समग्र समाचार पत्र समूह की राय होता है, इसलिए संपादकीय में संपादक अथवा लेखक का नाम नहीं लिखा जाता है।
● संपादकीय पृष्ठ को समाचार पत्र का सबसे महत्त्वपूर्ण पृष्ठ माना जाता है। इसे संबंधित समाचारपत्र की आवाज़ भी कहा जाता है।
● संपादकीय लिखने का दायित्व संबंधित समाचारपत्र के संपादक एवं उसके सहयोगियों पर होता है। कोई बाहर का लेखक या पत्रकार संपादकीय नहीं लिख सकता।

स्तम्भ लेखन

● यह एक प्रकार का विचारात्मक लेखन है।
● कुछ महत्त्वपूर्ण लेखक अपने खास वैचारिक रुझान एवं लेखन शैली के लिए जाने जाते हैं। ऐसे लेखकों की लोकप्रियता को देखकर समाचार पत्र उन्हें अपने समाचार पत्र में नियमित स्तम्भ लेखन की जिम्मेदारी प्रदान करते हैं।
● किसी समाचार पत्र में किसी ऐसे लेखक द्वारा किया गया विशिष्ट व नियमित लेखन जो अपनी विशिष्ट शैली व वैचारिक रुझान के कारण समाज में ख्याति प्राप्त हो,स्तम्भ लेखन कहलाता है।

संपादक के नाम पत्र

● समाचार पत्रों में संपादकीय पृष्ठ पर तथा पत्रिकाओं की शुरुआत में संपादक के नाम आए पत्र प्रकाशित किए जाते हैं।
● यह प्रत्येक समाचार पत्र का नियमित स्तम्भ होता है।
● इसके माध्यम से समाचार पत्र अपने पाठकों को जनसमस्याओं तथा मुद्दों पर अपने विचार एवं राय व्यक्त करने का अवसर प्रदान करता है। यह स्तम्भ जनमत को प्रतिबिम्बित करता है।

लेख

● सभी अखबार संपादकीय पृष्ठ पर समसामयिक मुद्दों पर वरिष्ठ पत्रकारों और उन विषयों के विशेषज्ञों के लेख प्रकाशित करते हैं। इन लेखों में किसी मुद्दे या विषय पर विस्तार से चर्चा की जाती है।
● सभी अखबार संपादकीय पृष्ठ पर समसामयिक मुद्दों पर वरिष्ठ पत्रकारों और उन विषय के विशेषज्ञों के लेख प्रकाशित करते है। इन लेखों में किसी विषय या मुद्दे पर विस्तार से चर्चा की जाती है। लेख विशेष रिपोर्ट और फीचर से इस मामले में अलग है कि उसमें लेखक के विचारों को प्रमुखता दी जाती है लेकिन ये विचार तथ्यों और सूचनाओं पर आधारित होतें है और लेखक उन तथ्यों और सूचनाओं के विश्लेषण अपने तर्कों के जरिए अपनी राय प्रस्तुत करता है।
● लेख लिखनें के लिए पर्याप्त तैयारी की आवश्यकता पड़ती है | इसके लिए पर्याप्त सामग्री जुटानी पड़ती है।

आलेख

● आलेख एक प्रकार के लेख होते हैं, जो संपादकीय पृष्ठ पर संपादित होते हैं। ये संपादकीय से हटकर होते हैं। इन लेखों की अनिवार्य शर्त यह होती है कि वे किसी समाचार या घटनाक्रम पर आधारित होते हैं। इस प्रकार के लेख किसी भी क्षेत्र से संबंधित हो सकते हैं – राजनीति , विज्ञान , समाज , साहित्य , खेल फैशन , फिल्म, व्यापार पर्यटन आदि। इनमें सूचनाओं का होना अनिवार्य है। आजकल सभी अखबारों की यही कोशिश रहती है कि ऐसे लेख प्रकाशित किए जाएँ ,जिसमें समाचारों और सूचनाओं का अधिक से अधिक समावेश हो।

साक्षात्कार/इंटरव्यू

• किसी पत्रकार द्वारा किसी व्यक्ति विशेष से उसके विषय में अथवा किसी विषय विशेष या मुद्दे पर उसकी राय और भावनाएँ जानने के लिए किया गया प्रश्नोत्तरात्मक संवाद साक्षात्कार कहलाता है।

• एक सफ़ल साक्षात्कार के लिए पत्रकारको संबंधित व्यक्ति एवं विषय के संबंध में अच्छा ज्ञान होना चाहिए साथ ही संवेदनशीलता, कूटनीति, धैर्य, और साहस जैसे गुण भी होने चाहिए।

पाठ से बहुविकल्पात्मक प्रश्न

प्रश्न 1. पत्रकारीय लेखन में सर्वाधिक महत्त्व किस बात का है ?

)1(ऐतिहासिक घटनाक्रम का (2(समसामयिक घटनाओं का (3(भविष्यवाणियों का (4(निजी मत का

प्रश्न 2. पत्रकार कितने प्रकार के होते हैं ?

)1(तीन (2(चार (3(पाँच (4(छह

प्रश्न 3. इनमें से कौन-सा पत्रकार का प्रकार नहीं है ?

(क) फ्रीलांसर पत्रकार (ख) अंशकालिक (स्ट्रिंगर) पत्रकार (ग) पूर्णकालिक पत्रकार (घ) अस्वतंत्र पत्रकार

प्रश्न 4. किसी समाचार संगठन के लिए एक निश्चित मानदेय पर काम करने वाले पत्रकार को कहते हैं -

)1(स्वतंत्र पत्रकार (2) पूर्णकालिक पत्रकार (3) अंशकालिक पत्रकार (स्ट्रिंगर) (4) फ्रीलांसर पत्रकार

प्रश्न 5. समाचार लेखन की प्रचलित शैली को किस नाम से जाना जाता है ?

)1(उलटा पिरामिड शैली)2(सीधा पिरामिड शैली (3(कथात्मकशैली (4) विवेचनात्मक शैली।

प्रश्न 6. समाचार लेखन का अवयव (अंग) है-

)1(इंट्रो (2(बॉडी (3(समापन (4(उपर्युक्त सभी

प्रश्न 7. समाचार लेखन के कितने ककार होते हैं ?

)1(दो)2(तीन)3(पाँच)4(छह

प्रश्न 8. समाचार पत्र का संपादन करने वाले को क्या कहते हैं ?

)1(संवाददाता)2(प्रकाशक (3(रिपोर्टर (4(संपादक

प्रश्न 9. समाचार की बॉडी और समापन में मुख्यत: किन ककारों को रखा जाता है ?

)1(क्या और कब (2(कौन और कहाँ (3(कैसे और क्यों (4(कब और कैसे

प्रश्न 10. ऐसी शब्दावली जिससे बहुत कम पाठक परिचित होते हैं, कहलाती है-

)1(क्लीशे (2(पिष्टोक्ति (3(जार्गन्स (4(दोहराव

प्रश्न 11. सबसे महत्त्वपूर्ण तथ्य या सूचना को सबसे ऊपर रखना और उसके बाद घटते हुए महत्त्व के क्रम में सूचनाएँ देना कहलाता है ?

)1(सीधा पिरामिड शैली (2(उलटा पिरामिड शैली (3(कथात्मक शैली (4(विश्लेषणात्मक शैली

प्रश्न 12. पत्रकारीय लेखन के अंतर्गत शामिल है-

)1(संपादकीय (2(समाचार (3(फ़ीचर (4(उपर्युक्त सभी

प्रश्न 13. निम्नलिखित में से फ़ीचर का प्रकार है -

)1(साक्षात्कारफ़ीचर (2(व्यक्तिचित्र फ़ीचर (3(खोजपरक फ़ीचर (4(उपर्युक्त सभी

प्रश्न 14. वह लेख, जिसमें किसी मुद्दे के प्रति समाचारपत्र की अपनी राय प्रकट होती है, कहलाता है

)1(संपादकीय (2(साक्षात्कार (3(फ़ीचर (4(स्तम्भ

प्रश्न 15. पत्रकारीय लेखन में किस प्रकार की भाषा का प्रयोग किया जाता है ?

)1(अलंकारिक भाषा (2(संस्कृतनिष्ठ भाषा (3(गूढ़ भाषा (4(आम बोलचाल की भाषा

प्रश्न 16. ऐसा सुव्यवस्थित, सृजनात्मक और आत्मनिष्ठ लेखन; जिसके माध्यम से सूचनाओं के साथ-साथ मनोरंजन पर भी ध्यान दिया जाता है, कहलाता है-

)1(संपादकीय (2(फ़ीचर (3(स्तम्भ लेखन (4(साक्षात्कार

प्रश्न 17. फ़ीचर-लेखन का प्रमुख उद्देश्य क्या है ?

(1) पाठकों को सूचना देना (2) पाठकों का मनोरंजन करना (3) पाठकों को शिक्षित करना (4) उपर्युक्त सभी विकल्प सही हैं

प्रश्न 18. अखबारों और पत्र-पत्रिकाओं में छपने वाले फ़ीचर की शब्द-सीमा लगभग कितनी होती है ?

)1(200 से 500 शब्द (2(250 से 2000 शब्द (3(300 से 1000 शब्द (4(500 से 2500 शब्द

प्रश्न 19. भ्रष्टाचार, अनियमितताओं और गड़बड़ियों को उजागर करने के लिए किस रिपोर्ट का इस्तेमाल किया जाता है ?

)1(खोजी रिपोर्ट (ख) इन-डेप्थ रिपोर्ट (ग) विश्लेषणात्मक रिपोर्ट (घ) विवरणात्मक रिपोर्ट।

प्रश्न 20. किस रिपोर्ट में सार्वजनिक तौर पर उपलब्ध तथ्यों, सूचनाओं और आंकड़ों की गहरी छानबीन की जाती है?

)1(खोजी रिपोर्ट (2(विश्लेषणात्मकरिपोर्ट (3(इन-डेप्थरिपोर्ट (4) विवरणात्मकरिपोर्ट

प्रश्न 21. पत्रकारीय लेखन के लिए पत्रकार कच्चा माल किससे प्राप्त करते है ?

)1(संपादकीय से (2(साक्षात्कार से (3(संपादक के नाम पत्र से (4(फ़ीचर से

प्रश्न 22. संपादकीय लेखन में संपादक का नाम न लिखने का क्या कारण है ?

(1) संपादकीय व्यक्ति विशेष की आवाज़ होती है

(2)संपादकीय में व्यक्ति विशेष के विचार न होकर पूरे समाचार-पत्र समूह की आवाज़ होती है

)3(संपादकीय लिखने का कार्य केवल संपादक करते हैं (4(इनमें से कोई नहीं।

प्रश्न 23. स्तंभ लेखन किस प्रकार का लेखन है ?

)1(विचारपरक लेखन (2(विश्लेषणात्मक लेखन (3(विवेचनात्मक लेखन (4(वस्तुपरक लेखन

प्रश्न 24. किसी समाचार संगठन में काम करने वाले नियमित वेतनभोगी पत्रकार किस नाम से जाने जाते हैं?

)1(अंशकालिक पत्रकार (2(पूर्णकालिक पत्रकार (3(फ्रीलांसर पत्रकार (4(स्ट्रिंगर

प्रश्न 25. एक सफ़ल साक्षात्कार के लिए पत्रकारमेंकिस गुण का होना आवश्यक है ?

)1(संवेदनशीलता (2(धीरज (3(साहस (4(उपर्युक्त सभी

प्रश्न 26 देश –विदेश में घटनें वाली घटनाओं को संकलित करके उन्हें समाचार के रूप में संपादित करना कहलाता है :-

(1) पत्रकारिता (2) संपादकीय (3) आलेख (4) इनमे से कोई नहीं

प्रश्न 27 पत्रकारीय लेखन का प्रमुख धर्म क्या है ?

(अ) विचार प्रकट करना (ब) मुद्रित करवाना (स) सूचना प्रदान करना (द) इनमें से कोई नहीं |

प्रश्न 28 पत्रकारीय लेखन की भाषा कैसी होनी चाहिए ?

(अ) संस्कृतनिष्ठ (ब) मुहावरेदार और प्रभावी (स) सहज, सरल, रोचक और प्रभावी (द) तत्सम शब्दावली युक्त और प्रभावी |

प्रश्न 29 क्या पत्रकारीय लेखन की भाषा में बातों का दोहराव होना चाहिए ?

(अ) हाँ (ब) कभी –कभी (स) नहीं (द) कोई नहीं

प्रश्न 30 उल्टा पिरामिड शैली की क्या विशेषता है ?

(अ) महत्वपूर्ण बात सबसे पहले लिखी जाती है (ब) व्याख्या पहले आती है

(स) विश्लेषण किया जाता है (द) इनमें से कोई नही |

प्रश्न 31 उल्टा पिरामिड शैली का विकास कब हुआ ?

(अ) अमेरिका में गृहयुद्ध के समय (ब) रूस की क्रांति के समय (स) विश्व युद्ध के समय (द) इनमें से कोई नही

प्रश्न 32 समाचार लेखन के कितनें अंग हैं ?

(अ) 3 (ब) 4 (स) 6 (द) 2

प्रश्न 33 क्या ,कौन ,कब ,कहाँ का प्रयोग समाचार लेखन में कहाँ किया जाता है ?

(अ) मुखड़ा (इंट्रो) में (ब)बॉडी (स) समापन (द) इनमें से कोई नही

प्रश्न 34 समाचार लेखन में कैसे और क्यों का स्थान कहाँ होता है ?

(अ) बॉडी में (ब) समापन (स) मुखड़ा (द) इनमें से कोई नही

प्रश्न 35 फीचर का उद्देश्य क्या है ?

(अ)सूचना देना ,शिक्षित करना, मनोरंजन करना (ब)आम जनता की राय (स)जन समस्याओं को उठाना (द) इनमें से कोई नहीं

प्रश्न 36 ऐसा लेखन जिसको पढ़कर पाठकों को महसूस हो कि वे उस घटना को देख रहे हैं, क्या कहलाता है?

(अ) संपादकीय (ब) आलेख (स) फीचर (द) लेख

प्रश्न 37 अखबारों और पत्रिकाओं मे सामान्य समाचारों के अलावा गहरी छानबीन और व्याख्या के आधार पर एक रिपोर्ट लिखी जाती है , वह रिपोर्ट कहलाती है ?

(अ) फीचर (ब) विशेष रिपोर्ट (स) आलेख (द) इनमें से कोई नही

प्रश्न 38 अख़बार की आवाज किसे माना जाता है ?

(अ) विशेष रिपोर्ट (ब) संपादकीय (स) लेख (द) इनमें से कोई नही

प्रश्न 39 अख़बार किसी घटना ,समस्या या मुद्दे पर अपनी राय किसके द्वारा प्रकट करते हैं ?

(अ) संपादकीय के द्वारा (ब) समाचार के द्वारा (स) रिपोर्ट के द्वारा (द) इनमें से कोई नही

प्रश्न 40 संपादक के नाम पाठकों के पत्र लिखे जातें है :-

(अ) संपादकीय पृष्ठ पर (ब) मुख्य पृष्ठ पर (स) अंतिम पृष्ठ पर (द) किसी भी पृष्ठ पर

प्रश्न 41 समसामयिक मुद्दों पर वरिष्ठ पत्रकारों और उन विषयों के विशेषज्ञों के प्रकाशित होतें है :-

(अ) लेख (ब) समाचार (स) फीचर (द) इनमें से कोई नहीं

प्रश्न 42 विवरणात्मक रिपोर्ट मे किसी घटना या समस्या का प्रस्तुत किया जाता है :-

(अ) विस्तृत और बारीक विवरण (ब) विश्लेषण और व्याख्या (स) आंकड़ों की गहरी छानबीन (द) इनमें से कोई नही

उत्तरमाला

1-ख	2- क	3- घ	4- ग	5- क	6- घ	7- घ	8- घ
9- ग	10- ग	11- ख	12- घ	13- घ	14- क	15- घ	16- ख
17- घ	18- ख	19- क	20- ग	21- ख	22- ख	23- क	24- ख
25- घ	26-अ	27-स	28-स	29-स	30-अ	31-अ	32-अ
33-अ	34-अ	35-अ	36-स	37-ब	38-ब	39-अ	40-अ
41-अ	42-अ						

KENDRIYA VIDYALAYA SIKAR

CLASS-12 Science-2023-24

HOLIDAY HOMEWORK (SUMMER VACATION)

SUBJECT- COMPUTER SCIENCE WITH PYTHON

1. What is the difference between implicit type conversion and explicit conversion?
2. What is the difference between a List and a dictionary?
3. Explain: -
   (a) Local variable and global variable
   (b) Actual parameters and formal parameters
   (c) Return value
   (d) Arguments
   (e) Function scope
   (f) Name or keyword arguments

4. What will be the output of following code?

```
x= 'ba'

y= 'na'

print ( x + y * 2 )

print ( ( y * 2 ) [ : 3 ] + x )
```

5. What will be the output of following Python code?

```
x=10

y=0

while (x>y):

        print(x,y)

        x=x-1

        y=y+1
```

6. Which line number of code(s) will not work and why?

```
def Interest(P,R,T=7):

        I = (P*R*T)/100

        print(I)
```

```
Interest ( 20000, 0.08, 15) # Line 1
Interest ( T=10, 20000, 0.075) # Line 2
Interest ( 50000, 0.07) # Line 3
Interest ( 80000, T=10) # Line 4
```

7. Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code.

```
10=A
for S in range (0, A)
    if S%2=0:
        print (S*2)
    Else:
        print (S+3)
```

8. Read the given program and answer the questions:

```
import random
my list = ['Red', 'Green', 'Blue', ‘Yellow’, ‘Orange’, ‘White’]
while True:
    BEGIN = random.randint (1 , 3)
    END = random.randint (2, 5)
    for i in range (BEGIN, END+1):
        print (mylist [i])
```

a) What are the possible output(s)?

b) Specify the maximum values that can be assigned to BEGIN and END.

9. Find and write the output of following python code:

```
def Alter(M,N=50):
```

```
    M = M + N
    N = M – N
    print(M,"@",N)
    return M
A=200
B=100
A = Alter(A,B)
print(A,"#",B)
B = Alter(B)
```

10. Find and write the output of following python code:

```
def Shuffle(mystr):
    L = len(mystr)
    str2=''
    str3=''
    for i in range(0,L,2):
        str2=str2 + mystr[i] + mystr[i+1].lower()
        print(str2)
    for ch in mystr:
        if ch=='R' or ch=='N':
            str3 = str3 + ch + 'i'
        else:
            str3 = str3 + ch + 'a'
    return str3
mystr="SSRRGGMMPPDDNNSS"
mystr=Shuffle(mystr)
```

```
        print(mystr)
```

11. What will be the output of following code:

```
defAlter(x,y=10,z=20):
        sum=x+y+z
        print(sum)
Alter(10,20,30)
Alter(20,30)
Alter(100)
```

12. Write a function in python to count the number of lines in a text file "poem.txt" which is starting with an alphabet 'M' or 'm'.

13. Find the output of the following:

```
 def makenew(mystr):
        newstr = ""
        count = 0
        for i in mystr:
            if count%2 != 0:
                newstr = newstr + str(count)
            else:
                if i.islower():
                    newstr = newstr + i.upper()
                else:
```

```
            newstr = newstr + i
                count += 1
    newstr = newstr + mystr[:1]
    print("The new string is:", newstr)
    makenew("sTUdeNT")
```

14. Rewrite the following Python program after removing all the syntactical errors (if any), underlining each correction

```
def checkval:
    x = input(“Enter a number”)
    if x % 2 = 0:
        print x,”is even”
    else if x<0:
        print x,”should be positive”
    else;
        print x,”is odd”
```

15. List one similarity and one difference between List and Dictionary data type.

16. Study the following program and select the possible output(s) from the options (i) to (iv) following it. Also, write the maximum and the minimum values that can be assigned to the variable Y. (2)

```
import random
X= random.random()
Y= random.randint(0,4)
print(int(X),":",Y+int(X))
```

(i)0 : 0

(ii) 1 : 6

(iii)2 : 4

(iv) 0 : 3

17. Write a method in python to read lines from a text file MYNOTES.TXT and display those lines, which are starting with an alphabet ‘K’

18. A binary file “STUDENT.DAT” has structure (admission_number, Name, Percentage). Write a function countrec() in Python that would read contents of the file “STUDENT.DAT” and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%

Kendriya Vidyalaya Sikar

Class 12 Com & Sc

English Holiday Homework

1Do Q & Ans of following chapters

(i)Deep Water

(ii)Rattrap

(iii) Roadside stand

(iv)Aunt Jennifer's Tiger

(v)The Tiger King

2 Make a table of all the chapters of Syllabus:-

1Name of chapter 2 Name of Writer 3 Theme

Q3 Write short summary /Gist of all the chapters

Including poems(100 words each).

Q4 Writing Section:-

1 Write Notice on following topics

(a) blood donation camp

(b) inter school football match

2 Write Report on the following topics:-

(a) Book fair organised in your school recently

(b) A road accident you witnessed while coming home

3.Write a job application with biodata for:

(a)the post of accountant in a reputed firm. Attach your biodata.

(b) for the post of mathematics teacher in St. Stephens public school Noida.

4Write letter to the editor on:

(a) increasing number of road accidents due to stray animals.

(b) unannounced power cuts in your locality.

5 Write a formal invitation for:

(a) the annual sports meet to be organised in your school.

(b)inviting Chief Guest in the annual day celebration at your school.

(c) write a reply sending your acceptance for attending the annual

function as Chief Guest

Note:Do HW in English Notebook.