



DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI

ASSIGNMENT CLASS - XII (2024-25)

ENGLISH

WRITING SKILL

1. You are Amar/Amrita, Secretary, Cultural Club, Aryamba Public School, Kochi. A charity show has been arranged in your school in aid of cancer patients. Write a notice to be displayed on the school notice board informing the students of the show and asking them to cooperate and make it a success. Draft the notice in about 50 words giving all necessary details.
2. You have realized the necessity of education and financial independence of women for their family, society and in turn for the nation. Write a letter to the Editor in 120-150 words of 'The National Times' highlighting your ideas on the importance of education of women leading to a better status for them. You are Tarun/Taruna, B - 7/9, Mall Road, Delhi.
3. You are Mani. You are worried after reading a report on obesity among school children and the growing craze for junk food and diseases related to it. Write an article in 120-150 words highlighting the need to have good eating habits especially for students, to be published in the local daily. Do not forget to suggest a few tips to sustain good food habits.

LITERATURE

Long answer type questions (120- 150 words)

4. While speaking his mouth choked and wrote, 'Vive La France' and finally by gesture he said: "School is dismissed - you may go." These lines show that M Hamel was greatly attached to his motherland, profession and mother tongue. In other words, one should be attached to his own land, cultures and customs. But today's Indians are drowned in the western colours. It shows that there is need to spread awareness about the feeling of patriotism and other related factors. Write a paragraph highlighting the issue.
5. 'None of them know that it is illegal for children like him to work in the glass furnaces with high temperatures in dingy cells without air and light' These words from 'Lost Spring' throw light on the grinding poverty that forces many children in India to lead a life of exploitation whereby they have to slog in subhuman conditions. Driven by a concern for such children, who lose their childhood and who go through an unjust treatment, write an article on 'Child Labour in India.'
6. The story, The Third Level reveals refuge from reality to illusion. Do you think it is obvious to escape from reality of life?
7. Do you think the Maharaja's minions were sincere and loyal to him or are they driven by fear when they obey him? Do you find a similarity in today's political order?
Answer in short (30-40 words).
8. "All we have to fear is fear itself". Describe Douglas' experiences which led to making of the statement.
9. Why did the poet say "see you soon Amma"? What does the poet actually mean by "smile and smile and smile...."? What kind of smile is it?
10. What does the poet say about those 'who prepare green wars'?

PHYSICS

Current Electricity

1. Two wires of same metal have same length, but their cross-section are in the ratio 3:1. They are joined in series. The resistance of thicker wire is 10 ohm. The total resistance of the combination in ohm will be

- a. $5/2$ b. $40/3$ c. 40 d. 100

2. Three unequal resistances in parallel are equivalent to a resistance of 4Ω . If three of them are in the ratio 1:2:4 and if no resistance value is fractional, the smallest of the three resistances is

- a. 5Ω b. 7Ω c. 10Ω d. 8Ω

3. On interchanging the resistances the balance point of a meter bridge to the left by 10cm. The resistance of their series combination is $1K\Omega$. How much was the resistance on the left slot before interchanging the resistances

- a) 990Ω b) 505Ω c) 910Ω d) 550Ω

Direction: In each of the following questions two statements are given. One is assertion and other is reason. Examine the statements carefully and mark the correct answer as

- a) Both assertion and reason are true and reason the correct explanation of assertion.
b) Both assertion and reason are true but reason is not the correct explanation of assertion.
c) Assertion is true but reason is false.
d) Both assertion and reason are false.

4. **Assertion:** In a simple battery circuit the point of lowest potential is positive terminal of the battery.

Reason: The current flows towards the point of the higher potential as it flows in such a circuit from the negative to the positive terminal.

5. **Assertion:** There is no current in the metals in the absence of electric field.

Reason: Motion of free electrons is random.

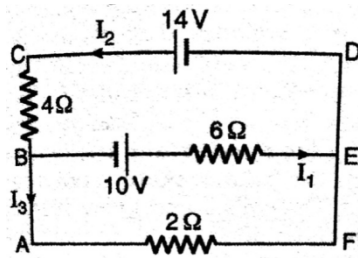
6. **Assertion:** The value of temperature coefficient of resistance is positive for metals.

Reason: The temperature coefficient of resistance for insulator is also positive.

7. **Assertion:** In a metre bridge experiment ,null point for an unknown resistance is put inside an enclosure maintained at a higher temperature. The null point can be obtained at the same point as before by decreasing the value of standard resistance.

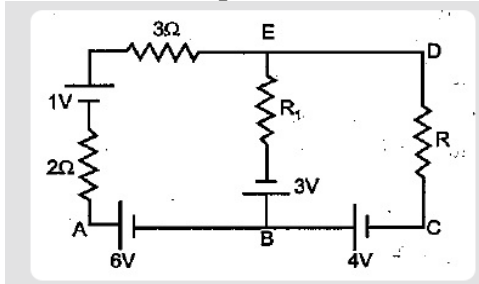
Reason: Resistance of metal increases with increase in temperature.

8. Two conducting wires X and Y of same diameter but of different materials are joined in series across a battery if number density of electrons in X is twice that of Y. Find the ratio of drift velocity of electrons in the two wires.
9. First a set of n equal resistors of R each are connected in series to battery of emf F and internal resistance R . A current I is observed to flow. Then the n resistors are connected in parallel to the same battery. It is observed that current increases 10 times. What is the value of n ?
10. A uniform wire of resistance R is shaped into a regular n sided polygon where n is even. Find the equivalent resistance between (i) opposite corners of the polygon (ii) adjacent sides of polygon.
11. Plot a graph showing the variation of voltage with current drawn from the cell. How can one get information from this plot about the emf of the cell and internal resistance?
12. A potential difference V is applied to a conductor of length l and diameter D . How are the electric field E , drift velocity V_d and resistance R affected when (i) V is doubled (ii) l is doubled and (iii) D is doubled
13. Two wires of equal length, one of aluminium and the other of copper have same resistance which of the two wires is lighter? Hence explain why aluminium are preferred for overhead cables. ($\rho_{Al} = 2.63 \times 10^{-8} \Omega \text{ m}$ $\rho_{Cu} = 1.72 \times 10^{-8} \Omega \text{ m}$ Relative density of Al = 2.7, Cu = 8.9)
14. Find the current flowing through resistance $R_1 = 2 \Omega$ in the circuit and potential difference between pt. B and E.

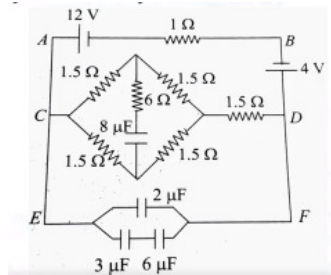


15. Two identical cells of emf 1.5 each joined in parallel supply energy to an external circuit consisting of two resistance of 7Ω each joined in parallel. A very high resistance voltmeter reads the terminal voltage of cells to be 1.4 V. Calculate the internal resistance of each cell

16. State Kirchoff's law for electrical network. Use Kirchoff's rules to determine the potential difference between the points A and D when no current in BE.

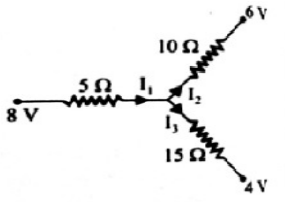


17. When two known resistance R and S are connected in the left and right gap of meter bridge the balance point is found at distance l_1 from the zero end of the meter bridge wire. An unknown resistance X is now connected in parallel to resistance S and the balance point found at a distance l_2 from the zero end. Obtain expression for X in terms of l_1 , l_2 and S .
18. A storage battery of emf 8 volts and internal resistance 0.5Ω is being charge by a 120 V d.c. supply moving a series resistor of 15.5Ω . What is the terminal voltage of battery during charging?
19. In the given circuit calculate the potential difference across $6 \mu F$ capacitor in steady state.

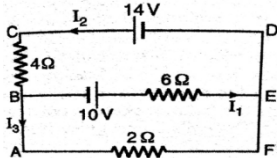


20. (a) The number density of free electrons in a copper conductor is $8.5 \times 10^{28} \text{ m}^{-3}$. How long does an electrons take to drift from one end of wire 3 m long to its other end? The area of cross section of the wire is $2 \times 10^{-6} \text{ m}^2$ and it is carrying a current of 3A. (b) Two cells of emf E_1 and E_2 and internal resistances r_1 and r_2 are connected in parallel. Obtain the expression for emf and internal resistance of a single equivalent cell which can replace this combination.
21. Using the principle of wheat Stone Bridge, describe the method to determine the specific resistance of a wire in the laboratory. Draw the circuit diagram and write the working formula. Write any two precautions taken while performing the experiment.
 (a) Define the term drift velocity of charge carries in the conductor. (b) Prove that current density of metallic conductor is directly proportional to drift speed of electrons.
22. Two heaters are marked 200 V, 300 W and 200 V, 600 W. If the heaters are connected in series and the combination connected to a 200 V dc supply, which heater will produce more heat?

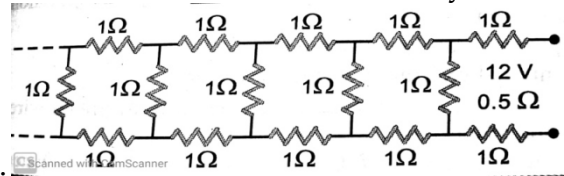
23. Three wires of 5Ω , 10Ω and 15Ω resistance are connected to a common point. Their other ends are free and given potentials of ends are $8V$, $6V$ and $4V$ respectively. Determine the currents I_1 , I_2 , and I_3 .



24. Find the current in each resistor in the circuit shown

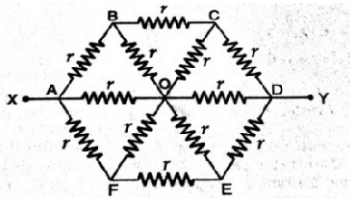


25. Determine the current drawn from a $12V$ supply with internal resistance 0.5Ω by the following



infinite network, each resistor has 1Ω resistance.

26. (a) 12 wires, each of resistance r are connected in the form of a skeleton cube. Find the equivalent resistance of the cube when the current enters at one corner and leaves the diagonally opposite corner.
 (b) Find the equivalent resistance of the network shown in the following figure between points X and Y.



State and prove Wheatstone bridge principle. Write the working formula of Meter Bridge. When is a meter bridge most sensitive and why?

27. Using the formula of drift velocity derive Ohm's law. Differentiate between ohmic and

non-ohmic conductor. Why are alloys used to make standard resistance coils?

28. (a) Derive the expression for current density of a conductor in terms of conductivity and applied electric field. (b) Two cells of emf E_1 and E_2 and internal resistances r_1 and r_2 are connected in parallel. Obtain expressions for equivalent (i) resistance and (ii) emf of the combination.

ELECTROSTATICS

Choose the correct option:

1) Two identical small conducting balls B1 and B2 are given -7 pC and $+4 \text{ pC}$ charges respectively. They are brought in contact with a third identical ball B3 and then separated. If the final charge on each ball is -2 pC , the initial charge on B3 was

- a) -2 pC b) -3 pC c) -5 pC d) -15 pC

2) Four charges $+8C$, $-3C$, $+5C$ and $-10C$ are kept inside a closed surface. The outgoing flux through the surface will be

- a) 26 Vm b) 0 Vm c) 10 Vm d) 8 Vm

3) Three charges $+Q$, q , $+Q$ are placed respectively at distance 0 , $d/2$ and d from the origin on the X - axis.

If the net force experienced by $+Q$, placed at $x=0$ is zero, then the value of q is

- a) $+Q/2$ b) $-Q/2$ c) $-Q/4$ d) $+Q/4$

4) A charge Q is placed at each of the opposite corners of a square. A charge q is placed at each of the other two corners. If the net electrical force on Q is zero, then Q/q equals

- a) -2 b) -1 c) 1 d) none of these

5) A parallel plate capacitor is charged by a battery to a potential difference of V volt. After the charging battery is disconnected, a dielectric slab with dielectric constant K is inserted between its plates. The potential difference across the plates of the capacitor will become

- a) zero b) $V/2$ c) V/K d) KV

In Q6-Q8, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as :

- a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion
- b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion
- c) If Assertion is true but Reason is false
- d) If both Assertion and Reason are false.

6) **ASSERTION(A)**-In a non-uniform electric field, a dipole will have translatory as well as rotatory motion.

REASON(R)-In such a field, a dipole experiences a force as well as a torque.

7) **ASSERTION (A)**-The force between the plates of a parallel plate capacitor is proportional to the charge on it.

REASON (R)-Electric force is equal to charge per unit area.

8) **ASSERTION(A)**-An electron has a high potential energy when it is at a location associated with a more negative value of potential and a low potential energy when at a location associated with a more positive potential.

REASON (R)-Electrons move from a region of higher potential to a region of lower potential.

9) 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 above two charges such that all the three charges are at equilibrium. What is the magnitude, sign and position of the charge q ?

10) Two pith balls each weighing .001kg are suspended from the same point by means of silk threads 0.5 m long. On charging the balls equally, they are found to repel each other to a distance of 0.2 m. Calculate the charge on each ball.

11)The electric field in a region is given by

$E \vec{r} = (10x+4) \hat{i}$ where x is in m and E is in N/C. Calculate the amount of work done in taking a unit charge from

i (5m,0) to (10m,0)

ii (5m,0) to (5m,10m)

12) Derive an expression for the torque experienced by an electric dipole placed in a uniform electric field. What happens if the electric field is non uniform?

13) Charges 5 micro coulomb, 10 micro coulomb and -10 micro coulomb are placed in air at the corners A,B and C of an equilateral triangle ABC of side 5 cm. Determine the resultant force on the charge at A.

14) Derive expressions for the electric field due to a dipole at i)an axial point and ii)an equatorial point.

15) An electron is liberated from the lower of the two large parallel metal plates separated by a distance of 20 mm. The upper plate has a potential of +2400 V relative to the lower plate. How long does the electron take to reach the upper plate? Take e/m of electron as 1.8×10^{11} C/ kg.

16) Two point charges of +1micro coulomb and +4micro coulomb are kept 30 cm apart. How far from the +1micro coulomb charge on the line joining the two charges, will the net electric field be zero?

17) Electric field is directed along + X direction and given by $E=5Ax+2B$, where E is in N/C and x is in metre. A and B are constants with dimensions. Taking $A=10$ N/Cm and $B=5$ N/C, calculate

i)the electric flux through the cube

ii)the net charge enclosed within the cube.

18) State Gauss' law. Using the law, derive the expression for the electric field due to a uniformly charged spherical conducting shell of radius R at a point i)outside and ii)inside the shell.

19)A long cylindrical wire carries a positive charge of linear charge density . An electron(-e,m) revolves around it in a circular path under the influence of the attractive electrostatic force. Derive an expression for the kinetic energy of the electron. Also show the graphical variation of its kinetic energy with the linear charge density.

20) i)Draw the equi-potential surfaces corresponding to a uniform electric field in the Z direction.

ii) Derive an expression for the electric potential at any point along the axial line of an electric dipole.

21) i) Find the expression for the potential energy of a system of two point charges q and q' located at r and r' respectively in an external field E.

ii) Three point charges +1nC, -1nC and +2nC are initially infinite distance apart. Calculate the work done in assembling these charges at the vertices of an equilateral triangle of side 10 cm.

22) A 200 micro farad parallel plate capacitor having plate separation of 5 mm is charged by a 100 V DC source. It remains connected to the source. Using an insulated handle, the distance between the plates is doubled and a dielectric slab of thickness 5 mm and dielectric constant 10 is introduced between the plates. Explain with reason, how the i) capacitance ii) electric field between the plates and iii) energy density of the capacitor will change.

23) Derive an expression for the potential energy of an electric dipole placed in a uniform electric field.

Find out the orientation of the dipole when it is in a) stable equilibrium b) unstable equilibrium.

24) A dielectric slab of thickness t is introduced, without touching, between the plates of a parallel plate capacitor separated by a distance d , such that t is less than d . Derive an expression for the capacitance of the capacitor.

CHEMISTRY

(ELECTROCHEMISTRY)

1. Can E_{cell}° or $\Delta_r G^{\circ}$ for a cell reaction ever be equal to zero?
- 2.. Why is alternating current used for measuring resistance of an electrolytic solution?
3. How will the pH of brine (NaCl solution) be affected when it is electrolysed?
4. Solutions of two electrolytes 'A' and 'B' are diluted. The Λ_m of 'B' increases 1.5 times while that of A increases 25 times. Which of the two is a strong electrolyte? Justify your answer.
5. Write the Nernst equation for the cell reaction in the Daniell cell. How will the E_{cell} be affected when concentration of Zn^{2+} ions is increased ?
6. Write the cell reaction of a lead storage battery when it is discharged. How does the density of the electrolyte change when the battery is discharged?
7. Why on dilution the Λ_m of CH_3COOH increases drastically, while that of CH_3COONa increases gradually?
8. Define the terms specific conductance, molar conductance and equivalent conductance. Derive the relationship between molar conductance and equivalent conductance.
9. State Kohlrausch's law. How does the law help in calculating Λ_{∞}° CH_3COOH ?
10. What is the relationship between Gibbs free energy of the cell reaction in a galvanic cell and the emf or E_{cell} ? When will the maximum work be obtained from a galvanic cell ?
11. State Faraday's first law of electrolysis. How much charge in terms of Faraday is required for reduction of 1 mole of Cu^{2+} ions to Cu?
12. The chemistry of corrosion of iron is essentially an electrochemical phenomenon. Explain the reactions occurring during the corrosion of iron in the atmosphere
13. Determine the values of equilibrium constant (K_c) and ΔG° for the following reaction :
 $\text{Ni(s)} + 2\text{Ag}^+(\text{aq}) \rightarrow \text{Ni}^{2+}(\text{aq}) + 2\text{Ag(s)}$,
 $E^{\circ} = 1.05 \text{ V}$
($1\text{F} = 96500 \text{ C mol}^{-1}$)
14. A zinc rod is dipped in 0.1 M solution of ZnSO_4 . The salt is 95% dissociated at this dilution at 298 K. Calculate the electrode potential.
[$E_{\text{Zn}^{2+}/\text{Zn}}^{\circ} = -0.76 \text{ V}$]
15. The conductivity of 0.001 M acetic acid is $4 \times 10^{-5} \text{ S/cm}$. Calculate the dissociation constant of acetic acid, if molar conductivity at infinite dilution for acetic acid is $390 \text{ S cm}^2/\text{mol}$
16. Calculate the time to deposit 1.27 g of copper at cathode when a current of 2A was passed through the solution of CuSO_4 .
(Molar mass of Cu = 63.5 g mol^{-1} , $1 \text{ F} = 96500 \text{ C mol}^{-1}$)

17. Write the name of the cell which is generally used in hearing aids. Write the reactions taking place at the anode and the cathode of this cell.

18. A copper-silver cell is set up. The copper ion concentration in it is 0.10 M. The concentration of silver ion is not known. The cell potential is measured 0.422 V. Determine the concentration of silver ion in the cell.

Given : $E^\circ_{\text{Ag}^+/\text{Ag}} = + 0.80 \text{ V}$, $E^\circ_{\text{Cu}^{2+}/\text{Cu}} = + 0.34 \text{ V}$.

BIOMOLECULES

1) Account for the following.

- (a) There are 5 OH groups in glucose
- (b) Glucose is a reducing sugar

2) What happens when D-glucose is treated with the following reagents

- (a) Bromine water
- (b) HNO_3

3) Define the following terms:

- (a) Oligosaccharides
- (b) Invert sugar

4) What is meant by the secondary structure of proteins?

5) Write the products of hydrolysis of lactose.

6) Give the plausible explanation for the following:

- (a) Glucose doesn't give
2, 4-DNP test
- (b) The two strands in DNA are not identical but are complementary.
- (c) Starch and cellulose both contain glucose unit as monomer, yet they are structurally different.

7) An alpha helix is a structural feature of:

- (a) Sucrose
- (b) Starch
- (c) Polypeptides
- (d) Nucleotides

8) In this question two statements are given - one labelled as Assertion (A) and the other labelled Reason (R). Select the most appropriate answer from the options given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false. (d) A is false but R is true.

Assertion (A): D (+) Glucose is dextrorotatory in nature

Reason (R): 'D' represents its dextrorotatory nature.

- 9) a) Differentiate between globular and fibrous proteins.
b) Name the linkage that hold together the amino acid molecules in a protein.
c) Name the unit formed by attachment of nucleoside to phosphoric acid at 5' position of sugar moiety.
- 10) Give reasons for the following observations:
(a) Penta-acetate of glucose does not react with hydroxylamine.
(b) Amino acids behave like salts.
(c) Water soluble vitamins must be taken regularly in diet.

11) The following questions are **case-based questions**. Each question has an internal choice and carries 4(1 + 1 + 2) marks each. Read the passage carefully and answer the questions that follow.

Polysaccharides may be very large molecules. Starch, glycogen, cellulose, and chitin are examples of polysaccharides. Starch is the stored form of sugars in plants and is made up of amylose and amylopectin (both polymers of glucose). Amylose is soluble in water and can be hydrolyzed into glucose units breaking glycosidic bonds, by the enzymes alpha-amylase and beta-amylase. It is straight chain polymer Amylopectin is a branched chain polymer of several D-glucose molecules. 80% of amylopectin is present in starch. Plants are able to synthesize glucose, and the excess glucose is stored as starch in different plant parts, including roots and seeds. The starch that is consumed by animals is broken down into smaller molecules, such as glucose. The cells can then absorb the glucose

Glycogen is the storage form of glucose in humans and other vertebrates, and is made up of monomers of glucose. It is structurally quite similar to amylopectin. Glycogen is the animal equivalent of starch. It is stored in liver and skeletal muscles.

Cellulose is one of the most abundant natural biopolymers. The cell walls of plants are mostly made of cellulose, which provides structural support to the cell. Wood and paper are mostly cellulosic in nature. Like amylose, cellulose is a linear polymer of glucose Cellulose is made up of glucose monomers that are linked by bonds between particular carbon atoms in the glucose molecule. Every other glucose monomer in cellulose is flipped over and packed tightly as extended long chains. This gives cellulose its rigidity and high tensile strength-which is so important to plant cells. Cellulose passing through our digestive system is called dietary fibre.

Answer the following

- a) Which component of starch is a branched polymer of alpha -glucose and insoluble in water?
b) Which of the two components of starch is water soluble?
c) What is glycogen? How is it different from starch?

OR

Starch and cellulose both contain glucose units as monomer, yet they are structurally different. Explain.

CHEMISTRY

1. Two liquids X and Y boils at 110°C and 140°C respectively. Which of them has higher vapour pressure at 50°C ?
2. If molality(m) of dilute solution is doubled , the value of molal depression constant(K_f) will be:
 - a) Halved
 - b) Tripled
 - c) Unchanged
 - d) Doubled
3. The molarity of the solution containing 7.1g of Na_2SO_4 in 100ml of aqueous solution is:
 - a) 2M
 - b) 0.5m
 - c) 1M
 - d) 0.05M
4. If two solutions A and B have $p_A:p_B = 1:3$ and have mole fraction in solution 1:3, the mole fraction of A in vapour is:
 - a) 0.33
 - b) 0.25
 - c) 0.50
 - d) 0.75
5. K_H value for $\text{Ar}(\text{g})$, $\text{CO}_2(\text{g})$, $\text{HCHO}(\text{g})$ and $\text{CH}_4(\text{g})$ are 40.39, 1.67, 1.83×10^{-5} and 0.413 respectively. Arrange these gases in the order of their increasing solubility.
 - a) $\text{HCHO} < \text{CH}_4 < \text{CO}_2 < \text{Ar}$
 - b) $\text{HCHO} < \text{CO}_2 < \text{CH}_4 < \text{Ar}$
 - c) $\text{Ar} < \text{CO}_2 < \text{CH}_4 < \text{HCHO}$
 - d) $\text{Ar} < \text{CH}_4 < \text{CO}_2 < \text{HCHO}$
6. Which aqueous solution has higher concentration:
1 molar or 1 molal solution of the same solute.
7. Can we separate the components of azeotropic mixture by distillation? How?
8. Write the difference between osmosis and diffusion.
9. How does semipermeable membrane allows only the solvent and not the solute to pass through it? Explain it?
10. Explain the biological significance of osmosis. Also define isotonic solution and hypertonic, hypotonic solutions.
11. Why is camphor preferred as a solvent for measuring the molecular mass of naphthalene by Rast method?
12. Explain the significance of Vant's Hoff factor by taking suitable example.
13. Name a salt which will have the same value of Vant's Hoff factor(i) as that of potassium ferrocyanide.
14. Acetic acid exists in solution in the dimeric form, and the Vant's Hoff factor was found to be 0.52. Find the degree of association of acetic acid.
15. Calculate the amount of ice that will separate out on cooling a solution containing 50g of non volatile solute glycol in 200g of water to -9.3°C . (K_f for $\text{H}_2\text{O} = 1.86$)

MATHEMATICS

CORE MATHEMATICS

1. Let Z be the set of all integers and R be the relation on Z defined as

$R = \{(a, b) : a, b \in Z \text{ and } (a - b) \text{ is divisible by } 5\}$. Prove that R is an equivalence relation.

2. Let $f: N \rightarrow N$ be defined by $f(n) = \begin{cases} \frac{n+1}{2}, & \text{if } n \text{ is odd.} \\ \frac{n}{2}, & \text{if } n \text{ is even.} \end{cases}$

For all $n \in N$. Find whether the function is bijective ?

3. Write the principle value of (i) $\cos^{-1} \frac{1}{2} - 2 \sin^{-1}(-\frac{1}{2})$. (ii) $\tan^{-1} \sqrt{3} - \sec^{-1}(-2)$. (iii) $\cos^{-1} \cos \frac{7\pi}{6}$.

4. If $A = \begin{bmatrix} 3 & -4 \\ 1 & -1 \end{bmatrix}$, then prove that $A^n = \begin{bmatrix} 1+2n & -4n \\ n & 1-2n \end{bmatrix}$, where n is a positive integer.

5. Show that $(AB-BA)$ is a skew symmetric matrix for every square matrix A and B .

6. Express the matrix $A = \begin{bmatrix} 1 & 3 & 5 \\ -6 & 8 & 3 \\ -4 & 6 & 5 \end{bmatrix}$ as the sum of a symmetric and a skew symmetric matrix.

7. Express $\vec{\beta} = 2\hat{i} - \hat{j} + 3\hat{k}$ as the sum of a vector parallel and a vector perpendicular to $\vec{\alpha} = 2\hat{i} + 4\hat{j} - 2\hat{k}$.

8. The scalar product of the vector $\hat{i} + \hat{j} + \hat{k}$ with a unit vector along the sum of vectors $2\hat{i} + 4\hat{j} - 2\hat{k}$ and $\lambda\hat{i} + 2\hat{j} + 3\hat{k}$ is equal to 1. Find the value of λ .

9. Find the area of a parallelogram whose diagonals are given by vector $\vec{a} = 3\hat{i} + \hat{j} - 2\hat{k}$, $\vec{b} = \hat{i} - 3\hat{j} + 4\hat{k}$.

10. Find the Cartesian and vector equation of the line which passes through the point $(1, 2, 3)$ and parallel to the line $\frac{-x+1}{1} = \frac{y+3}{7} = \frac{z-6}{7}$.

11. Find the angle between the lines $\vec{r} = (3\hat{i} + 2\hat{j} - 4\hat{k}) + \lambda(\hat{i} + 2\hat{j} + 2\hat{k})$ and $\vec{r} = (5\hat{j} - 2\hat{k}) + \mu(3\hat{i} + 2\hat{j} + 6\hat{k})$.

12. Find the image of the point $(1, 6, 3)$ in the line $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$.

13. Find the shortest distance between the lines and the vector equation of the line of shortest distance whose vector equations are $\vec{r} = (\hat{i} + \hat{j}) + \lambda(2\hat{i} - \hat{j} + \hat{k})$ and $\vec{r} = (2\hat{i} + \hat{j} - \hat{k}) + \mu(3\hat{i} - 5\hat{j} + 2\hat{k})$.

14. Compute $P(A|B)$, when $P(A) = 1/5$, $P(B) = 2/5$ and $P(A \cup B) = 3/5$.

15. An insurance company insured 2000 scooter drivers, 4000 car drivers and 6000 truck drivers. The probability of an accident involving a scooter, a car and a truck is 1%, 3% and 15% respectively. One of the insured persons meets with an accident. What is the probability that he is a scooter driver?

16. Maximize $Z = 8x + 9y$ subject to the constraints given below:

$$2x + 3y \leq 6; 3x - 2y \leq 6; y \leq 1; x, y \geq 0$$

17. Solve the following problem graphically: Minimise $Z = 3x + 2y$ subject to the constraints:

$$x + y \geq 48, 3x + 5y \leq 15, x \geq 0, y \geq 0$$

18. Show that the minimum of Z occurs at more than two points. Minimise and Maximise

$$Z = x + 2y \text{ subject to } x + 2y \geq 100, 2x - y \leq 0, 2x + y \leq 200; x, y \geq 0.$$

APPLIED MATHEMATICS

- 1) Solve the following linear programming problem graphically: Minimize $z = 6x + 3y$
Subject to the constraints:

$$4x + y \geq 80, \quad x + 5y \geq 115, \quad 3x + 2y \leq 150, \quad x \geq 0, y \geq 0$$

- 2) Reshma wishes to mix two types of food P and Q in such a way that the vitamin contents of the mixture contain at least 8 units of vitamin A and 11 units of vitamin B. Food P costs Rs. 60/kg and Food Q costs Rs. 80/kg. Food P contains 3 units/kg of vitamin A and 5 units/kg of vitamin B. while food Q contains 4 units/kg of vitamin A and 2 units/kg of vitamin B. Determine the minimum cost of the mixture.
- 3) A library has to accommodate two different types of books on a shelf. The books are 6 cm and 4 cm thick and weigh 1 kg and $1\frac{1}{2}$ kg each respectively. The shelf is 96 cm long and at most can support a weight of 21 kg. How should the shelf be filled with the books of two types in order to include the greatest number of books? Make it as an LPP and solve it graphically.
- 4) A brick manufacturer has two depots, A and B, with stocks of 30,000 and 20,000 bricks respectively. He receives orders from three builders, P, Q and R for 15,000, 20,000 and 15,000 bricks respectively. The cost in Rs. transporting 1000 bricks to the builders from the depots are given below:

From	To	P	Q	R
	A	40	20	30
	B	20	60	40

- 5) A fair coin is tossed four times. Let X denote the longest string of heads occurring. Find the probability distribution, mean and variance of X.
- 6) A bag contains 10 balls each marked with one of the digits 0 to 9. If four balls are drawn successively with replacement from the bag, what is the probability that none is marked with the digit 0?
- 7) A manufacturer knows that the condensers he makes contain on the average 1% of defectives. He packs them in boxes of 100. What is the probability that a box picked at random will contain 4 or more defective condensers?
- 8) 1000 light bulbs with a mean life of 120 days are installed in a new factory; their length of life is normally distributed with standard deviation 20 days. How many bulbs will expire in less than 90 days?

- 9) Express the matrix $\begin{bmatrix} 3 & -2 & -4 \\ 3 & -2 & -5 \\ -1 & 1 & 2 \end{bmatrix}$ as the sum of a symmetric and skew-symmetric matrix and verify your result.

10) If $A = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$, find A^{-1} and show that $A^{-1} = \frac{1}{2} (A^2 - 3I)$.

11) Solve the following system of equations by matrix method:

$$\begin{cases} \frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4, \\ \frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1, \\ \frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2; x, y, z \neq 0 \end{cases}$$

12) A company produces three products every day. Their production on a certain day is 45 tons. It is found that the production of third product exceeds the production of first product by 8 tons while the total production of first and third product is twice the production of second product. Determine the production level of each product using matrix method.

BIOLOGY

CHAPTER - 1

GROUP- A [1 Mark]

- Q.1 What is tassels of Corn cob?
 Q.2 If the diploid number of chromosomes in an angiospermic plant is 18, what number would you expect in the endosperm and embryo of that plant?
 Q.3 Name the protective substance present in the pollen envelope to tide over adverse condition.
 Q.4 Give the technical term for the type of pollination which ensures genetic recombination.
 Q.5 Give the term used for modified form of reproduction in which seeds are formed without fusion of gametes.

GROUP- B [2 Marks]

- Q.6 Justify Cleistogamous flowers are invariably autogamous.
 Q.7 What is the fate of haploid megaspores formed by the megaspore mother cell in an angiospermic plant?
 Q.8 Define Apomixes and polyembryony.

GROUP- C [3 Marks]

- Q.9 Draw the section of a mature pollen sac and show the different layers.
 Q.10 What are major steps are found in post fertilization event ? Explain development of endosperm in angiosperm.

GROUP- D [5 Marks]

- Q.21 Draw a longitudinal section of a pistil showing pollen germination. Explain the events in the embryo sac during the process of fertilization. Which resulting stages give rise to the embryo and the endosperm respectively?

Chapter-2

GROUP- A

- Q.1 Differentiate between Corpus Luteum & Corpus Albican(Regressive Corpus leuteum).
 Q.2 What is the role of Sertoli cells in Spermatogenesis?
 Q.3 Justify presence or absence of hymen is not a reliable indicator of virginity.
 Q.4 What is the role of Myometrium & Endometrium in female reproductive system?
 Q.5 Mention the stage of embryo for implantation.

GROUP-B

- Q.6 What is foetal ejection reflex?
Q.7 Justify every cell of Inner cell mass(Embryo) can give rise to all the tissues and organs.
Q.8 What is the role of Placenta in human embryonic development.

GROUP-C

- Q.9 Explain how polyspermy can prevent naturally during fertilization in Human.
Q.10 Define spermiogenesis and Spermiation.

GROUP-D

- Q.11(a) Explain major events during menstrual cycle.
(b) How spermatogenesis is different from Oogenesis?

Chapter-3

GROUP-A

- Q.1 What is amniocentesis?
Q.2 Define lactational amenorrhea.
Q.3 What is Induced abortion? Mention latest amendment about Induced abortion.
Q.4 Write the name of some ART and mention any one technique which is adopted due to abnormality from Male partner.
Q.5 What are composite pills? Mention their composition.

GROUP-B

- Q.6 What are the major strategies adopted for RCH?
Q.7 What is sterilization? Why it is more reliable than others?
Q.8 What are STI? Mention the name of some STI which are non curable.

Chapter-4

GROUP- A

1. Which mathematical expression used by Mendel to show his hybridization technique?
2. Give the scientific name and also the common name of the plant in which incomplete dominance was first discovered.
3. What do you mean by male and female heterogamety? Explain with example of each.

GROUP- B

4. When a red flowered Antirrhinum plant was crossed with a white flowered Antirrhinum plant, the F_1 offspring had pink flowers. Mention:
 - (a) The genotype of F_1 plants
 - (b) The reason why it did not bear the parental red or white flower colours.
5. What is a test cross? What is its significance? Give the phenotypic ratio of the test cross made between homozygous dominant and a heterozygous dominant.

GROUP- C

6. Give the scientific name of the plant selected by Mendel for his experiments. State three laws given by him.
7. Explain the hybridization whenever cross Round and yellow seeded plant with Wrinkle and green seeded plant .

COMPUTER SCIENCE

Topics: Revision Tour of Python & Functions

Q1. Write a python function that takes two numbers and print the smaller number. Also write how to call this function.

Q2. How many values a python function can return? Explain how?

Q3. Rewrite the correct code after removing the errors: -

```
def Sl(p, t=2, r):  
    return (p*r*t)/100
```

Q4. What is scope of a variable? Explain two types of variable scope with example.

Q. 5. Consider the following function headers. Identify the correct statement: -

- | | |
|------------------------------|----------------------------|
| a) def correct(a=1,b=2,c): | b) def correct(a=1,b,c=3): |
| c) def correct(a=1,b=2,c=3): | d) def correct(a=1,b,c): |

Q6. Find the output of the following code: -

```
def CALLME(n1=1,n2=2):  
    n1=n1*n2  
    n2+=2  
    print(n1,n2)  
CALLME()  
CALLME(2,1)  
CALLME(3)
```

Q7. Create a package Arithmetic Operations(named AO) contain sum, product and difference of two numbers and use it in your main programme.

Q8. Differentiate between a text file and a binary file.

Q9. Find the output of the following:

a)

```
def main ( ) :  
    Moves=[11, 22, 33, 44]  
    Queen=Moves  
    Moves[2]+=22  
    L=Len(Moves)  
    for i in range (L):  
        print("Now@", Queen[L-i-1], "#", Moves [i])
```


b)

```
defChangeList():
    L=[]
    L1=[]
    L2=[]
    for i in range(1,10):
        L.append(i)
    for i in range(10,1,-2):
        L1.append(i)
    for i in range(len(L1)):
        L2.append(L1[i]+L[i])
    L2.append(len(L)-len(L1))
    print(L2)
ChangeList()
```

Q10. List one similarity and one difference between List and Dictionary data type.

Q11. Write a user defined function find name(name) where name is an argument in Python to delete phone number from a dictionary phonebook on the basis of the name, where name is the key.

Q12. Write a user defined function find name(name) where name is an argument in Python to delete phone number from a dictionary phonebook on the basis of the name, where name is the key.

ACCOUNTANCY

Q.1, Uma, Rama and Suma were partners with fixed capitals of Rs. 3,00,000, Rs. 2,00,000 and Rs. 1,00,000 respectively. They shared profits in the ratio of their fixed capitals. Suma died on 31 May, 2020, where as the firm closes its books of accounts on 31" March every year. According to their partnership deed, Suma's representatives would be entitled to get share in the interim profits of the firm on the basis of sales. Sales and profit for the year 2019.'20 amounted to Rs. 8,00,000 and Rs. 2,40,000 respectively and sales from 1 April, 2020 to 31 May, 2020 amounted to 1,50,000. The rate of profit to sales remained constant during these two years. You are required to : Partnership Basic Concept .

i) Calculate Suma's share in profit.

ii) Pass Journal entry to record Suma's share in profit.

Q. 2. Mita, Gopal and Farhan were partners sharing profits and losses in the ratio of 3:2 : 1. On 31t March, 2020 they decided to change the profit sharing ratio to 5:3:2. On this date the Balance Sheet showed Deferred Advertisement Expenditure Rs. 30,000 and Contingency Reserve Rs. 9,000, Goodwill was valued at Rs. 4,80,000. Rs. Pass the necessary Journal entries s for the above transactions in the books of the firm on its reconstitution.

Q. 3. P and Q were partners in a firm sharing profits in the ratio of 5:3. On 1 April, 2020, they admitted R as a new partner for 1/8th share in the profits with a guaranteed profit of Rs. 75,000. The new profit sharing ratio between P and Q will remain the same but they agreed to bear any deficiency on account of guarantee to R in the ratio of 3:2. The profit of the firm for the year ended 31 March, 2021 was Rs. 4,00,000. Prepare Profit and Loss Appropriation account for the year ended 31/3/2021.

Q.4 Ravi and Mohan were partners in a firm sharing profits in the ratio of 7:5. Their respective fixed capitals were Ravi Rs. 10,00,000 and Mohan Rs. 7,00,000. The partnership deed provided for the following:

(i) Interest on capital @ 12% p.a.

(ii) Ravi's salary Rs. 6,000 per month and Mohan's salary Rs. 60,000 per year.

Profit for the year ended 31st March, 2022 was Rs. 5,04,000 which was distributed equally, without providing for the above. Pass an adjustment entry.

Q.5 Ravi and Rishab are partners in a firm, Their fixed capitals are Rs. 3,00,000 and Rs. 4,00,000 respectively. They admitted Pawan as a partner for 1/4th share in the profits. According to the conditions of partnership deed, Pawan was given a guarantee of profit of Rs. 50,000. Deficit in the guaranteed amount to Pawan will be borne by Ravi and Rishab in the ratio of 3 :2. The firm earned profit of Rs. 1,60,000 for the year ended 31st March, 2022. Prepare the 'Profit & Loss Appropriation Account' and show your working

Q.6 A,B,C and D are partners in a firm sharing profits in the ratio of 3:3:2:2 respectively .D retires and A, B and C decided to share future profits in the ratio of 3:2:1 Good will of the firm is valued at Rs.600000 Goodwill already appears in the books at Rs.450000 Record the above transactions in the books of firm.

Q.7 A,B and C were partners in a firm from 01.04.2023 they decided to share the profits in the ratio of 2:3:5. On the date the Balance sheet of the firm showed a balance of Rs.30000 in General Reserve and Rs. 60000 in Advertisement suspense Account. The Goodwill of the firm was valued of Rs.180000.Pass journal entries for the above transactions in the books of the firm, Also show your working clearly

Q.8 A,B and C are partners sharing profits and losses in the ratio of 5:3:2. On 01.04.2023their capitals were Rs.300000, Rs.200000 and Rs.100000 respectively. For the year ended 31.03.2023 they earned a profit of Rs.720000 before the following adjustments:

i) Interest on Capital is allowed @ 6%p.a

ii) Interest Drawing is changed @8%p.a

iii) Salary payable to A Rs.10000 pm and B Rs. 100000 p.a

iv) Commission payable to C@ 10% on net profit

v) During the year A,B and C withdraw Rs.50000. Rs. 30000 and Rs.20000 for personal use

Prepare:

(i) Profit and loss appropriation Account for the year ended 31.03.2023

(ii) Partners Capital Accounts

BUSINESS STUDIES

Chapter: 1 Nature & Significance of Management

1. Aman, Ahmad, and Ali were partners in a firm engaged in the distribution of dairy products in Maharashtra state. Aman is a holder of Senior Secondary School Certificate from CBSE with business studies as one of its elective subjects. Ahmed has done his post-graduation in history and Ali in Dairy Farming. One day there was a serious discussion between Ahmed and Ali regarding the nature of management. Ahmed argued that management was a profession. Whereas Ali argued against it saying that the legal and medical professions are the only profession because they fulfil all the conditions of profession. Aman based on his knowledge of business studies explained the nature of management as a profession to Aman and Ali.
Point out how Aman would have satisfied both Ahmed and Ali?
2. Why do we need to perform different functions of management?
3. You have three brothers. They are working in three different MNCs as General Manager, Supervisor and Deputy Personnel Manager. What functions of management do you think they are performing in their companies? Are they performing the same function of management? Explain.
4. "Management is regarded as an Art by some, as Science or as an inexact Science by others. The truth seems to be somewhere in between. In the light of this statement explain the true nature of management.
5. Reema is working as production manager in a company manufacturing different types of milk products. Now she is planning to launch packaged Kheer in packets of 250 grams for which she requires to reduce fewline of products which are not profitable. She knows that it will result in saving of cost of labour and machines. Identify the technique of management applied by Reema.
6. ABC limited is engaged in producing electricity from domestic garbage. There is almost equal division of work and responsibility between workers and management. The management even takes workers into confidence before taking important decisions. All the workers are satisfied as the behaviour of management is very good.
State the principle of management described in the above para.
7. Explain any five techniques of scientific management.
8. Explain the following:-
 - a. Unity of direction
 - b. Equity
 - c. Espirit de Corps
 - d. Order
 - e. Centralisation and Decentralisation
 - f. Initiative
9. A recent rate cut in the interest on loans announced by the banks encouraged Amit, a student of a Management school to take a loan from State Bank of India to experiment and develop cars to be powered by fuel produced from garbage. He developed such a car and exhibited it in the science fair organised by Directorate of Education. He was awarded first prize for his invention. Identify and explain the dimensions of business environment discussed in the above case.
10. Explain any four features of business environment.
11. State any four importance of business environment.
12. State any five functions of marketing from the management point of view.
13. What do you mean by price and what are the objectives of pricing?
14. What is marketing mix explain its main components in detail.

Describe briefly various functions to be performed in the process of marketing.

ECONOMICS

SECTION - A

1. Define Externalities.
2. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): Real Flow is also known as Money Flow

Reasons (R): Real Flow involves flow of goods and services between firms and households.

- (a) Assertion (A) is true but Reason (R) is false
(b) Assertion (A) is false but Reason (R) is true
(c) Both (A) and (R) are true and Reason (R) is correct explanation of Assertion (A)
(d) Both (A) and (R) are true but Reason (R) is not the correct explanation of Assertion (A)
3. From the following pair of terms and statements in column I and column II, choose the correct pair of statement.

	Column I		Column II
(A)	Transfer Income	(i)	Unilateral Concept
(B)	Factor Income	(ii)	Resale during the same accounting year
(C)	Final Goods	(iii)	Bi-lateral Concept
(D)	Intermediate Goods	(iv)	Used for investment purpose

- (a) A-i (b) B-ii (c) C-iii (d) D-iv

4. Will Compensation of employees to the residents of England working in the Indian Embassy in England be included in domestic factor income of India? Give reason for your answer.

5. Depreciation means:

- (a) Destruction of a plant in a fire accident
(b) Loss of fixed assets over time due to wear and tear
(c) Loss of fixed assets in an earthquake
(d) Closure of the plant due to lockout

6. Using the following data of an imaginary economy, calculate and compare the Real Gross Domestic Product (GDP) for the given years:

YEAR	NOMINAL GDP Rate	GDP Deflator
2018-19	7.4%	150
2019-20	10%	130

- 7.(a) Currency is issued by the Central Bank, yet we say that commercial banks create money. Explain.
(b). How is this money creation by commercial banks likely to affect the national income?

8.Explain the following functions of the Central Bank:

- (i) Bankers' Bank
(ii) Bank of Issue

9. (a) Suppose a ban is imposed on consumption of liquor in the country. Examine its effect on GDP and welfare.
- (b) How should the following be treated while estimating national income? Give reasons to support your answer.
- (i) Bonus paid to Employees
- (ii) Purchase of taxi by a taxi driver
- (c) Give any two points of difference between Real Flow and Nominal Flow.

10. Given the following data, find 'Gross Domestic Capital Formation' and 'Wages and Salaries':

Particulars	(Rs. in Crore)
Mixed Income of self employed	3500
Net Indirect Taxes	300
Government final consumption expenditure	14,000
Net exports	3,000
Consumption of fixed capital	300
Net factor income from abroad	700
Operating Surplus	12,000
National Income	30,000
Profits	500
Private final consumption expenditure	11,000

SECTION - B

11. Suez Canal was opened in..... to reduce the cost of transportation to access Indian Market.

(Fill up the blank with correct alternative)

- (a) 1850 (b) 1869 (c) 1888 (d) 1889

12. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): In order to protect domestic industries, India was following a regime of quantitative restrictions on imports.

Reasons (R): Such quantitative restrictions came under the ambit of privatization.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
- (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)
- (c) Assertion (A) is true but Reason (R) is false.
- (d) Assertion (A) is false but Reason (R) is true.

13. Read the following statements- Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A): The achievements of India's industrial sector during the first seven plans are impressive indeed.

Reasons (R): The land ceiling policy was adopted to reduce the concentration of land ownership in a few hands.

- (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
- (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A)
- (c) Assertion (A) is true but Reason (R) is false.
- (d) Assertion (A) is false but Reason (R) is true

14. Arrange the following events in the correct chronological order in context of Indian Economy and choose the correct alternative:

- (i) First Phase of Green Revolution (ii) Launch of First Five Year Plan
 - (iii) First Industrial Policy Resolution (iv) Constitution of Karve Committee
- (a) (i),(ii), (iv), (iii) (b) (iii), (ii), (iv), (i)
(c) (iv), (i), (iii), (ii) (d) (iii), (i), (iv), (ii)

15. Schedule _____ comprise of industries which would be exclusively owned by the state:

- (a) A (b) B (c) C (d) None of these

(Fill up the blank with correct alternative)

16. Colonial rule in India witnessed a relatively higher yield of cash crops in certain areas of the country. Comment and state the conditions of Indian farmers during this period.

17. Explain the statement that Green Revolution enabled the Government to procure sufficient food grains to build its stocks that could be used during time of shortage.

18. Discuss the rationale behind choosing Self-reliance and Growth as planning objectives for Indian Economy.

19.(a) State any two important objectives of Public Sector Undertakings (PSU).

(b) Mention two reasons for development of railways in India.

20. While subsidies encourage farmers to use new technology, they are huge burden on government finances. Discuss the usefulness of subsidies in the light of above statement.

HISTORY

1. Scholars of History are in a debate about a centralised government in the harappan civilization. Why?
2. List the factors which made Magadhathe most important Mahajanapada
3. Describe the features of Mahajanapadas?
4. How can you say that the Harappan culture was an urban one.
5. Describe briefly the sources used for reconstructing the history of the Gupta rulers
6. Critically examine why Sanchi survived while Amravati did not Samples of Eight mark questions
7. How did Inscriptions help us reconstruct our History
8. Compare and contrast Jainism and Buddhism
9. Explain the social and political scene of ancient India with the examples taken from Textual evidences
10. Why was a Stupa's built?
11. Explain the structure of a stupa
12. Mark in an outline map of India
Mature Harappan sites: Harappa, Banawali, Kalibangan, Balakot, Rakhigarhi, Dholavira, Nageshwar, Lothal, Mohenjodaro, Chanhudaro, KotDiji.

SOCIOLOGY

Ch.2

1. What is Formal demography?
2. Why is rising dependency ratio a cause of worry in many countries?
3. State the importance of demographic data.
4. What do you mean by ageing of population.
5. What is dependency ratio?
6. What is meant by the rate of natural increase?

Ch- 3

Define Caste.

2. What do you mean by Tribal community?
3. What are the permanent Traits of the Tribes?
4. How have tribes been classified in India?
5. Mention any four dominant castes.

chapter 5.

1. What is the meaning of social resources?
2. What is the significance of the term Dalit?
3. Who are OBC's?

4. What is meant by untouchability?
5. Explain the term social stratification.

Chapter 6

1. Who are the social minorities in the social term?
2. What is communalism?
3. What does the term Cultural diversity mean?
4. Define a Nation state .
5. What is Regionalism?

SHORT ANSWER

CHAPTER 2.

1. Give reasons for the declining sex ratio.
2. What reasons are responsible for more maternal deaths in India than any other country in the world? What efforts are being done by the Indian health ministry to overcome this issue?

Ch - 3

1. What is caste? How caste is different from Varna?
2. Highlight the problems faced by the tribals in India?
3. Discuss casteism in India.

Ch -5

1. How would you distinguish prejudice from other kinds of opinion or belief?
2. What is the relationship between caste and economic inequality today?
3. Social exclusion is the result of structural feature of society. Comment.

Ch- 6

1. What are community identities? Why are they important?
2. Explain the process of secularization as an instrument of social change.

Long Answer

Ch- 2

1. How does the changing age structure offer a 'demographic dividend' for India?
2. Explain theory of Demography Transition.

Ch- 3

1. Discuss the tribal identity emerged today?
2. How do you explain this juxtaposition of two caste groups a seemingly casteless upper caste group and an apparently caste defined lower caste group?

Ch - 5

1. In what sense can one say that 'disability' is as much a social as a physical thing ?
2. What are the major issues taken up by the Women's movement over its history?

Ch -6

1. What are policies of assimilation and policies of integration?
2. What are community identities? Why are they important?

POLITICAL SCIENCE

Chapter -1

BIPOLARITY

1. Who was Gorbachev? Write a short note on him.
2. What was the Soviet system?
3. Mention the year and the relevance of the breaking of the Berlin wall ?
4. What role did the World Bank play in integrating the Soviet states?
5. As a result of shock therapy to which economic system, each state of the Soviet bloc was gradually to be absorbed?
6. Mention two characteristics of the Soviet political system.
7. Mark the states that emerged from the Soviet Union on a political map of the world.
8. Mention areas of diplomacy between India and USSR?
9. Bring out the difference between multipolar, bipolar and unipolar world
10. Mention any three features that distinguish the Soviet economy from that of a capitalist country like the US.

BOOK -2

Chapter-1

Challenges of Nation building

1. What were the challenges before India at the time of independence?
2. Who was PottiSriramulu?
3. What was the SRC who were its members and when did it come into existence?
4. On the map mark 1. Junagadh 2. Manipur 3. Hyderabad 4. Mysore.
5. What were the main concerns/ challenges of partition?
6. How was the division and resettlement of the Eastern region different t the western?
7. Name the parent states and year of formation for 1. Nagaland 2. Gujarat 3. Arunachal Pradesh 4. Jharkhand?
8. What was the vishal Andhra movement how did language evolve into a political controversy?
9. Discuss Nehru's approach to nation building? Do you think his reasons were prudential or sentimental?
10. How were the princely states integrated? Were they willing to join India or were they coerced?

GEOGRAPHY

1. What is human geography?
2. Explain naturalisation of humans.
3. How is the knowledge of nature important to develop technology? Explain with suitable examples.
4. How are nature and humans inseparable?
5. How is density of population of a region calculated?
6. Define natural growth of population.
7. Explain three geographical factors that influence the distribution of population.
8. Discuss the three stages of demographic transition.
9. Explain any three factors which affect the distribution of population in India.
10. Name the state of India having highest density of population as per 2011 census.
11. Why do some states of India have higher rates of work participation than others?
12. 'The agriculture sector has the largest share of Indian workers'. Explain.
13. What makes rural settlement different from urban settlement in India? Explain.
14. Explain any three characteristics of semi-clustered rural settlements of India.
15. What are mining towns?
16. Explain three types of changes that have affected land use in India.
17. Describe the problems of Indian agriculture.
18. What is the difference between dryland and wetland farming?
19. "Indiscriminate use of water by increasing population and industrial expansion has led to degradation of the quality of water considerably." Evaluate the statement.
20. Explain the importance of rainwater harvesting.

PHYSICAL EDUCATION

1. 1. Draw a fixture of 15 teams following all the steps on the basis of Knock-out tournament?
2. 2. Draw a fixture of 11 teams on the basis of Tabular method.
3. 3. Explain any 10 committees for the successful conduction of the tournament.
4. 4. Explain the function of Sports Events Management.
5. 5. Explain the causes, precautions and remedies of any two Spinal curvature deformities.
6. 6. Explain the causes, precautions and remedies of any two lower body deformities.
7. 7. Explain the Physical and Psychological benefits of women's participation in Sports.
8. 8. Define Eating disorder and its types in detail.

ODDISI DANCE

Section- "A" Knowledge/Understanding

01. Which is the basic pose in Odissi dance?
a) Bhramari b) Chari c) Chouka d) Tribhanga
02. What is the name of ten types of circled foot movement?
a) Mandalapada b) Bhramaripada c) Charipada d) Choukapada
03. Among which of these books we pray first two Slokas for Lord Ganesh and Lord Jagannath?
a) Abhinaya Darpan b) Abhinaya Chandrika c) Sangeet Ratnakar d) Bharatya Nurtyakala
04. Lord Shiva taught the art from of dance to whom?
a) Ganesh b) Rambha c) Bharat d) Gargacharya
05. Who had performed Notrang dance in Devi Bhasmasura dancedrama?
a) Guru Kelucharan Mohapatra b) Guru Deba Prasad Das
c) Guru Pankaj Charan Das d) Guru Duruga Charan Ranvir.
06. What is the local name of devadasi?
a) Gotipua b) Mahari c) Odissi d) Deshe
07. How many types of Nrutta hasta mudra are according to Abhinaya Darpan?
a) Eleven b) Thirteen c) Twenty three d) Thirty three
08. How many types of Lasya are there?
a) Two b) Four c) Six d) Eight
09. Who was an ancient Indian teatrologist and Musicologist?
a) Bharat Muni b) Nandikeshwar c) Maheswar Mohapatra d) Brahama
10. Who is considered the father of Indian theatrical art form?
a) Lord Brahma b) Lord Shiva c) Nadikeshwar d) Bharata Muni

Section- "B" Application Based

13. Who among the following is renowned in classical dance?
a) Savitri Balasubrahmanyam b) Indrani Rahman c) M.S.Subbulakshmi d) Anasuya Sarabhai
14. Which among the following gurus are born in district of puri?
a) Sanjukta panigrahi & kumkum mohanty, b) Kelucharan Mahapatra & Mayadhar Raut,
c) Pankaj charan das & Deba Prasad Das d) Kelucharan Mohapara & Pankaj Charan Das
15. Which dance form was originated in Singhbum?
a) Classical b) Folk c) semi classical d) Western
16. In which type of following folk dance of India the cylindrical drum is an integral part?
a) Chhau dance b) Bhangra dance c) Sambalpuri dance d) paika dance
17. According to Lingapuranam, who is the son of a blind woman?
a) Nandikeshwar b) Nandkeshwar c) Maheswar d) Nandeekeshwar

18. Which of the following is the most famous and ancient book of dance in India?

a) Natya darpan b) Natya shastra c) abhinaya darpan d) Abhinaya chandrika

19. In Natya shastra, how many kind of classical dance are there?

a) Four b) Six c) Seven d) Eight

MUSIC

1. अलंकार किसे कहते हैं? राग भैरव के स्वरों में दो अलंकार लिखें ।

2. रूपक ताल का परिचय देते हुए ताल लिपिबद्ध कीजिए ।

3. राग भैरव का 30 स्वरों तक विस्तार कीजिए ।

4. राग भैरव की विशेषताओं का वर्णन कीजिए ।

5. राग भैरव के द्रुत ख्याल की स्वरलिपिबद्ध कीजिए ।

6. झपताल का विवरण तथा उसकी दुगुन लिखिए।

7. राग भैरव में द्रुत ख्याल तान सहित गाने का अभ्यास करें।

8. रूपक और झपताल में दुगुन व चौगुन को हाथ पर दर्शाने का अभ्यास करें ।

DELHI PUBLIC SCHOOL, RANCHI

Fine Art Practical Assignment for Summer Holiday 2024-25 Class XII

SUBJECT – Fine Art- Painting (049) ,Graphics (050)

Painting Practical (049):- (colour composition)

Topics :- (Make any 3 compositions) on Flower study and still life in pencil shading and colour, landscape painting, composition with human figure – study room, social event, Daily life, village life, one imaginative painting, animal figure, bird & flower (use pencil and pen), Indian folk/ traditional art

on ¼th Chart Papers or A4 Drawing copy by Poster Colour / Water colour /Acrylic colour etc....

Graphics Practical (050)

Make 5 **black & white compositions, using different dots, lines and textures,** with human figure, daily life, village life, urban life, drawing room, rainy day, festival, market, city life, games & sports, fantasy & dream, cultural & social events, bird and animal, nature, Indian folk/ traditional art **on ¼th Chart Papers**

by Poster Colour / Fabric colour / Acrylic colour / Water colour

which you can easily transfer on Silk screen for Serigraphy.

You can take idea from internet also but don't copy it....

Submit all just after Summer holiday

According to practical work, write your experience...

How you respect, appreciate and demonstrate the artistic expression which you did in different forms and styles and try to explore the different medium.

Apply theoretical knowledge in practical contexts.

Be resourceful and organize information effectively...