

Dear Parents Greetings of the day!

Vacations are the best time to relax and enjoy. Summer vacations are the reason behind fun in the sun, beach and shadow of the umbrella, but it is also the time to keep some analogy of academics alive in the fun to chisel the inherent potential inside your child. My suggestion to you is to spend these holidays being sociable and be vibrant in undertaking your plans so that the vacation is made purposeful.

To begin with, enhance every precious moment prudently by motivating your child to read informative and enlightening books. Help them improve their speech by conversing with them on every possible occasion and strop their vocabulary by providing them with new words. Spend substantial time visiting your kith and kin and people in your vicinity. Hold parley with your child on daily happenings and crucial world events as this is the best time to update, put forth your thoughts, notions and ideas before your ward and ask for an opinion, be a constant supporter of tolerance and disseminate it amongst people, teach your child to help and let him/her realize the meaning of real happiness and harmony and certainly root out all possible ill feelings and factions. Try being friendly and benevolent to all, let your child play the part in family reunions which will strengthen your family bond. Look out for the ways to abrade the plodding routine and take up some supportive vigorous activities with your child like swimming, cycling, jogging, painting or any other activity that your child enjoys.

It's your time to make every single moment eventful and memorable for your child and fill them with loads of experiences, which he/she eagerly wants to share with his/her pals and Educators when returned to School.

I wish you a pleasant vacation!

Regards

Principal Delhi Public School Gwalior

ADD ONS TO MAKE YOUR VACATION MEANINGFUL !!

Childhood is a crucial stage of development. Most of life's important lessons are learnt here! Let us join hands and make sincere efforts to augment and hone the learning process of the child through inculcation of self learning and keen observation.

- * Let us attempt to enable them by allowing them to assume responsibilities of the routine household and shopping chores. (e.g.: laying the table, serving the guests, making their beds, buying groceries from the nearby stores etc.)
- * Let us make them aware about their social responsibilities which will transform them into a responsible citizen of our society. (e.g.: keeping the surroundings clean, make use of public litter bins, switching off lights / fans / closing the taps properly etc.)
- * They should be taught how to connect with Almighty God through prayers and meditation. (e.g.: daily prayers, thought of the day, meditate to improve the concentration etc.)
- * Socialize and connect with people, neighbours and relatives. (e.g.: meeting & greeting neighbours, helping the elderly around, be friendly to the peers etc.)

We wish all the great for your summer holiday time. May all the pleasure in the world embrace you, let your fun endless with friends and family.

Note :Kindly do all the Holiday Assignments neatly and submit it latest by July 10,2025.

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SUBJECT – ENGLISH (CORE)

Holiday Homework to be done in file

Write an argumentative essay on the topic: "Is it more important to follow one's own values 1(a). or to adapt to societal expectations?" Use real-life examples or personal experiences to argue your viewpoint.(400 words)

OR

- (b). Imagine you are writing a letter to your younger self. What advice would you give based on the experiences you've gained? Reflect on important life lessons you've learned and share them with your past self.
- 2(a). Compare and contrast the theme of the poems My Mother at Sixty Six and Aunt Jennifer's Tigers.(250 - 300 words)

OR

How is the story 'The Rattrap' by Selma lagerlof is a metaphor for life's illusions.(250 -300 (b). words)

SUBJECT – MATHEMATICS

General Instructions :

- Holiday Assignment consists of Multiple Choice questions, Case based questions and solve the following questions.
- All the work to be done in A4 sized ruled sheets which are to be arranged in a stick file.
- All the best! Stay Home, Stay Safe!

Multiple Choice Ouestions

If the matrix $A = \begin{bmatrix} 0 & a & 3 \\ 2 & b & -1 \\ c & 1 & 0 \end{bmatrix}$ is a skew-symmetric matrix, then a+b+c =Q.1 (a) -5 (c) 5 (d) None of these (b) 0The value of $\begin{vmatrix} 5^2 & 5^3 & 5^4 \\ 5^3 & 5^4 & 5^5 \\ 5^4 & 5^5 & 5^6 \end{vmatrix}$ is Q.2 (c) 5^{13} (a) 5^2 (d) 5^9 (b) 0 If $A = \begin{bmatrix} x & 0 \\ 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 0 \\ -1 & 1 \end{bmatrix}$, then the value of x which $A^2 = B$ is (a) -2 (b) 2 (c) 2 or -2 (d) 4 Q.3 (d) 4If x = -4 is a root of $\begin{vmatrix} x & 2 & 3 \\ 1 & x & 1 \\ 3 & 2 & x \end{vmatrix} = 0$, then the sum of the other two roots is Q.4 (a) 4 (b) -3 (d) 5 (c) 2Page 3 of 28

- Q.5 If A and B are two matrices such that AB = B and BA = A, then $A^2 + B^2$ is equal to (a) 2AB (b) 2BA (c) A + B (d) AB
- Q.6 The number of all possible matrices of order 3x3 with each entry 0 or 1 or -1 is (a) 27 (b) 3^6 (c) 81 (d) 3^9
- Q.7 If B is non-singular matrix and A is a square matrix, then det $(B^{-1} A B)$ is equal to (a) Det (A^{-1}) (b) Det (B^{-1}) (c) Det (A) (d) Det (B)
- Q.8 If $A = \begin{bmatrix} 1 & 0 & 1 \\ 0 & 0 & 1 \\ a & b & 2 \end{bmatrix}$, then $aI + bA + 2A^2$ equals (a) A (b) -A (c) abA (d) None of these
- Q.9 For two matrices A and B given that $A^{-1} = \frac{1}{4}B$ then the inverse of 4A is (a) 4B (b) B (c) $\frac{1}{4}B$ (d) $\frac{1}{16}B$

Assertion and Reason Based Questions

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R 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.
- Q.10 Assertion (A): If $f(x) = x^2 + x + 1$ and $g(x) = x^2 1$ then $\frac{f(x)}{g(x)}$ may be discontinuous at some points.

Reason (R) : If f(x) and g(x) are continuous function on common domain D, then $\frac{f(x)}{g(x)}$ is continuous on D.

Q.11 Let f(x) = x|x| and $g(x) = \sin x$ Assertion (A): gof is differentiable at x = 0 and its derivative is continuous at that point.

Reason (R): gof is twice differentiable at x = 0.

Q.12 Assertion (A) : If the area of a circle increases at a uniform rate, then its perimeter varies inversely as the radius.

Reason (R) : The ratio of change of area of a circle with respect to its perimeter is equal to the radius.

Case Study Based Questions

Q.13 Over speeding increases fuel consumption and decreases fuel economy as a result of tyre rolling friction and air resistance. While vehicles reach optimal fuel economy at different speeds fuel.



The relation between fuel consumption F (*l*/100 km) and speed V (km/h) under some constraints is given as $F = \frac{V^2}{500} - \frac{V}{4} + 14$

On the basis of the above information, answer the following questions:

- (i) Find F, when V = 40 km/h.
- (ii) Find $\frac{dF}{dV}$
- (iii) (a) Find the speed V for which fuel consumption F is minimum.

- (b) Find the quantity of fuel required to travel 600 km at the speed V at which $\frac{dF}{dV} = -0.01$
- Q.14 On her birthday Ira decided to donate some money to children of an orphanage home. If there were 8 children less, everyone would have got ₹10 more. However, if there were 16 children more, everyone would have got ₹10 less. Let the number of children be x and the amount donated by Ira to each child be y.

Based on the information given above, answer the following questions:

- (i) Form the system of linear equations describe the above information and representation in the matrix form.
- (ii) The number of children who were given some money by Ira.
- (iii) How much amount is given to each child by Ira?

<u>OR</u>

How much amount Ira spends in distributing the money to all the students of the orphanage?

Q.15 The traffic police has installed Over Speed Violation Detection (OSVD) system at various locations in a city. These cameras can capture a speeding vehicle from a distance of 300 m and even function in the dark.



A camera is installed on a pole at the height of 5 m. It detects a car travelling away from the pole at the speed of 20 m/s. At any point, x m away from the base of the pole, the angle of elevation of the speed camera from the car C is θ .

On the basis of the above information, answer the following questions:

- (i) Express θ in terms of height of the camera installed on the pole and x.
- (ii) Find $\frac{d\theta}{dx}$
- (iii) Find the rate of change of angle of elevation with respect to time at an instant when the car is 50 m away from the pole.

<u>OR</u>

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If the rate of change of angle of elevation with respect to time of another car at a distance of 50 m from the base of the pole is $\frac{3}{101}$ radian/sec, then find the speed of the car.

Short Answer Type Questions Q.16 Find X if $Y = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$ and $2X + Y = \begin{bmatrix} 1 & 0 \\ -3 & 2 \end{bmatrix}$ Q.17 If $A = \begin{bmatrix} 1 & 0 \\ -1 & 7 \end{bmatrix}$ and $= \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$, then find k, so that, $A^2 - 8A + kI = 0$ Q.18 If the matrix $A = \begin{bmatrix} 0 & a & 3 \\ 2 & b & -1 \\ c & 1 & 0 \end{bmatrix}$ is skew-symmetric, find the value of *a*, *b* and *c*. Q.19 Prove that the determinant $\begin{vmatrix} x & \sin\theta & \cos\theta \\ -\sin\theta & -x & 1 \\ \cos\theta & 1 & x \end{vmatrix}$ is independent of θ . If $\cos 2\theta = 0$, then find the value of $\begin{vmatrix} 0 & \cos \theta & \sin \theta \\ \cos \theta & \sin \theta & 0 \\ \sin \theta & 0 \end{vmatrix}^2$ Q.20 O.21 Prove that the inverse of an invertible matrix symmetric matrix is a symmetric matrix. O.22 Find the value of the constant λ so that the function given below is continuous at x=-1. $f(x) = \begin{cases} \frac{x^2 - 2x - 3}{x + 1}, & x \neq -1 \\ 3 & x = -1 \end{cases}$ Q.23 If $f(x) = \begin{cases} x^2, & \text{if } x \ge 1 \\ x & \text{if } x < 1 \end{cases}$, then show that if f is not differentiable at x = 1. If y = cosec (cot⁻¹ x), then prove that $\sqrt{1 + x^2} \frac{dy}{dx} - x = 0$ Q.24 Differentiate $\tan^{-1}\left(\frac{\cos x}{1-\sin x}\right)$ w.r.t $x -\frac{\pi}{2} < x < \frac{\pi}{2}$ Q.25 Differentiate $(\log x)^{\sin x}$ w.r.t x O.26 Q.27 If $y = \sqrt{\sin x + \sqrt{\sin x + \sqrt{\sin x \dots \dots \infty}}}$ then prove that $\frac{dy}{dx} = \frac{\cos x}{2y-1}$ If $u = \sin(m\cos^{-1}x)$, $v = \cos(m\sin^{-1}x)$. Prove that $\frac{du}{dv} = \frac{\sqrt{1-u^2}}{\sqrt{1-v^2}}$ Q.28 Q.29 Differentiate log $(1 + x^2)$ w.r.t to $\tan^{-1} x$. Q.30 If $y = \tan^{-1} x$, find $\frac{d^2 y}{dx^2}$ in terms of y alone.

- Q.31 Water is dripping out from a conical funnel at a uniform rate of $4 \text{ cm}^3/\text{sec.}$ through a tiny hole at the vertex in the bottom. When the slant height of the water is 3cm, find the rate of decrease of the slant height of the water-cone. Given that the vertical angle of the funnel is 120° .
- Q.32 Find the interval in which the function $f(x) = \tan^{-1}(\sin x + \cos x)$ is increasing in $(0, \pi)$.

Q.33 If
$$y^x + x^y + x^x = a^b \operatorname{find} \frac{dy}{dx}$$
.

Long Answer Type Questions

Q.34 If $x = a(\cos \theta + \log \tan \frac{\theta}{2})$ and $y = a \sin \theta$ find the value of $\frac{d^2 y}{dx^2}$ at $\theta = \frac{\pi}{4}$.

- Q.35 AB is a diameter of a circle and C is any point on the circle. Show that the area of \triangle ABC is maximum when it is isosceles.
- Q.36 For the matrix $A = \begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$, find x and y, so that $A^2 + xI = yA$.
- Q.37 If $(x-a)^2 + (y-b)^2 = c^2$. Prove that $\frac{\left\{1 + \left(\frac{dy}{dx}\right)^2\right\}^{3/2}}{\frac{d^2y}{dx^2}}$ is a constant independent of *a* and *b*.
- Q.38 Find the internal in which the function f given by $f(x) = x^3 + \frac{1}{x^3}$, $x \neq 0$ is (i) increasing (ii) decreasing

Q.39 If
$$y = b \tan^{-1} \left(\frac{x}{a} + \tan^{-1} \frac{y}{x} \right)$$
, find $\frac{dy}{dx}$.

Q.40 A metal box with a square base and vertical sides is to contain 1024 cm³ of water the material for the top and bottom costs ₹5/cm² and the material for the sides costs ₹2.50/cm². Find the least cost of the box

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SUBJECT – APPLIED MATHEMATICS

- The following guidelines are issued by CBSE to schools for the session 2025-26.
- Project work and record : 5 marks and year end presentation/ viva : 5 marks

Following are the topics for the projects to be done individually. One has to select any one topic and prepare a detailed report on it

- 1) Predicting the Outcome of an Election- Exit Polls.
- 2) Weather Prediction (To study how weather is predicted and understand the use of mathematics in weather prediction).
- 3) Risk Assessments by Insurance Firms from Data.
- 4) Stock Price Movements.
- 5) To show application of mathematics in real life in maximizing the profit of Kirana stores.
- 6) Effect of Temperature and Rain Variations on Various Crops.
- 7) To analyze what the infant mortality rate of a country is and how we can predict it.
- 8) Predicting a Stock Market Crash.

• Steps involved in the conduct of the project:

Choose a topic

✓ Collect the research material/data

Organize material/data

Present material/data

Analyse the material/data for conclusion

Draw the relevant conclusion

Presentation of the Project Work

• Expected Checklist for the project work:

- ✓ Introduction of topic/title
- \checkmark Identifying the causes, events, consequences and/or remedies
- ✓ Various stakeholders and effect on each of them.
- ✓ Advantages and disadvantages of situations or issues identified.
- \checkmark Short term and long term implications of strategies suggested in the course of research.
- ✓ Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file.
- ✓ Presentation and writing that is succinct and coherent in project file.
- ✓ Citation of the material referred to, in the file in footnotes, resources section, bibliography etc.

• The project report should include Title page, Acknowledgements, Certificate, Contents page(Index), Introduction, Body of report, Evaluation, Conclusions and Future Work, Bibliography and Appendix.

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<u>SUBJECT – PHYSICS</u>

General instructions:

- 1. Do all the questions in a folder or available notebook.
- 2. Write answers in a proper sequence.
- 3. Do neat &clean work.
- 4. Draw diagrams where ever required.

Objective Questions

- Q.1 In nature, the electric charge of any system is always equal to:
 - (a) Half integral multiple of the least amount of charge.
 - (b) Zero.
 - (c) Square of the least amount of charge.
 - (d) Integral multiple of the least amount of charge.
- Q.2 The electric field in a region of space is given by $E = 5\hat{i} + 2\hat{j}$ N/C the electric flux through an area of $2m^2$ lying in the YZ plane, in SI units is;
 - (a) 10 (b) 20 (c) $10\sqrt{2}$ (d) $2\sqrt{2g}$

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Q.3	 At any point on the perpendicular bisector of the line joining two equal and opposite charges: (a) the electric field is zero. (b) the electric potential is zero. (c) the electric potential decreases with increasing distance from their mid point. (d) the electric field is perpendicular to the line joining the charges. 			
Q.4	The electric potential V at any point (x, y, z) . (all in metres) in space is given by $V = 4x^2$ volts. The electric field at the point $(1, 0, 2)$ in volt/meter, is (a) 8 along negative X-axis (b) 8 along positive X-axis (c) 16 along negative X-axis (d) 16 along positive X-axis			
Q.5	As the temperature conductivity: (a) Increases (c) May increases or	of a metallic resist decreases	tor is increased, the (b) Decreases (d) Remains constan	product of resistivity and t
Q.6	If a wire is stretched, so that its length is 20% more than its initial length, the percentage increase in the resistance of the wire is : (a) 40% (b) 10% (c) 44% (d) 25%			
Q.7	 A Galvanometer acting as a voltmeter will have (a) a high resistance in series with its coil (b) a low resistance in parallel with its coil (c) a low resistance in series with its coil (d) a high resistance in parallel with its coil 			
Q.8	The terminal voltage is $\frac{E}{2}$ when a current of 2A is flowing through 2 Ω resistance, the internal resistance of the cell is : (a) 1 Ω (b) 2 Ω (c) 3 Ω (d) 4 Ω			
Q.9	The current in a conductor varies with time t as $I = (2t + 3t^2) A$ where I is amperes and t in seconds. Electric charge flowing through a section of the conductor during $t = 2s$ to $t = 3s$ is : (a) 10 C (b) 24 C (c) 33 C (d) 44 C			
Q.10	A charge q is placed in equilibrium the va (a) $\frac{-Q}{3}$	in the middle of two e lue of q is : (b) $\frac{-Q}{4}$	equal and like charges (c) $\frac{q}{2}$	Q. For this system to remain (d) $\frac{-Q}{2}$
Descriptive Questions Q.11 An electric dipole of dipole moment P consist of point charge q and $-q$ separated by 2a.				

- Q.11 An electric dipole of dipole moment P consist of point charge q and -q separated by 2a. Derive an expression for electric potential in terms of its dipole moment at a point at a distance x (>>a) from its centre and lying (I) along its axis, and (II) along its bisector line.
- Q.12 An electric dipole of dipole moment $\vec{P} = (0.8\hat{i} + 0.6\hat{j})10^{-29}$ cm is placed in an electric field $E = 1.0 \times 10^7 \hat{K}$ V/m. Calculate the magnitude of the torque acting on it and the angle it makes with the x-axis, at this instant.
- Q.13 When a $2\mu c$ charge is carried from point A to point B, the amount of work done by the electric field is $50\mu J$. What is the potential difference between them and which is at a higher potential?

- Q.14 Infinitely large number of point charges each equal to q are placed at position $x = 1, 2, 4, 8, \dots$ Calculate the electrostatic potential at the origin.
- Q.15 Four charges q each are placed at the four corners of a square of side a. Find the potential energy of one of the charges.
- Q.16 Two negative charges, each of magnitude q are 2r, distance apart. A positive charge q is lying at the middle them, the potential energy of the system is U₁. If the two nearest charges are mutually interchanged and the potential energy become U₂, then $\frac{U_1}{U_2}$ will be.
- Q.17 Three charges –q, Q and –q are located at equal distances on a straight line, if the potential energy of the system of three charges is zero, then what is the ratio Q:q?
- Q.18 If potential at a point P (1, 1, 1) is given by the relation $V_p = x^2 y^2 + 2z$, then calculate the electric field at P.
- Q.19 Give the nature of V-I graph for(a) ohmic (b) non-ohmicCircuit elements. Give one example of each type.
- Q.20 Resistances R, 2R, 4R, 8R, $\dots \infty$ are connected in parallel. What is their resultant resistance?
- Q.21 Two wires of the same metal have the same length, but their cross-sectional areas are in the ratio 3:1 they are joined in series. The resistance of the thicker wire is 10 Ω , then what will be the total resistance of the combination?
- Q.22 A battery of e.m.f. 2 volts and internal resistance 0.1Ω is being charged with a current of 5A. Calculate the potential difference between terminals of the battery.
- Q.23 A battery of six cells of e.m.f. 2 V and internal resistance 0.5 Ω is being charged by D C mains of e.m.f. 220 V by using an external resistance of 10 Ω . What will be the charging current?
- Q.24 The e.m.f. of a primary cell is 2V, when it is shorted it gives a current of 4A. Calculate its internal resistance.
- Q.25 The e.m.f. of a cell is 6 volts when 2 amperes current is drawn from it, then the potential difference across its terminal remains 3 volts. Find its internal resistance.
- Q.26 A electric heater and an electricbulb are rated 500 watt, 220 V and 100 watt, 200 volt respectively. Both are connected in series to a 200 V a.c. mains. Calculate the power consumed by (i) heater (ii) bulb.
- Q.27 The power of a heater is 500 watt at 800°C. What will be its power at 200°C if $\alpha = 4 \times 10^{-4}$ per °C?
- Q.28 A galvanometer of resistance 100Ω gives full scale deflection for 10 mA current. What should be the value of shunt, so that it can measure current upto 100 mA?



- 7. Which of the following has highest dipole moment: a.CH₃Cl b.CH₃F c.CH₃Br $d.CH_3I$
- 8. Which one of the following has the highest dipole moment? a. CH_2Cl_2 b. $CHCl_3$ c. CCl_4 d. CH_4
- 9. What is 3- Bromopropene common name? a.Vinyl bromide b.Allyl bromide c.Tert- butyl bromide d.Prolpylidene bromide
- 10.What is the catalyst in the chloroalkane reaction of a primary alcohol with HCl?
a.red phosphorous
c.anhydrous ZnCl2b.concentrated H2SO4
d.pyridine

Descriptive Questions

1. Write IUPAC names of

(a)
$$(Cl)$$
 (b) (CH_2Cl)

2. Write the products of the following reactions:

- 3. Predict the order of reactivity of the following compounds in SN₁and SN₂ reactions: $C_6H_5CH_2Br$, $C_6H_5CH(C_6H_5)Br$, $C_6H_5CH(CH_3)Br$, $C_6H_5C(CH_3)(C_6H_5)Br$
- 4. Why does NO₂ group show its effect only at ortho- and para- positions and not at metaposition during nucleophilic substitution reaction?
- 5. Write the structures and names of the compounds formed when compound 'A' with molecular formula, C_7H_8 is treated with Cl_2 in the presence of FeCl₃.
- 6. Chlorobenzene is less reactive towards nucleophilic substitution reaction. Give two reasons.
- (i) Phenol cannot be converted to chlorobenzene by reacting with HCl. Why?(ii) How will convert Benzene to biphenyl ?
- 8. <u>Give reasons</u>:
 (i) C-Cl bond length in chlorobenzene is shorter than C–Cl bond length in CH₃–Cl.
 (ii) The dipole moment of chlorobenzene is lower than that of cyclohexyl chloride
- 9. Write the equation for the following name reaction-
 - (a) Williamson's ether synthesis
 - (b) Wurtz-fittig reaction
 - (c) Swart reaction
- 10. How do you convert thefollowing
 - (i) Toluene to benzylalcohol

- (ii) Benzene to 4-bromonitrobenzene
- (iii) Benzylalcohol to 2-phenylethanoicacid
- 11. How are the following conversions carried out?
 - (i) Aniline to chloro benzene
 - (ii) Chloro benzene to p-nitrophenol
- 12. What happens when
 - (i) bromobenzene is treated with Mg in the presence of dry ether,
 - (ii) chlorobenzene is subjected to hydrolysis?
- 13. Explain why the dipole moment of chlorobenzene is lower than that of cyclohexyl chloride?
- 14. Although chlorine is an electron withdrawing group, yet it is *ortho-*, *para-* directing in electrophilic aromatic substitution reactions. Why?
- 15. <u>Write</u>:
 - (i) Fittig Reaction
 - (ii) SandmeyerReaction
 - (iii) Balz-Schiemann reaction
- 16. Give reason why-
 - (i) Aryl halides are less reactive towards nucleophilic substitution reaction than Alkyl halides
 - (ii) Chloromethane react with KCN to form ethanenitrile as the main product but with AgCN it form methyl carbylamines.
 - (iii) Alkyl chloride reactwith aqueous KOH leads to the formation of alcohols but in presence of alcoholic KOH leads to formation of alkenes.
- 17. How will you distinguish between the following pairs-
 - (i) Chloroform and Carbontertrachloride
 - (ii) Chloromethane and Iodomethane
 - (iii) Chloromethane and Chlorobenzene
- 18. Give one example each of
 - a) Markwonikov'saddition.
 - b) Kharasch effect.
 - c) Finkelstein reaction
 - d) Dehydrohalogenations
 - e) Wurtz reaction

19. Account for the following:

- 1) Halo alkanes have higher boiling point than the corresponding parent alkane.
- 2) Boiling point of halo alkanes RI>RBr>RCl> RF
- 3) Halo alkanes are polar in nature but sparingly soluble in water.
- 4) Kharasch effect is possible only with HBr and not with HCl and HI.
- 5) Alcohol reacts with thionychloride to give pure halo alkane.
- 20. Write the structure of the major organic product in each of the following reactions: a) $CH_3CH_2CH_2OH+SOCl_2 \rightarrow$ b) $CH_3CH=CH_2+HBr \rightarrow$
 - c) RBr +Mg $\xrightarrow{Dryet her}$ d) CH₃CH₂F

e) C₆H₅ONa +CH₃Br \rightarrow

d) $CH_3CH_2Br + KCN \xrightarrow{Ethanol}$

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SUBJECT – BIOLOGY <u>General instructions:</u> 1. Do all the questions in a folder. 2. Write answers in a proper sequence. 3. Do neat &clean work. 4. Draw diagrams where ever required.							
<mark>Objec</mark> Q.1	ctive Questions Filiform apparatus in the embryo sac of an ar (a) Central cell (b) Egg cell	ngiosperm is present a (c) Synergids	at the micropylar tip of (d) Antipodals				
Q.2	The floral part that develops into a fruit in str (a) Pedicel (b) Calyx	rawberry is: (c) Thalamus	(d) Bracts				
Q.3	 In a pedigree analysis represents : (a) Unrelated mating (b) Affected individuals (c) Consanguineous mating (d) Non-identical twins 						
Q.4	Among the seven pairs of contrasting traits related to flower, pod & seed were respective (a) 2, 1, 2 (b) 2, 2, 2	in pea plant studied ely. (c) 1, 2, 1	by Mendel number of traits (d) 1, 1, 2				
Q.5	Observe the following line diagram depicting the 28 days menstrual cycle of a healthy young woman:						
	MenstruationOvulation171421Select the option of days on which this womeMost fertile daysLeast fertile days(a) 14-211-71-7(b) 10-1721-28(c) 1-7(c) 1-714-2114-21(d) 21-287-14	28 en would be most and	l least fertile.				
Q.6	The hormones that regulates the synthesis and secretions of androgens in human males is:(a) GH(b) FSH(c) LH(d) Prolactin						
Q.7	The government of India has legalized MTP (a) 1951 (b) 1961	in the year: (c) 1971	(d) 1981				
Q.8	 Which one of the following techniques is employed in test tube baby programme? (a) Intra cytoplasmic sperm injection. (b) Intra Uterine insemination (c) Gamete Intra fallopian transfer (d) Zygote Intra fallopian transfer 						
Q.9	Select pair that is incorrect:(a) Sickle – cell anaemia :Auto some linked recessive trait.(b) Hamophillia :Auto some – linked recessive trait.(c) Colour blindness :Sex linked recessive trait.(d) Thalassemia :Auto some – linked recessive trait.						
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- Q.10 First polar body is produced during the transformation of:
 - (a) Oogonia into primary oocytes.
- (b) Primary oocyte into secondary oocyte.
- (c) A secondary oocyte into an ootid.
- (d) An ootid into an ovum

Descriptive Questions

- Q.11 Even though each pollen grain has two male gametes why are at least 10 pollen grains and not 5 pollen grains required to fertilise10 ovules present in a particular carpel?
- Q.12 Differentiate between perisperm and endosperm, giving one example of each.
- Q.13 (a) Explain any two ways by which apomictic seeds can develop.(b) Why do farmers find production of hybrid seeds costly?
- Q.14 Draw a diagram of longitudinal section of a complete flower and label thalamus and five parts of the essential whorls.
- Q.15 What is cleistogamy? Write one advantage and one disadvantage of it, to the plant.
- Q.16 Differentiate between spermatogenesis and spermiogenesis.
- Q.17 Write the different parts of the human oviduct through which the ovum travels till it meets the sperm for fertilisation.
- Q.18 After implantation inter digitations of maternal and foetal tissues takes place. Identify the tissues involved and justify their role.
- Q.19 Not all copulations lead to pregnancy Give reason.
- Q.20 Write the location and function of myometrium and endometrium.
- Q.21 An infertile couple is advised to adopt test tube baby programme. Describe two principal procedures adopted for such technologies.
- Q.22 Explain how do the following act as contraceptive : (i) Cu-T (ii) "Saheli"
- Q.23 Write any four characteristics of an ideal contraceptive.
- Q.24 Write names of any two hormones that are constituents of contraceptive pills. Why do they have high and effective contraceptive value? Name a commonly prescribed non-steroidal pill.
- Q.25 What is amniocentesis? Why has the government imposed a statutory ban inspite of its importance in medical field?
- Q.26 Write differences between a gene and an allele.
- Q.27 A particular garden pea plant produces only violet flowers.(i) Is it homozygous dominant for the trait or heterozygous.(ii) How would you ensure its genotype? Explain with the help of cross.
- Q.28 Describe the mechanism of pattern of inheritance of ABO blood groups in humans.

- Q.29 Why are thalassemia and haemophillia categorized as Mendelian disorders? Explain their pattern of inheritance in humans.
- Q.30 Why do normal RBCs become elongated sickle shaped structures in a person suffering from sickle shaped anaemia.

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SUBJECT – ACCOUNTANC

A)	MULTIPLE CHOICE QUESTIONS				
1.	Ram and Mohan were partners in a firm sharing profit and losses in the ratio of 3:2. T capitals were₹2,40,000 and ₹4,80,000 respectively. They were entitled to interest on ca @ 10%. The firm earnedprofit of ₹36,000 during the year. The interest on Ram's capital be				
	a) ₹24,000	b) ₹21,600	c) ₹14,400	d) ₹12,000	
2.	A manger gets 5% commission on net profit after charging such commission. Gross profit ₹2,90,000 and expenses of indirect nature other than manager's commission are ₹80,000 Commission amount will be:				
	a) ₹10,500	b) ₹10,000	c) ₹7,500	d) ₹11,000	
3.	A and B are partners. They draw for personal use ₹24,000 and ₹16,000 respectively. Interestis chargeable @ 6% p.a. on drawings. What is the interest on drawings?a) A ₹720 and B ₹480b) A ₹1,440 and B ₹960c) A₹120 and B₹80d) None of these				
4.	A, B and C are partners sharing profits in the ratio of 5:4:1. C is given guarantee that share in a yearwill not be less than ₹50,000. Profit for the year ended 31 st March, 202 ₹4,00,000. Deficiency in theguaranteed profit of C is to be borne by B. Deficiency to borne by B is:				
	a) Deficiency of C ₹ c) Deficiency of C ₹	15,000 met by B 40,000 met by B	b) Deficiency of Cd) None of these	₹10,000 met by B	
5.	A, B and C are partners in a firm without a partnership deed. C demands interest on loan ₹60,000advanced by him at the market rate of 12%. The amount of interest received by h will be:				
	a) ₹7,200	b) Nil	c) ₹5,400	d) ₹3,600	
6. If equal amount is withdrawn in the beginning of each month for personal use, p which interest will be charged will be:				for personal use, period for	
	a) 7 months	b) 6 months	c)5 months	d) 6.5 months	
7.	Following factors affect the goodwill excepa) Nature of businessc) Technical Know-how		b) The form of business entity d) Efficiency of Management		
8.	 The term 'Number of Years' Purchase' means a) The number of years during which the purchaser of goodwill expects that the profit due to goodwill are likely to arise in future. b) Number of years in which goodwill is purchased. c) Number of years for which goodwill purchased will not help the firm in earning similar profits. d) None of the choice 				
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- 9. Capital employed by a partnership firm is ₹25,00,000. Its average profit is ₹3,00,000. The normal rateof return in similar type of business is 10%. The amount of super profit is;
 a) ₹2,50,000 b) ₹50,000 c)₹30,000 d) ₹2,80,000
- 10. A firm earns profit of ₹60,000. Normal rate of return being 10%. Assets of the firm are ₹7,20,000and liabilities are ₹2,40,000. Find the value of goodwill by capitalization of average profit method.
 a) ₹2,40,000
 b) ₹1,80,000
 c) ₹1,20,000
 d) ₹60,000

B) ASSERTION AND REASON BASED QUESTIONS Read the following statements: Assertion (A) and Reason (R). Choose one of the correct alternative.
a) both (A) & (R) both are true and (R) is correct explanation of (A)
b) both (A) & (R) both are true and (R) is not correct explanation of (A)
c) (A) is true but (R) is false
d) (A) is false but (R) is true

1) Assertion: Interest on Loan to partner is charged @ 6% p.a., if partnership deed does not provide forcharging of interest.

Reason: In the absence of partnership deed, provisions of the Partnership Act, 1932 apply. Thus,Interest on Loan to partner should be charged @ 6% p.a. otherwise interest is allowed at the agreed rate of interest.

2) Assertion: Value of goodwill calculated on Average Profit Method or Super Profit Method is same.

Reason: Value of goodwill on Average profit method and super profit method cannot be same as the basis of valuation is different.

C) NUMERICALS

- 1. The partners of a firm Jay, Veeru and Gabbar distributed the profits for the year ended31st March, 2022,₹6,40,000 in the ratio of 3:3:2, without providing for the following adjustments:
 - a) Jay and Gabbar were entitled to a salary of ₹12,000 each p.a.
 - b) Veeru was entitled for a commission of ₹32,000.
 - c) Veeru and Gabbar had guaranteed a minimum profit of ₹2,80,000p.a. to Jay and any deficiencyto be borneequally by Veeru and Gabbar.

Pass the necessary journal entry for the above adjustment in the books of the firm.

- 2. A, B and C are in partnership, profits being shared in the ratio of 3:2:1. subject to the following:
 - a) C's share of profit guaranteed to be not less than ₹2,40,000 p.a.
 - b) B gives a guarantee to the effect that gross fee earned by him for the firm shall be equal tohis average gross fee for the preceding five years when he was carrying on profession alone, which on an average works out at ₹4,00,000.

The profit for the first year of the partnership are ₹12,00,000. The gross fee earned by B for the firm is₹2,56,000. You are required to show Profit and Loss Appropriation Account after givingeffect to the above.

- 3. On 1st April, 2018, a firm had assets of ₹5,00,000 excluding stock of ₹1,00,000. Partners' Capital Account showed a balance of ₹3,00,000. The current liabilities were ₹50,000 and the balance constituted the reserve. If the normal rate of return is 8%, the Goodwill of the firm is valued at ₹3,00,000 at four year of purchase of super profit, find average profit of the firm.
- 4. The average profit earned by a firm is ₹4,50,000 which includes undervaluation of stock of ₹30,000 on an average basis. The capital invested in the business is ₹42,00,000and the normal rate of return is 7%. Calculate goodwill of the firm on the basis of 5 times the super profit.



- 10. Reverse repo rate:a) Generates interest incomec) is not a policy rate
- b) is increased to control inflation
- d) Both (a) and (b)

B) ASSERTION AND REASON BASED QUESTIONS

Read the following statements: Assertion (A) and Reason (R). Choose one of the correct alternative.
a) both (A) & (R) both are true and (R) is correct explanation of (A)
b) both (A) & (R) both are true and (R) is not correct explanation of (A)
c) (A) is true but (R) is false
d) (A) is false but (R) is true

1. Assertion (A)-Central bank holds the foreign exchange reserves to influence exchange rate.

Reason (R)- selling and purchasing of foreign exchange influences the exchange rate.

2. Assertion (A)- Credit creation process increases the money supply in economy.

Reason (R)- through the credit creation process commercial banks can distribute loans many timesas compare to their primary deposits.

C) UNDERSTANDING BASED QUESTIONS

- 1. Classify the following as final good or intermediate good:
 - a) Soft drinks purchased by a school canteen
 - b) Coal purchased by a factory
 - c) Seeds purchased by a farmer
 - d) Sewing machine purchased by a homemaker
 - e) Books purchased by a bookseller
 - f) Paper purchased by a publisher
 - g) Exhaust fans used for making water coolers
 - h) Furniture purchased by a school
- 2. Classify the following as stock or follow variables:
 - a) Sale of rice as on January 1, 2025
 - b) Population of a country at a point of time
 - c) Capital
 - d) Interest on capital
 - e) Income
 - f) Bank deposits
 - g) Supply of money in a country
 - h) Wealth
 - i) Capital formation
 - j) Water in a overhead tank

D) CASE STUDY BASE QUESTIONS

1. CASE STUDY -1

Read the following case study paragraph carefully and answer the questions on the basis of the same.

India's total Money Supply (M3) stood at Rs 18907383 crore as on April 9th 2020, recording a rise of 11.3% over the same time last year. Currency with the public stood at Rs 2787941 crore, up 16.7% over the year. Demand deposits with banks were up 17% at Rs 1867606 crore. Time deposits with banks were also up 9.6% at Rs 14205545 crore. The bank credit to

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commercial sector edged up 5.1% on year to Rs 11552069 crores. However, this indicates moderation from 7.2% at the same time last year.

- How does increase in deposits with commercial banks will affect credit creation process :
 a) Credit creation process will increase
 b) Credit creation process will remain unaffected
 c) Credit creation process will reduce
 d) None of above
- 2. M3 is consist of:a) C +OD + Time deposits 12 KVS RO RAIPUR
 b) C + DD + OD + time deposits
 c) M1 + deposits of post office saving bank
 d) All of above
- 3. What is indicated by increasing deposits:
 - a) People prefer to save more now
 - b) Income level of people are increasing
 - c) People prefer to keep money in the bank accounts after demonetization
 - d) All of above

<u>PROJECT:</u> Role of RBI in Control of Credit (350- 400 words)

<u> SUBJECT – BUSINESS STUDIES</u>

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A. PROJECT WORK:

Students have to select and make only one project from the following topics:

- 1. Elements of Business Environment
- 2. Principles of Management
- 3. Marketing Management

Topics already discussed and allotted in the class.

Rules:

Minimum 40 pages, handwritten, supplemented by pictures, graphs, charts etc. Be creative and write neatly on A4 size colored or white sheets.

B. ANSWER THE FOLLOWING CASE STUDIES:

Q.1 Neeraj is selected for the post of software developer in an IT Company. On the first day of his joining Mehul, his project manager tells Neeraj the during the course of his work he will come across many such opportunities which may tempt him to misuse his powers for individual or family's benefit at the cost of larger general interest of the company. In such situations, he should rather exhibit exemplary behavior as it will raise his stature in the eyes of the company. Also, for interacting with anyone in the company on official matters, he should adopt the formal chain of authority and communication.

In context of the above case:

- (a) Identify and explain the various principles of management that Mehul is advising Neeraj to follow while doing his job.
- (b) List any two values that Mehul wants to communicate to Neeraj.

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Q.2 Harshita has successfully emerged as the owner of the best modular kitchen manufacturer firm in Delhi. Her friend Vartika is highly inspired by Harshita's success in business. In order to understand the essence of successful business management Vartika decides to spend a week in her office. Vartika observes that a deliberated effort is made to integrate the diverse activities of the organisation. Like whenever the sales manager makes a plan to raise the sales target, he also consults other department managers i.e the production manager, the purchase manager, the finance manager, etc. in order to avoid any problem that may raise in future. Moreover, work among the people working in the production department in divided in such a manner that where the work of one person ends, the work of the next person begins. Therefore, everybody makes efforts to complete his/her work on time, and the workers do not create obstruction in each other's work.

In contest of the above case:

- (a) Identify the concept being described in the above paragraph.
- (b) How does the concept as identified in part (a) of the question help in carrying out management functions successfully?
- **Q.3** Hema is one of the most successful managers of her company. 'Kobe Ltd'. She uses her creativity and initiative in handling challenging situations at work. The knowledge gained by her during her student days at a renowned management institute as well as through her observation and experience over the years is applied by Hema in a skillful manner in the context of the realities of a given situation. She often reads books and other literature in various fields of management to keep her knowledge updated.
 - (i) An aspect of the nature of management is being highlighted in the above description. Identify the aspect.
 - (ii) Explain any three features of the aspect identified in part (i)
- **Q.4** Production manager of Beta Ltd. took special care of the interest and ability of his subordinates while distributing work among them. He was of the firm opinion that a worker should be given one work again and again so that he may become expert in it. One day he took round of his department and noticed that the workers were not doing their job quickly. On enquiry, he learnt that the workers worked non-stop which is main cause of their slow speed. He immediately issued an order that during their working hours, the workers will have an interval to take rest.

State the principle of management followed here. Explain.

Q.5 Karan Nath took over 'D' north Motor Company' from his ailing father three months ago. Inthepast the company was not performing well. Karan was determined to improve the company's performance. He observed that the methods of production as well as selection of employees in the company were not scientific. He believed that there was only one best method to maximise efficiency. He also felt that once the method is developed, the workers of the company should be trained to learn that 'best method'. He asked the production manager to develop the best method and carry out the necessary training. The production manager developed this method using several parameters right from deciding the sequence of operations, place for men, machines and raw materials till the delivery of the product to the customers. This method was implemented throughout the organization. It helped in increasing the output, improving the quality and reducing the cost and wastage.

Identify the principles of scientific management being discussed above:

III. Answer the following questions in detail:

- Q1. Define management and discuss its importance.
- Q2. Explain the different levels of management.
- Q3. Explain Coordination and discuss its features.
- Q4. Explain Henry Fayol's principles of management.
- Q5. Discuss the features and importance of principles of management.

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<u> SUBJECT – HISTORY</u>

- Map work of first three themes of book 1 should be done and all those maps to be filed properly or pasted in the notes register
- Time line of the same themes to be learnt for test
- NCERT exercise questions of the same three themes to be completed in your note register of History

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SUBJECT – GEOGRAPHY

1. WRITING SKILLS

<u> Prepare notes</u> -

Book-1- Fundamentals of Human Geography

- * Chapter -1 -Human Geography, Nature and Scope
- * Chapter 2 World population, Distribution, Density, and Growth
- * Chapter 3- Human Development
- * Chapter 4- Primary Activities

Book-2 India People and Economy

* Chapter 1- Population - Density, Distribution, Growth and Density

* Chapter 2- Human Settlement

<u>NCERT Textbook Exercises –</u>

Complete exercises and questions from the NCERT textbook related to the chapter.

2. MAP SKILLS

- Mark the following on the political outline map of World and paste it in your notebook.
 - * Areas of subsistence gathering
 - * Major areas of nomadic herding of the world
 - * Major areas of commercial livestock rearing
 - * Major areas of extensive commercial grain farming
 - * Major areas of mixed farming of the World

3. PRACTICAL FILE

Complete the following chapters in the practical file -

- Chapter 1 Data- It's Sources and Complications
- Chapter 2 Data Processing
- Chapter 3 Graphical Representation of Data
- Chapter 4- Spatial Information Technology y

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SUBJECT – POLITICAL SCIENCE

- NCERT questions and answers to be completed of first 2 chapters of Indian Politics and first 2 chapters of World Politics
- Daily one political news to be pasted in scrap book from any newspaper subscribed by your parents

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SUBJECT – PSYCHOLOGY

- Q.1 Read and write about famous historical figure's.Psychological condition.
 - a) Abraham Lincoln
 - b) Julius Caesar
 - c) Alexander the great
 - d) Henry VI of England
 - e) Isaac Newton

***** Note – Kindly do in practical file.

Q.2 Watch any 2 movies related to Psychological disorder.

- TaareZammen Per (Disleksiya)
- Dear Zindgi (Depression)
- Rain Man (Autism)
- **Q.3** What is case study?

Prepare a practical file of case study on given topics. (Choose any one topic).

- Anxiety Disorder.
- ✤ Effect of parental conflicts on children.
- Obsession and compulsive disorder.
- ✤ Alcohol dependence.

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SUBJECT – SOCIOLOGY

Submit a dissertation paper using method of your choice – survey, interview, observation or combination of more than one method on any one of the following topics.

- (i) Environmental Displacement and Tribal Marginalization.
- (ii) Mental Health Stigma : Cultural taboos and Access.
- (iii) Farmer Suicides : Agrarian Crisis and Policy Gaps.
- (iv) Communal Violence and Political Narratives.
- (v) Caste Discrimination in Digital Spaces.
- (vi) Cyber Eve teasing is urban spaces.
- (vii) Bystander Apathy and Social responsibility

Checklist for the dissertation paper

Choose a Title / Topic Need of the study, objective of the study Hypothesis

Content - Time line, Mind maps, Pictures etc.

[Primary / Secondary data] (Questionnaire)

Analysing of Data for

Conclusion, Draw the Relevant Conclusion

Bibliography, Deferences

<u> SUBJECT – ENTREPRENEURSHIP</u>

I. PROJECT WORK:

- (1.) Market survey
- (2.)Business plan

Instructions:

- 1. Business idea should be unique and creative keeping in mind the current business environment.
- 2. Assignment should be in neat and clean handwriting.
- Q.1 Your business idea: (Main product or service, few examples are as follows:)

Product	Service	Trading
Chocolates	Tiffin service	Stationery
Soap	Crèche	Flower shop
Detergent powder/ liquid soap	Pet care center	
Sandwich		

- Q.2 Name of your business, its logo and tagline
- Q.3 Arethere similar products or services in the market?
- Q.4 What is your competitive advantage and what is your unique selling proposition (USP)?
- Q.5 Your marketing plan:
 - a) Your market research plan (Describe your competitor, demand for your product/ service is it available or your think you can create it?)
 Talk about atleast 3 competitors if it is an existing product. If it is a new product, then analyse the demand for the product.
 - b) Your target customers and how will you reach them? Example: children, teenager, homemaker, working persons etc.
 - c) Your advertising and promotion ideas Just mention the tools of promotion mix which you will be using.

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- d) Packaging (if applicable) Eco-friendly packaging
- e) Distribution (How do you intend reaching your customers?) Channel of distribution – direct and indirect
- f) What does quality mean for your product or service? ISI, Agmark, FPO etc

<u>Rules</u>:Minimum 40 pages, handwritten, supplemented by pictures, graphs, charts etc. Be creative and write neatly on A4 size coloured or white sheets

II. Answer the following questions in detail:

- Q1. What is Environment scanning? Discuss the importance of scanning the businessenvironment.
- Q2. Explain Trend spotting. Discuss the different ways of trend spotting.
- Q3. What are Idea fields? Explain the different sources of idea fields.
- Q4. Explain Creative process.
- Q5. Discuss the different forms of managing business organisation in the private sector.

<u>SUBJECT – MASS MEDIA</u>

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You have been assigned to design a model Workbook for Science subject for Class X students.

Define the primary buyers for this Workbook. Define your market in geographic, demographic, psychographic and behaviouristic terms.

This product has to sell nationally. Identify what is important to your customers based on the above topic

- Design an Ad Campaign for the Science Workbook along the following lines.
 - 1. Define your target audience.
 - 2. What are the media that you will use?
 - 3. What are the media that you will not use? Why?
 - 4. Prepare a Prototype of the Advertisement at least in TWO FORMS of media i.e Newspaper/ TV/ Web. Add it to your portfolio.

Remember that your product is being nationally sold. So you must define the kind of newspaper it will appear in, the channel that you would prefer the most and the time of transmission, in case of web, you will indicate the websites that it should appear on.

<mark>SUBJECT – HINDI</mark> <u>परियोजना–विषय</u>

✤ निम्न लिखित में से किन्हीं दो प्रश्नों के उत्तर लिखिए। (कोई दो)

- आपने अनेक कविताएँ पढ़ी होंगी। उनमें से आपको कौन-सी कविता सबसे अच्छी लगी ? लिखिए। यह भी बताइए कि आपको वह कविता क्यों अच्छी लगी।
- 2. समाचारपत्र के किसी कहानीनुमा समाचार से नाटक की रचना करें।

- स्थान और समाज को ध्यान में रखते हुए दोपहर का भोजन कहानी को विभिन्न दृश्यों में विभाजित करें। किसी एक दृश्य का संवाद भी लिखें।
- परियोजना संबंधी समस्त निर्देशों का पालन करते हुए उपरोक्त परियोजनाओं में से (क) एवं (ख) की एक—एक आकर्षक परियोजना तैयार कीजिए।

परियोजना हेत्रनिर्देश-

1.	परियोजना का पहला पृष्ठ	_	विद्यार्थी का नाम, कक्षा , वर्ग, अनुक्रमांक, विद्यालय का नाम एवं
			विद्यालय का प्रतीक चिह्न (लोगो)
2.	दूसरा पृष्ठ	—	आभार ज्ञापन
3.	तीसरा पृष्ठ	_	प्रमाण–पत्र
4.	चौथा पृष्ठ	—	अनुक्रमणिका
5.	पाँचवा पृष्ठ	—	भूमिका
6.	छठे पृष्ठ से	_	आकर्षक संपूर्ण परियोजना

SUBJECT – PHYSICAL EDUCATION

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Write following topics in Practical Lab Manual:-

Practical 1: Fitness test administration for all items.

- **Practical 2:** Procedure for Asanas, Benefits & Contraindications of any two Asanas for each lifestyle disease.
- Practical 3: Anyone IOA recognized Sport/Game. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

<u> SUBJECT – COMPUTER SCIENCE</u>

- 1. Write a Python Program to Find the Factorial of a Number
- 2. Write a Python Program to Display the multiplication Table
- 3. Write a Python Program to Print the Fibonacci sequence
- 4. Write a Python Program to Find the Sum of Natural Numbers
- 5. Write a Python program to find H.C.F of two numbers
- 6. Write a Python program to print the calendar of any given month.
- 7. Write a Python program to print the following patterns:

	a) 1	b)	1	c)	1
	11		12		22
	111		123		333
	1111		1234		4444
8. Write a Python program to print the following patterns:					
	a) 1111	b)	1	c)	4444
	222		21		333
	3 3		321		22
	4		4321		1
9.	Write a Python program to f	ind the	sum of the series.		

a) $1+x+x^2+x^3+x^4+\dots x^n$

- b)1!+2!+3!+.....n! c) $\frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \cdots + \frac{1}{n}$
- 10. Explain communication Media in brief.
- 11. Write any five terms used in Networking and explain them.

Note – Prepare a file and write/print programs on A4 size sheet along with output.

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<u>SUBJECT – HINDUSTANI VOCAL MUSIC</u>

- ग्राम और मूर्छना के बारे में बताएं। १.
- संगीत रत्नाकर ग्रंथ के बारे में लिखें। २.
- कृष्ण रावशंकर पंडित का जीवन परिचय लिखें। ३.
- ४. राग मालकौंस का पूर्ण परिचय लिखें।
- धमार ताल के बारे में लिखें। ५.

SUBJECT – PAINTING

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Practical I - Compose a scene of market or festival with two front face figures on buff sheet. Size : Half Imperial Medium: Poster or water color

Practical 2 - Compose a still life.

Objects Required: A bottle-gourd (note less than 25 cm in length) half a papaya, twotomatoes, a big size onion and a capsicum. Arrangement: Place the bottle-gourd on the table leaning against the backdrop. Place the papaya, tomatoes, onion and capsicum in front of it. The inside part of the papaya should be visible. The whole arrangement should be kept well below the eye level.

Visit Size : Half imperial Medium: Poster or water color

SUBJECT – DANCE

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Practical 1 - Compose a GURU VANDANA

Practical 2 – Rehearsal THATH, AMAD and TUKDA