DAV PUBLIC SCHOOL, JAMALPUR.
HOLIDAY HOMEWORK FOR SUMMER VACATION (2026-27)

Class: XII-Science

Sl. No.	SUBJECT	Homework/Assignment	Subject teacher name & signature
1	English	1. **Notice Writing**:- You are the Cultural Secretary of your school. Write a notice in about 50 words informing students about an Inter-School Debate Competition to be held next week. 2. **Notice Writing**:- Write a notice for the school notice board informing students about a lost school bag found in the library. 3. **Invitation Writing**:- Design a formal invitation inviting parents to the Annual Function of your school. 4. **Invitation Writing**:- Write an informal invitation to your friend inviting him/her to your birthday party. 5. **Job Application**:- You are Riya/Rohan. You saw an advertisement for the post of Computer Operator in a company. Write a job application with bio data in response to the advertisement. 6. **Article Writing**:- Write an article in 120–150 words on the topic "Importance of Discipline in Student Life."	D.K.Mishra
2	Hindi	आत्मपरिचय, जल्दी जल्दी ढलता है - हरिवंशराय बच्चन भक्तिन - महादेवी वर्मा सिल्वर वैडिंग - मनोहर श्याम जोशी जनसंचार की विधाएं पतंग आलोक- धन्वा बाजार दर्शन जैनेंद्र पत्रकारिता के विविध आयाम इकाई 1	P.K.Mishra
3	Physics	The following Physics investigatory projects are being assigned to the student of Class XII for CBSE practical/project file submission purposes. Students are instructed to complete the project work sincerely during the summer vacation to avoid last-minute rush before the Board Examination. Project Topics 1. To study various factors on which the internal resistance/EMF of a cell depends. 2. To find the refractive indices of (a) water and (b) transparent oil using a plane mirror, an equiconvex lens (made from glass of known refractive index) and an adjustable object needle. 3. To investigate the relation between: (i) Output voltage and input voltage (ii) Number of turns in the secondary coil and primary coil of a self-designed transformer. 4. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one with different transparent fluids. * Distribution of Projects * Roll No. 1 to 22: *Even Roll Numbers: Project 1 *Odd Roll Numbers: Project 2 * Roll No. 23 onwards *Even Roll Numbers: Project 3 *Odd Roll Numbers: Project 4 Instructions for Students:	B.B.Jha & Praveen Prabhakar

		The project must be prepared neatly in a Physics Project File as required by CBSE. Write the project in your own handwriting. Include the following components properly: * Aim * Apparatus Required * Theory/Principle * Circuit Diagram/Ray Diagram (wherever applicable) * Procedure * Observations and Calculations * Graph (if required) * Result * Precautions * Viva-Voce Questions * Relevant diagrams must be drawn neatly using pencil and scale. * The project should be well-organized and properly indexed. * Students are encouraged to take photographs of experimental setup/models if possible. * Submission after reopening of school must be strictly on time. * Incomplete or copied projects will not be accepted for CBSE record purposes.	
	Chemistry	1. Do 20 conceptual questions from previous years question papers in practice copy of chapter solutions and d&f block. 2. Make a project to show different graphs used in chapter solutions. 3. Draw the graph of any five azeotropic mixture in chart paper.	Sujeet Kumar S.Kumar
	Biology	1. Prepare an investigatory project on any one of the topics discussed in class. 2. Write the following experiments neatly in the practical copy: • Experiment 1: To prepare a temporary mount to observe pollen germination. • Experiment 2: To prepare a temporary mount of onion root tip to study mitosis. • Experiment 3: To study flowers adapted for pollination by different agents (wind, insects, and birds). 3. **Draw any 10 diagrams based on questions from the chapters** Human Reproduction and Sexual Reproduction in Flowering Plants.	Anamika
4	Maths.	**Chapter 1: Relations and Functions** 1. Check whether $f: R - \{3\} \to R$ defined as $f(x) = (x-2)/(x-3)$ is onto or not. 2. Check whether $f: Z \times Z \to Z \times Z$ defined as $f(x, y) = (2y, 3x)$ is injective or not. 3. A relation R is defined on Z, the set of integers, as $R = \{(x, y) : x - y$ is divisible by a prime number p, $x, y \in Z\}$. Check whether R is an equivalence relation or not. 4. A function $f: R - \{3/5\} \to R - \{3/5\}$ is defined as $f(x) = (3x+2)/(5x-3)$. Show that f is one-one and onto. 5. $f: R \to R$ defined by $f(x) = \cos x$ for all $x \in R$. Show that f is neither one-one nor onto. 6. If $A = \{1, 2, 3, 4\}$, define relations on A which have properties of being: (a) Reflexive, transitive but not symmetric (b) Symmetric but neither reflexive nor transitive. **Chapter 2: Inverse Trigonometric Functions** 1. Find the domain of $g(x) = \cos^{-1}(x^2 - 1)$. Hence find the value of x for which $g(x) = \pi/3$. Also write the range of $\cos^{-1}x$ other than its principal branch. 2. Simplify $\tan^{-1}[(\cos 2x - \sin 2x)/(\cos 2x + \sin 2x)]$, where $0 < x < \pi/4$. 3. Evaluate: $\tan\{\sin^{-1}(1) - \cos^{-1}(-1/2)\}$. 4. Simplify: $\sin^{-1}\sqrt{\frac{1+\cos 2x}{2}}$, where $0 < x < \pi/2$. 5. Evaluate: $\cos\{\sin^{-1}(-1) - \tan^{-1}(-\sqrt{3})\}$. 6. Evaluate: $\tan(\tan^{-1}(-1) + \pi/3)$. 7. Find the domain of $\cos^{-1}(3x - 2)$. 8. Prove that $\tan^{-1}\sqrt{x} = 1/2 \cos^{-1}[(1-x)/(1+x)]$. 9. Find the domain of $f(x) = \cos^{-1}(2x)$.	D.N.Dubey

		Chapter 3: Matrices and Determinants 1. If $P = \begin{bmatrix} 1 & -1 & 0 \\ 2 & 3 & 4 \\ 0 & 1 & 2 \end{bmatrix}$ and $Q = \begin{bmatrix} 2 & 2 & -4 \\ -4 & 2 & -4 \\ 2 & -1 & 5 \end{bmatrix}$ @, find QP. 2. If A and B are square matrices of same order, then which of the following statements is/are always true? (a) $(A + B)(A - B) = A^2 - B^2$ (b) $AB = BA$ (c) $(A + B)^2 = A^2 + AB + BA + B^2$ (d) $AB = 0 \Rightarrow A = 0$ or $B = 0$ 3. If $A = \begin{bmatrix} 0 & r & -2 \\ 3 & p & t \\ q & -4 & 0 \end{bmatrix}$ is skew-symmetric, then find $(q + t)/(p + r)$. 4. Find x: $[2x \;\; 3] \begin{bmatrix} x \\ -8 \end{bmatrix} = 0$. 5. Find x: $[1 \;\; x \;\; 1] \begin{bmatrix} 1 & 3 & 2 \\ 2 & 5 & 1 \\ 15 & 3 & 2 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ x \end{bmatrix} = 0$. 6. Show that $A = \begin{bmatrix} 5 & 3 \\ -1 & -2 \end{bmatrix}$ satisfies the equation $A^2 - 3A - 7I = 0$ and hence find A^{-1}. **Chapter 4: Continuity** 1. $f(x) = \{(x^4 - 4x^2 + 4), 0 \le x < 3$; $x^2+40. \quad x \ge 3\}$ (i) Find $f'(x)$ for $0 \le x < 3$ (ii) Find $f'(4)$ (iii) Test continuity of $f(x)$ at $x = 3$ (iv) Test differentiability of $f(x)$ at $x = 3$ 2. Check continuity at $x = 3$ for $f(x) = \{(\ |x - 3| / 2(x - 3), x < 3$; $(x - 6)/6, x > 3\ )\}$. 3. If $f(x) = \{kx + 1, x \le \pi$; $\cos x, x > \pi\}$ is continuous at $x = \pi$, then find the value of k. 4. If $f(x) = \{k \cos x / (\pi - 2x), x \ne \pi/2$; $3, x = \pi/2\}$ is continuous at $x = \pi/2$, find k. 5. Show that $f(x) = \{x \sin(1/x), x \ne 0$; $0, x = 0\}$ is continuous at $x = 0$. **Activity** 1. To verify that the relation **R** in the set L of all lines in a plane define by R={(l,m):l is perpendicular to m} is symmetry but neither reflexive not transitive. 2. To draw the graph of $\sin^{-1} x$ using the Graph of sin x and demonstrate the Concept of mirror reflection (about The line y = x).	
5	IP	1. Write down five programs on the python series using list and dictionary. 2. Write down programs on data frame using list series and dictionary.	Mukesh Sinha
6	PHY. EDU	Yoga as a Preventive Measure for Lifestyle Diseases 1. Obesity 2. Diabetes 3. Asthma 4. Hypertension 5. Back Pain & Arthritis Write down at least three asanas or pranayama exercises for each of these that help maintain a healthy lifestyle. Health and physical Education	Mithun Kumar

for

Class In-charge

Co-ordinator

14/05/24

Principal