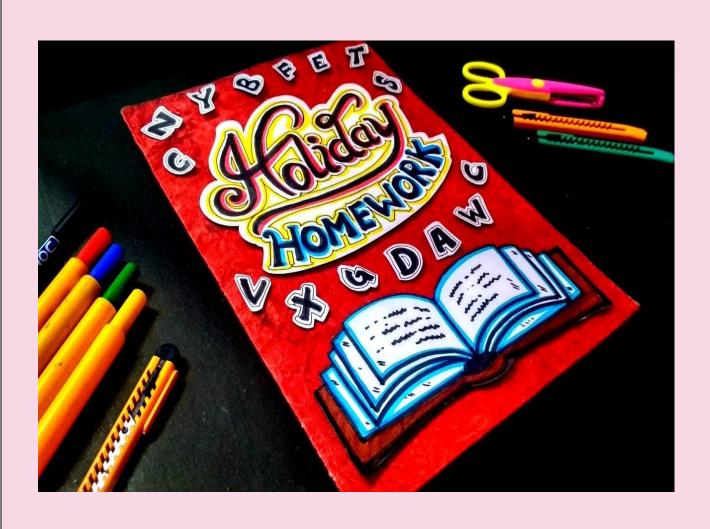# SHIVALIK PUBLIC SCHOOL
PHASE- 6
MOHALI
CLASS XI SCIENCE(2024-25)
HOLIDAYS HOMEWORK

ENGLISH CORE

Write each of the following questions in 100-120 words:

1. Explain the reasons of changing relationship between the grandmother and the author.

2. Sketch the character of the grandmother.

3. Discuss the values highlighted in the chapter The Portrait of a Lady.

4. Identify the poetic devices used in the poem A Photograph and discuss their meanings.

5. Human life is short-lived in contrast to nature. Comment on the statement in the light of the poem A Photograph.

6. Can the act of stealing be ever justified? Give your views in the context of reading of The Summer of the Beautiful White Horse.

Art Integrated project

1. *Illustrated Storytelling*: "The Portrait of a Lady" by Khushwant Singh

Objective: Create illustrations that depict key scenes from the story using traditional art forms from Odisha and Punjab.

Activities:

•Read and analyze the story "The Portrait of a Lady."

•Choose significant scenes that capture the essence of the narrative.

•Illustrate these scenes using Pattachitra (Odisha) and Phulkari (Punjab) styles.

•Write a brief description of each illustration, explaining its relevance to the story.

•Create a visual storyboard or a digital presentation.

2. *Poetry and Folk Art Fusion*: "A Photograph" by Shirley Toulson

Objective: Combine poetry and folk art to express the themes of memory and loss depicted in the poem.

Activities:

•Read and analyze the poem "A Photograph."

•Create a series of artworks inspired by the poem using Pattachitra (Odisha) and Madhubani (Punjab) styles.

•Write short poems or reflections to accompany each artwork, exploring personal memories or interpretations of the themes.

•Compile the artworks and poems into a visual poetry anthology.

PHYSICS

1. Revise Chapter -Units and measurements, Motion in a straight line.

2. Write Experiment no.1(To find the dimensions of a given body using Vernier Calliper and hence find its volume)and Experiment no. 2 (To measure diameters of a given wire using screw gauge in practical file.

3.Complete activity 1 (To make a paper scale of given least count e.g. 0.2 cm, 0.5 cm)in your activity file (subject enrichment activity).

4. **ART INTEGRATED PROJECT :**

 "KINEMATICS AND MOTION: THE MOTION IN ART"

Punjab and odisha integration:

Punjab-Illustrate the circular motion using the spinning movements of Bhangra dancers.Create a dynamic sculpture inspired by the vigorous and lively dance forms.

Odisha-Use the fluid movements in classical odissi dance poses to represent different types of motion. Create a series of paintings showing the grace and motion in Odissi dance.

5. Make an **Investigatory Project** on any one of the following topics:
-To examine the effect of surface area on air resistance.
-to study the efficiency of different insulating materials.

CHEMISTRY

1. Complete the notes of Ch-1 and Revise Ch- 1.
2. Make an innovative and decorative **Art Integrated Project** on the Topic-Traditional Fragrances in Punjab and Odisha and their extraction.
3. Write experiment no. 1 to 5 in your practical notebooks (sample will be uploaded in the School App)
4. Make an **Investigatory Project** on any one of the following topics:
- Study of acidity of fruit and vegetable juices.
- Food Adulteration

BIOLOGY

1. Complete notes till Chapter 2.
2. Revise chapter 1 and Chapter 2 based on CBE.
3. Prepare an **Art Integrated Project** on the topic- "Floriculture status of Punjab and Odisha."
4. Make an **Investigatory Project** on the topic- Prepare a Herbarium to show different class of plants.

PHYSICAL EDUCATION

1. Complete notes of Unit- 1 and 2.

2. **Health and Physical education-**

Strand -1. Any one game of choice: Basketball, Badminton, Cricket, Football, Volleyball, Hockey, Table tennis)

MATHEMATICS

HOLIDAY HOMEWORK CLASS-XI
ASSIGNMENT 1
CHAPTER 1 (SETS THEORY)

(SECTION A- 1 mark questions)

Q1. Write the roster form of $H = \{x/\ x \in N \ and \ 5 < x^2 < 50\}$.

Q2. Give example of two sets whose intersection is an empty set.

Q3. How many subsets a set has containing 5 elements.

Q4. Write the set $\left\{\frac{1}{2}, \frac{2}{3}, \frac{3}{4} \dots \right\}$ in set builder form.

Q5. Define power set.

(Section B- 2 mark questions)

Q6. Write all the subsets of the set $\{\phi, 1\}$.

Q7. Find sets A, B and C such that $A \cap B, B \cap C$ and $A \cap C$ are non empty sets and $A \cap B \cap C = \emptyset$.

Q8. Two finite sets having m and k elements. If the total number of subsets of the first set is 56 more than the total number of subsets of second set, then find m and k.

Q9. For all sets A, B and C, is $(A \cap B) \cup C = A \cap (B \cup C)$? justify your answer.

Q10. If $U = \{1,2,3 \dots, 10\}$, $A = \{x : x \ is \ prime\}, B = \{x : x \ is \ even \ integer\}$. Then write the value of $A \cap B^C$.

Q11. A and B are two sets such that $n(A - B) = 14 + x, n(B - A) = 3x$ and $n(A \cap B) =$ $x.$ draw a venn diagram to illustrate this information. If $n(A) = n(B), find$ (1) the $value$ of x (2) $n(A \cup B).$

Q12. A survey shows that 63% people watch news channel A whereas 76% watch news channel B. if x% watch both the channels , prove that $39 \leq x \leq 63.$

Q13. If $P(A) = P(B), show$ $that$ $A = B.$

Q14. Let A and B be sets. If $A \cap X = B \cap X = \emptyset$ and $A \cup X = B \cup X$ for some set X, show that $A = B$

	MCQS – SETS
Q.1	The set of intelligent students in a class is : (a) A null set (b) A singleton set (c) A finite set (d) Not a well defined collection
Q.2	If the sets A and B are given by A = {1, 2, 3, 4}, B = {2, 4, 6, 8, 10} and the universal set U = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}, then: (a) (A U B)' = {5, 7, 9} (b) (A ∩ B)'= {1, 3, 5, 6, 7} (c) (A ∩ B)' = {1, 3, 5, 6, 7, 8} (d) None of these
Q.3	If A = {1, 2, 3, 4}, B = {2, 3, 5, 6} and C = {3, 4, 6, 7}, then (a) A – (B ∩ C) = {1, 3, 4} (b) A – (B ∩ C) = {1, 2, 4} (c) A – (B U C) = {2, 3} (d) A – (B U C) = {Ø}
Q.4	The set {x : x is an even prime number} can be written as: (a) {2} (b) {2, 4} (c) {2,14} (d) {2, 4, 14}
Q.5	The number of the proper subset of {a, b, c} is: (a) 3 (b) 8 (c) 6 (d) 7
Q.6	Which one is different from the others? (i) empty set (ii) void set (iii) zero set (iv) null set : (a) (i) (b) (ii) (c) (iii) (d) (iv)
Q.7	Given the sets A = {1, 3, 5}, B = {2, 4, 6} and C = {0, 2, 4, 6, 8}. Which of the following may be considered as universal set for all the three sets A, B and C: (a) {0, 1, 2, 3, 4, 5, 6} (b) Ø (c) {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10} (d) {1, 2, 3, 4, 5, 6, 7, 8}
Q.8	Which of the following collections is a set ? (a) The collection of all the days of a week (b) A collection of 11 best hockey player of India. (c) The collection of all rich person of Delhi (d) A collection of most dangerous animals of India.

ASSERTION & REASON TYPE QUESTIONS

Directions : Each of these questions contains two statements, Assertion and Reason. Each of these questions also has four alternative choices, only one of which is the correct answer. You have to select one of the codes (a), (b), (c) and (d) given below.

(a) Assertion is correct, reason is correct; reason is a correct explanation for assertion.
(b) Assertion is correct, reason is correct; reason is not a correct explanation for assertion
(c) Assertion is correct, reason is incorrect
(d) Assertion is incorrect, reason is correct.

Assertion : The number of non-empty subsets of the set {a, b, c, d} are 15.

Reason :   Number of non-empty subsets of a set having n elements are $2^n - 1$.

Suppose A, B and C are three arbitrary sets and U is a universal set.

Assertion : If B = U – A, then n(B) = n(U) – n(A).

Reason :   If C = A – B, then n(C) = n(A) – n(B).

Assertion : Let A = {1, {2, 3}}, then P(A) = {{1}, {2, 3}, Ø, {1, {2, 3}}}.

Reason :   Power set is set of all subsets of A.

Assertion : The subsets of the set {1, {2}} are { }, {1}, {{2}} and {1, {2}}.

Reason :   The total number of proper subsets of a set containing n elements is $2^n - 1$.

Assertion : For any two sets A and B, A – B ⊂ B'

Reason :   If A be any set, then A ∩ A' = Ø

CHAPTER: RELATIONS AND FUNCTIONS

	MCQs
Q1	If A × B = {(a, 1), (b, 3), (a, 3), (b, 1), (a, 2), (b, 2)}, then set B is (a) {a} (b) {a, b} (c) {1, 2} (d) {1, 2, 3}
Q2	If $(\frac{x}{3} + 1, y - \frac{2}{3}) = (\frac{5}{3}, \frac{1}{3})$, find the values of x and y respectively are: (a) 3,3 (b) 1,2 (c) 2,1 (d) 3/2,2
Q3	U = {1, 2, 3, 4} and relation R = {(x, y): y > x; x, y∈ U} then range of R is .... (a) {1, 2, 3, 4} (b) {2, 3, 4} (c) {4} (d)
Q4	If A = {1, 2, 3} and B = {4, 5} then number of relations from A to B is: (a) 6 (b) 8 (c) 9 (d) 64
Q 5	If set A has 2 elements and set B has 4 elements then how many relations are possible? (a) 32 (b) 128 (c) 256 (d) 64
Q 6	If A×B={(5, 5),(5, 6),(5, 7),(8, 6),(8, 7),(8, 5)},then the set A: (a) {5} (b) {8} (c) {5, 8} (d) {5, 6, 7, 8}

COMPUTER SCIENCE

- ➢ Complete notes of Chapter -1
- ➢ Art Integrated Project: Create Info graphic using Online tools (Canva, Piktochart,Miro, Mindmiester…) (Hardcopy of the infographics)
    - ✓ Basic computer organisation
    - ✓ units of memory
    - ✓ Classification of Memory
    - ✓ Classification of Softwares

- ➢ Creating a video on Society, Law, and Ethics:

    - o Introduction to Digital Ethics and Legal Issues.
    - o Explain the significance of digital ethics and legal issues in today's society.
    - o Discuss key topics such as privacy, data protection, intellectual property, cyberbullying, and digital piracy.
    - o Use online platform Quizziz : Develop a quiz feature to test users' knowledge about digital ethics and legal issues. Include multiple-choice questions, true/false questions, and scenario-based questions.
- ➢ Compare the key initiatives and measures implemented by the Punjab government and Odisha Government to enhance cyber security- Art Integrated Project.