



**St. XAVIER'S HIGH SCHOOL**

**EDUCATION FOR ALL  
BANKURA, WEST BENGAL**

Affiliated to CBSE (New Delhi) 10+2 Level

Affiliation No.: 2430130

School Code: 15720

## **SUMMER VACATION ASSIGNMENT FOR CLASS XII SC**

### **ENGLISH**

ASL Project Work:-

1. Ancient Education VS Modern Education
2. The True Idea of Feminism
3. Sustainable Development
4. Generation Gap
5. Value Education

**\*\*You will do any one project for your Summer Holiday Assignment.**

### **CHEMISTRY**

1. (a) What is van't Hoff factor? What possible values can it have if the solute molecules undergo dissociation?  
(b) An aqueous solution containing 12.48 g of barium chloride in 1.0 kg of water boils at 373.0832 K. Calculate the degree of dissociation of barium chloride. [Given;  $K_b$  for  $H_2O = 0.52 \text{ K mol/m}$ ; Molar mass of  $BaCl_2 = 208.34 \text{ g/mol}$ ]
2. State the following:  
(a) (i) Henry's law about partial pressure of a gas in a mixture. - (ii) Raoult's law in its general form in reference to solutions.  
(b) A solution prepared by dissolving 8.95 mg of a gene fragment in 35.0 mL of water has an osmotic pressure of 0.335 torr at 25°C. Assuming the gene fragment is non-electrolyte, determine its molar mass.
3. (a) 30 g of urea ( $m = 60 \text{ g mol}$ ) is dissolved in 846 g of water. Calculate the vapour pressure of water for this solution if vapour pressure of pure water at 298 K is 23.8 mm Hg.  
(b) Write two difference between ideal solutions and non-ideal solution.
4. (a) Non-ideal solutions exhibit either positive or negative deviations from Raoult's law. What are these deviations and how are they caused?  
(b) State Raoult's law for a solution containing volatile components. Write two characteristics of the solution which obeys Raoult's law at all concentrations. [Delhi 2019]
5. (a) Define the following terms: (i) Azeotrope (ii) Osmotic pressure (iii) Colligative properties.  
(b) Calculate the molarity of 9.8% (w/w) solution of  $H_2SO_4$  if the density of the solution is 1.02 g/ mL. (Molar mass of  $H_2SO_4 = 98 \text{ g/ mol}$ )

### **BIOLOGY**

**Investigatory Project for SSCE 2023-24**

1. Amniocentesis
2. Sickle Cell Anaemia
3. Drug addiction and its effect on adolescence.
4. AIDS
5. Microbes in human welfare.

NOTES: I) Single project have to be submitted class roll number wise.

II) The project details will be provided accordingly.

III) Project should be in printed form.

## **MATHEMATICS**

Chapter: - Relation and function

In relation (Reflexive, symmetry, transitive) prepare diagram on chart paper.

In function (Injective & surjective) diagram prepare on same chart paper.

NOTE: - SOLVE LAST 5 YEAR CBSE QUESTION PAPER FROM THE CHAPTERS-

1. Relation and function
2. Inverse trigonometric function
3. Matrix
4. Determinant

## **DANCE (KATHAK)**

1. Basic understanding of the term ABHINAYA and definition of its four aspects:

Angika, Vachika, Aharya, Satvika

2. Write and paste picture of each parts of ABHINAYA in A4 white Page and cover with a channel file.

## **PHYSICAL EDUCATION**

Q.1) Management of sports various committees and their responsibility (pre, during and post)

Q.2) What is common postural deformities?

Q.3) Postural deformities and their corrective measures (knock knee, flat foot, lordosis)

## **PHYSICS**

Investigatory Project for SSCE 2023-24

1. To study the properties of magnetic materials (Roll No.1- 11)
2. To investigate the working of a transistor as switch.(Roll No. 12- 22)
3. To study the construction and working of a tangent galvanometer.( Roll No. 23- 33)
4. To study the theory of electromagnetic induction and its application. (Roll No. 34-44)
  - PROJECT SHOULD BE IN PRINTED FORM.
  - MORE DETAILS ABOUT PROJECT WILL BE GIVEN IN CLASS GROUP SHORTLY.

## **COMPUTER SCIENCE**

1. Write a program to print one of the words negative, Zero, or positive, according to whether variable x is less than zero, zero, or greater than zero respectively?
2. Write a program that returns True if the input number is an even number, False otherwise.
3. Write a python program that calculates and prints the number of seconds in a year.
4. Write a python program that accepts two integers from the user and prints a message saying if first number is divisible by second number or if it is not.
5. Write a program that asks the user number in a year in the range 2 to 365 and asks the first day of the year — Sunday or Monday or Tuesday etc., Then the program should display the day on the day -number that has been input.

***NOTE : ALL THE ASSIGNMENT MUST BE DONE IN A RULED COPY.***