St. XAVIER'S HIGH SCHOOL
EDUCATION FOR ALL

BANKURA, WB
Affiliation No.: 2430130

Affiliated to CBSE (New Delhi) 10+2 level
School Code: 15720

WINTER VACATION ASSIGNMENT (2024-2025)
Class-XI-Science

Subject: English

1. Write an essay (around 180-200 words) describing how you observed Christmas Day celebrations at your home or surroundings during the winter holidays 2024. Try to include sensory details such as sights, sounds, and smells that made the day special. You could also mention any unique traditions or rituals that your family or community follows on Christmas Day. How did you feel on this day? What were some of the highlights of your celebration? Use vivid language to bring your experience to life.

Write this essay in your School's Holiday Homework Copy. You must paste related pictures or drawings and sketches.

Subject: Physics

INVESTIGATORY PROJECT

1. To study the variation of range of projectile with angle of projection.

2. To study the working principle of an aeroplane using Bernoulli's principle and aerodynamics.

3. To study the blackbody radiation and Hawking's law.

4. To study the laws of thermodynamics.

5. To study the doppler effect of sound.

*Following points should be followed properly:
1. The project should be in A4 white sheet in Handwritten form. No printed projects are accepted.
2. The project must contain:
a) Cover page (Printed) with school name, school logo, Topic name, any cover picture related to provided topics, submitted by (Student name), Class, roll no, session, subject -Physics (042), Guided by (Subject Teacher name).
b) Certificate (Printed, Format will be provided)
c) Acknowledgement (Printed, Format will be Provided)
d) Index (Handwritten)
e) Content (Handwritten)
f) Conclusion (Handwritten)
g) Bibliography (Handwritten)
3. The content must contain Introduction, Topic description, Advantages, Disadvantage, application etc.
4. Project must contain Picture representation and statistical representation (if any).
5. Compile all pages in a channel file.

NOTE:- STUDENTS HAVE TO WRITE PROJECT ON ANY ONE OF THE GIVEN TOPICS AS PER THEIR CHOICE.

Subject: Mathematics

1. Write down the five activities in maths lab manual copy. (activities will be available in class XI-science whatsapp groups.)

2. Write down the all formulae & fundamental properties of chapter (limit & derivative) on chart paper. (Project)

Subject: Chemistry

INVESTIGATORY PROJECT

1. Study of the presence of oxalate ions in guava fruit at different stages of ripening.

2. Study of quantity of casein present in different samples of milk.

3. Preparation of soybean milk and its comparison with the natural milk with respect to curd formation,

4. Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).

Following points should be followed properly:
1. The project should be in A4 white sheet in Handwritten form. No printed projects are accepted.

2. The project must contain:
a) Cover page (Printed) with school name, school logo, Topic name, any cover picture related to provided topics, submitted by (Student name), Class, roll no, session, subject -Chemistry (043), Guided by (Subject Teacher name).
b) Certificate (Printed, Format will be provided)
c) Acknowledgement (Printed, Format will be Provided)
d) Index (Handwritten)
e) Content (Handwritten)
f) Conclusion (Handwritten)
g) Bibliography (Handwritten)

3. The content must contain Introduction, Topic description, Advantages, Disadvantage, application etc.
4. Project must contain Picture representation and statistical representation (if any).
5. Compile all pages in a channel file.

NOTE:- STUDENTS HAVE TO WRITE PROJECT ON ANY ONE OF THE GIVEN TOPICS AS PER THEIR CHOICE.

Subject: Biology

Answer the following questions:

1. What is oxygen dissociation curve? What factors causes oxygen dissociation curve?
2. Explain the cause and symptoms of the following respiratory diseases:
      a) Asthama
      b) Emphysema
3. Explain the regulation of respiration in human beings.
4. Explain Rh blood grouping? What is erythroblastosis foetalis?
5. What are the various proteins present in plasma explain their roles in human body.
6. What is cardiac cycle? How the cardiac cycle explains the physiology of body?
7. What is ECG? Explain the various waves of ECG.

8. Explain the cause and symptoms of the following circulatory disease:
- **a)** Myocardial infraction
- **b)** Heart attack
- **c)** Heart failure
- **d)** Cardiac arrest

9. Draw well labelled diagram of the following:
- **a)** ECG
- **b)** Human heart

10. Define:
- **a)** Tidal volume
- **b)** IRV
- **c)** ERV

Subject: Computer Science

1. Write python code for the following program and submitted in channel file with proper colour front page:

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loops:

Pattern-1	Pattern-2	Pattern-3
*	12345	A
**	1234	AB
***	123	ABC
****	12	ABCD
*****	1	ABCDE

- Write a program to input the value of x and n and print the sum of the following series:
  - $1 + x + x^2 + x^3 + x^4 + \cdots x^n$
  - $1 - x + x^2 - x^3 + x^4 - \cdots x^n$
  - $x + \dfrac{x^2}{2} + \dfrac{x^3}{3} + \dfrac{x^4}{4} + \cdots \dfrac{x^n}{n}$
  - $x + \dfrac{x^2}{2!} + \dfrac{x^3}{3!} + \dfrac{x^4}{4!} + \cdots \dfrac{x^n}{n!}$

- Determine whether a number is a perfect number, an Armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75.

Subject: Physical Education

1. Write down different types of human body movement with proper examples?

Subject: Dance (Kathak)

1. How many types of Indian classical dance are there? Briefly write about each with picture.

2. Write a note each on trital and jhaptal. (thah, dugu)

Subject: Bengali

TOPIC