

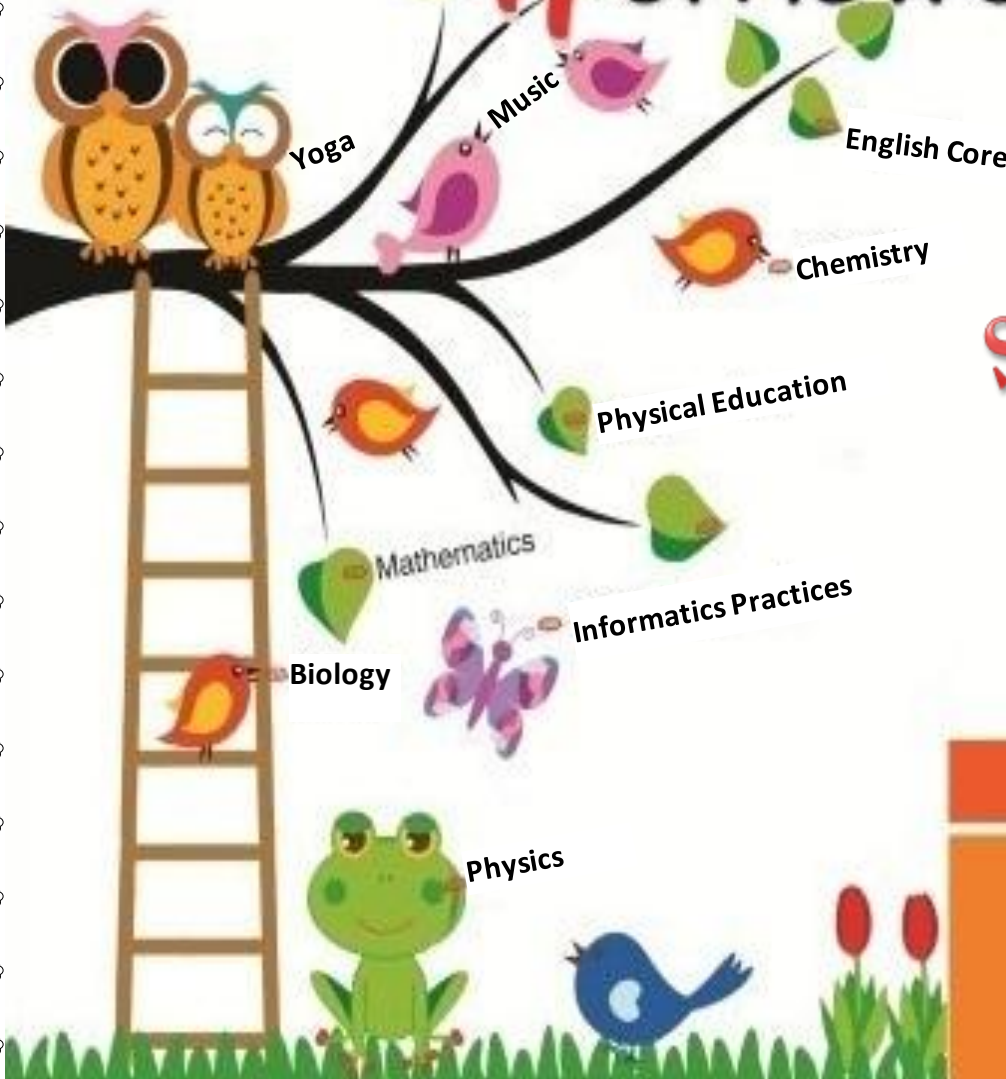


**BCM School, Pakhowal Road,
Basant City, Ludhiana**

Holidays Homework

2022

**Std. XII
Science**



ENGLISH CORE

(PROJECT WORK)

NOTE:-

- THIS PROJECT WORK IS TO BE DONE ON LANDSCAPE SHEETS THEN PUT IN A PRESENTABLE FILE.
- IT WILL BE COUNTABLE FOR YOUR ASL MARKS

1 NOTICE

In the capacity of the President of RWA, Mayur Vihar, Delhi .Write a **NOTICE** informing all the residents about the power cut for the installation of electronic meters, seeking their cooperation
(Paste cutting of public notice/any notice from newspaper too on the next page)

2 LETTER TO EDITOR

Write a **Letter to the Editor**, The Hindu, Chennai about rash and reckless driving by the people in your city suggesting preventive measures. You are Som/Somya residing at 20, Mount Road, Vela cherry.

(Paste cutting of letter to editor from the Tribune/or any other newspaper too on the next page)

3 ARTICLE

Write an **ARTICLE** on the "IMPORTANCE OF MENTAL HEALTH"

(Paste pictures relevant to the article too on the next page)

CHEMISTRY

- I. Prepare any one of the Investigatory projects as given in CBSE syllabus:

INVESTIGATORY PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources A few suggested Projects.

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study the quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with natural milk with respect to curd formation, the effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as a food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of the following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carum), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder and pepper.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

- II. Complete your practical notebook

III. Revise:

- i. Biomolecules
- ii. Haloalkanes/ Haloarenes
- iii. Amines

PHYSICS

1. Prepare Investigatory project as per your syllabus.
2. Write practicals on your lab manual for Section A and Section B.

Assignment

- Q1. Two charged capacitors are connected by a conducting wire. Calculate potential of capacitors (ii) ratio of their charges at common potential. Show that energy is lost in this process.
- Q2. Derive an expression for the strength field intensity at a point on the axis of a uniformly charged circular coil of radius R carrying charge Q .
- Q3. Derive an expression for potential at any point distant r from the centre O of dipole making an angle with the dipole.
- Q4. Supposed that three points are set at equal distance $r = 90$ cm from the centre of a dipole, point A and B are on either side of the dipole on the axis (A closer to +ve charge and B closer to negative charge) point C which is on the perpendicular bisector through the line joining the charges. What would be the electric potential due to the dipole of dipole moment 3.6×10^{-19} cm at points A , B and C ?
- Q5. Derive an expression for capacitance of parallel plate capacitor with dielectric slab of thickness t ($t < d$) between the plates separated by distance d . How would the following (i) energy (ii) charge, (iii) potential be affected (a) if dielectric slab is introduced with battery disconnected, (b) dielectric slab is introduced with battery is connected.
- Q6. Derive an expression for torque experienced by dipole placed in uniform electric field. Hence define electric dipole moment.
- Q7. State Gauss's theorem. Derive an expression for the electric field due to charged plane sheet. Find the potential difference between the plates of a parallel plate capacitor having surface density of charge $5 \times 10^{-8} \text{ Cm}^{-2}$ with the separation between plates being 4 mm.
- Q8. Using Gauss's theorem obtains an expression for electric field intensity in a parallel plate capacitor.

BIOLOGY

- NOTE:---
- * Do this work on assignment sheets.
 - * This project should be spiral binded .
 - * Here is the list of topics, choose any one and make it with the help of Biology reference books and internet.
 - * Project should be investigatory.
 - * Paste pics and you can draw diagrams also.

LIST OF TOPICS: ----

- POLLINATION
- STUDY OF GENE THERAPY
- SPERMATOGENESIS
- DNA FINGERPRINTING
- DRUG ADDICTION
- POLLUTION
- RECOMBINANT DNA TECHNOLOGY IN MEDICINES
- MICROBES IN HUMAN WELFARE
- STUDY OF EFFECTS OF ANTIBIOTICS ON MICRO-ORGANISMS

Make practical file also as per the syllabus given by CBSE

Revise and learn the syllabus which we had done and solve the NCERT questions

MATHEMATICS

1. Relations and Functions.....

To verify that the relation R in the set L of all lines in a plane, defined by $R = \{(l, m): l \text{ parallel to } m\}$ is an equivalence relation.

2. Relations and Functions.

To demonstrate a function which is not one-one but is onto.

3. Inverse Trigonometric Functions.....

To draw the graph of $\sin x$, using the graph of $\sin^{-1} x$ and demonstrate the concept of mirror reflection (about the line $y = x$).

1. Limits and Continuity

To find analytically the limit of a function $f(x)$ at $x = c$ and also to check the continuity of the function at that point.

2. Applications of Derivatives (Increasing and Decreasing Functions).

To understand the concepts of decreasing and increasing functions.

6. To understand the concepts of local maxima, local minima and point of inflection

7. Applications of Derivatives (Maxima and Minimal

To construct an open box of maximum volume from a given rectangular sheet by cutting equal squares

8. Applications of Derivatives (Maxima and Minima),

To verify that amongst all the rectangles of the same perimeter, the square has the maximum area.

9. Vectors

To verify that angle in a semi-circle is a right angle, using vector method.

10. Three Dimensional Geometry

To locate the points to given coordinates in space, measure the distance between two points in space and then to verify the distance using distance formula.

PHYSICAL EDUCATION

Students will be prepare Practical File completed which includes following Contents

PRACTICAL-1

AAHPER Youth Fitness Test

PRACTICAL-2

Yoga

PRACTICAL-3

Senior Citizen Fitness Test

PRACTICAL-4 (Choose any one game)

- BASKETBALL
- FOOTBALL
- KABADDI
- KHO-KHO
- VOLLEYBALL
- HANDBALL
- HOCKEY
- CRICKET
- ATHLETICS

Any one game of your choice out of the list above. Labelled diagram of field & equipment (Rules, Terminologies & Skill)

YOGA

- * Surya Namaskar
- * Asana (any 5)
- * Pranayama (any 2)
- * Bandh
- * Mudra (any 2)
- * Prepare a chart of yogic management to cure obesity

INFORMATICS PRACTICS

1. Write a program to create a DataFrame to store weight, age and names of 3 people. Print the DataFrame also
2. A Series object trdata consists of around 2500 rows of data. Write a program to print the following details:
 - i) First 100 rows of data
 - ii) Last 5 rows of data
3. Difference between series object and data frame object.
4. Write code to create series object using python sequence [2,3,5,6]. Assume that pandas is imported as alias name pd.

FINE ARTS

- Make A2 sized 2 sheets of Still-Life, 2 sheets of Landscape, 2 sheets of Composition in any medium.
- Make project file on given topic:- 1. Rajasthani 2. Pahari 3. Mughal art.
- Make 10 decorative borders for board decoration; size of the boarder is 4 inches.

EXAMPLES:-

