SUMMER ASSIGNMENT 2022-23

CLASS: XII

ENGLISH - I

Answer any one of the following topics.

1. Briefly describe your ambitions in life. What are the challenges you face in reaching your goals. State clearly how you are going to overcome the above challenges?
2. Narrate your experience in a shopping mall or a crowded public place. Narrate the behaviour and attitude of different kinds of people you see there
3. Argue for or against the topic " The society makes lot of interference in the private life of people and it is not desirable for a developed society."
4. Prepare a recipe to make ice cream

Format

Cover page

Topic written clearly on top.

Name :

Class, section :

Roll number :

Name of school:

Introduction –

Write on the 1 inner page

Content

Divide the matter and write under subtitles.

Conclusion

Separate page

Recipe

Introduction

Ingredients

Preparation

Conclusion

ENGLISH - II

1. With close reference to the story **'To build Fire'** Narrate the efforts made by the man to save his life after he had fallen down
2. With close reference to Act 2 scene 1, Describe
   (a) Miranda's innocence
   (b) Ferdinand sacrifice as a true lover
   (c) Prospero's attitude to the lovers
3. With close reference to the poem John Brown Narrate the recent wars and its impact on people's life.

   Use the same format

   You may paste relevant pictures, photos or sketches.

HINDI

Note - Word limitation for the given questions is 800-1000 words.

1.' तुलसीदास जी' का जीवन परिचय देते हुए उनके कृतित्त्व पर प्रकाश डालिए तथा 'पदों' का शब्दार्थ सहित भावार्थ अपने शब्दों में लिखिए ।

2. आज के युग में सभी का साक्षर होना अत्यंत आवश्यक है । साक्षरता की आवश्यकता तथा इससे होने वाले लाभों को दृष्टि में रखकर एक प्रस्ताव लिखिए तथा यह भी बताइए आप के अनुसार साक्षरता का प्रतिशत भारतीयों में बढ़ाने के लिए सरकार को कौन-कौन से उपाय करने चाहिए और क्यों ?

MATHEMATICS

SECTION - A

1. Matrix and inverse of a matrix.
    a. Define matrix
    b. Define different types of matrices
    c. Operations on Matrices
    d. Explain how to find the inverse of a matrix by using elementary operations.
    e. Explain with example
2. Determinants and inverse of a matrix.
    a. Define determinants
    b. How to find the value of a determinant, explain with example.
    c. Explain minors and cofactors and adjoint of a matrix
    d. Explain the method of finding the inverse of a matrix using formula. Explain it with example.
3. Matrix. Verifying the consistency of a system of linear equations.
    a. Define metrics
    b. Explain about the uses of Matrices
    c. Explain Matrix method (Martin's rule)
    d. Verify the consistency of the system of three linear equations of three variables and verify it with example.
4. Matrix and its application
    a. Define matrix.
    b. Explain minors and cofactors and adjoint of a matrix
    c. For a dependent system (non-homogeneous) of three linear equations of three variables, identify infinite number of solutions. Explain briefly with an example.
5. Relations and Functions
    a. Explain relations
    b. Types of relations on a set
    c. Functions
    d. Types of functions with example
    e. Domain and range of functions
6. Inverse Trigonometric functions
    a. Explain when a function is invertible
    b. Invertible function
    c. Inverse Trigonometric functions
    d. Explain any three set of properties of inverse trigonometric functions.

SECTION – B

1. Vectors
    a. Define vectors

b. Explain direction cosines and direction ratios of a vector
c. Sum and difference of vectors, scalar multiplication of vectors.
d. Explain the triangle inequalities.

2. Scalar product of vectors.
   a. Define vectors
   b. Explain direction cosines and direction ratios of a vector
   c. Components of a vector
   d. Vectors in two and three dimensions
   e. Explain scalar(dot) product of vectors and its geometrical significance
   f. Angle between two vectors
3. Vector product of vectors
   a. Define vectors
   b. Position vector
   c. Components of a vector
   d. Define cross product and its properties
   e. Using vector algebra find the area of a parallelogram and triangle. Also, derive the area analytically and verify the same.

SECTION – C

LINEAR REGRESSION

- Explain lines of regression of Y on X and X on Y
- Explain the method of least squares
- For a given data find the regression equation by the method of least squares.
- Find angle between regression lines
- Explain the properties of regression lines.

PHYSICS

Topic for physics project is divided & listed in accordance with your class roll numbers as follows:

Roll Numbers	**Topics**
01 - 05	Junction Diode
06 - 10	Capacitor
11 - 15	Polaroid
16 - 20	Nuclear fission reactor
21 - 25	Transformer
26 - 30	AC motor
31 - 35	Microscope
35 - 40	Telescope
41 - 45	Superconductor
45 - 50	Electric light sources
Optional	Any working model or Investigatory project (by performing an experiment under supervision of a teacher)

General guidelines

- Students are advised to write & submit their project on ***A4 size sheets*** enclosed by a ***stick file***.
- Students must only use ***blue*** or ***black*** ink to write their projects, while other colours **(not *green or yellow***) can be used for writing titles & sub titles, front page of the project & for boarders.
- All the ***written contents*** must be on the ***right-hand side*** of the project file.
- All ***diagrams***, ***pictures***, ***sketches*** & ***graphs*** associated must be on the ***left-hand side*** of the project file.
- All diagrams must be titled & relevant parts must be labelled.
- Students are advised to make sure that the diagram & its descriptions are in side by side with each other as much as possible.
- The project file must contain the following titles in the order they are specified :
  Front page, ***Acknowledgement***, ***Introduction***, ***Index***, *Content pages*, ***Conclusion***, ***Bibliography***.
- No student must change his/her project topic without consulting prior with your physics teacher on or before 13/05/2022
- All pages must be hand written except for the front page which can be either computer print or hand designed.
- Students opting for Working model or Investigatory project type must inform the details related to the topic prior with your physics teacher on or before 13/05/2022

<u>Front page</u>

This can either be computer print or hand designed. It must contain the topic of the project in the ***<u>biggest font</u>***; *Submitted by*: name, class, roll number & a space is to be left to enter student unique ID & student's signature; *Submitted to*: name of the teacher & a space must be left for signature; a separate space titled *External examiner* should be left blank for his/ her signature.

Submitted by,

Name:……..

Class:……..

Roll No:……

Unique ID:……..

Signature:……

Submitted to,

Name:……..

Signature:……

External Examiner:……

Content pages

Content pages should **minimum** be of **12** & a **maximum** of **18** in number. Students are advised to include the following topics in these pages : a brief history in the development & studies of the material/device; Descriptions on the devices/material, it's properties & characteristics; Working principle if any, explanation with diagrams; Lists of applications or uses & explain any ***two*** use in details; Merits & Demerits, if any; Possible future of the technology, if any.

Other Titled pages

Students are advised to make titled pages of minimum 1 page each & can be extended as its content demands.

Working Model & Investigatory project

Students interested in making any working model or Investigatory project ***must consult with your Physics Teacher on or before 13/05/2022 for finalising the project topic***. Students are to prepare a technical report including title, abstract, some theoretical discussion, experimental setup, observations with tables of data collected, graph/chart (if any), analysis & discussion of results, deductions, conclusion, etc. The teacher should approve the draft, before it is finalised. For students doing these projects need to write content pages with a minimum of 8 pages & a maximum of 12. Topics related to the content pages will be informed to you based on the project.

Sachin Xavier
sachin.xavier440@gmail.com
9446675439

CHEMISTRY

CHEMISTRY PROJECT
TOPIC: ELECTRON DISPLACEMENT EFFECTS IN ORGANIC COMPOUNDS

1. INDUCTIVE EFFECT
   + I effect and - I effect with examples
   + I groups and - I groups with examples
   Explanation of stability of carbocations and carbanions using inductive effect
2. ELECTROMERIC EFFECT
   +E effect and -E effect with examples
3. RESONANCE
   Definition
   Conditions / characteristics of resonance
   Resonance energy
   Examples: CO_2, SO_2, CO_3^{2-}, SO_4^{2-}, benzene etc
4. RESONANCE OR MESOMERIC EFFECT
   +M effect – Explanation with examples. Phenol, aniline, chlorobenzene.
   -M effect - Explanation with examples. Nitrobenzene, benzoic acid,
   +M groups and -M groups with examples
   Directive influence of substituents
   i) Ortho- para directing /activating groups and explanation of activating influence of substituents
   ii) Meta directing /deactivating groups and explanation of deactivating influence of substituents.

Guidelines

1. Write on A4 sheets

2. Write only on one side of the sheets
3. The following should be present in the project;
    a) Index
    b) Introduction
    c) Contents (15 to 20 pages)
    d) Bibliography
4. Draw diagrams or use pictures or photographs wherever they are helpful.
5. Pictures or photographs should be pasted on the blank/left page.
6. Use colour pens or sketch pens to write headings or subheadings.
7. Avoid too much decorations.
8. Draw border on each page before you start writing.
9. The cover page should include:

    Project topic and year

    Name of student,

    Class, division and index number.

10. Cover page can be handmade or computer designed.
11. Arrange all the pages in order in a transparent plastic file and submit it on or before 1st July 2022.
12. A model of cover page is given below.

BIOLOGY

Topic: Human Genome Project

Format of the Project:

- Front page (should have School Name, Session 2022-2023, name of topic, student's name, class, section, students name, students roll no., student's index no., student's sign, teacher's name, teacher's signature).
- Content with page number.
- Introduction
- Presentation (graphs, tables, charts, newspaper cuttings, diagrams, photographs, statistical analysis if relevant)
- Summary
- Bibliography

Note:

1. Use A4 sheets (one side plane and one side ruled).
2. Written work should be on ruled side and diagrams on the plane side.
3. No need of extra decorations

COMMERCE

Select any two topics from the list given below and prepare the project work

A list of suggested Projects is given below:

1. Compare marketing strategies adopted by two different companies of the same industry (FMCG / Telecommunication / media / education industry etc.) keeping in mind the following: − Product mix − Price Mix − Place Mix − Promotion Mix

2. Collect newspaper/magazine clippings of five cases filed by consumers in the Consumer Court. Find out the rights violated, and the redressal mechanism used. What was the outcome of each case?

3. Visit a commercial Bank. Find out the procedure to open a savings account. Find out the details of various Agency & General utility services provided by the bank.

4. Compare the interest rates offered by five different commercial banks on fixed deposits under various categories (general and senior citizens) and various time durations. Find out the procedure and formalities for opening a fixed deposit account. What is the procedure for closing the account on maturity and before maturity period?

5. Select five different companies across varying industries such as I.T., textiles, FMCG, Health Care, etc., included in the SENSEX. Keeping a hypothetical base money of Rupees One Lakh, invest in the shares of the selected companies. The movement of share prices selected by you should be monitored over a period of one month on a daily basis. A uniform / standard practice of either using the opening price or the closing price on a particular day of the week should be used by all students in the class. At the end of the month, analyse your investment in a spread sheet and give reasons for your choice of scripts.

6. Find out the names of companies under various sectors (FMCG, Pharma, automobile, etc) included in the NIFTY and the SENSEX. Make a chart of the same and track its movements over a period of one week.

7. (a) Study the sources of recruitment and steps involved in the selection procedure adopted by two companies of the same industry. (b) Compare and evaluate the sources of recruitment and the selection process adopted by the selected companies.

8. Formulate a capital plan for a hypothetical business organization. Justify your formulated plan.
9. Choose two companies of the same industry. Study their organizational structure. Also give information with regard to: (i) Hierarchy (ii) Centralization and delegation of authority (iii)Flow of information (scalar chain) (iv) Span of control (v) Channel of communication.

10. Select any business undertaking. Study the selected business in terms of ownership, capital and profitability. Make a S.W.O.T. analysis and present it in a tabular form.

Note. You can also select any two topics from the syllabus.

ACCOUNTS

Roll No. 01 to Roll No. 19 are assigned project question 1
Roll No. 20 to Roll No. 38 are assigned project question 2

PROJECT Q.1.

Manoj, Naresh and Om were commerce students. They had opted Computers as a vocational subject while doing their B.Com. They decided to start a computer business after doing their B.Com. They prepared a partnership deed containing the following clauses:

(i) **Name of the firm** will be 'First Computers'.
(ii) **Capitals:** Manoj will contribute ₹ 4,00,000 and Naresh and Om ₹ 3,00,000 each.
(iii) **Profit Sharing Ratio:** Profits will be shared in the ratio of capital contribution.
(iv) **Interest on Capital:** Interest on capital will be allowed @ 7% p.a. It will be allowed only when there is profit.
(v) **Interest on Drawings:** Interest on drawings is to be charged @ 12% p.a.
(vi) **Salary to a Partner:** No partner is entitled to any salary or commission for taking part in the conduct of business.

They started business on 1st April 2019 and each partner deposited his share of Capital in the Bank Account opened in Firm's name. On the same date they purchased 10 computers @ ₹ 60,000 each and made the payment from the bank.

They deposited ₹ 20,000 for the electric connection with the Electricity Board and paid a deposit of ₹ 1,20,000 with VSNL for Internet and telephone connection.

They got the Computer Cafe furnished by paying ₹ 30,000. They also spent ₹ 5,000 on advertisement.

All payments were to be made by cheques and all the receipts were to be deposited in the bank on the same day.

At the end of the year, the results were:

	₹
Purchases of Computer stationery	80,000
Revenue from fees received from students	2,40,000
Revenue on account of Internet facility	2,10,000
Revenue from sale of computer stationery	1,50,000
Wages paid to servant	9,600
Telephone Charges	62,000
Electricity Charges	36,000
Entertainment Expenses	5,500
Maintenance Expenses	6,000
Petty Expenses	4,000

They withdrew from the bank for their personal use as follows: Manoj ₹ 50,000; Naresh ₹ 20,000 and Om ₹ 10,000.

You are required to:

(i) Journalize the above transactions, post them into the ledger accounts and prepare a trial balance.

(ii) Prepare Trading and Profit & Loss Account and Balance Sheet taking into consideration that a telephone bill of ₹ 15,000 and an electricity bill of ₹ 3,000 are yet to be paid.

(iii) Charge depreciation at the rate of 25% on Computers and 15% on furniture.

(iv) Comment on the efficiency of the business if the Gross Profit Ratio and Net Profit Ratio in similar type of business concerns are 45% and 20% respectively.

(v) They approached the bank for a loan of ₹ 4,00,000. Compute the ratios that the banker will require before granting the loan.

PROJECT Q. 2.

Bhardwaj and Yadav after getting their Bachelor of Engineering degrees entered into partnership for dealing in electronic goods. They also admitted Sinha, who is a fresh Chartered Accountant.

They prepared a partnership deed containing the following clauses:

(1) **Name of the Firm:** 'Present-day Electronics'

(2) **Capitals:** Capitals will be Bhardwaj ₹ 5,00,000, Yadav ₹ 3,00,000 and Sinha ₹ 2,00,000.

(3) **Profit-Sharing Ratio:** Profit and Losses are to be shared in the ratio of 2 : 2 : 1.

(4) **Interest on Capital:** Interest on capitals shall be allowed to the partners @8% p.a.

(5) **Interest on Drawings:** Interest is to be charged on drawings @ 10% p.a.

(6) **Salary to a Partner:** No Partner is entitled to any salary or commission for taking part in running the firm's business.

(7) **Interest on Loan:** Interest at the rate of 12% per annum is to be allowed on a partner's loan to the firm. Such interest shall be paid even if there are losses to the firm.

(8) **Admission of a New Partner:** Without the consent of all existing partners no new partner can be admitted to the firm.

(9) Each partner can participate in the conduct of business.

(10) Each partner can inspect the books of the firm and can take a copy of the same.

They commenced the business on 1st April 2019 and entered into an agreement with 'OKAI LTD.' to sell the Televisions, purchased from them on two months credit basis. Entire amount of capital was deposited in HDFC bank.

During the year they purchased furniture for ₹ 6,00,000 and office equipments for ₹ 3,00,000. Televisions were to be sold for cash only and the proceeds were to be deposited in the bank on the same day.

The following transactions were made through bank during the year ended 31st March 2020.

	₹
Purchases	15,60,000
Sales	24,35,000
Rent (for 11 months)	33,000
Salaries	38,000
Electricity Exp.	8,500
Telephone Exp.	7,200
Advertising Exp.	5,400
Insurance Premium (for one year)	6,000
Printing and Stationery	10,800
Carriage Outwards	2,000
Other Expenses	28,800

Drawings:

Bhardwaj : ₹ 10,000 at the beginning of each quarter.
Yadav : ₹ 10,000 at the end of each quarter.
Sinha : ₹ 40, 000

The purchases for the month of February and March 2020 amounted to ₹ 3,00,000. OKAI LTD was paid for purchases as per terms agreed upon.

ECONOMICS

As a part of your course structure students are required to complete two projects of 10 marks each from any topic covered in economic theory with specific reference to the Indian economy.

A list of eight projects suggested in your course structure is given below. (Basic study material for each of these projects is given detail in your text book page no. 410 to 439)

1) Study a public sector enterprises with reference to its relevance to the Indian economy and its future prospects. Analyse the trend of its growth for the last 10 years.

2) Conduct socio-economic survey with reference to demographic features, consumption pattern and occupational structure.

3) Compare the contribution made by different sectors of economy towards GDP growth during the planning period.

4) Prepare a report on the competition in the aviation sector in India with reference to performance on the public sector and private sector, operational strategy adopted by budget low cost carriers.

5) Make a comparative study of lending performance of five commercial banks in the past 6 years with reference to changing CRR and SLR.

6) Economic growth is race between depletion and invention. Explain.

7) Make a compare to study of the allocation of financial resources of the central government budget on agriculture, defence, industry and education in last 10 years.

8) Analyse the growth and productivity of any one industry such as textile, automobiles, electronic and telecommunication etc; in India for last 10 years.

COMPUTER

Students are requested to choose any one out of three topics given below as per their project. And describe all the given terms of selected topic as vivid.

1. ROBOTICS
    - ARDUINO BASICS – ARDUINO, ARDUINO IDE, ARDUINO SKETCH, VARIABLES, OPERATORS, CONTROL AND LOOPING STATEMENTS, STRING HANDLING PROCESS
    - INPUT/OUTPUT FUNCTIONS IN ARDUINO – INPUT/OUTPUT PINS, PINMODE, DIGITALWRITE, ANALOGREAD, ANALOGWRITE, ANALOGREFERENCE, MILLIS, MICROS, DELAY

2. ANDROID
    - ANDROID BASICS – ANDROID, ANDROID IDE, LAYOUT, ACTIVITY, MANIFEST, GRADLE, INTENT, EMULATOR, EVENTS, XML FILE, CONTEXT, VIEW
    - LAYOUTS – LINEAR LAYOUT, RELATIVE LAYOUT, TEXTVIEW, EDITTEXT, BUTTON, IMAGEVIEW, WEBVIEW, LISTVIEW, SCROLLVIEW, RADIO BUTTONS ETC
    - ACTIVITY LIFECYLE – WORKING PROCESS OF ACTIVITY

3. JAVA
    - OOPS BASICS – MEMBERS, METHODS, ENCAPSULATION, ABSTRACTION, DATA HIDING, INHERITANCE, POLYMORPHISM, FINAL, ABSTRACT, STATIC, INTERFACE
    - SAMPLE PROGRAMS
        - USING CLASS & OBJECT
        - USING ARRAY OF OBJECTS
        - USING INHERITANCE
        - USING POLYMORPHISM

****