PROJECT WORK – 2022–23
CLASS – X

PROJECT WORK (SUBMISSION DATE: 1st July 2022)

ENGLISH LANGUAGE

Writing

Question 1) Prepare a write up narrating your experience during the pandemic how you have become a different version of yourself. Elucidate 300–400 words.

A Listening skills (Aural)

Listening to a conversation / talk / Recording of a start passage –

B   Speaking Sills (Oral)

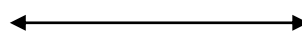Prepare a speech / declamation – given by the subject teacher

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ENGLISH LITERATURE

Question 1) What the main plot structure of the play. Write character description of the main characters.
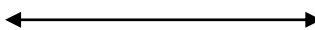
(i)   Give a title to the assignment

(ii)   Elaborate & interpret the to chosen text also discuss Portia's role in furthering of play   (1000–1500 words)

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HINDI

Question 1) अनेकता में एकता भारतीय संस्कृति की पहचान है। भारत मे विभिन्न प्रकार के त्योहार मनाए जाते है, जो हमे सांस्कृतिक परंपराओं एवं रीति रिवाजों से जोड़े रखते है। हमारे जीवन में त्योहारों के महत्त्व पर प्रकाश डालते हुए प्रस्ताव लिखिए।

Question 2) कहानी 'महायज्ञ का पुरस्कार' का कथानक लिखते हुए कहानी में लेखक ने क्या संदेश दिया है बताइये तथा सेठ जी की चारित्रिक विशेषताएं भी लिखिए।

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HISTORY / CIVICS

Question 1) Prepare a life sketch and contributions of any one of the following Presidents of India– Dr. Rajendra Prasad, Dr. S. Radhakrishnan and A. P. J. Abdul Kalam

OR

Prepare a report on the contributions of any one of the following agencies of the United Nations–

UNESCO / WHO / UNICEF   (Word limit 1500 to 2000 words)

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GEOGRAPHY

Question 1) Transport in India

Present development of Road, Railway, Water ways and Airways

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PHYSICS

TOPIC 1) Simple machines play an important role in our daily life. Write about a simple machine and its types. Give uses of simple machines in our daily life with diagrams.

TOPIC 2) Without sound we cannot communicate. How does sound propagate in a medium. Explain with the help of an illustrated experiment. Write about reflection of sound with examples and diagrams. Discuss vibrations and its types.

Note: **(i)   While giving the answers of the above questions, your answer should not be less than 3000 words for whole project.**
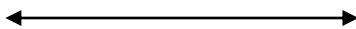
(ii)   Pictures are required on every pages as per given topic.

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CHEMISTRY

Question 1)   (i)   Electrolysis of – Molten lead bromide, acidified water with platinum electrodeAqueous copper (II) sulphate with copper electrodes

(ii)   Applications of electrolysis: electroplating and Electro refining

Question 2)   Action of heat on the following substances:

(a)   Copper Carbonate
(b)   Zinc Carbonate
(c)   Zinc Nitrate
(d)   Copper Nitrate
(e)   Lead Nitrate

Note: **(i)   While giving the answers of the above questions, your answer should not be less than 3000 words for whole project.**

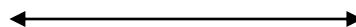**(ii)   Pictures are required on every pages as per given topic.**

BIOLOGY

Topic 1

Pollution, Types and Sources of pollution, major pollutants, Effects of pollution on climate, environment and human health. Control measures.

Topic 2

Endocrine System in humans – Major endocrine glands Difference between Endocrine and Exocrine glands. Hormones Secreted by different Endocrine glands. Role of hormones, Effects of hypo and hyper secretion. Feedback mechanism.

MATHEMATICS

Topic 1)   Comparative newspaper coverage of different items

Topic 2)   Survey of various types of Bank accounts, rates of interest offered

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ECONOMICS

[SEQUENCE-: Name, Contents, Acknowledgement, Introduction of Project Work- *Topic is to be mentioned***, Objectives of Project Work, Detailed Matter, Conclusion, Bibliography-Word Limit-Minimum 1500 words.]**

TOPIC-I

Write a Detailed report on the meaning and objectives of Goods and Services Tax (GST).
Visit a nearby store. Select five items of regular consumption. Study the following: the impact of GST on these five products; how this has impacted the demand for these products; how it has benefitted the producer, consumer and the government.
Students must submit following documents: - (i) Your photograph in the store while conducting the survey (maintain social distancing) should be pasted inside the file (Date and time must be mentioned on it) and one passport size photograph in school uniform should be pasted on the cover page of the file, (iii) A file with the detailed report. Write your findings with a conclusion.

COMMERCIAL STUDIES

[SEQUENCE-: Name, Contents, Acknowledgement, Introduction of Project Work- *All the topics are to be mentioned***, Objectives of Project Work, Detailed Matter, Conclusion, Bibliography-Word Limit-Minimum 500 words for each topic.]**

TOPIC-I

Write a Detailed report on the meaning of E-commerce, benefits of E-commerce over traditional methods of transactions, E-tailing, E-advertising, E-marketing and E-security (meaning only). ERP and its modules (brief concept).

Make a PowerPoint Presentation on it and copy the same in the "Smart Class" for Class-X.

TOPIC-II

Study consumer awareness amongst households through designing a 'Questionnaire' and collection of primary data with a file covering the following captions: -
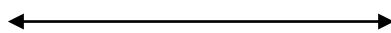
(1)   Consumer Movement: A Global History.

(2)   Features of Consumer Protection Act, 2019

(3)   Rights of a Consumer.

(4)   Meaning of Consumer Exploitation.

(5)   Types of Consumers' Exploitation.

(6)   Importance of Consumer Awareness.

(7)   Questionnaire [for at least 10 Customers with their passport size photograph, signature,

         address & Mobile No. and your photograph with the customers (maintain social distancing) in

         the locality should be pasted inside your file (Date and time must be mentioned on it.)]

(8)   Write your findings with conclusion.

TOPIC-III

Write a Detailed report on the meaning of Internet Banking, Modes of transferring money / Net Banking: NEFT, RTGS, IMPS, mobile wallets: meaning only.
ATM, Credit & Debit cards- meaning & difference, caution to be taken while using these cards.

Write your findings with a conclusion.

(Paste one passport size photograph in school uniform on the cover page of the file.)

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COMPUTER APPLICATIONS

Question 1)   Write a program to accept a number and check and display whether it is a Spy no or

         not.(A number is called a Spy number of the sum of its digits equals the product of the digits)

         Example: Consider the number 1124
                      Sum of the digits = 1 + 1 + 2 + 4 = 8
                      Product of the digit = 1×1×2×4 = 8

Question 2)   Write a program to print the sum of negative numbers, Sum of positive even numbers and sun of positive odd numbers from a lot of n number entered by the user. The program terminates when the user enters a Zero.

Question 3)   Using the switch statement, write a menu driven program for the following:

   (i)   To print the Floyd's triangle [Given below]
         1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

   (ii)   To display the following pattern based on value of n.
         For example if n=5 then print,
         #@#@# #@#@
         #@#
         #@
         #
         For an incorrect option, an appropriate error message should be displayed.

Question 4)   Write a program in Java to accept a number and check whether it belongs to the Fibonacci Series (sequence) or not.
Fibonacci Series: The Fibonacci Sequence is the series of numbers: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, … The first two numbers in the series is '0' and '1' and every next number is found by adding up the two numbers before it.
The 2 is found by adding the two numbers before it (1+1) Similarly, the 3 is found by adding the two numbers before it (1+2), And the 5 is (2+3), and so on!
Example: the next number in the sequence above would be 21+34 = 55
Here is a longer list: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657, 46368, 75025, 121393, 196418, 317811, …

Question 5)   An Emirp number is a number which is prime backwards and forwards.
Example: 13 is an Emirp number since 13 and 31 are both prime numbers. Write a program to accept a number and check whether it is an Emirp number or not.

Question 6)   Write a menu driven program in Java to provide the following options to generate and print output based on user's choice:

   (a) To input a number and check whether it is a NEON number or no

   (b) To print the REPUNIT series: 1, 11, 111, 1111, …. upto 'n' terms

   (c) To print the sum of factorial of first n terms, where n is input by the user.

         For example if n=5

   then sum=1+2+6+24+120=153 which is the sum of 1!+2!+3!+4!+5!

   A number is said to be NEON, if sum of all the digits of the square of the number is equal to the number itself

   For example 9 is a NEON number.

   (Workings: Square of 9 = 81. Sum of digits of square: 8 + 1 = 9)

   Write a main method to display the menu and to create an object of the class to call the two methods that display output as per the choices displayed in the menu.

   For an incorrect menu choice an appropriate error message should be displayed.

Question 7)   A Credit card company allows a limit to spend Rs. 15000 to its clients. It also offers cash back facility according the table shown below. Input the amount spent by the user and display the cash back amount that he is entitled to.

Amount (in Rs.)	Cash Back (in Rs.)
First 1000	100
Next 2000	200 + 2% of amount exceeding 1000
Next 4000	400 + 4% of amount exceeding 3000
Next 8000	800 + 8% of amount exceeding 8000

Write a program to declare the class 'Credit' that takes in the name of the client and the amountspend by him. Calculate the cash back amount and print it along with all the other input details.

(Assume there are 20 clients. Take details and print the requisite output for each of them oneby one.)

Question 8) An electronic shop has announced the following seasonal discount on purchase of certain items.

Purchase Amount in Rs.	Discount on Laptop	Discount on Desktop PC
0-25000	0.0%	5.0%
25001-57000	5.0%	7.5%
57001-100000	7.5%	10.0%
More than 100000	10.0%	15.0%

Write a program based on the above criteria to input name, address, amount of purchase, and type of purchase (L or 1 for Laptop and D or 2 for Desktop) by a customer. Compute and print the net amount to be paid the customer along with name and address.

[Hint : discount= (discount rate /100) * amount of purchase

Net amount= amount of purchase – discount]

Question 9) Write a program in JAVA to find the Prime factors of a number.

Prime factors of a number are those factors, which are prime in nature and by which the number is completely divisible (1 will not be taken as prime number).

Few such numbers are: Prime Factors of 24 are 2, 2, 2, 3 Prime Factors of 6 are 2, 3

Question 10) Write a menu driven program to generate the sum of the following series as per the choice entered by the user.

1) x2/3! – x3/4! + x4/5! - ………xn / (n +1)!

2) 99, 80, 63, 48…… up to 10 term

Question 11) Write a program to determine of an entered number is a Happy Number. A happy number is defined by the following process.
Starting with squares of its difits and repeat the process until the number is equal to 1.
For example 19 is 1 happy number as per the following calculation
$1^2 + 9^2 = 82$
$8^2 + 2^2 = 68$
$6^2 + 8^2 = 100$
$1^2 + 0^2 + 0^2 = 1$

Question 12) Write a program to input integer elements into an array of size 20 and perform the following operations:
  (i)   Display largest number from the array
  (ii)   Display smallest number from the array
  (iii)   Display sum of all the elements of the array

Question 13) Write a program to input a two – dimensional array of size n (rows = column = n) and perform the following tasks:
  (i)   Print the array in matrix form (n×n)
  (ii)   Compute and print the sum of the elements at the left diagonal
  (iii)   Compute and print the sum of the elements at the right diagonal.
  Example: n = 4

1	7	9	6
2	11	13	5
8	4	2	1
7	5	20	10

Sum of left Diagonal = 24   Sum of Right Diagonal = 30

Question 14) Design a class to overload a method volume ( ) as follows:
double Volume (double r) – with radius 'r' as an argument, returns the volume of sphere using the formula

$$v = \frac{4}{3} \times \frac{22}{7} r^3$$

double volume (double n, double r) – with height 'h' and radius 'r' as the arguments, returns the volume of a cylinder using the formula

$$v = \frac{22}{7} \times r^2 \times n$$

double volume (double l, double b, double h) – with length 'l', breadth 'b' and height 'h' as the arguments, returns the volume of a cuboid using the formula
v = l × b × h

Question15) Design a class to overloud a function Sum Series ( ) as follows:
(i) void SumSeries (int n, double x) – with one integer argument and one double argument to find and display the sum of the series given below:

$$s = \frac{x}{1} - \frac{x}{2} + \frac{x}{3} - \frac{x}{4} + \frac{x}{5} - \text{............n terms}$$

(ii) void SumSeries ( ) – To find and display the sum of the following series:
$$S = 1 + (1 \times 2) + (1 \times 2 \times 3) + \text{.........} + (1 \times 2 \times 3 \times 4 \text{........} \times 20)$$

Question 16) Create a class named Pizza that stores detail about a pizza. It should contain the following:
Instance Variable
String pizza size: to store the size of the pizza (Small, medium or large)
int cheese – the number of cheese toppings
int pepperoni – the number of pepperoni toppings
int mushroom – the number of mushroom toppings
Member Methods:
Constructor – to initialize all the instance variables
Calculate_Cost ( ) – A public method that returns a double value, that is, the cost of the pizza.
Pizza cost is calculated as follows:
Small : Rs 500 + Rs 25 per topping
Medium : Rs 650 + Rs 25 per topping
Large : Rs 800 + Rs 25 per topping
Pizza_Description ( ): A public method that returns a String containing the pizza size, quality of each topping and the pizza cost as calculated by
 Calculate Cost ( ).

Question 17) Write a program in Java to accept a string and display the number of Uppercase, number of lowercase, number of special characters and number of digits present in the string

Question18) Write a program to enter a string / sentence and display the longest word and the length of the longest word present in the String.
Input: "Tata Football academy will play against Mohan Bagan"
Output: The largest Word = Football
                The length of the word = 8

Question 19) Using the Switch Statement, Write a menu driven program for the following:
(i)   I   (ii)   I   C   S   E
        I   C   I   C   S
        I   C   S   I   C
        I   C   S   E   I

Question 20) Write a program to input 20 words in an array. Arrange these words in descending order of alphabets using. Bubble sort technique. Print the sorted array.
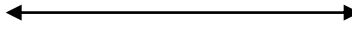Guidelines:
(i) Students have to work on the project regularly throughout the year according to the Instruction of the teachers.
(ii) Do variable description after each program.
(iii) Use comments in the program wherever it is required.
(iv) Mention the output of each program also.

PHYSICAL EDUCATION

1.   Prepare a file on any two games of your text book under following heads
   (i)   Brief History
   (ii)   Rules of the Game
   (iii)   Safety Gears
   (iv)   Fundamental Skills and Techniques
   (v)   Terminologies
   (vi)   National & International Governing Bodies
   (vii)   National & International Tournaments
   (viii) National and International Players

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S.U.P.W

1.   **File Work:**
     Write on the following topics:
     (a)   Gardening
     (b)   Meal Planning
     (c)   Tailoring and Embroidery
              [Minimum 500 words on each topic]

2.   **Community Service:**
     Awareness drive on 'Growing medical plants.'
     Students are required to bring different plants like Neem, Tulsi, Aloe Vera etc
     and plant them in the given area.

3.   **Projects:**
     (a)   Students are required to make a centre table cloth (40 inch x 60 inch)
              using different methods of hand embroidery or block printing.
     (b)   Students are required to prepare decorative flower pot using Plaster of
              Paris with handmade flowers in it

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