AUTHPUR NATIONAL MODEL HIGHER SECONDARY SCHOOL

SYLLABUS FOR PRE-SELECTION TEST' 2022-23

CLASS –X

ENGLISH LANGUAGE: As per Scope.

PROJECT: Oral / Aural

ENGLISH LITERATURE: Poetry: I know why the caged Bird Sings, Maya Angelou
The Patriot, Robert Browning
Short Story: The Little Match Girl, Hans Christian Anderson;
The Blue Bead, Norah Burke
Drama: The Merchant of Venice, William Shakespeare
Act – III, Sc, i, ii, iii, iv, v
PROJECT:
Pre-Selection: "The Little Match Girl" by Hans Christian Anderson, is a story of a poor girl who finds joy in visions as she gradually freezes to death. In the form of an essay, explore the story's themes and morals to discover the lessons on charity, dreaming and after life.
Selection: Bring out the struggle of a black poet whose words are not heard, and of one who longs for freedom, with reference to the poem "I know why the caged Bird Sings" by Maya Angelou.

MATHEMATICS: 1. Goods & Service Tax (G.S.T); 2. Banking; 3. Linear inequation; 4. Quadratic Equation (full); 5. Factorisation; 6. Ratio & proportion; 7. Matrices; 8. Arithmetic Progression (A.P); 9. Similarity; 10. Circle; 11. Mansuration; 12. Reflection; 13. Section Formula; 14. Equation of Straight Line.
PROJECT:

1. Comparative newspaper coverage of different item.
2. Planning a home budget.

HISTORY & CIVICS: 1. The Union Parliament (From Civics)

FROM HISTORY:

1. The First War of Independence (1857)
2. Factors leading to the growth of Nationalism and Foundation of the Indian National Congress
3. Objectives and methods of struggle of the Early Nationalists.
4. Second phase of the Indian National Movement: Partition of Bengal and other Developments.
5. Factors leading to the formation of the Muslim League.
6. National Movement During the First World War: Lucknow Pact and other Developments
7. The First World War (1914-1918)
8. Rise of Dictatorships: Fascism in Italy and Nazism in Germany.
9. The Second World War (1939-1945)
10. United Nations Organisation: Origin, Objectives and Principal Organs.

CIVICS: The Union Legislature; The Union Executive.

PROJECT:

1. Prepare a report on the contributions of WHO, the agency of the United Nations.

PHYSICS: Unit-1: Force, Work Power and Energy; Unit-2: Light; Unit-3: Sound

PROJECT:

1. (a) Define: Total internal reflection (b) State two conditions of total internal reflection (c) With proper diagram, show / explain five examples of Total internal reflection.
2. (a) Define: (i) Heat capacity (C') (ii) Specific heat capacity (C) (iii) Relation between (C') & (C).
   (b) With proper explanation state three examples of application of specific heat capacity and two examples of applications of heat capacity.

BIOLOGY: Unit-1: Basic Biology (3 chapters); Unit-2: Plant Physiology (4 chapters); Unit-4: Population (1 chapter); Unit-5: Human Evolution(1 chapter)

PROJECT: Write an experiment on each of the topics: Osmosis, absorption, transpiration and photosynthesis with proper diagrams. (Pre-Selection).

Draw and label internal structures of human heart and kidney. (Selection Test)

COMMERCIAL STUDIES:
1. Stakeholders in Commercial organisations (Full)
2. Marketing & Sales [Full].
3. Finance & Accounting: (a) Capital & revenue (b) Cost

PROJECT: Pre-Selection

1. Benefits of e-commerce in today's world
2. Make a case study of advertisement agency.

ECONOMICS APPLICATION:
1. Demand and supply: Basic concept
2. Factors of Production: Basic concept
3. Alternative Market structure: Basic concept.

PROJECT: (Pre-Selection Test)

1. Make a list of 10 products of which 5 product is demand inelastic and 5 product is demand elastic. Specify the reasons you may think relevant for your analysis.
2. Consider any production unit and identify four factors of production. Mention the importance of every factor.

PROJECT (Selection)

3. In a developing country like India describe 4 types of public expenditure which increase infrastructure.
4. Study the functions of a nationalised bank.

CHEMISTRY: 1. Periodic properties & variations of properties; 2. Chemical Bonding; 3. Study of Acids, Bases & Salts; 4. Analytical

Chemistry; 5. Mole concept & Stoichiometry; 6. Electrolysis; 7. Practical Chemistry [ICSE Scope 2023 to be followed along with class instructions]

PROJECT: Pre-Selection Examination

1. Identification of gases
2. Action of heat on the following substances: (a) $CuCO_3$, $ZnCO_3$ (b) $Zn(NO_3)_2$, $Cu(NO_3)_2$, $Pb(NO_3)_2$.
3. Detection of cations by wet tests.

PROJECT: Selection Test:

1. Detection of anions by dry & wet tests
2. Identification of unknown solutions as 'Acidic' or 'Basic', using suitable test.
3. Flame Test
4. Action of conc.HCL on the following substances: (a) CuO (b) MnO_2

Note: All the project topics are to be done in the same file, & submitted accordingly]

GEOGRAPHY:

1. Interpretation of Topographical Maps; 2. Map of India; 3. Location, Extent and Physical features (through map pointing only); 4. Climate; 5. Soil Resources; 6. Natural vegetation; 7. Water Resources.

PROJECT / PRACTICAL WORK:

[Only one topic] "Wild life Conservation efforts in India."

HINDI

Pre-selection Test:-

हिन्दी– I (section- A)

निबंध, अपठित गद्यांश पर आधारित प्रश्न, पत्र, मुहावरे, अनेक शब्द के लिए एक शब्द, पर्यायवाची, लिंग,वचन, काल परिवर्तन, वाक्य परिवर्तन, विलोम,भाववाचक संज्ञा, विशेषण बनाइए तथा निर्देशानुसार वाक्य परिवर्तन।

हिन्दी– II (section-B)

साहित्य सागर

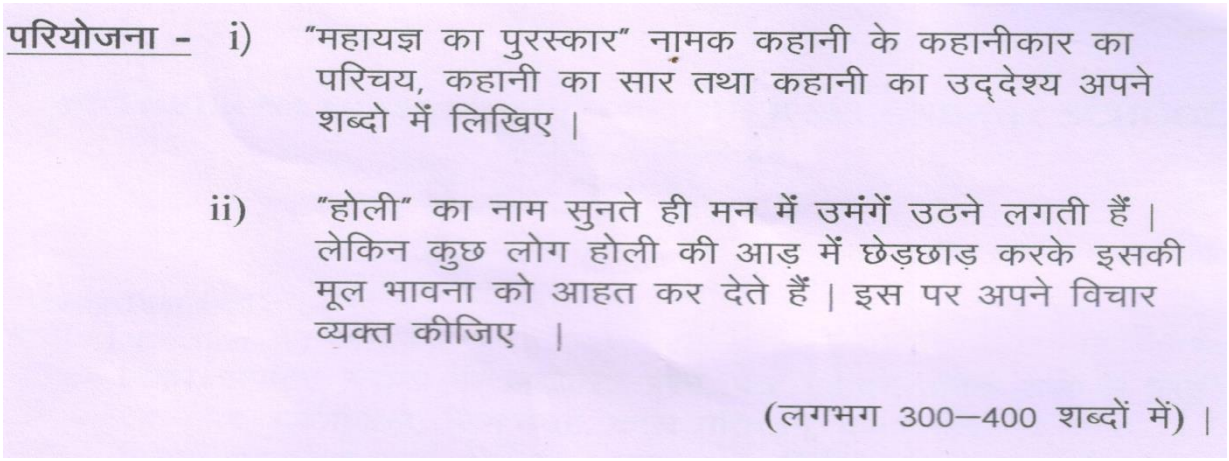
संक्षिप्त कहानियाँ –बात अठन्नी की, काकी, महायज्ञ का पुरस्कार, नेताजी का चश्मा, अपना– अपना भाग्य, बड़े घर की बेटी, संदेह।

पद्य भाग – साखी, गिरिधर की कुंडलियाँ, स्वर्ग बना सकते हैं, वह जन्मभूमि मेरी, मेघ आए, सूर के पद, भिक्षुक।

Selection Test:-

हिन्दी–I (section-A) आइ.सी.एस.ई पाठ्यक्रम के अनुसार।

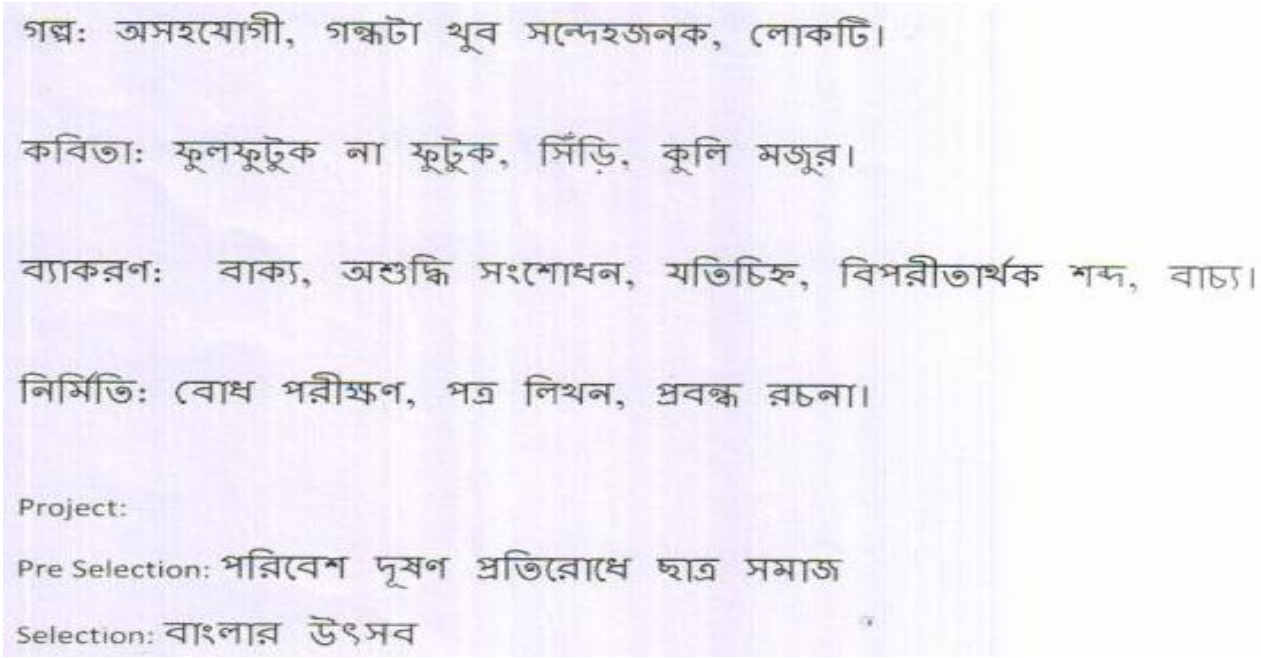
हिन्दी–II (section-B) आइ.सी.एस.ई पाठयक्रम के अनसार।


परियोजना - i) "महायज्ञ का पुरस्कार" नामक कहानी के कहानीकार का परिचय, कहानी का सार तथा कहानी का उद्देश्य अपने शब्दो में लिखिए |

ii) "होली" का नाम सुनते ही मन में उमंगें उठने लगती हैं | लेकिन कुछ लोग होली की आड़ में छेड़छाड़ करके इसकी मूल भावना को आहत कर देते हैं | इस पर अपने विचार व्यक्त कीजिए |

(लगभग 300—400 शब्दों में) |

BENGALI


গল্প: অসহযোগী, গল্পটা খুব সন্দেহজনক, লোকটি।

কবিতা: ফুলফুটুক না ফুটুক, সিঁড়ি, কুলি মজুর।

ব্যাকরণ: বাক্য, অশুদ্ধি সংশোধন, যতিচিহ্ন, বিপরীতার্থক শব্দ, বাচ্য।

নির্মিতি: বোধ পরীক্ষণ, পত্র লিখন, প্রবন্ধ রচনা।

Project:

Pre Selection: পরিবেশ দূষণ প্রতিরোধে ছাত্র সমাজ

Selection: বাংলার উৎসব

COMPUTER APPLICATION (1st Term)

SYLABUS:-

1. INTRODUCTIONTO OOP.(FULL UNIT).
2. CLASS AS A BASIS OF COMPUTATION.
3. USER-DEFINED METHODS.
4. CONSTRUCTOR.

PROJECTS:-

1. Write a program in Java using a method Discount( ), to calculate a singlediscount or a successive discount. Use overload methods Discount(int), Discount(int,int) and Discount(int,int,int) to calculate single discount and successive discount respectively. Calculate and display the amount to bepaid by the customer after getting discounts on the printed price of an article.
   Sample Input:
   Printed price: ₹12000
   Successive discounts =
   10%, 8%
   = ₹(12000 - 1200)
   = ₹(10800 - 864)
   Amount to be paid = ₹9936

2. Write a program to input a number. Use a function int Armstrong(int n) toaccept the number. The function returns 1, if the number is Armstrong, otherwise zero(0).
   Sample Input: 153
   Sample Output: 153 $\Rightarrow 1^3 + 5^3 + 3^3$
   = 153It is an Armstrong Number.
3. Write a program to input a number and check and print whether it is a 'Pronic' number or not. Use a function int Pronic(int n) to accept a number. The function returns 1, if the number is 'Pronic', otherwise returns zero (0). (Hint: Pronic number is the number which is the product of two consecutiveintegers)
   Examples:
   12 = 3 * 4
   20 = 4 * 5
   42 = 6 * 7
4. Write a program to enter a two digit number and find out its first factor excluding 1 (one). The program then find the second factor (when the number is divide by the first factor) and finally displays both the factors. Hint: Use a non-return type function as void fact(int n) to accept the number.Sample Input: 21
   The first factor of 21 is 3Sample Output: 3, 7
   Sample Input: 30
   The first factor of
   30 is 2Sample
   Output: 2, 15
5. Create a class Rectangle with data member's length, breadth and height. Use a parameterised constructor to initialize the object. With the help of function surfacearea() and volume(), calculate and display the surface areaand volume of the rectangle.

Write a program by using a class with the following specifications:
Class name — Hcflcm
Data members/instance variables:

1. int a
2. int b

Member
functions:

1. Hcflcm(int x, int y) — constructor to initialize a=x and b=y.
2. void calculate( ) — to find and print hcf and lcm of both the numbers.

6. Define a class Arrange described as
below:Data members/instance variables:

1. String str (a word)
2. String i
3. int p (to store the length of the word)
4. char ch; Member Methods:
   1. A parameterised constructor to initialize the data member
   2. To accept the word
   3. To arrange all the alphabets of word in ascending order of their ASCII valueswithout using the sorting technique
   4. To display the arranged alphabets.

Write a main method to create an object of the class and call the above member methods.

7. Write a program in Java to store 20 temperatures in °F in a Single DimensionalArray (SDA) and display all the temperatures after converting them

into °C.
Hint: (c/5) = (f - 32) /
8. Write a program in Java to store 20 numbers in a Single Dimensional Array (SDA).Display the numbers which are prime.
Sample Input:

n[0]	n[1]	n[2]	n[3]	n[4]	n[5]	...	n[16]	n[17]	n[18]	n[19]
45	65	77	71	90	67	...	82	19	31	52

Sample Output: 71, 67, 19, 31

9. Write a program to accept name and total marks of N number of students in twosingle subscript arrays name[ ] and totalmarks[ ].
Calculate and print:
(i) The average of the total marks obtained by N number of students.[average = (sum of total marks of all the students)/N]

(ii) Deviation of each student's total marks with the average.[deviation = total marks of a student average]

10. Write a program to input the names and marks of the students in the subject.Calculate and display:
(a) The subject average marks (subject average marks = subject total/50).
(b) The highest marks in the subject and the name of the student. (The maximummarks in the subject are 100.)

11. Write a program to input two numbers and check whether they are twin primenumbers or not.
Hint: Twin prime numbers are the prime numbers whose difference is 2.
For example: (5,7), (11,13), ...and so on.
12. Write a program to display all prime palindrome numbers between 10 and 1000.[**Hint: A number which is prime as well a palindrome is said to be 'Prime Palindrome' number.**]
For example: 11, 101, 131, 151,
13. In an entrance examination, students have been appeared in English, Maths and Science papers. Write a program to calculate and display average marks obtained by all the students. Take number of students appeared and marks obtained in all three subjects by every student along with the name as inputs.
Display the name, marks obtained in three subjects and the average of all thestudents.
14. Write a program in Java to enter a number containing three digits or more. Arrange the digits of the entered number in ascending order and display the result.
Sample Input: Enter a number 4972
Sample Output: 2, 4, 7, 9

15. Write a program in Java to accept a word and display the ASCII code of eachcharacter of the word.
Sample Input: BLUEJ
Sample Output:
ASCII of B = 66ASCII of L = 76 ASCII of U = 85ASCII of E = 69ASCII of J = 74
16. Write a program in JAVA to find out Vowels and Consonant in a given statement?Input: BLUE J.

17. Write a program in Java to accept a word/a String and display the new string afterremoving all the vowels present in it.
Sample Input: COMPUTER APPLICATIONS
Sample Output: CMPTR PPLCTNS
18. Write a program in JAVA to concate two strings?19.Write a program in JAVA to reverse a string?
20. Write a program in Java to enter a String/Sentence and display the longest word and the length of the longest word present in the String.
Sample Input: “TATA FOOTBALL ACADEMY WILL PLAY AGAINST MOHAN BAGAN”
Sample Output: The longest word: FOOTBALL: The length of the word: 8