

# Ramsakhi Ramniwas Convent School

Affiliated To CBSE, New Delhi, Bharat

Bharauli, Gorakhpur, U. P.

## 12<sup>th</sup> Maths



**[English]**

1. Learn and revise all the lessons taught till the date (May 20<sup>th</sup>, 2023).
2. Read the passage from 1 to 10 given in English practice paper and answer the questions from them (page number 21 to 40).
3. Write the response to all the questions in respect to NOTICE from English practice paper question number 128 (page number 58 to 61).

**[HINDI]**

1. 'शीतल वाणी में आग लिए फिरता हूँ'- इस कथन से कवि का क्या आशय है?
2. चिड़िया के पंरों में चंचलता आने के क्या-क्या कारण हो सकते हैं? स्पष्ट कीजिए।
3. भक्तिन का जीवन सदैव दुखों से भरा रहा। स्पष्ट कीजिए।
4. उन परिस्थितियों का उल्लेख कीजिए जिनके कारण लछमिन को भक्तिन बनना पड़ा।
5. 'वर्तमान परिवेश में शिक्षा के प्रति विद्यार्थियों का दृष्टिकोण' शीर्षक पर लगभग 150 शब्दों में अपने विचार प्रस्तुत कीजिए।

**[Maths]**

1. Draw the graph of the function and write their domain and range
  - 1) Polynomial function (linear function and Quadratic function)
  - 2) Modulus function.
  - 3) Signum function.
  - 4) Greatest integer function.
  - 5) Least integer function.
  - 6) Fractional part function
  - 7) exponential function.
  - 8) Logarithmic function
  - 9) Trigonometric function ( $\sin x$ ,  $\cos x$ ,  $\tan x$ ,  $\cot x$ ,  $\sec x$ ,  $\operatorname{cosec} x$ )

2. For a real number  $\alpha$ , if the system 
$$\begin{bmatrix} 1 & \alpha & \alpha^2 & x & 1 \\ \alpha & 1 & \alpha & 1 & z \\ \alpha^2 & \alpha & 1 & z & 1 \end{bmatrix} [y] = [-1]$$
 of linear eq<sup>n</sup> has infinitely many solutions, then  $1 + \alpha + \alpha^2 =$  (JEE(Advanced) 2017)

3. Consider a determinant  $D = \begin{vmatrix} a & b \\ c & d \end{vmatrix}$  where  $a, b, c, d \in \{0, 1\}$ . If  $n$  denotes total number of determinants whose entries are 0 and 1 and 'm' denotes the number of determinants with non-zero value, then the ratio  $\frac{m}{n}$  equals— (JEE Advanced 2022)

4. If the system of linear equations— (JEE Advanced 2017)

$$\begin{aligned} x + y + z &= 6 \\ x + 2y + 3z &= 10 \\ 3x + 2y + \lambda z &= \mu \end{aligned}$$

Has more than two solutions, then  $\mu - \lambda^2$  is equal to —

Let  $P_1 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ ,  $P_2 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & 1 \\ 0 & 1 & 0 \end{bmatrix}$ ,  $P_3 = \begin{bmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ ,  $P_4 = \begin{bmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \end{bmatrix}$ ,  $P_5 = \begin{bmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix}$ ,  $P_6 = \begin{bmatrix} 0 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 0 \end{bmatrix}$ ,

And  $X = \sum_{k=1}^6 P_k \begin{bmatrix} 2 & 1 & 3 \\ 1 & 0 & 2 \\ 3 & 2 & 1 \end{bmatrix} P_k^T$

Where  $P_k^T$  denotes the transpose of the matrix  $P_k$ . Then which of the following option is/are correct

- a)  $X-30I$  is an invertible Matrix
- b) The sum of diagonal entries of  $X$  is 18
- c) if  $X \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} = \alpha \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$ , then  $\alpha = 30$
- d)  $X$  is symmetric Matrix.

### Chemistry

1. Draft a project based on chemistry syllabus  
Instructions :

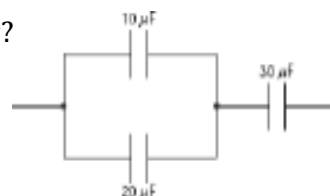
- Content of 20 pages.
- Format will be forwarded
- One can take printout
- Handwritten in colour pages.
- Diagram should be on different blank pages.

2. Prepare a chart paper based on any topic related to chemistry.

- Border should be outlined with black water colour.
  - Title should be in capital letters.
3. Prepare a presentation file on colligative properties with derivation.
  4. Solve numerical of chapter no-2 solution based on concentration term, colligative properties.
  5. Write down IUPAC meaning of organic compounds based on chapter-
    - a. Haloalkane and haloalkanes
    - b. Alcohol, Phenol and Ether
    - c. Aldehyde, ketone and carboxylic acids.
    - d. Amines
  6. Prepare 50 short questions of each solution and electrochemistry.
  7. Learn and write Electronic configuration of S,P,D and F block elements.
  8. Prepare presentation file for all organic naming reactions from NCERT.

### Physics

1. Revise the topics was taught.
2. Do NCERT intext and back exercises in Homework Notebook (To be made separately).
3. Name the quantity with unit J/C. Is it a scalar or vector quantity?
4. What is the equivalent capacity of the network given below?



5. Two charges  $+16\ \mu\text{C}$  and  $-9\ \mu\text{C}$  are placed 8 cm apart. At what point on the line joining the two charges is the electric field zero?

[I. P. ] (065)

1. Write 20 Python Pandas Program with output in a holiday homework notebook.