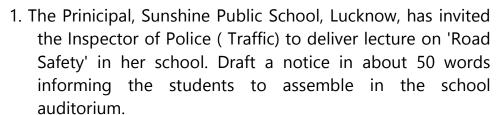USE SUBJECT WISE NOTEBOOKS FOR ASSIGNMENT
Assignment-4 for duration 01 June 2020 to 15 June 2020
Assignment-5 will be uploaded on 15 June 2020

Class- 12-SCIENCE
Subject-English

ASSIGNMENT - 4

1. The Prinicipal, Sunshine Public School, Lucknow, has invited the Inspector of Police (Traffic) to deliver lecture on 'Road Safety' in her school. Draft a notice in about 50 words informing the students to assemble in the school auditorium.

2. Along with air and water pollution, our cities are also under an attack of noise pollution. Marriage processions, DJs during wedding receptions, loud music from neighbourhood flats etc, are all sources of noise which is not good for the old , the ailing, and students. Write a letter in 120-150 words to the editor of The Times Of India, New Delhi describing the problem and making a request to the concerned authorities to solve it. You are Karan/ Karuna, M 114, Mall Road, Delhi.

3. The rising prices of essential commodities make life difficult for the common man. As a concerned citizen write an article in 150-200 words on 'Rising Prices'. Suggest solutions to solve this problem. You are Amit/ Amita.

4. Why was Dr. Sadao not sent to the battlefield? (30-40 words).

5. On the seventh day after the American soldier was found by Sadao, two things happened. Why did Hana feel scared of the second? (30-40 words).

Class - 12
Subject - Hindi

प्रश्न -१) आभासी शिक्षण (Digital Learning) के फायदे नुकसान पर चिंतनकार एक अनुच्छेद लिखिए।

प्रश्न -२) आज इस विपरीत परिस्थिति में शिक्षा माध्यम क्या हैं? इस माध्यम से आप कहाँ तक संतुष्ट हैं?

प्रश्न -३) पाठ्य पुस्तक संबंधित प्रश्नोत्तर --:

क) कर्नेलिया कौन थी? उसने भारत की किन - किन विशेषताओं का वर्णन किया है?

ख) देवसेना का गीत कविता में देवसेना की किस विशेषता ने आपको प्रभावित किया? लिखिए।

ग) ' सरोज स्मृति ' कविता में एक पिता के रूप में कवि की किस मनोदशा का वर्णन हुआ है? लिखिए।

Class -12
Subject – Chemistry

Q1 Vapour pressure of pure water at 298 K is 23.8 mm Hg. 50 g of urea (NH2CONH2) is dissolved in 850 g of water. Calculate the vapour pressure of water for this solution and its relative lowering.

Q2 Boiling point of water at 750 mm Hg is 99.63°C. How much sucrose is to be added to 500 g of water such that it boils at 100°C.

Q3 The vapour pressure of water is 12.3 kPa at 300 K. Calculate vapour pressure of 1 molal solution of a non-volatile solute in it

Q4 Calculate the mass of a non-volatile solute (molar mass 40 g mol–1) which should be dissolved in 114 g octane to reduce its vapour pressure to 80%.

Q5 A solution containing 30 g of non-volatile solute exactly in 90 g of water has a vapour pressure of 2.8 kPa at 298 K. Further, 18 g of water is then added to the solution and the new vapour pressure becomes 2.9 kPa at 298 K. Calculate: (i) molar mass of the solute (ii) vapour pressure of water at 298 K.

Q6 What role does the molecular interaction play in a solution of alcohol and water?

Q7 The partial pressure of ethane over a solution containing 6.56 × 10–3 g of ethane is 1 bar. If the solution contains 5.00 × 10–2 g of ethane, then what shall be the partial pressure of the gas?

Q8 The boiling point of benzene is 353.23 K. When 1.80 g of a non-volatile solute was dissolved in 90 g of benzene, the boiling point is raised to 354.11 K. Calculate the molar mass of the solute. Kb for benzene is 2.53 K kg mol^{-1}.

Q9 18 g of glucose, $C_6H_{12}O_6$, is dissolved in 1 kg of water in a saucepan. At what temperature will water boil at 1.013 bar? Kb for water is 0.52 K kg mol^{-1}.

Q10 The vapour pressure of pure liquids A and B are 450 and 700 mm Hg respectively, at 350 K . Find out the composition of the liquid mixture if total

vapour pressure is 600 mm Hg. Also find the composition of the vapour phase.

NOTE: refer NCERT textbook of chemistry and previous study material.

Class-12 - Biology

Read chapter 02 from NCERT app and answer the following questions:

1. Write down the ploidy of the cell of microspore tetrad.
2. What is the direction of micropyle in an anatropous ovule?
3. Differentiate between micropyle and funicle.
4. What is microsporogenesis?
5. What is megasporogenesis?
6. What is double fertilisation?
7. What is triple fusion?
8. What is the role of tapetum in the formation of pollen grain?
9. Give the names of the parts of angiosperm in which the development of male and female gametophyte takes place.
10. Name the organic materials of which exine and intine of an angiosperm pollen grains are made up of.

For answers refer NCERT app and pdf provided.

Class-12 - Physics.

Q1. Two charges +5C and -2C sapreted by a distance 5nm. At what point a test charge of +1C experience no force between them?

Q2. A system of charges +3C, +2C, -6C, -5C and +4C sapreted by 9nm, 15nm, 4nm and 20nm from the floating charge +2C respectively. Fine net force of the system.

Q3. Sketch field lines of force (i) two equal positive charges near each other. (ii) a dipole.

Q4. Four point charges +5 mC, +2 mC, +10mC and +2 mC are kept at the corners of a square of side 10 cm. A charge q=+1mC is placed at its centre. Find the net force on q.

Q5. Two point charges are 0.1 m apart and their combined charge is 9 mC. If they repel each other with a force 18N, then calculate the magnitude of each charge.

Q6. Calculate the coulomb force between two alpha particles separated by a distance of 3.2 x 10(to the power -15) m.

Q7. How many electrons would have to be removed from or added to a penny to leave it charged with 1.0 x 10(to the power -6) C?

Q8. Find the electrostatic force between two protons placed in free space separated by a distance 20 cm.

Q9. How far apart should two electrons be if the force of repulsion between them is equal to the weight of electron?

Q10. Two equally charged identical metal spheres A and B repel each other with a force of 2·0 x 10(to the power -5) N. Another identical uncharged sphere C is touched to A and then placed at the mid point between A and B. What is the net force on C?

Class : - 12 - Subject :- Maths

Matrix :- A rectangular arrangement of the numbers or functions in the form of an ordered set of m rows and n columns. Is called a matrix.

Order of Matrix : - If a matrix has m rows and n columns then the order of the matrix is 'm x n' . Where m represents number of rows and n represents number of columns.

Example 1: Construct a 3 x 2 matrix whose elements are given by $a_{ij} = \frac{1}{2} |i - 3j|$.

Sol. The general form of 3 x 2 order matrix is

$$\begin{bmatrix} a11 & a12 \\ a21 & a22 \\ a31 & a32 \end{bmatrix}$$ Now we have to find these values

$a_{11} = \frac{1}{2} |1 - 3.1| = \frac{1}{2} |1 - 3| = \frac{2}{2} = 1$

$a_{12} = \frac{1}{2} |1 - 3.2| = \frac{1}{2} |1 - 6| = \frac{5}{2} = 2.5$

$a_{21} = \frac{1}{2} |2 - 3.1| = \frac{1}{2} |2 - 3| = \frac{1}{2} = 0.5$

$a_{22} = \frac{1}{2} |2 - 3.2| = \frac{1}{2} |2 - 6| = \frac{4}{2} = 2$

$a_{31} = \frac{1}{2} |3 - 3.1| = \frac{1}{2} |3 - 3| = 0$

$a_{32} = \frac{1}{2} |3 - 3.2| = \frac{1}{2} |3 - 6| = \frac{3}{2} = 1.5$

⇨ Matrix = $\begin{bmatrix} 1 & 2.5 \\ 0.5 & 2 \\ 0 & 1.5 \end{bmatrix}$

Example 2 : Find the values of a, b, c and d from the following equations.

$$\begin{bmatrix} 2a + b & a - 2b \\ 5c - d & 4c + 3d \end{bmatrix} = \begin{bmatrix} 4 & -3 \\ 11 & 24 \end{bmatrix}$$

Sol. By equality of two matrices equating the corresponding elements , we get

2a + b = 4 .... (i)   a – 2b = -3 .... (ii)

5c – d = 11........ (iii)   4c + 3d = 24........ (iv)

On solving (i) and (ii) we get a = 1 and b = 2

On solving (iii) and (iv) we get c = 3 and d = 4

Example 3 : If   A = $\begin{pmatrix} 8 & 0 \\ 4 & -2 \\ 3 & 6 \end{pmatrix}$ and B = $\begin{pmatrix} 2 & -2 \\ 4 & 2 \\ -5 & 1 \end{pmatrix}$, then find the matrix X such that

2A + 3X = 5B .

Sol.   We have   2A + 3X = 5B

Or 2A + 3X – 2A = 5B – 2A

Or 2A – 2A + 3X = 5B – 2A

Or O + 3X = 5B – 2A

Or 3X = 5B – 2A

Or X = $\frac{1}{3}$ (5B − 2A)

Or X = $\frac{1}{3}\begin{bmatrix} 10 & -10 \\ 20 & 10 \\ -25 & 5 \end{bmatrix}$ $+ \left(\frac{-2}{3}\right)\begin{bmatrix} 8 & 0 \\ 4 & -2 \\ 3 & 6 \end{bmatrix}$ $= \begin{pmatrix} \frac{10}{3} & -\frac{10}{3} \\ \frac{20}{3} & \frac{10}{3} \\ \frac{-25}{3} & \frac{5}{3} \end{pmatrix}$ $+ \begin{pmatrix} -\frac{16}{3} & 0 \\ -\frac{8}{3} & \frac{4}{3} \\ -2 & -4 \end{pmatrix}$

Or X = $\begin{bmatrix} -2 & -\frac{10}{3} \\ 4 & \frac{14}{3} \\ -\frac{31}{3} & -\frac{7}{3} \end{bmatrix}$

Now solve the following questions :

1. If a matrix has 20 elements, what are the possible orders it can have ? What, if it has 11 elements.

2. If a matrix has 24 elements, what are the possible orders it can have? What, if it has 13 elements.

3. Construct a 3 x 2 matrix A , whose elements are given by :

    (i) $a_{ij} = (i + 2j)^2 / 2$ (ii) $a_{ij} = (i + j)^2 / 2$

4. Construct a 3 x 4 matrix, whose elements are given by :

    (i) $a_{ij} = 2i- j$ (ii) $a_{ij} = 2i – 3j$ (iii) $a_{ij} = (2i – 3j)^2/2$

5. Find the values of x , y , and z form the following equations :

    (i) $\begin{bmatrix} x + y & 2/ \\ 5 + z & xy \end{bmatrix} = \begin{bmatrix} 6 & 2 \\ 5 & 8 \end{bmatrix}$ (ii) $\begin{bmatrix} 2x + y & 4x \\ 5x - 7 & 4x \end{bmatrix} = \begin{bmatrix} 7 & 7y - 13 \\ y & x + 6 \end{bmatrix}$

6. For what values of x and y are the following matrices equal?

    A = $\begin{bmatrix} 2x + 2 & y.y + 2 \\ 5 & y.y - 5y \end{bmatrix}$ B = $\begin{bmatrix} x + 4 & 3y \\ 5 & -6 \end{bmatrix}$

7. If $\begin{bmatrix} x + 3 & z + 4 & 2y - 7 \\ 4x + 6 & a - 1 & 0 \\ b - 3 & 3b & z + 2c \end{bmatrix} = \begin{bmatrix} 0 & 6 & 3y - 2 \\ 2x & -3 & 2c + 2 \\ 2b + 4 & -21 & 0 \end{bmatrix}$

    Find the values of a, b, c, x , y, and z.

8. If a matrix has 16 elements, what are the possible orders it can have? What, if it has 5 elements?
9. Do Q. No. 1 of ex. 3.1.
10. Construct the 4 x 3 matrix whose elements are given by

$$a_{ij} = \frac{|i-j|}{2}$$

Physical Education
Assignment No. 4

Q. 1- What is the concept of Disability and Disorder? Explain with example.

Q. 2- Explain four types of Disabilities.

Q. 3- What is Disability Etiquette?

Q. 4- What is ODD? What are its symptoms and causes?

Q. 5- What are the advantages of physical activities for children with special needs?

Q. 6- What do you mean by Intellectual Disability?

Q. 7- Give an example of cognitive disability.

Q. 8- Explain the strategies to make physical activities accessible for children with special needs.