

CHEMISTRY
Class-8, Lesson for 07/05/2020
Chapeter-4, Atomic Structure

Solution for Home Assignment dated- 05/05/2020

Q1. How will you separate a mixture of wood dust, sand and ammonium chloride?

Ans: To separate the mixture of wood dust, sand and ammonium chloride we have to first heat the mixture for some time so that ammonium chloride can be evaporated being a sublime element. Thus one of the components is separated.

Now we have sand and wood dust in the mixture. Now we will add some water into the mixture so that sand being quite heavier than wood dust can settle down at the bottom by following gravitation process and the wood dust being very light will float on the top of the water. Thus two of the components are separated. Then wood dust can be separated by using filtration for getting better result

Thus all the three elements of the mixture are being separated.

Q2. How a coloured mixture of ink can be separated? Explain the process and also mention on which principle is the method based?

Ans: A mixture of ink can be separated by Chromatography which is one of the latest technique to separate the coloured components of a mixture where all the components are very similar in their properties.

Here we will use the simplest process of chromatography which is paper chromatography. In this process a mixture of ink is taken at one edge (side) of a chromatography paper or filter paper and poured at the corner of the same side of the paper to water. Then water will be absorbed by the paper and colours will start spreading depending upon their absorption capacity into water.

This method is based on the difference in the rates of absorption of the components in its surface of a suitable adsorbent. That means the component that has more absorbent capacity will be started to be separated first. Then the next the components will be separated as per their absorption capacity.

Q3. What do you mean by stationary phase and mobile phase in Chromatography?

Ans: Chromatography separates the components of a mixture on the basis of two phases, one of which is stationary phase and other one is mobile phase.

The basic phase through which the coloured components start to be separated is static. So this phase is called stationary phase.

The other phase which is movable to let the components be separated is mobile. So this phase is called mobile phase.

Q4. Describe by which process water can be squeezed out from wet clothes.

Ans: Water can be squeezed out from wet clothes by centrifugation method. In this method solid-liquid mixture can be separated by a high spinning machine where heavier solid

particles or high density particles move towards bottom and light particles or low density particles float on the liquid.

Here for washing clothes high spinning washing machine is used which attracts or squeezes all the impurities mixed with the clothes with water and push the clean clothes at the bottom.

Q5. A mixture of salt and water can be separated by evaporation or distillation. Which of the process is more advantageous and why?

Ans: Among these two process distillation is more advantageous because in this process first one of the substance evaporates and then it comes back through condensation. So both of the components are present after separation.

On the other hand by evaporation once a substance evaporates it gets mixed with air.

So distillation is more advantageous.

Lesson for 07/05/2020 (Thursday):

Chapter-4, Atomic Structure

In this chapter we will learn about the smallest unit of all the matter. This smallest unit is called atom. Gradually these atoms form molecules and radicals.

Example: Sodium is an atom which symbolises as Na and chlorine is another atom symbolises as Cl.

So atom is the smallest unit of all the elements which is formed by single type of particles.

Definition of atom: An atom is the smallest particle of an element which exhibits all the properties of that element. It may or may not exist independently but takes part in all the chemical reaction.

Example: Sodium atom (Na),
Potassium Atom (k),
Calcium atom (Ca)

The main characteristics of an atom are as follows:

The main characteristics of atoms as suggested by John Dalton are :

- An atom is the smallest particle of matter which cannot be divided further into smaller particles.
- Atoms of the same element are all identical but they differ from the atoms of other elements.
- An atom of an element exhibits all the properties of that element.
- Atoms can neither be created nor be destroyed.
- Atoms may or may not have independent existence but they can take part in chemical reactions.



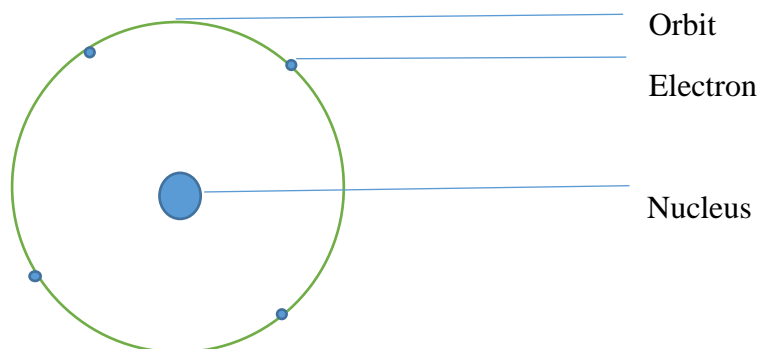
Here according to Dalton atoms cannot be divided further but studies in earlier twentieth showed that atoms can be divided further into its constituent particle. Basically these particles are structural particles of atom.

These are:

- Negatively charged electron
- Positively charged proton
- Neutral particle neutron

These positively charged proton and neutral particle neutron unitedly make a highly concentrated solid sphere (so small that it has to be seen in microscope only) called nucleus which is situated at the centre of the structure of the atom and the other negatively charged electrons rotate in the surrounding of the nucleus having sufficient distance by following a certain path or orbits

The structure looks like:



Next part is to be continued in next lesson...

Solutions of CHAPTER-5 (PLAYING WITH NUMBERS)

EX.-5.1 (H.W. of 04/05/2020)

1) Write the following numbers in generalized form:

i) 89

ii) 207

(i) $89 = 8 \times 10 + 9$

(ii) $207 = 2 \times 100 + 0 \times 10 + 7 \times 1$

2) Write the quotient, when the sum of a 2-digit number 34 and number obtained by reversing the digits is divided by

i) 11

ii) sum of digits

Sum of two-digit number 34 and the number obtained by reversing the digit $43 = 34 + 43 = 77$

(i) $77 \div 11 = 7$

(ii) $77 \div (\text{Sum of digit}) = 77 \div (4 + 3)$
 $= 77 \div 7 = 11$

3) Write the quotient, when the difference of a 2-digit number 73 and number obtained by reversing the digits is divided by

i) 9

ii) difference of digits

Difference of two digit number 73 and the number obtained by reversing the digits

$= 73 - 37 = 36$

(i) Now, $36 \div 9 = 4$

(ii) $36 \div (7 - 3) = 36 \div 4 = 9$

5) Write the quotient, when the difference of a 3-digit number 843 and number obtained by reversing the digits is divided by

i) 99

ii) 5

Difference of 3-digit number 843 and the number obtained by reversing the digit 348

$$= 843 - 348 = 495$$

(i) Divided by 99, then $\frac{495}{99} = 5$

(ii) Divided by 5, then $= \frac{495}{5} = 99$

- 6) **The sum of digits of a 2-digit number is 11. If the number obtained by reversing the digits is 9 less than the original number, find the number.**

Sum of two digit number = 11

Let unit's digit = x

and tens digit = y,

then $x + y = 11$... (i)

and number = $x + 10y$

By reversing the digits,

Unit digit = y

and tens digit = x

and number = $y + 10x$

Now, $y + 10x + 9 = x + 10y$

$$10x + y - 10y - x = -9$$

$$9x - 9y = -9$$

$$x - y = -1 \text{ ... (ii)}$$

Adding (i) and (ii),

$$2x = 10 \Rightarrow x = \frac{10}{2} = 5$$

$$\therefore y = 1 + 5 = 6$$

$$\text{and number} = x + 10y = 5 + 10 \times 6$$

$$= 5 + 60 = 65$$

- 7) **If the difference of two digit number and the number obtained by reversing the digits is 36, find the difference between the digits of the 2-digit number.**

Let unit digit = x
and tens digit = y
 \therefore Number = $x + 10y$
and by reversing the digits
Unit digit = y
and tens digit = x
Then number = $y + 10x$
 $\therefore x + 10y - y - 10x = 36$
 $\Rightarrow -9x + 9y = 36$
 $(y - x) = \frac{36}{9}$
 $\Rightarrow y - x = 4$

- 8) **If the sum of two digit number and the number obtained by reversing the digits is 55, find the sum of the digits of 2-digit number.**

Let unit digit = x
and tens digit = y
 \therefore Number = $x + 10y$
and by reversing the digits
Unit digit = y
and tens digit = x
Then number = $y + 10x$
 $\therefore x + 10y + y + 10x = 55$
 $\Rightarrow 11x + 11y = 55$
 $\Rightarrow x + y = \frac{55}{11}$
 $\Rightarrow x + y = 5$

- 9) **In a 3-digit number, unit's digit, ten's digit and hundred's digit are in the ratio 1:2:3. If the difference of original number and the number obtained by reversing the digits is 594, find the number.**

Ratio in the digits of a three digit number

$$= 1 : 2 : 3$$

Let unit digit = x

Then tens digit = $2x$

and hundreds digit = $3x$

and number = $x + 10 \times 2x + 100 \times 3x$

$$= x + 20x + 300x = 321x$$

and reversing the digits,

Unit digit = $3x$

Ten's digit = $2x$

Hundreds digit = x

\therefore Number = $3x + 10 \times 2x + 100 \times x$

$$= 3x + 20x + 100x = 123x$$

According to the condition,

$$\therefore 321x - 123x = 594$$

$$\Rightarrow 198x = 594 \Rightarrow x = \frac{594}{198} = 3$$

$$\therefore \text{Number} = 321x = 321 \times 3 = 963$$

- 10) In a 3-digit number, unit's digit is one more than the hundred's digit and ten's digit is one less than the hundred's digit. If the sum of the original 3-digit number and numbers obtained by changing the order of digits cyclically is 2664, find the number.

Let hundreds digit = x

Then unit digit = $x + 1$

and ten's digit = $x - 1$

$$\text{Number} = (x + 1) + 10(x - 1) + 100 \times x$$

$$= x + 1 + 10x - 10 + 100x$$

$$= 111x - 9$$

and by reversing the digits,

Unit digit = $x - 1$

Tens digit = x

Hundred digit = $x + 1$

$$\therefore \text{Number} = x - 1 + 10x + 100x + 100$$

$$= 111x + 99$$

$$\text{and number} = x + 10(x + 1) + 100(x - 1)$$

$$= x + 10x + 10 + 100x - 100$$

$$= 111x - 90$$

Now according to the condition,

$$111x - 9 + 111x + 99 + 111x - 90 = 2664$$

$$\Rightarrow 333x + 99 - 99 = 2664$$

$$333x = 2664$$

$$x = \frac{2664}{333} = 8$$

$$\therefore \text{Original number} = 111x - 9$$

$$= 888 - 9 = 879$$

EX.-5.2 (H.W. of 05/05/2020)

Find the values of the letters in each of the following and give reasons for the steps involved:

1) **4 A**

$$\begin{array}{r} +35 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{B2} \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ +35 \\ \hline 82 \end{array}$$

$$A = 7, B = 8$$

2) **5 A**

$$\begin{array}{r} +79 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{CB3} \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ +79 \\ \hline 133 \end{array}$$

$$9 + 4 = 13, \therefore A = 4$$

$$B = 1 + 5 + 7 = 3$$

$$C = 1$$

$$A = 4, B = 3, C = 1$$

3) **4 2 A**

$$\begin{array}{r} +2A5 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{A02} \\ \hline \end{array}$$

$$\begin{array}{r} 427 \\ +275 \\ \hline 702 \end{array}$$

$$5 + 7 = 12, \therefore A = 7$$

$$1 + 2 + 7 = 10$$

$$1 + 4 + 2 = 7 = A$$

4) **A A**

5) **1 8 A**

6) **A 2 1 B**

$$\begin{array}{r} +A A \\ B A 8 \end{array}$$

$$\begin{array}{r} +B A 7 \\ C B 2 \end{array}$$

$$\begin{array}{r} +1 C A B \\ B 4 9 6 \end{array}$$

$$\begin{array}{r} 9 9 \\ +9 9 \\ \hline 1 9 8 \end{array}$$

A = 4 or 9

A ≠ 4 as A + A = A, 4 + 4 ≠ 4

A = 9

B = 1

∴ Hence A = 9, B = 1

$$\begin{array}{r} 1 8 5 \\ +4 5 7 \\ \hline 6 4 2 \end{array}$$

5 + 7 = 12

∴ A = 5

B = 4, C = 6

Hence, A = 5, B = 4, C = 6

$$\begin{array}{r} 7 2 1 8 \\ +1 2 7 8 \\ \hline 8 4 9 6 \end{array}$$

B = 3 or 8

If B = 8

1 + 1 + 7 = 9 then A = 7

C = 4 - 2 = 2

7 + 1 = 8 = B

Hence, A = 7, B = 8, C = 2

$$\begin{array}{r} 7) \quad B 3 4 5 \\ +C 9 B A \\ \hline 8 B A 2 \end{array}$$

$$\begin{array}{r} 8) \quad A B \\ -B 6 \\ \hline 4 7 \end{array}$$

$$\begin{array}{r} 9) \quad 2 A \\ \times 3 A \\ \hline B 7 A \end{array}$$

$$\begin{array}{r} 2 3 4 5 \\ +5 9 2 7 \\ \hline 8 2 7 2 \end{array}$$

A = 7 (∵ 5 + 7 = 12)

1 + 4 + 2 = 7(A)

∴ B = 2

1 + 2 + 5 = 8, C = 5

Hence, A = 7, B = 2, C = 5

$$\begin{array}{r} 8 3 \\ -3 6 \\ \hline 4 7 \end{array}$$

∴ B - 6 = 7

∴ B = 3

A - 1 - B = 4

A - 1 - 3 = 4, A = 4 + 4 = 8

Hence, A = 8, B = 3

$$\begin{array}{r} 2 5 \\ \times 3 5 \\ \hline 1 2 5 \\ 7 5 \times \\ \hline 8 7 5 \end{array}$$

A = 1 or 6 or 5 as 1 × 1 = 1

or 6 × 6 = 6

or 5 × 5 = 5

Taking A = 5

∴ B = 8

Hence, A = 5, B = 8

$$\begin{array}{r} 10) \quad A B \\ \times A B \\ \hline 6 A B \end{array}$$

$$\begin{array}{r} 11) \quad A A \\ \times 4 A \\ \hline 9 A 4 \end{array}$$

$$\begin{array}{r} 2 5 \\ \times 2 5 \\ \hline 6 2 5 \end{array}$$

B × B = B

B = 1, 6, 5

If B = 5, and A = 2, then

25 × 25 = 625

Hence, A = 2, B = 5

$$\begin{array}{r} 2 2 \\ \times 4 2 \\ \hline 9 2 4 \end{array}$$

A = 2 or 8

Let A = 2

Hence, A = 2

13) Complete the magic square given alongside using number 0, 1, 2, 3,15 (only once); so that

sum along each row, column and diagonal is 30.

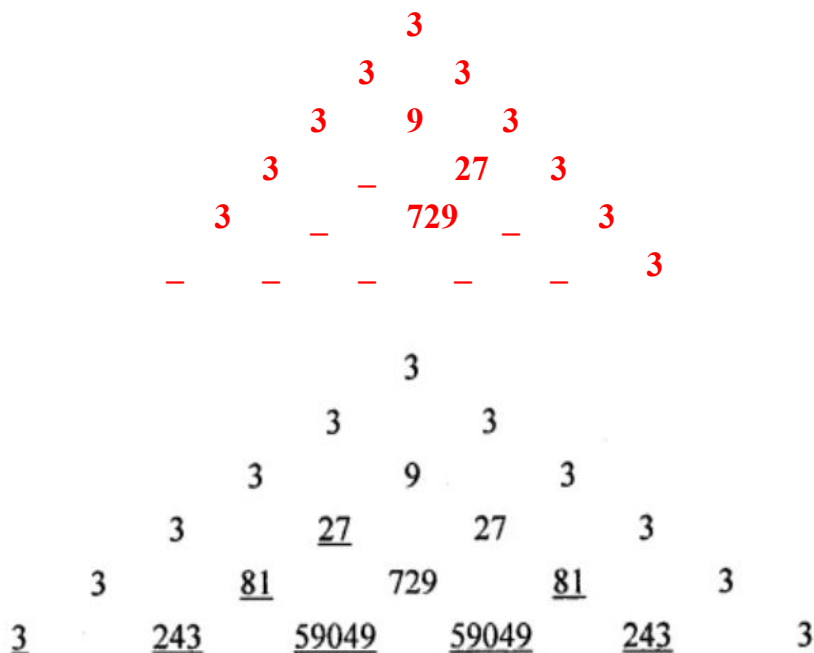
3	14		0
8		6	
4			7
		1	12

In the magic square given use of number 0, 1, 2, 3, , 15 only once so that the sum along each row, column and diagonal is 30. Some numbers are already filled.

3	14	13	0
8	5	6	11
4	9	10	7
15	2	1	12

- $3 + 8 + 4 = 15 + 15 = 30$
- $3 + 5 + 10 + 12 = 30$
- $3 + 14 + 0 = 17 + 13 = 30$
- $0 + 6 + 9 + 15 = 30$
- $0 + 7 + 12 = 19 + 11 = 30$
- $15 + 1 + 12 = 28 + 2 = 30$
- $8 + 6 + 11 = 25 + 5 = 30$
- $13 + 6 + 1 = 20 + 10 = 30$
- $14 + 5 + 2 = 21 + 9 = 30$

14) Fill in the blanks to complete the following number triangle:



EX.-5.3 (H.W. of 06/05/2020)

1) Which of the following numbers are divisible by 5 or 10:

- i) 87035 ii) 75060 iii) 9685 iv) 10730**

A number having its unit digit 5 or 0, is divisible by 5.

A number having its unit digit 0, is divisible by 10.

So, 87035, 75060, 9685, 10730 are all divisible by 5
but number 75060 and 10730 are divisible by 10.

2) Which of the following numbers are divisible by 2, 4 or 8:

- i) 67894 ii) 5673244 iii) 9685048 iv) 6533142 v) 75379**

A number having its unit digit 2, 4, 6, 8 or 0 is divisible by 2,

a number is divisible by 4, if the number formed by the

last two digits is divisible by 4 and a number is divisible by 8,

if the number formed by the last three digits is divisible by 8. So,

Number 67894, 5673244, 9685048, 6533142 are divisible by 2.

Numbers, 5673244, 9685048 are divisible by 4

and numbers 9685048 is divisible by 8.

3) Which of the following numbers are divisible by 3 or 9:

- i) 45639 ii) 301248 iii) 567081 iv) 345903 v) 345046**

A number is divisible by 3 if the sum of its digits is divisible by 3,

a number is divisible by 9 if the sum of its digits is divisible by 9. So,

45639, 301248, 567081, 345903 are divisible by 3.

49639, 301248, 467081 are divisible by 9.

4) Which of the following numbers are divisible by 11:

- i) 10835 ii) 380237 iii) 504670 iv) 28248**

A number is divisible by 11 if the difference of the sum of digits

at the odd places and sum of the digits at even places is zero or divisible by 11. So,

10835, 380237, 28248 are divisible by 11.

5) Which of the following numbers are divisible by 6:

- i) 15414 ii) 213888 iii) 469876

A number is divisible by 6 if it is divisible by 2 as well as by 3, so 15414 and 213888 are divisible by 6.

6) Which of the following numbers are divisible by 7:

- i) 4618894875 ii) 3794856 iii) 39823

A number is divisible by 7 if the difference of the sum of digits in alternate blocks of three digits from the right to the left is divisible by 7, so 4618894875 and 39823 are divisible by 7.

- 7) i) If $34x$ is a multiple of 3, where x is a digit, what is the value of x ?
ii) If $74x5284$ is a multiple of 3, where x is a digit, find the value(s) of x .

(i) $34x$ is a multiple of 3

If $3 + 4 + x = 7 + x$ is divisible by 3

Then $x + 7 = 9 \Rightarrow x = 9 - 7 = 2$

$\therefore x = 2, 5, 8$

(ii) $74x5284$ is divisible by 3

$\therefore 7 + 4 + x + 5 + 2 + 8 + 4$ is divisible by 3

$\Rightarrow 30 + x$ is divisible by 3

$x = 0, 3, 6, 9$

8) If $42z3$ is a multiple of 9, where z is a digit, what is the value of z ?

$42z3$ is a multiple of 9

$\therefore 4 + 2 + z + 3$ is divisible by 9

$\Rightarrow 9 + z$ is divisible by 9

Either $9 + z = 9$, or $9 + z = 0$

$\therefore z = 9 + 9 = 18$, Or $z = 9 - 9 = 0$

$\therefore z = 0, 9$

9) If each of the following replace * by a digit so that the number formed is divisible by 9:

- i) $49*2207$ ii) $5938*623$

(i) 49×2207 is divisible by 9

If $4 + 9 + x + 2 + 2 + 0 + 7$ is divisible by 9

$\Rightarrow 24 + x$ is divisible by 9 $\Rightarrow 24 + x = 27$

$\Rightarrow x = 27 - 24$ is divisible by 9

$\therefore x = 3$

(ii) 5938×623 is divisible by 9

If $5 + 9 + 3 + 8 + x + 6 + 2 + 3$ is divisible by 9

If $36 + x$ is divisible by 9

$\Rightarrow 36 + x = 36$ or 45

$\therefore x = 36 - 36 = 0$ or $x = 45 - 36 = 9$

$\therefore x = 0, 9$

10) If each of the following replace * by a digit so that the number formed is divisible by 6:

i) $97*542$ ii) $709*94$

(i) $97 * 542$ is divisible by 6

\therefore It is divisible by 2 and 3

\therefore Unit digit is 2

\therefore It is divisible by 2

\therefore It is divisible by 3

\therefore Sum of its digits $9 + 7 + 5 + 4 + 2 = 27$

which is divisible by 3 $27 + * = 27, \text{ or } 30, 33, 36$

\therefore The blank * will be 0 or 3 or 6 or 9

(ii) $709 * 94$

\therefore It is divisible by 6

\Rightarrow It is divisible by 2 and 3

But its unit digit is 4

\therefore It is divisible by 2

Now sum of its digits $= 7 + 0 + 9 + 9 + 4 + * = 29 + *$

\therefore It is divisible by 3

$29 + * = 30, 33, 36,$

\therefore Blank (*) = 1 or 4 or 7

11) If each of the following replace * by a digit so that the number formed is divisible by 11:

i) $64*2456$ ii) $86*6194$

(i) $64 * 2456$ is divisible by 11

The difference between the sum of digits of odd places

– Sum of digits of even place is divisible by 11 it is zero.

$6 + 4 + * + 6 - 5 + 2 + 4$ is divisible by 11

$\Rightarrow 16 + * - 11$ is divisible by 11

$\Rightarrow 5 + x$ is divisible by 11

$\therefore * = 6$

(ii) $86 * 6194$

\because It is divisible by 11

The difference between the sum of digits of odd places and sum of digits of even places is divisible by 11 or it is zero.

Now, $4 + 1 + * + 8 = 13 + *$

$9 + 6 + 6 = 21$

$\therefore 21 - (13 + *)$ is divisible by 11

$\Rightarrow 21 - 13 - *$ is divisible by 11

$\Rightarrow 8 - *$ is divisible by 11

$\therefore *$ is 8

HOTS

- 1) **If the difference of two digit number and number obtained by reversing the digits is 45, then write all possible 2-digit numbers.**

The difference of 2-digit number and

the number obtained by reversing the digits is 45,

then the two numbers will be

16, 61 ($\because 61 - 16 = 45$)

27, 72 ($\because 72 - 27 = 45$)

38, 83 ($\because 83 - 38 = 45$)

49, 94 ($\because 94 - 49 = 45$)

CHAPTER-6 (OPERATIONS ON SETS; VENN DIAGRAMS)

Definition

What is a set? Well, simply put, it's a collection.

First we specify a common property among "things" (we define this word later) and then we gather up all the "things" that have this common property.

For example, the items you wear: hat, shirt, jacket, pants, and so on.

I'm sure you could come up with at least a hundred.

This is known as a set.

Numerical Sets

So what does this have to do with mathematics? When we define a set, all we have to specify is a common characteristic. Who says we can't do so with numbers?

Set of even numbers: $\{\dots, -4, -2, 0, 2, 4, \dots\}$

Set of odd numbers: $\{\dots, -3, -1, 1, 3, \dots\}$

Set of prime numbers: $\{2, 3, 5, 7, 11, 13, 17, \dots\}$

Positive multiples of 3 that are less than 10: $\{3, 6, 9\}$

And the list goes on. We can come up with all different types of sets.

There can also be sets of numbers that have no common property, they are just **defined** that way. For example:

$\{2, 3, 6, 828, 3839, 8827\}$

$\{4, 5, 6, 10, 21\}$

$\{2, 949, 48282, 42882959, 119484203\}$

Are all sets that I just randomly banged on my keyboard to produce.

Why are Sets Important?

Sets are the fundamental property of mathematics. Now as a word of warning, sets, by themselves, seem pretty pointless. But it's only when we apply sets in different situations do they become the powerful building block of mathematics that they are.

*Math can get amazingly complicated quite fast. Graph Theory, Abstract Algebra, Real Analysis, Complex Analysis, Linear Algebra, Number Theory, and the list goes on. But there is one thing that all of these share in common: **Sets**.*

Universal Set

At the start we used the word "things" in quotes.

We call this the **universal set**. It's a set that contains everything. Well, not *exactly* everything. **Everything that is relevant to our question.**

A= When talking about sets, it is fairly standard to use Capital Letters to represent the set, and lowercase letters to represent an element in that set.

{a,.. So for example, A is a set, and a is an element in A. Same with B and b, and C and c.

CLASS- VIII

SUBJECT- HIGHER HINDI

DATE:07.05.2020

SOLUTION FOR FOURTH HOME ASSIGNMENT

चित्र वर्णन



बहुत पुरानी बात तो नहीं है। एक राजा था। बड़ा दयालु और प्रजापालक। वह किसी को कष्ट में देखता तो तुरंत राजकर्मचारियों से कह उनकी आवश्यकताओं की पूर्ति करता। प्रजा भी अपने राजा पर जान छिड़कती थी। राजा प्रजा का ही नहीं पशु-पक्षियों तक का बहुत ध्यान रखता। अपने हाथ से अपने घोड़े को सहलाता, दाना खिलाता। राजा के यहाँ कई हाथी भी थे। उनमें से एक हाथी राजा को विशेष प्रिय था। राजा रोज़ उसे केले खिलाता। हाथी उसकी हथेली से केला ऐसे उठाता कि राजा को पता भी न चलता। राजा प्रशंसाभरी दृष्टि डालता तो हाथी प्रसन्नता से झूम अपनी सूँड़ ऊपर उठा अभिवादन करता। एक बार एक शक्तिशाली राजा ने इस राजा के

राज्य पर आक्रमण कर दिया। राजा अपने सेनापति तथा सैनिकों के साथ युद्धभूमि में जा पहुँचा। घमासान युद्ध हुआ। लड़ते-लड़ते राजा को कई घाव लगे। रक्त से लथपथ वह अपने हाथी से नीचे जा गिरा। हाथी ने क्षणभर में अपने स्वामी को अपनी सूँड़ में उठा लिया और युद्धभूमि से बाहर ले आया। हाथी ने राजा को एक छायादार वृक्ष के नीचे लिटा दिया और स्वयं वहाँ से चला गया। संज्ञाशून्य राजा उसी अवस्था में पड़ा रहा। हाथी लौटा तो उसकी सूँड़ में पानी था। उसने धीरे-धीरे पानी के कई छींटे राजा के मुँह पर डाले। राजा की चेतना लौट आई। राजा को जीवित देख, हाथी बाकी पानी से उसके घाव धोने लगा। वह और पानी लाया, फल लाया। सचेत होने पर राजा ने जल पिया, फल खाए और हाथी की सूँड़ को सहलाने लगा। हाथी ने राजा को सूँड़ से उठाया और अपने मस्तक पर बिठा लिया, फिर वह धीरे-धीरे चलता हुआ स्वच्छ जल से भरे एक सोते तक आ पहुँचा। उसने आराम से राजा को लिटा दिया और स्वयं सावधानी से उसकी रक्षा में खड़ा रहा। वह बीच-बीच में कुछ समय के लिए इधर-उधर चला जाता। जंगली फल ले आता। धीरे-धीरे राजा स्वस्थ होने लगा। उसके घाव भी भरने लगे थे। न मालूम कितने दिन बीत गए हैं। मेरी सेना, मेरी प्रिय प्रजा और राज्य का क्या हुआ होगा! राजा को चिंतित और बेचैन देख हाथी पल-भर में समझ गया कि राजा की परेशानी क्या है।

उधर राजा के सेनापति ने बड़ी वीरता से शत्रुओं का सामना किया। कई दिन तक घमासान युद्ध हुआ। राज्य का एक-एक नवयुवक युद्धभूमि में लड़ रहा था। शत्रुओं के पाँव उखड़ गए और वे भाग खड़े हुए। जब सेनापति ने राजा की खोज-खबर में राजकर्मचारियों को दौड़ाया तो दूर-दूर तक राजा का कुछ पता न चला। राजा को मृत समझ प्रजा में शोक का समुद्र उमड़ पड़ा। विजय की खुशी को भूल सब दुखी मन अपने राजा के लिए प्रार्थना करने लगे। उधर हाथी दिन-रात अपने राजा की रक्षा करता। वन्य जीव-जन्तुओं को उस सोते के पास भी न फटकने देता। राजा के पूर्ण रूप से स्वस्थ हो जाने पर एक दिन हाथी उन्हें पेड़ पर बिठा अपने राज्य के समीप जा पहुँचा। सैनिकों ने राजा का हाथी देखा तो तुरंत सेनापति और मंत्री को खबर की। वे दौड़े आए। उन्होंने हाथी को बहुत प्यार किया और राजा के बारे में पूछने लगे। हाथी ने चिंघाड़-चिंघाड़कर कुछ कहा और उन्हें साथ चलने का संकेत दिया। सभी अपने घोड़ों पर सवार हाथी के पीछे-पीछे चल दिए। हाथी उन्हें उस स्थान पर ले आया जहाँ राजा को सुरक्षित छोड़ गया था, पर वहाँ राजा था ही नहीं। हाथी जोर-जोर से चिंघाड़ने लगा मानो राजा को बुला रहा हो। वास्तव में राजा घोड़ों की टापों की आवाज़ सुन, शत्रु को आया जान पेड़ों के झुरमुट में छिप गया था। अपने हाथी और सेनापति को देख वह बाहर निकल आया। राजा को जीवित देख सेनापति और अन्य लोग खुशी से फूले नहीं समाए। हाथी अपने राजा को सुरक्षित हाथों में सौंप

CLASS-VIII
SUBJECT- HIGHER BENGALI
PREVIOUS STUDY MATERIAL SOLUTION 2020-21(DATE- 05.05.2020)
CHAPTER – 7 BAKKYO NIRMANER SHORTO (ANSWER SHEET)
অধ্যায় ৭ – বাক্য নির্মাণের শর্ত (উত্তরপত্র)

DATE-07.05.2020
THURSDAY

HOMEWORK SOLUTION

ক) নিম্নলিখিত প্রশ্নগুলির উত্তর দাওঃ-

১) জটিল বাক্য কাকে বলে ? উদাহরণ দাও ।

উঃ- যে বাক্যে একটি প্রধান ও এক বা একাধিক অপ্রধান অংশ থাকে এবং অপ্রধান অংশগুলি প্রধান অংশের সাথে সাপেক্ষ অব্যয় বা সাপেক্ষ সর্বনাম দ্বারা যুক্ত হয় তাকে জটিল বাক্য বলে ।
যেমন – – যদি সে আসে তবে আমি যাব ।

২) অর্থগত দিক থেকে বাক্য কয় প্রকার ও কী কী ?

উঃ- অর্থগত দিক থেকে বাক্যের সাতটি ভাগ । সেগুলি হল — ক) নির্দেশক , খ) প্রশ্ন বাচক ,
গ) অনুজ্ঞা বাচক , ঘ) সন্দেহ বাচক , ঙ) ইচ্ছা বাচক , চ) আবেগ সূচক ও ছ) শর্তসাপেক্ষ ।

৩) অনুজ্ঞাবাচক বাক্য কাকে বলে ? উদাহরণ দাও ।

উঃ- যেসব বাক্যের দ্বারা আদেশ , উপদেশ বা অনুরোধ বোঝায় , সেই সমস্ত বাক্যকে অনুজ্ঞাবাচক বাক্য বলে । যেমন — তুমি তাড়াতাড়ি বাড়ি যাও । (নির্দেশ)

৪) যৌগিক বাক্য কাকে বলে ? উদাহরণ দাও ।

উঃ- দুই বা দুইয়ের বেশি সরল বাক্য যদি পরস্পর সংযোজক অব্যয় দ্বারা যুক্ত হয়ে একটি বাক্য গঠন করে তাকে যৌগিক বাক্য বলে । যেমন – আমি রাতে রুটি খাই আর ভাই ভাত খায় ।

খ) নিম্নে লিখিত বাক্যগুলি সরল , জটিল ও যৌগিক বাক্যে ভাগ করঃ-

- ১) শোনো এবং লেখো । ————— যৌগিক বাক্য
২) এই যে বাড়িটা , এটাই আমাদের । ————— জটিল বাক্য
৩) খেলা শেষ হলে বাড়ি এসো । ————— সরল বাক্য
৪) যেমন রাজা তেমনি তার মন্ত্রী । ————— জটিল বাক্য
৫) তিনি নিজের কানে ঘটনা শুনলেন এবং বিচার করলেন । ————— যৌগিক বাক্য

CLASS-VIII
SUBJECT- HIGHER BENGALI
STUDY MATERIAL 2020-21
CHAPTER – 10 BIPORITARTHOK SHABDO
(অধ্যায় ১০ – বিপরীতার্থক শব্দ)

DATE – 07.05.2020
THURSDAY

সুখ দুঃখ নিয়েই আমাদের জীবন ।
জীবন থাকলেই মরণ নিশ্চিত ।

————— ওপরের বাক্যগুলিতে ‘সুখ – দুঃখ’ , ‘জীবন – মরণ’ শব্দগুলি পরস্পরের বিপরীত শব্দরূপে ব্যবহৃত হয়েছে । প্রত্যেকটি বিপরীতার্থক শব্দের বিশেষ গুরুত্ব আছে । বাক্যকে সুন্দর ও আলংকারিক করে তুলতে বিপরীতার্থক শব্দের ব্যবহার অপরিহার্য ।

- **বিপরীতার্থক শব্দ — একই শব্দের বিপরীত অর্থবাচক শব্দকে বিপরীতার্থক শব্দ বলে । যেমন – আলো – অন্ধকার , ভালো – মন্দ ।**

- নিম্নে বিপরীতার্থক শব্দের কিছু উদাহরণ দেওয়া হল —————

শব্দ	বিপরীতার্থক শব্দ	শব্দ	বিপরীতার্থক শব্দ
অভিজ্ঞ	অভিজ্ঞ	জাগরণ	নিদ্রা
অহিংস	সহিংস	তারুণ্য	বার্ধক্য
আবির্ভাব	তিরোভাব	জোড়	বিজোড়
আবাহন	বিসর্জন	ত্যাগী	ভোগী
ইতর	ভদ্র	দান	প্রতিদান
উদয়	অস্ত	নির্দয়	সদয়
উত্তর	প্রত্যুত্তর / দক্ষিণ	দোষী	নির্দোষ
উৎরাই	চড়াই	প্রবেশ	প্রস্থান
উষা	গোধূলি	বিরহ	মিলন
কৃত্রিম	স্বাভাবিক	বন্ধুর	সমতল
খাঁটি	ভেজাল	ব্যষ্টি	সমষ্টি
ঐক্য	অনৈক্য	মাধুর্য	তিক্ততা
ক্ষুদ্রতম	বৃহত্তম	যুদ্ধ	শান্তি
ক্রয়	বিক্রয়	শোক	হর্ষ / আনন্দ
কল্পনা	বাস্তব	সৃষ্টি	সংহার

শব্দ	বিপরীতার্থক শব্দ	শব্দ	বিপরীতার্থক শব্দ
সরল	বক্র	সন্তোষ	অসন্তোষ
তুষ্ট	রুষ্ট	স্বদেশ	বিদেশ
পন্ডিত	মূর্খ	সম্মান	অসম্মান
দক্ষিণ	বাম / উত্তর	হাসি	কান্না
প্রবল	মৃদু	সুদূর	অদূর

CLASSWORK

১) বিপরীতার্থক শব্দ কাকে বলে? উদাহরণ দাও।

উঃ- একই শব্দের বিপরীত অর্থবাচক শব্দকে বিপরীতার্থক শব্দ বলে।

যেমন – আলো – অন্ধকার , ভালো – মন্দ।

২) নিম্নে লিখিত শব্দগুলির বিপরীতার্থক শব্দ লিখে বাক্য রচনা করঃ-

উঃ-

শব্দ	বিপরীতার্থক শব্দ	বাক্য রচনা
জন্ম	মৃত্যু	জন্ম হলে মৃত্যু অবশ্যস্বাভাবিক।
অর্থ	অনর্থ	অর্থই অনর্থের মূল।
আয়	ব্যয়	সব মানুষেরই আয় অনুযায়ী ব্যয় করা উচিত।
আলো	অন্ধকার	আলোর পরেই অন্ধকার আসে।
আকাশ	পাতাল	জানলার দিকে তাকিয়ে আকাশ পাতাল না ভেবে মন দিয়ে পড়ো।

HOMEWORK

ক) নিম্নে লিখিত শব্দগুলির বিপরীতার্থক শব্দ লেখঃ-

- | | |
|-------------|----------|
| ১) আবির্ভাব | ২) উৎরাই |
| ৩) কৃত্রিম | ৪) ঐক্য |
| ৫) স্বদেশ | ৬) সুদূর |
| ৭) প্রবল | ৮) সরল |
| ৯) বিরহ | ১০) দোষী |

খ) নিম্নে লিখিত শব্দগুলি দিয়ে বাক্য রচনা করঃ-

- ১) উদয় – অস্ত
- ২) সম্মান – অসম্মান
- ৩) হাসি – কান্না
- ৪) কল্পনা – বাস্তব
- ৫) যুদ্ধ - শান্তি

HOME ASSESSMENT

SUB-GEOGRAPHY CLASS- VIII

CHAPTER-2 (QUESTION & ANSWERS)

Question 1.

Define the term Population

Answer:

The term 'population' refers to all the people who live in a particular area, city or country.

Question 2.

Define population density.

Answer.

Population density refers to the number of people living in a unit area of space, such as a square kilometre,

Question 3.

Distinguish between immigration and emigration.

Answer:

Immigration is the process of coming to live permanently in another country that is not one's own. Emigration is the process of leaving one country to go and live permanently in another country.

Question 4.

Write any two causes of overpopulation ?

Answer:

Causes of overpopulation are :

- 1 . Immigration - When people come from another country.
2. Increased birth rate — due to better medical facilities
3. Decreased death rate — due to better medical facilities.
4. Better medical facilities
5. Lack of family planning.

Question 5.

Mention any two factors that cause population growth in a developed country.

Answer:

In the developed countries of the world the population increased earlier due to:

1. Economic growth and prosperity as a result of industrialization. 2. Improved medical techniques and health care facilities AND 3. Immigration because of better job opportunities and better living conditions.

Question 6.

Mention any three factors that cause population growth in a developing country.

Answer:

In developing countries of the world, rapid increase in population was due to:

1. Modern medical techniques which increased the lifespan of the people
2. Ignorance of the masses AND 3. Traditional beliefs, customs and outlook of people.

Question 7.

What do the rural and urban population consist of ?

Answer: The rural population consists of the people residing in villages.

The urban population consists of the people living in towns and cities.

Question 8. What do you understand by the term 'working population'?

Answer: The section of the population between 14 to 60 years of age is considered to be the working population. They are willing and eligible to work and considered an asset for a country as it means high availability of labour for the development of the nation.

LONG QUESTIONS

Question 1.

Write a note on the distribution of population in the world,

Answer:

At present, the population of the world stands at 7.35 billion. China has the largest population in the world with over 1.3 billion people, followed by India, with over 1.2 billion people, the USA with over 321 million people and Indonesia with over 257 million people. Island nations of the Pacific Ocean have populations of just a few thousand.

Continent—wise Asia has the largest population with over 4.4 billion people, followed by Africa with 1.18 billion people. Europe has over 738 million people,

North America has over 573 million people, South

America has over 418 million people and Oceania

(Australia, New Zealand, Pacific Islands of Fiji, Papua

New Guinea, Vanuatu, Samoa, etc) has over 39 million people)

Question 2.

What is the impact of overpopulation ?

Answer:

Impact of Overpopulation :

1. Adverse effect on the environment : Higher population consumes more natural resources like fresh water, arable land and mineral resources. This leads to deforestation, scarcity of water, extinction of plants and animals, depletion of fossil fuels, pollution, global warming.
- 2 Adverse effect on economy : Higher population leads to unemployment overcrowding, shortage of food, fuel, minerals and other problems.

Question 3

Write the positive as well as negative effects of under population.

Answer: Impact of Under population

Under population has several positive effects :

1. There are sufficient employment opportunities for everyone.
2. There are fewer instances of overcrowding. 3. There are levels Of poverty.
4. There are adequate educational, medical and other facilities to meet everyone's needs.
5. There are sufficient natural resources to meet the requirements of the population.
6. There is lesser pressure on the environment, and hence, lower rates of environmental degradation.

However, there are also some negative effects of under population

1. The lack of adequate labour leads to low productivity.
2. In some instances, a higher proportion of the population is either too young or too old to work.
3. There are lesser taxpayers, leading to low income for the government,
4. There are not enough people to develop the natural resources of the country.

Question 4.

Write the main differences between rural and urban populations.

Answer:

Rural Population

1. The population density in rural areas is low.
2. The people do primary activities like farming, fishing, mining etc.

3. The educational and medical facilities are not very highly developed.
4. Poor standards of transport and communication there.
5. Village communities are usually closely-knit with strong emphasis on culture and traditions.

Urban Population

1. It refers to people living in towns and cities.
2. The population density in urban areas is generally high.
3. The people do secondary and tertiary activities like trade, transport, services, etc.
4. The educational and medical facilities are highly developed.
5. Better standards of transport and communication.
6. The socio-cultural ties between people in cities are not as strong as in villages.

Question 5.

What is sex ratio ?

Answer:

Sex-ratio means the number of females per 1 000 males in a given population. In India, sex ratio is calculated in terms of females per 1000 males. The formula to calculate the sex ratio is-

$$\text{SEX RATIO} = \frac{\text{FEMALE POPULATION}}{\text{MALE POPULATION}} \times 1000$$

The sex ratio is an important characteristic that helps us to study the population of a given area. For example, when we say that the sex ratio in India is 940, it means that there are 940 girls for every 1000 boys.

