

Commerce Class 10

Ch-6 Financial Accounting and Reporting

Q1: What is a trading organizations?

Q2: What are the non -trading concerns?

Q3: What is the difference between trading concerns and non trading concerns?

Q4: What is a receipt and payment account?

(Thu) 14/5/20,CL-X, EVS

CH-6 Topic (Impact of Human Actions on the Earth's Resources)

Home Assignment.....

- 1) How does human activity affect Earth's natural resources?
- 2) Why do human need resources?
- 3) How do human have a positive impact on the environment?
- 4) How are human destroying habitats?
- 5) How can we reduce the impact of human activities that destroy the environment?

Economics

Ch-9 Meaning and Functions of Money

Q1: What is barter system?

Q2: Explain the lack of double coincidence of wants and exchange.

Q3: Explain the lack of common measure of value.

Q4: Explain the lack of divisibility.

Q5: Explain the problem of storing wealth.

Q6: Explain the lack of standard of defferred (future) payments.

DREAMLAND SCHOOL

Class: X

Subject: ART Paper 1

Objects required:

A basket and some vegetables such as capsicum, brinjals, tomatoes.

Arrangements:

A basket containing some vegetables such as capsicum and brinjals. A few tomatoes lying in front of the basket.

The arrangement should be placed against a suitably coloured background to contrast with the colour effect of the whole group.

DREAMLAND SCHOOL

Class : X

Subject : ART Paper 4

Design an attractive greeting card in not more than four colours, titled : "BEST OF LUCK".

The size of the card should be 30 cm x 20 cm.

Mathematics

Class:-X

Factorization

Date:-14.05.20

Question 1

Find the remainder (without divisions) on dividing $f(x)$ by $x - 2$, where

(i) $f(x) = 5x^2 - 1x + 4$

(ii) $f(x) = 2x^3 - 7x^2 + 3$

Answer 1

Let $x - 2 = 0$, then $x = 2$

(i) Substituting value of x in $f(x)$

$$f(x) = 5x^2 - 7x + 4$$

$$\Rightarrow f(2) = 5(2)^2 - 7(2) + 4$$

$$\Rightarrow f(2) = 20 - 14 + 4 = 10$$

Hence Remainder = 10 **Ans.**

(ii) $f(x) = 2x^3 - 7x^2 + 3$

$$\therefore f(2) = 2(2)^3 - 7(2)^2 + 3 = 16 - 28 + 3$$

Hence Remainder = -9 **Ans.**

Question 2

Using remainder theorem, find the remainder on dividing $f(x)$ by $(x + 3)$ where

(i) $f(x) = 2x^2 - 5x + 1$

(ii) $f(x) = 3x^3 + 7x^2 - 5x + 1$

Answer 2

$$\text{Let } x + 3 = 0$$

$$\Rightarrow x = -3$$

Substituting the value of x in $f(x)$,

$$(i) f(x) = 2x^2 - 5x + 1$$

$$\begin{aligned}\therefore f(-3) &= 2(-3)^2 - 5(-3) + 1 \\ &= 18 + 15 + 1 = 34\end{aligned}$$

Hence Remainder = 34 Ans.

$$(ii) f(x) = 3x^3 + 7x^2 - 5x + 1$$

$$\begin{aligned}&= 3(-3)^3 + 7(-3)^2 - 5(-3) + 1 \\ &= -81 + 63 + 15 + 1 = -2\end{aligned}$$

Hence Remainder = -2 Ans.

Question 3

Find the remainder (without division) on dividing $f(x)$ by $(2x + 1)$ where

$$(i) f(x) = 4x^2 + 5x + 3$$

$$(ii) f(x) = 3x^3 - 7x^2 + 4x + 11$$

Answer 3

$$\text{Let } 2x + 1 = 0, \text{ then } x = -\frac{1}{2}$$

Substituting the value of x in $f(x)$:

$$(i) f(x) = 4x^2 + 5x + 3$$

$$= 4\left(-\frac{1}{2}\right)^2 + 5 \times \left(-\frac{1}{2}\right) + 3$$

$$= 4 \times \frac{1}{4} - \frac{5}{2} + 3 = 1 - \frac{5}{2} + 3 = 4 - \frac{5}{2} = \frac{3}{2}$$

\therefore Remainder = $\frac{3}{2}$ Ans.

$$(ii) f(x) = 3x^3 - 7x^2 + 4x + 11$$

$$\begin{aligned}
 &= -3\left(-\frac{1}{2}\right)^3 - 7\left(-\frac{1}{2}\right)^2 + 4\left(-\frac{1}{2}\right) + 11 \\
 &= 3\left(-\frac{1}{8}\right) - 7\left(\frac{1}{4}\right) + 4\left(-\frac{1}{2}\right) + 11 \\
 &= -\frac{3}{8} - \frac{7}{4} - 2 + 11 \\
 &= \frac{-3 - 14 - 16 + 88}{8} = \frac{55}{8} = 6\frac{7}{8}
 \end{aligned}$$

∴ Remainder = $6\frac{7}{8}$ Ans.

Question 4

(i) Find the remainder (without division) when $2x^3 - 3x^2 + 7x - 8$ is divided by $x - 1$ (2000)

(ii) Find the remainder (without division) on dividing $3x^2 + 5x - 9$ by $(3x + 2)$

Answer 4

(i) Let $x - 1 = 0$, then $x = 1$

Substituting value of x in $f(x)$

$$\begin{aligned}
 f(x) &= 2x^3 - 3x^2 + 7x - 8 \\
 &= 2(1)^3 - 3(1)^2 + 7(1) - 8 \\
 &= 2 \times 1 - 3 \times 1 + 7 \times 1 - 8 = 2 - 3 + 7 - 8 \\
 &= -2
 \end{aligned}$$

∴ Remainder = 2 Ans.

(ii) Let $3x + 2 = 0$, then $3x = -2 \Rightarrow x = \frac{-2}{3}$

Substituting the value of x in $f(x)$

$$\begin{aligned}
 f(x) &= 3x^2 + 5x - 9 \\
 &= 3\left(-\frac{2}{3}\right)^2 + 5\left(-\frac{2}{3}\right) - 9 \\
 &= 3 \times \frac{4}{9} - 5 \times \frac{2}{3} - 9 = \frac{4}{3} - \frac{10}{3} - 9 \\
 &= -\frac{6}{3} - 9 = -2 - 9 = -11
 \end{aligned}$$

∴ Remainder = -11 Ans.

Home Work-

Q1.

(i) When divided by $x - 3$ the polynomials $x^2 - px^2 + x + 6$ and $2x^3 - x^2 - (p + 3)x - 6$ leave the same remainder. Find the value of 'p'

(ii) Find 'a' if the two polynomials $ax^3 + 3x^2 - 9$ and $2x^3 + 4x + a$, leaves the same remainder when divided by $x + 3$.

Q2.

(i) Show that $(x - 1)$ is a factor of $x^3 - 5x^2 - x + 5$ Hence factorise $x^3 - 5x^2 - x + 5$.

(ii) Show that $(x - 3)$ is a factor of $x^3 - 7x^2 + 15x - 9$. Hence factorise $x^3 - 7x^2 + 15x - 9$

Q3.

Use factor theorem to factorise the following polynomials completely.

(i) $x^3 + 2x^2 - 5x - 6$

(ii) $x^3 - 13x - 12$.

Q4.

Use the Remainder Theorem to factorise the following expression

(i) $2x^3 + x^2 - 13x + 6$. (2010)

(ii) $3x^2 + 2x^2 - 19x + 6$ (2012)

CLASS – 10

COMPUTER APPLICATION

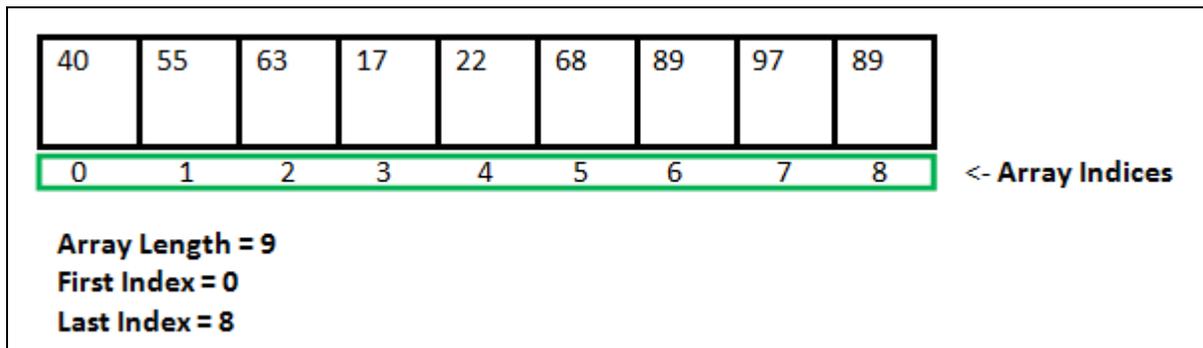
ARRAYS

Consider a situation where we need to store five integer numbers. If we use programming's simple variable and data type concepts, then we need five variables of **int** data type. It is simple, because we had to store just five integer numbers. Now let's assume we have to store 5000 integer numbers. Are we going to use 5000 variables?

To handle such situations, the programming language java provides a concept called **array**.

An **array** is used to store a collection of data, but it is often more useful to think of an array as a collection of variables of the same datatype. The elements of an array are stored in a contiguous memory location. It is a data structure where we store similar elements. We can store only a fixed set of elements in a Java array.

Array in Java is index-based, the first element of the array is stored at the 0th index, 2nd element is stored on 1st index and so on.



Types of Array in java:

There are two types of array.

- Single Dimensional Array
- Multidimensional Array

Syntax to Declare an Array in Java(Single Dimensional Array):

dataType[] arr; (or)

dataType []arr; (or)

dataType arr[];

Example:

```
int a[]; //declaring array
```

```
a = new int[25]; // allocating memory to array
```

```
// allocates memory for 25 integers
```

In Java, we can declare and allocate memory of an array in one single statement. For example,

```
int[] age = new int[5];
```

Initialize an Array During Declaration:

Example:

```
int[] age = {18, 14, 5, 2, 5};
```

Example: simple program to print elements of this array.

```
class Example
{
    public static void main(String[] args)
    {
        // create an array
        int[] age = {18, 14, 5, 2, 5};
        for (int i = 0; i < 5; ++i)
        {
            System.out.println("Element at index " + i + ": " + age[i]);
        }
    }
}
```

Output:

Element at index 0: 18

Element at index 1: 14

Element at index 2: 5

Element at index 3: 2

Element at index 4: 5

Two – dimensional Array (2D-Array):

A 2D array has a type such as `int[][]` or `String[][]`, etc, with two pairs of square brackets. The elements of a 2D array are arranged in rows and columns, and the `new` operator for 2D arrays specifies both the number of rows and the number of columns.

Method of Declaration: (Method 1)**Declaration – Syntax:**

```
data_type[][] array_name = new data_type[x][y];
```

For example: `int[][] arr = new int[15][25];`

Initialization – Syntax:

```
array_name[row_index][column_index] = value;
```

For example: `arr[0][0] = 1;`

Example (program) :

```
class Example
{
    public static void main(String[] args)
    {

        int[][] arr = new int[15][25];
        arr[0][0] = 1;

        System.out.println("arr[0][0] = " + arr[0][0]);
    }
}
```

Output:

arr[0][0] = 1

Method of Declaration: (Method 2)**Syntax:**

```
data_type[][] array_name = {  
    {valueR1C1, valueR1C2, ....},  
    {valueR2C1, valueR2C2, ....}  
};
```

For example: int[][] arr = {{1, 2}, {3, 4}};

Example(program):

```
class Example  
{  
    public static void main(String[] args)  
    {  
  
        int[][] arr = { { 1, 2 }, { 3, 4 } };  
  
        for (int i = 0; i < 2; i++)  
            for (int j = 0; j < 2; j++)  
                System.out.println("arr[" + i + "][" + j + "] = " + arr[i][j]);  
  
    }  
}
```

Output:

arr[0][0] = 1

```
arr[0][1] = 2
```

```
arr[1][0] = 3
```

```
arr[1][1] = 4
```

Accessing Elements of Two-Dimensional Arrays:

Elements in two-dimensional arrays are commonly referred by $x[i][j]$ where 'i' is the row number and 'j' is the column number.

Syntax:

```
x[row_index][column_index]
```

For example:

```
int[][] arr = new int[15][25];
```

```
arr[0][0] = 1;
```

The above example represents the element present in first row and first column.

Example(program):

```
class Example
{
    public static void main(String[] args)
    {

        int[][] arr = { { 1, 2 }, { 3, 4 } };

        System.out.println("arr[0][0] = " + arr[0][0]);
    }
}
```

Output:

```
arr[0][0] = 1
```

Representation of 2D array in Tabular Format:

A two – dimensional array can be seen as a table with 'x' rows and 'y' columns where the row number ranges from 0 to (x-1) and column number ranges from 0 to (y-1). A two – dimensional array 'x' with 3 rows and 3 columns is shown below:

	Column 0	Column 1	Column 2
Row 0	x[0][0]	x[0][1]	x[0][2]
Row 1	x[1][0]	x[1][1]	x[1][2]
Row 2	x[2][0]	x[2][1]	x[2][2]

Print 2D array in tabular format:

To output all the elements of a Two-Dimensional array, use nested for loops. For this two for loops are required, One to traverse the rows and another to traverse columns.

Example(program):

```
class Example
{
    public static void main(String[] args)
    {
        int[][] arr = { { 1, 2 }, { 3, 4 } };

        for (int i = 0; i < 2; i++)
        {
            for (int j = 0; j < 2; j++)
            {
                System.out.print(arr[i][j] + " ");
            }

            System.out.println();
        }
    }
}
```

```
}
```

Output:

1 2

3 4

ASSIGNMENT V (PART -1)

1. What is an array ?
2. Name the types of arrays.
3. Write the declaration syntax of a 1D (Single Dimensional) array.

Class X

14.05.2020

History

Factors Leading to the Growth of Nationalism and Foundation of the Indian National Congress

Growth of Nationalism

“Nationalism denotes patriotism or devotion to the nation. “One who is patriotic loves his or her country and feels very loyal towards it.

The origination of nationalism is one of the most distinguishing features of the second half of the 19th century. It originated from the concepts of nationalism and right of self-determination initiated by the French revolution, the socio-religious reform movements in India, as an offshoot of modernization introduced by the British in India, and as a reaction of the Indians to the British colonial policies.

Factors Promoting the Growth of Nationalism

Economic exploitation, repressive colonial policies, socio-religious reform movements, rediscovery of India’s past, influence of Western education, role of press, modern means of transport and communication etc., are responsible for the growth of nationalism in India.

The Economic Factors Responsible for Growth of Nationalism

1. Agricultural India was made an economic colony to serve the interests of Industrial England.
2. India was made to accept readymade British goods either duty free or at nominal duty rates, while Indian products were subjected to high import duties in England.
3. The British capital invested in Indian markets especially in railway, shipping, oil exploration, tea and coffee plantations etc, was used to get huge profits and were sent to England.

4. The export of raw materials and foodgrains deprived the country of her agricultural surplus and raised the prices of raw materials.

5. The salaries and allowances of the English, who served in the administration and the army were paid out from Indian resources.

6. The drain included the salaries, incomes and savings of the Englishmen and the British expenditure in India on the purchase of military goods, office establishment, interest on debts, unnecessary expenditure on the army, etc.

Influence of Western Education

The British introduced Western education in India through the medium of English to serve their own representatives. They wanted to train Indian people as clerks so as to run their own administration.

The British wanted to rear their culture and conquer the goodwill of the educated Indians. But it produced results, which were against their expectations.

Western education, through the study of European history, political thought and economic ideas, gave the educated Indians a rational, secular, democratic and national outlook. The slogan – ‘Equality, Liberty and Fraternity’ of the American and the French revolutions, impressed all the educated Indians.

English language played a leading part in this process. It was through this language that the Indians from different parts of the country could meet and exchange ideas. English gave them a linguistic unity.

Through Western education, social and national consciousness of Indians was awakened by the revolutionary ideas of the liberal thinkers like Rousseau, Mazzini, and Thomas Paine.

Role Of The Press And Indian Literature

Role of the Press - A large number of newspapers were started in the later half of the 18th century. Some of the prominent newspapers were The Amrit Bazar Patrika, The Bengali, The Tribune, The Pioneer, The Times of India, The Hindu and The Statesman in English. The press played an enormous role in fostering national unity and creating consciousness among the Indians.

National Literature – This period further witnessed the production of outstanding works like Bhartendu Harishchandra's play Bharat Durdasa and Bankim chandra's novel Anandamath, which has rightly been called "the Bible of modern Bengalee patriotism".

Modern Means of Transport and Communication –

The first railway line connecting Mumbai with Thane was laid down in 1853. By 1869, more than 6000 kms of railways had been built, extending to nearly 45,000 km by 1905. Besides encouraging trade and commerce, the railways facilitated the growth of nationalism.

Repressive Colonial Policies :-

Age limit for the Civil Service – In 1877, the maximum age limit for the Civil Service Examination was reduced 21 to 19. This was a calculated move to ruin the prospects of Indian candidates for the Indian Civil Service.

The Vernacular Press Act - The Vernacular Press Act (1878, introduced by Lord Lytton) forbade the vernacular papers to publish any material against the British Government. This act crushed the freedom of the Vernacular papers. This act was not applicable to English newspapers. In 1881, this was repealed by Lord Ripon.

The Indian Arms Act - The Indian Arms Act (1878) introduced by Lord Lytton. This act made it criminal offence for Indians to keep or bear arms without license.

Ilbert Bill Controversy – Lord Ripon, who succeeded Lytton, tried to reduce some grievance of the Indians. But his attempts were marred by the controversy over the ilbert bill. At that time no European could be tried for a criminal offence except by a European judge or magistrate. Lord Ripon tried to do away with this absurdity. Accordingly, a Bill was introduced in 1883 by Ilbert, the law member of the Governor General's Executive Council. The Anglo Indian community carried a wild agitation against this measure. The government ultimately withdrew the bill and negotiated a compromise. As a result, the Indian District Magistrate and judges were empowered to try European offenders on the condition that the accused were to have the benefit of trial by jury (a body of people who decide whether the accused is guilty or not). Half the members of the jury were to be Europeans or Americans.

Rediscovery of India

Sir William Jones founded the Asiatic Society of Bengal to encourage oriental studies. The Asiatic Society got many Indian classics translated into English and these translations introduced the Ancient Indian culture to the Western world.

Home Work –

1. What is meant by the term Nationalism?
2. What role did the Press play in fostering patriotism among our countrymen in the 19th century?
3. Who wrote Anandmath?
4. How far did each of the following lead to the rise and growth of nationalism in with reference to the following
 - A) Policy of economic Exploitation of the Britishers
 - B) Repressive policy of Lord Lytton.
 - C) Western thought of education.
5. What is Ilbert Bill controversy?

DREAMLAND SCHOOL
BIOLOGY - CLASS 10 (2020 – 2021)
ASSIGNMENT

DATE - 14/05/2020

CHAPTER – GENETICS – SOME BASIC FUNDAMENTALS

DETAILED EXPLANATION

- **WHAT IS GENETICS?**

Genetics is the study of transmission of body features (both similarities & differences) from parents to offspring & the laws related to such transmission.

- GREGOR MENDEL - Father of genetics.

- **WHAT IS HEREDITY?**

The term heredity can be defined as “transmission of genetically based characteristics from parents to offspring.”

- **LIKE BEGETS LIKE** – it means young ones look like their parents. For example - a mango seed germinate into a mango tree.
- Human beings as a species share many main characters & traits among them which identify them as species *Homo sapiens*.
- Yet within the same race, the individual members in the population show differences.
- Even in one family individuals show differences.
- *These small differences among individuals are called VARIATIONS.*

TWO MODERN APPLICATION OF HUMAN GENETICS

GENETIC ENGINEERING

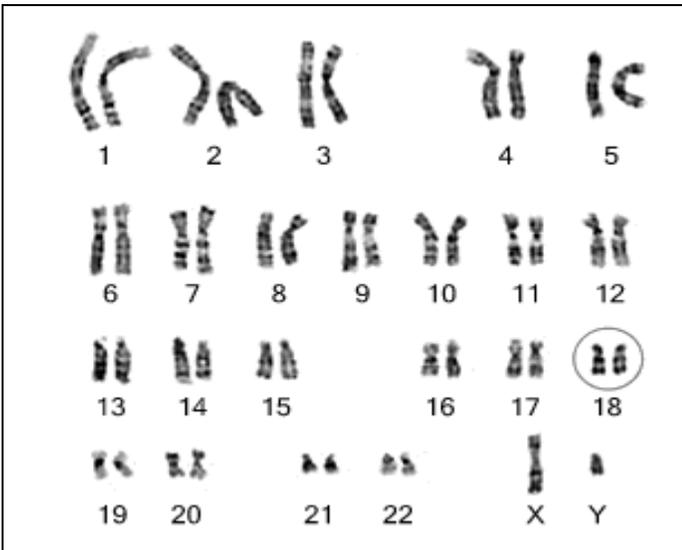
It is the deliberate alteration of the genetic material of organism. The genetically modified organism (GMO) produced is grown to multiply fast & the gene product is used in large quantity.

For example – the human gene for insulin has been introduced into bacteria in order to produce insulin. Bacteria multiplies fast & yields more amount of insulin.

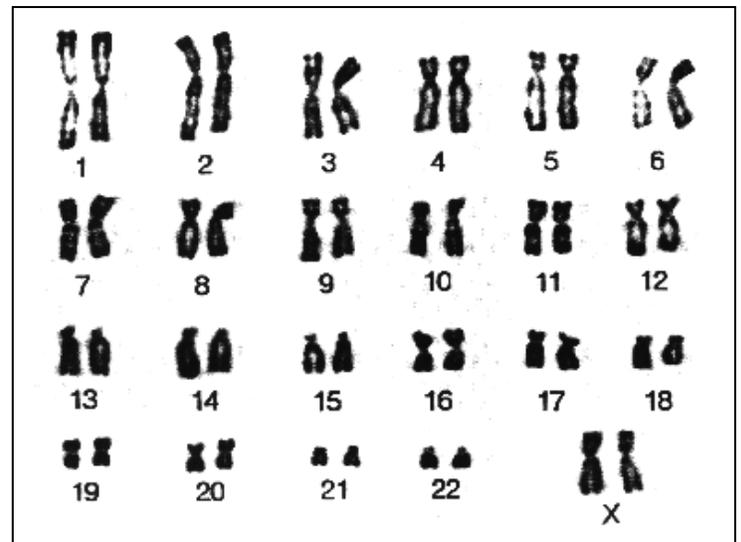
GENETIC COUNSELLING

It assists couples regarding the possibilities of any undesirable trait which their children may inherit. Some genetic diseases like haemophilia, sickle cell anaemia which can be passed on to the offspring if the parents carry the disease, can be prevented to some extent by proper genetic checking & preventive measures.

- ❖ **CHARACTER** – any heritable feature is called character.
- ❖ **TRAIT** - The alternative form of a character is called trait. For example –hair shape is a character, & curly or straight are the two alternative forms of this character which are called trait.
- Chromosomes are visible when a cell nucleus is about to divide. Photographs can be taken of these chromosomes using powered light microscope .
- Photographs can be used to artificially arrange the chromosomes according to their size & shape on a chart. This arrangement is called **karyotype**.



KARYOTYPE IN HUMAN MALE



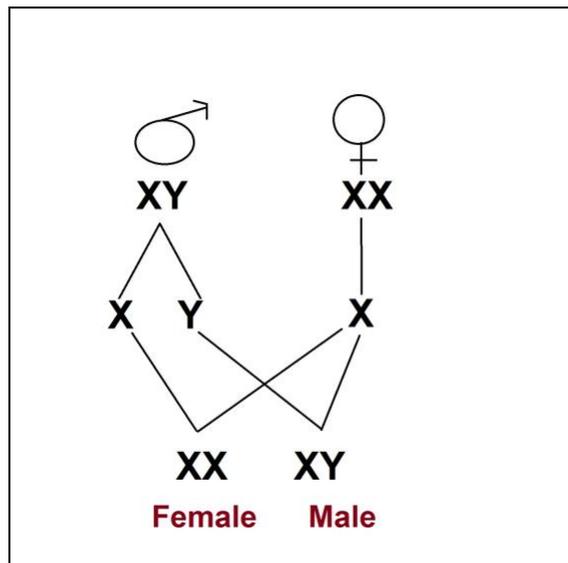
KARYOTYPE IN HUMAN FEMALE

- If you look at the above diagram you will see that there are 46 chromosomes. We can say it as 23 pairs.
- These chromosomes are present in pairs which are similar in size & shape & are derived as one each from the two parents.
- These identical pairs are called **homologous chromosomes**.
- **HOMOLOGOUS CHROMOSOMES** – A pair of corresponding chromosomes of the same shape & size, one from each parent.
- Out of the 23 pairs the 1st 22 pairs are called **autosomes** which impart body characters.
- The last pair is called sex chromosome which determines it will be male or female. Sex chromosome also called **allosome**.
- In case of female it is XX & in case of male it is XY.
- Chromosome number varies in different organism.

Animals	Number of Chromosomes
Cat	38
Lion	38
Dog	78
Elephant	58
Kingfisher	132

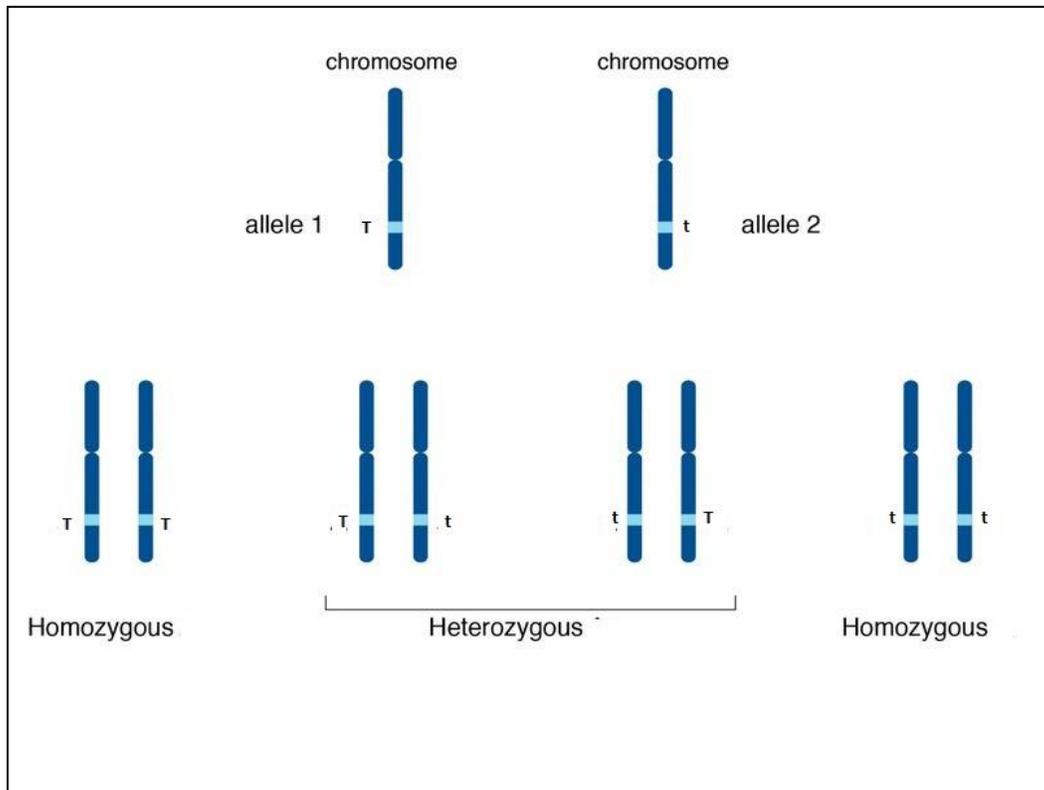
SEX DETERMINATION

- The sex of the child depends upon the kind of sperm that fertilizes the egg.
- The egg contains only one X chromosome.
- The sperm contains half X bearing chromosome & half Y bearing chromosome.
- It is a matter of chance as to which category of sperm fuses with the ovum.
- If the egg (X) is fused by X- bearing sperm , the resulting combination is **XX**, i.e., female.
- If the egg (X) is fused by Y- bearing sperm , the resulting combination is **XY**, i.e., male.
- Thus, we can say **the sex of the child depends on the father.**



SEX DETERMINATION IN HUMANS.

- Chromosomes are the carrier of genes.
- **GENES** – Genes are the specific part of the DNA segment in a chromosome , which determine the heredity of the characters.
- Every gene has two alternative forms for a character producing different effects. These alternative forms are called **alleles**. They occupy the same locus on the homologous chromosomes.
- For the character of height , there are two possibilities – one is tall , other is dwarf.
- Out of these two alleles one is dominant and the other is recessive.
- The dominant gene is represented by capital letter, T for tall.
- The recessive gene is represented by same but small form, t for dwarf.
- The two alleles together form the gene.



- In the above diagram 1 pair of homologous chromosome is shown.
- Allele 1 – **T** is present on chromosome 1 & allele 2 – **t** is present on chromosome 2.
- **T** & **t** makes the gene .
- There are 3 kinds of possibility of the occurrence of the allele.
 - 1) Both chromosomes have dominant allele **T**. hence it is homozygous condition & dominant character **tall** is expressed.
 - 2) One chromosome has the dominant form **T** & the other have the recessive form **t**. this is a heterozygous condition. Here as because the dominant form is present , the character **tall** is expressed.
 - 3) Both chromosomes have the recessive form **t**. hence it is homozygous condition & as because no dominant form is present so the recessive character **dwarf** is expressed.

ASSIGNMENT 2 (CONTINUATION)

- 6) “Sex of the child depends on the father”- justify.
- 7) Define –
 - a) karyotype
 - b) trait.
- 8) Who is the father of genetics? Differentiate between autosome & allosome.