

Business Studies Class 12

Ch-1 Human Resource Management

Q1: What is a human resources?

Q2: What is management?

Q3: What is a human resource management?

Q4: What is the importance of human resource management?

Q4: How human resource management is goal oriented?

Class 12

Economics

Ch-5 Supply and Law of Supply

Q1: What is supply?

Q2: What is law of supply?

Q3: What is individual supply?

Q4: What is market supply?

Q5: What is a supply schedule?

Q6: What is individual supply schedule?

Q7: What is market supply schedule?

Class 13
Commerce

Ch-3 Sources of Finance for a Joint Stock Company

Q1: What is a sweat equity shares?

Q2: What is retained earning?

Q3: What are the merits of retained earning?

Q4: What are the demerits of retained earnings?

Q6: What are debenture?

Q7: What are the characterstics of debentures?

class12 (Psychology) Date: 13/5/20 Chapter:1st

The main criticism against Spearman's work is that he didn't propose different types of abilities. Moreover he failed to explain group factors as his samples were small. US psychologists L. L. Thurstone did not support his theory & was of the opinion that intelligence is a single ability. His theory is known as multifactor theory. He said that intelligence is a combination of many factors. His theory had clearly defined test categories & types of test items to be included. Several test batteries have been made on the basis of this theory.

Questions:

- a) Define PMA.
- b) What is verbal factor?
- c) State one difference between Spearman & Thurstone theory.

Class12 Political Science Class-Wednesday(13/5/20)

Chapter-Fundamental Rights

Part III of the Constitution deals with fundamental rights. The fundamental rights is a detailed one & each right in turn cover several rights. The Constitution of India doesn't recognise any unremunerated rights on the contrary it contains both negative & positive rights. It is to be noted that our Constitution doesn't include any social & economic rights like right to work, right to leisure etc. Moreover while granting the rights it made a difference between the Citizens & aliens & rights contains restrictions. The Parliament can change the right if necessary & during Emergencies these rights are suspended.

Question (Long)

Discuss any six nature of Fundamental Rights of India elaborately.

GEOGRAPHY
CLASS XII
CHAPTER 8 (part 2)

Migration trends: Basic concepts

2. Internal migration:-

Internal migration or Domestic migration is human migration within one geopolitical entity, usually a nation-state. Internal migration tends to be travel for education and for economic improvement or because of a natural disaster or civil disturbance.

Reasons for Migration:-

Nowadays, many people decide to migrate to have a better life. Employment opportunities are the most common reason due to which people migrate. Except this, lack of opportunities, better education, construction of dams, globalization, natural disaster (flood and drought) and sometimes crop failure forced villagers to migrate to cities.

Economic Factors

Economic migration, whether permanent or seasonal, is a common reason for migration. In general, it is believed that in economic migration people move from poorer developing areas into richer areas where **wages** are higher and more **jobs** are available. It is also common for people from rural areas to move to urban areas in order to find more opportunities.

Environmental Factors

Migration caused by environmental factors is increasingly involuntary. Environmental factors cause *displacement*, or the forced movement of people by social or environmental factors. In the case of draught **Crop failure** for example, often results in both food scarcity and a drop in agricultural jobs, prompting people to move to a place with better job opportunities and climate. **Pollution** of water, air and soil or tsunami, earthquake, flood etc in both urban and rural settings can also create a serious health risk to locals, forcing them to look for a better life for themselves and their children.

Social Factors

Social factors motivating migration grow from the human needs and desires to achieve a better quality of life. Migrants often move to ensure better **opportunities** for themselves or their family, like sending their child to a better, safer school or finding a job that would have not only a sufficient salary, but also important benefits and career growth prospects. Individuals can also migrate in search of **services**, such as life-saving surgery and medical treatment that are inaccessible in their home area. For women in different country have to migrate after marriage.

Difference between intrastate and interstate migration:-

- i) These are prefixes that are from their Latin roots, *intra-* is a prefix that means within and *inter-* is a prefix that means between or among.
- ii) Intrastate migration means migration taken place within the current state and Interstate migration means migration taken place across two or more than two different states.

Consequences of Migration

Migration is becoming a very important subject for the life of cities. Many opportunities and attraction of big cities pull large numbers of people to big cities. Migration can have positive as well as negative effects on the demographic, social, economical life of the migrants as well as on environment around us.

Positive Impact

- Unemployment is reduced and people get better job opportunities.
- Migration helps in improving the quality of life of people.
- It helps to improve social life of people as they learn about new culture, customs, and languages which helps to improve brotherhood among people.
- Migration of skilled workers leads to a greater economic growth of the region.
- Children get better opportunities for higher education.
- The population density is reduced and the birth rate decreases.

Negative Impact

- The loss of a person from rural areas, impact on the level of output and development of rural areas.
- The influx of workers in urban areas increases competition for the job, houses, school facilities etc.
- Having large population puts too much pressure on natural resources, amenities and services.
- It is difficult for a villager to survive in urban areas because in urban areas there is no natural environment and pure air. They have to pay for each and everything.
- Migration changes the population of a place, therefore, the distribution of the population is uneven in India.
- Many migrants are completely illiterate and uneducated, therefore, they are not only unfit for most jobs, but also lack basic knowledge and life skills.
- Poverty makes them unable to live a normal and healthy life.
- Children growing up in poverty have no access to proper nutrition, education or health.
- Migration increased the slum areas in cities which increase many problems such as unhygienic conditions, crime, pollution etc.
- Sometimes migrants are exploited.
- Migration is one of the main causes of increasing nuclear family where children grow up without a wider family circle.

Home Assignment 8(Part 2):-

1. Differentiate between interstate and intrastate migration.
2. Write any two reasons for migration.
3. Write any two social and environmental consequences of migration.

**CLASS – 12
COMPUTER SCIENCE**

ARRAYS

Sorting:

Sorting is the process of arranging the elements of an array so that they can be placed either in ascending or descending order. In other words, a sorted array is an array that is in a particular order. For example, [a,b,c,d] is sorted alphabetically, [1,2,3,4,5] is a list of integers sorted in increasing order, and [5,4,3,2,1] is a list of integers sorted in decreasing order.

Bubble Sort:

Bubble sort is a comparison-based algorithm that compares each pair of elements in an array and swaps them if they are out of order until the entire array is sorted. For each element in the list, the algorithm compares every pair of elements.

Here are the steps for sorting an array of numbers from least to greatest:

Example:

- **4 2 1 5 3**: The first two elements are in the wrong order, so we swap them.
- **2 4 1 5 3**: The second two elements are in the wrong order too, so we swap.
- **2 1 4 5 3**: These two are in the right order, $4 < 5$, so we leave them alone.
- **2 1 4 5 3**: Another swap.
- **2 1 4 3 5**: Here's the resulting array after one iteration.

Because at least one swap occurred during the first pass (there were actually three), we need to go through the whole array again and repeat the same process.

By repeating this process, until no more swaps are made, we'll have a sorted array.

Example (Program):

```
class Bubble
{
    void bubbleSort(int arr[])
    {
        int n = arr.length;
        for (int i = 0; i < n-1; i++)
            for (int j = 0; j < n-i-1; j++)
                if (arr[j] > arr[j+1])
                {
                    // swap temp and arr[i]
                    int temp = arr[j];
                    arr[j] = arr[j+1];
                    arr[j+1] = temp;
                }
    }
    // Prints the array
    void printArray(int arr[])
    {
        int n = arr.length;
        for (int i=0; i<n; ++i)
```

```

        System.out.print(arr[i] + " ");
    System.out.println();
}
public static void main(String args[])
{
    Bubble ob = new Bubble();
    int arr[] = {74, 44, 35, 22, 33, 22, 95};
    ob.bubbleSort(arr);
    System.out.println("Sorted array");
    ob.printArray(arr);
}
}

```

Selection Sort:

The selection sort is a combination of searching and sorting. The selection sort works as follows:

you look through the entire array for the smallest element, once you find it you swap it (the smallest element) with the first element of the array. Then you look for the smallest element in the remaining array (an array without the first element) and swap it with the second element. Then you look for the smallest element in the remaining array (an array without first and second elements) and swap it with the third element, and so on.

With every iteration of selection sort, an element is picked from the unsorted subarray and moved to the sorted subarray.

Example.

29, 64, 73, 34, **20**,
 20, **64**, 73, 34, **29**,
 20, 29, **73**, **34**, 64

20, 29, 34, **73**, **64**
20, 29, 34, 64, 73

Example (Program):

```
class Selection
{
    void sort(int arr[])
    {
        int n = arr.length;
        // One by one move boundary of unsorted subarray
        for (int i = 0; i < n-1; i++)
        {
            // Find the minimum element in unsorted array
            int min_idx = i;
            for (int j = i+1; j < n; j++)
                if (arr[j] < arr[min_idx])
                    min_idx = j;
            // Swap the found minimum element with the first
            // element
            int temp = arr[min_idx];
            arr[min_idx] = arr[i];
            arr[i] = temp;
        }
    }
}
```

```

    }
    // Prints the array
    void printArray(int arr[])
    {
        int n = arr.length;
        for (int i=0; i<n; ++i)
            System.out.print(arr[i]+" ");
        System.out.println();
    }
    public static void main(String args[])
    {
        Selection ob = new Selection();
        int arr[] = {65,26,15,23,12};
        ob.sort(arr);
        System.out.println("Sorted array");
        ob.printArray(arr);
    }
}

```

ASSIGNMENT VI (PART – 3)

6. Describe bubble sorting with an example.
7. what is selection sorting?

L'Hospital's Rule

Limits (By L'Hospital's Rule)

If $\lim_{x \rightarrow a} \frac{f(x)}{g(x)} = \frac{f(a)}{g(a)} = \left(\frac{0}{0}\right)$ or $\left(\frac{\infty}{\infty}\right)$

then we differentiate $f(x)$ and $g(x)$ so long till we get $\frac{0}{0}$ or $\frac{\infty}{\infty}$ form at $x=a$. But as we get one of the derivatives different from 0 or ∞ at $x=a$, we stop differentiating.

Ex 1 Evaluate $\lim_{x \rightarrow 1} \left(\frac{x}{x-1} - \frac{1}{\log x} \right)$

Ans. $\lim_{x \rightarrow 1} \left(\frac{x}{x-1} - \frac{1}{\log x} \right)$
 $= \lim_{x \rightarrow 1} \frac{x \log x - x + 1}{(x-1) \log x} \left[\left(\frac{1 \cdot \log 1 - 1 + 1}{(1-1) \log 1} \right) = \left(\frac{0}{0} \right) \right]$

By L'Hospital's Rule get

$$\lim_{x \rightarrow 1} \frac{1 \cdot \log x + \frac{x-1}{x} - 1}{(1) \log x + \frac{(x-1)}{x}} \left(\frac{0}{0} \right)$$

Again by L'Hospital's Rule we get

$$\lim_{x \rightarrow 1} \frac{\frac{1}{x}}{\frac{1}{x} + \left(\frac{x - (x-1)}{x^2} \right)}$$

$$= \lim_{x \rightarrow 1} \frac{1}{\frac{x}{x+1}} = \lim_{x \rightarrow 1} \frac{x}{x+1} = \frac{1}{2} \text{ Ans}$$

Ex 2 Evaluate $\lim_{x \rightarrow \frac{\pi}{2}} (\cos x \cdot \log \tan x)$

Ans $\lim_{x \rightarrow \frac{\pi}{2}} (\cos x \cdot \log \tan x)$

$$= \lim_{x \rightarrow \frac{\pi}{2}} \frac{\log \tan x}{\sec x} \left(\frac{\infty}{\infty} \right)$$

Applying L'Hospital's rule we get

$$= \lim_{x \rightarrow \frac{\pi}{2}} \frac{(\sec x)}{\tan x \cdot \sec^2 x}$$

$$= \lim_{x \rightarrow \frac{\pi}{2}} \frac{\sec x}{\tan^2 x} \left(\frac{\infty}{\infty} \right)$$

Again by L'Hospital's rule we get

$$= \lim_{x \rightarrow \frac{\pi}{2}} \frac{\sec x \tan x}{2 \tan x \cdot \sec^2 x}$$

$$= \lim_{x \rightarrow \frac{\pi}{2}} \frac{1}{2} \cos x = 0 \text{ Ans}$$

H.W (1) Find $\lim_{x \rightarrow 0} \left(\frac{e^x - e^{-x} - 2x}{x - \sin x} \right)$

(2) Find $\lim_{x \rightarrow 0} \frac{x - \sin x}{x^2 - \sin x}$

(3) Find $\lim_{x \rightarrow 0} \left(\frac{1}{x^2} - \frac{\cot x}{x} \right)$

DREAMLAND SCHOOL
BIOLOGY - CLASS 12 (2020 -2021)
ASSIGNMENT

DATE –13/05/2020

CHAPTER – HUMAN REPRODUCTION

EXPLANATION

IMPORTANT FEATURES OF HUMAN EMBRYONIC DEVELOPMENT

- Immediately after implantation occurs , the three germ layers are formed by further differentiation.
- The inner cell mass contains cells called **stem cells** which have the potency to give rise to all the tissues & organs.
- The human pregnancy lasts 9 months.
- After **1 month** of pregnancy the embryo heart is formed.
- The first sign of growing foetus may be noticed by listening to the heart sound carefully through the stethoscope.
- By **the end of 2nd month** of pregnancy, the foetus develops limbs & digits.
- By **the end of 12 weeks (first trimester)** , most of the major organ system are formed, for example – the limbs & external genital organs are well developed.
- The first movement of the foetus & appearance of hair on the head are usually observed during **the 5th month**.
- By **the end of 24 weeks (second trimester)** the body is covered with fine hair , eye-lids separate & eyelashes are formed.
- By the end of 9 months of pregnancy the foetus is fully formed & is ready for delivery.

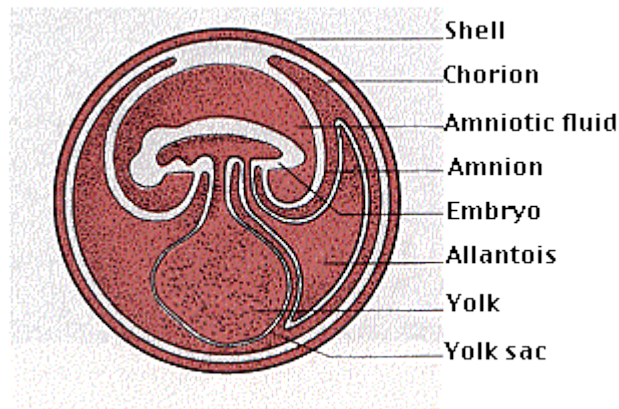
EMBRYONIC OR FOETAL MEMBRANES

Foetal membranes are extra-embryonic membranes that provide protection & nourishment to the developing foetus. These are-

- 1) **AMNION** – it develops above the embryo. It consist of trophoblast inside & mesoderm outside. The amnion & the **fluid filled amniotic cavity** enlarge & nearly surround the embryo. The embryo is suspended in the amniotic cavity by a thick **umbilical cord**, which is attached to the mid-gut region of the embryo. The main blood vessels from the placenta reach the foetus through the umbilical cord. The amnion protects the embryo from injury. The amniotic fluid absorbs shock & prevents desiccation of the embryo.
- 2) **ALLANTOIS** – while the amniotic cavity is being formed another cavity develops. This arises as an outgrowth from the hindgut which pushes its way into the extra embryonic coelom. This is known as allantois.
- 3) **CHORION** – it completely surrounds the developing embryo. It is composed of trophoblast outside & mesoderm on the inner side.

The lining of allantois fuses with the mesoderm of the chorion to form **allanto-chorion**. It is a most important layer which plays major part in the embryonic respiration, excretion, & nutrition by developing into a placenta

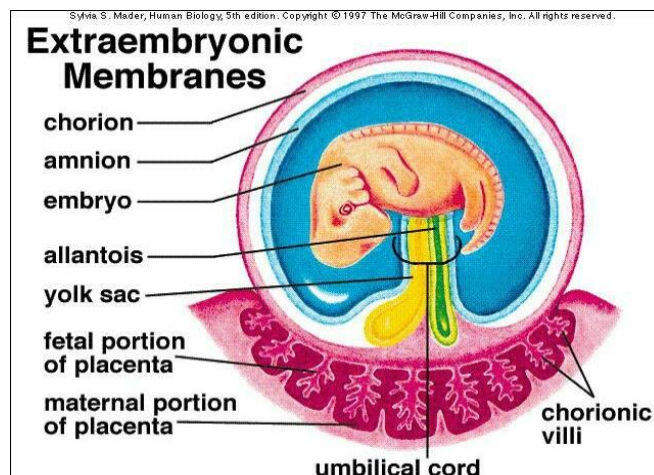
- 4) **YOLK SAC** - it develops below the embryo. It serves as the **site of early blood cells formation** until about 6 weeks when the liver takes over the role.



EXTRA – EMBRYONIC MEMBRANES

PLACENTA

- Placenta is a temporary organ formed in placental mammals & is the only organ which is derived from two different individuals , the foetus & the mother.
- A large number of finger like outgrowths , the villi are produced. The uterine wall in contact with this area forms several depressions called **crypts**.
- This intimate connection between the foetal membranes & the uterine wall is known as **placenta**.
- In the placenta , foetal blood comes in contact with the maternal blood. This results in the exchange of materials. Food & oxygen pass from the maternal blood into the foetal blood & the wastes from the fetus pass into the maternal blood.



EXTRA EMBRYONIC MEMBRANE ALONG WITH PLACENTA

FUNCTION OF PLACENTA –

- 1) **Nutrition** – placenta brings about the transportation of nutrients from maternal blood into the foetus.
- 2) **Respiration** – helps in the exchange of oxygen & CO₂ between foetus & the mother. Oxygen from maternal blood diffuses into the foetus blood. Similarly, diffusion of CO₂ from foetus to the maternal blood is also facilitated.
- 3) **Excretion** – the nitrogenous waste products produced as a result of metabolic activities of the embryo diffuse through placenta into maternal blood.
- 4) **Immunity** – the antibodies developed in the blood of mother against certain diseases like diphtheria, measles, etc., are passed from mother into the foetus. These introduce passive immunity & insusceptibility to these diseases.
- 5) **Transport of drugs** – some drugs taken by mother during pregnancy cross the placental barrier & may even cause developmental deformities.
- 6) **Storage of substances** – placenta stores materials such as fat, glycogen, & iron & participates in the metabolism of proteins.
- 7) **Acts as endocrine gland** – it produces several hormones like human chorionic gonadotropin (hCG), placental lactogen, estrogen, progesterone etc. in the later phase of pregnancy, a hormone called relaxin is also secreted by the ovary. The increased level of these hormones is essential for supporting the foetal growth, metabolic changes in the mother & maintenance of pregnancy.

PARTURITION (BIRTH)

- The average duration of human pregnancy is about 9 months which is called gestation period.
- Vigorous contraction of the uterus at the end of pregnancy causes delivery of the foetus. This process of delivery of foetus is called parturition.
- The signals for parturition originate from the fully developed foetus & the placenta which induce mild uterine contraction called **foetal ejection reflex**.
- This triggers release of **oxytocin** maternal pituitary, which acts on the uterine muscle & causes stronger uterine contraction, which in turn stimulates further secretion of oxytocin.
- The stimulatory reflex between the uterine contraction & oxytocin secretion continues resulting in stronger & stronger contraction.
- This leads to expulsion of the baby out of the uterus through the birth canal.
- The hormone **relaxin** relaxes the cervix & ligaments of the pelvic girdle for easy birth of the young one.
- Soon after the infant is delivered, the placenta is also expelled out of the uterus.

LACTATION

The mammary glands of the female undergo differentiation during pregnancy & starts producing milk towards the end of pregnancy by the process called **lactation**.

The milk produced during the initial few days of lactation is called **colostrum**, which contains several antibodies absolutely essential for developing resistance in the new born baby.

ASSIGNMENT 4 (CONTINUATION)-

- 1) Explain parturition with its hormonal control.
- 2) What is colostrum? Why is it important?
- 3) State the function of amniotic fluid & yolk sac.

MOUMITA GANGULY

CHAPTER-3: POTENTIAL AND POTENTIAL ENERGY (2nd CLASS)

Potential energy of a system of two point charges. Suppose a point charge q_1 is at rest at a point P_1 in space, as shown in Fig. 2.29. It takes no work to bring the first charge q_1 because there is no field yet to work against.

$$\therefore W_1 = 0$$

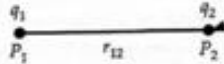


Fig. 2.29 P.E. of two point charges.

Electric potential due to charge q_1 at a point P_2 at distance r_{12} from P_1 will be

$$V_1 = \frac{1}{4\pi\epsilon_0} \cdot \frac{q_1}{r_{12}}$$

If charge q_2 is moved in from infinity to point P_2 , the work required is

$$\begin{aligned} W_2 &= \text{Potential} \times \text{charge} \\ &= V_1 \times q_2 = \frac{1}{4\pi\epsilon_0} \cdot \frac{q_1 q_2}{r_{12}} \end{aligned}$$

As the work done is stored as the potential energy of the system ($q_1 + q_2$), so

$$U = W_1 + W_2 = \frac{1}{4\pi\epsilon_0} \cdot \frac{q_1 q_2}{r_{12}}$$

Potential energy of a system of N point charges. The expression for the potential energy of N point charges can be written as

$$U = \frac{1}{4\pi\epsilon_0} \sum_{\text{all pairs}} \frac{q_i q_j}{r_{ij}} = \frac{1}{2} \cdot \frac{1}{4\pi\epsilon_0} \sum_{i=1}^N \sum_{\substack{j=1 \\ i \neq j}}^N \frac{q_i q_j}{r_{ij}}$$

As double summation counts every pair twice, to avoid this the factor $1/2$ has been introduced.

Potential energy of a dipole placed in a uniform electric field. As shown in Fig. 2.32, consider an electric dipole placed in a uniform electric field \vec{E} with its dipole moment \vec{p} making an angle θ with the field. Two equal and opposite forces $+q\vec{E}$ and $-q\vec{E}$ act on its two ends. The two forces form a couple. The torque exerted by the couple will be

$$\tau = qE \times 2a \sin \theta = pE \sin \theta$$

where $q \times 2a = p$ is the dipole moment.

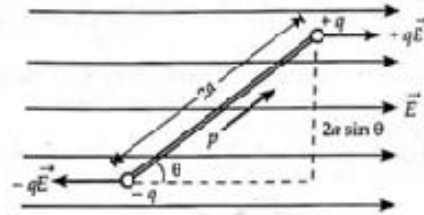


Fig. 2.32 Torque on a dipole in a uniform electric field.

If the dipole is rotated through a small angle $d\theta$ against the torque acting on it, then the small work done is

$$dW = \tau d\theta = pE \sin \theta d\theta$$

The total work done in rotating the dipole from its orientation making an angle θ_1 with the direction of the field to θ_2 will be

$$\begin{aligned} W &= \int dW = \int_{\theta_1}^{\theta_2} pE \sin \theta d\theta \\ &= pE [-\cos \theta]_{\theta_1}^{\theta_2} = pE (\cos \theta_1 - \cos \theta_2) \end{aligned}$$

This work done is stored as the potential energy U of the dipole.

$$\therefore U = pE (\cos \theta_1 - \cos \theta_2)$$

ASSIGNMENT-10

CHAPTER-3: POTENTIAL AND POTENTIAL ENERGY (2nd CLASS)

(F.M.-10)

Answer the following questions

(Question No-1 carries 1 mark, 2 carries 2 marks, 3 carries 3 marks, 4 carries 4 marks)

1. What is the condition for maximum potential energy?
2. What is the basic difference between electric potential and potential energy?
3. (i) Calculate the mathematical form of work done in an electric dipole in electric field.
(ii) Define its maximum and minimum condition from this equation.
4. (i) Write the important properties of equipotential surfaces.
(ii) Write the physical interpretation of electric potential.