

Class 12 9/05/2020

Business studies

Ch-14 Staff Communication

Q1: What is communication?

Q2: What are the importance of communication?

Q3: What are the objectives of communication?

Q4: What is a communication cycle?

Q5: Explain the different elements of communication?

Q6: Explain brain drain?

Class12 (History) Friday Class (date:9/5/20)

Chapter:Decolonisation

Nkrumah happened to be the first Prime Minister of Ghana & he had studied abroad. He founded the West African National Secretariat to work for decolonisation of Africa. He was a socialist & faced many hurdles as the PM like-how to govern,how to win his nations's complete independence etc. By March 1960 Ghana became independent & the Constitution was ratified & he became the President. He created a welfare state & exports doubled. A dam on Volta river was made for irrigation & hydroelectricity. Government funds were duly utilised for villages & he supported the Pan African Movement.

Questions:

- a) What had been the purpose of Organisation of African Unity?
- b) State the 3 obstacles as faced by Nkrumah.
- c) Which organisation was set up by Nkrumah to work for decolonisation of Africa?

DREAMLAND SCHOOL
PSYCHOLOGY - CLASS XII (2020 – 2021)
ASSIGNMENT -5

DATE-09/05/2020(Saturday)

CHAPTER – PERSONALITY

Quick review of the chapter-

HUMANISTIC THEORIES OF PERSONALITY :-

- **Humanistic** psychologists try to see people's lives as those people would see them. They tend to have an optimistic perspective on human nature. They focus on the ability of human beings to think consciously and rationally, to control their biological urges, and to achieve their full potential.

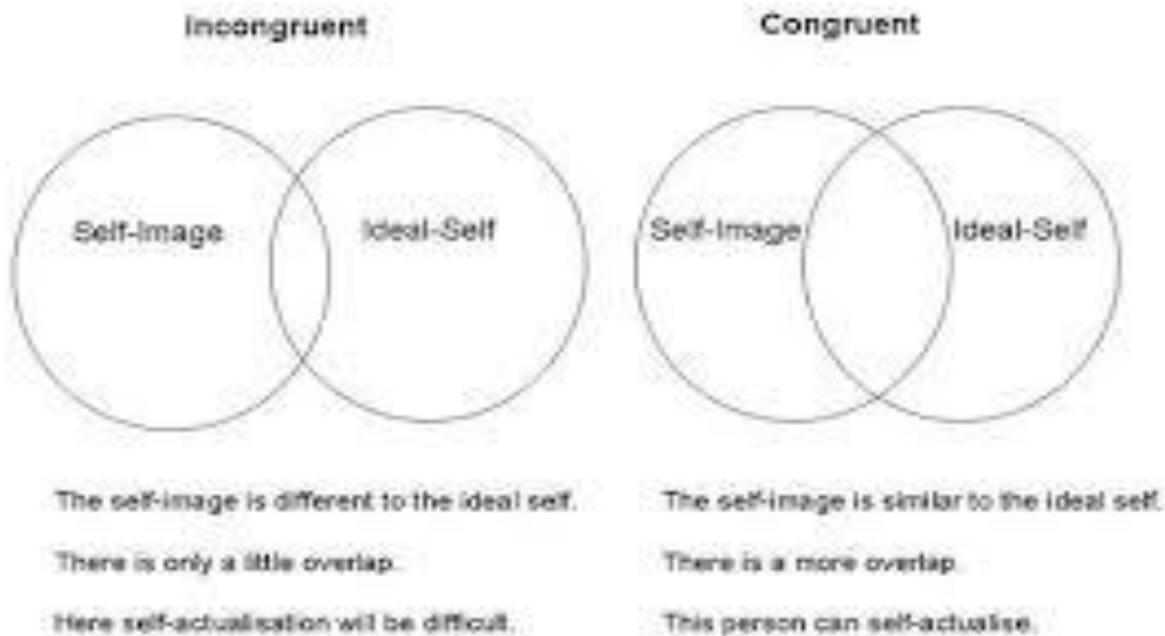
- Rogers rejected the deterministic nature of both psychoanalysis and behaviourism and maintained that we behave as we do because of the way we perceive our situation. **"As no one else can know how we perceive, we are the best experts on ourselves."**

1. Rogers' Humanistic Theory of Personality

Carl Rogers(1902-1987) was a prominent psychologist and one of the founding members of the humanist movement. Along with Abraham Maslow, he focused on the **growth potential of healthy** individuals and greatly contributed to our understanding of the self and personality. Both Rogers' and Maslow's theories focus on **individual choices** and do not hold that biology is deterministic. **They emphasized free will and self-determination, with each individual desiring to become the best person they can become.**

- Carl Rogers believed that humans have one basic motive, that is the tendency to **self-actualize** - i.e., to fulfill one's potential and achieve the highest level of 'human-beingness' we can.
- They become destructive only when a poor self-concept or external constraints override the valuing process. Carl Rogers believed that for a person to achieve self-actualization they must be in a state of **congruence**.
- This means that self-actualization occurs when a person's "ideal self" (i.e., who they would like to be) is congruent with their actual behaviour (self-image).
- **Congruence and Incongruence-**
 - A person's ideal self may not be consistent with what actually happens in life and experiences of the person. Hence, a difference may exist between a person's ideal self and actual experience. This is called incongruence.

 - Where a person's ideal self and actual experience are consistent or very similar, a state of congruence exists. Rarely, if ever, does a total state of congruence exist; all people experience a certain amount of incongruence.



Ideal Self vs. Real Self

- Rogers further divided the self into two categories: the ideal self and the real self. The *ideal self* is the person that you would like to be; the *real self* is the person you actually are. Rogers focused on the idea that we need to achieve consistency between these two selves. We experience *congruence* when our thoughts about our real self and ideal self are very similar—in other words, when our self-concept is accurate. High congruence leads to a greater sense of self-worth and a healthy, productive life. Conversely, when there is a great discrepancy between our ideal and actual selves, we experience a state Rogers called *incongruence*, which can lead to maladjustment.
- The development of congruence is dependent on unconditional positive regard. Carl Rogers believed that for a person to achieve self-actualization they must be in a state of congruence.
- According to Rogers, we want to feel, experience and behave in ways which are consistent with our self-image and which reflect what we would like to be like, our ideal-self.
- The closer our self-image and ideal-self are to each other, the more consistent or congruent we are and the higher our sense of self-worth. A person is said to be in a state of incongruence if some of the totality of their experience is unacceptable to them and is denied or distorted in the self-image.
- Incongruence is "a discrepancy between the actual experience of the organism and the self-picture of the individual insofar as it represents that experience.

The Good Life”

Rogers described life in terms of principles rather than stages of development. These principles exist in fluid processes rather than static states. He claimed that a fully functioning person would continually aim to fulfill his or her potential in each of these processes, achieving what he called “*the good life.*” These people would allow personality and self-concept to emanate from experience. He found that fully functioning individuals had several traits or tendencies in common:

1. A growing openness to experience—they move away from defensiveness.
2. An increasingly existential lifestyle—living each moment fully, rather than distorting the moment to fit personality or self-concept.
3. Increasing organismic trust—they trust their own judgment and their ability to choose behavior that is appropriate for each moment.

4. Freedom of choice—they are not restricted by incongruence and are able to make a wide range of choices more fluently. They believe that they play a role in determining their own behavior and so feel responsible for their own behavior.
5. Higher levels of creativity—they will be more creative in the way they adapt to their own circumstances without feeling a need to conform.
6. Reliability and constructiveness—they can be trusted to act constructively. Even aggressive needs will be matched and balanced by intrinsic goodness in congruent individuals.
7. A rich full life—they will experience joy and pain, love and heartbreak, fear and courage more intensely.

Criticisms of Rogers' Theories

Like Maslow's theories, Rogers' were criticized for their lack of empirical evidence used in research. The holistic approach of humanism allows for a great deal of variation but does not identify enough constant variables to be researched with true accuracy. Psychologists also worry that such an extreme focus on the subjective experience of the individual does little to explain or appreciate the impact of society on personality development.

2. Maslow's Humanistic Theory of Personality

Maslow's humanistic theory of personality states that people achieve their full potential by moving from basic needs to self-actualization.

Often called the "third force" in psychology, humanism was a reaction to both the pessimistic determinism of psychoanalysis, with its emphasis on psychological disturbance, and to the behaviorists' view of humans passively reacting to the environment.

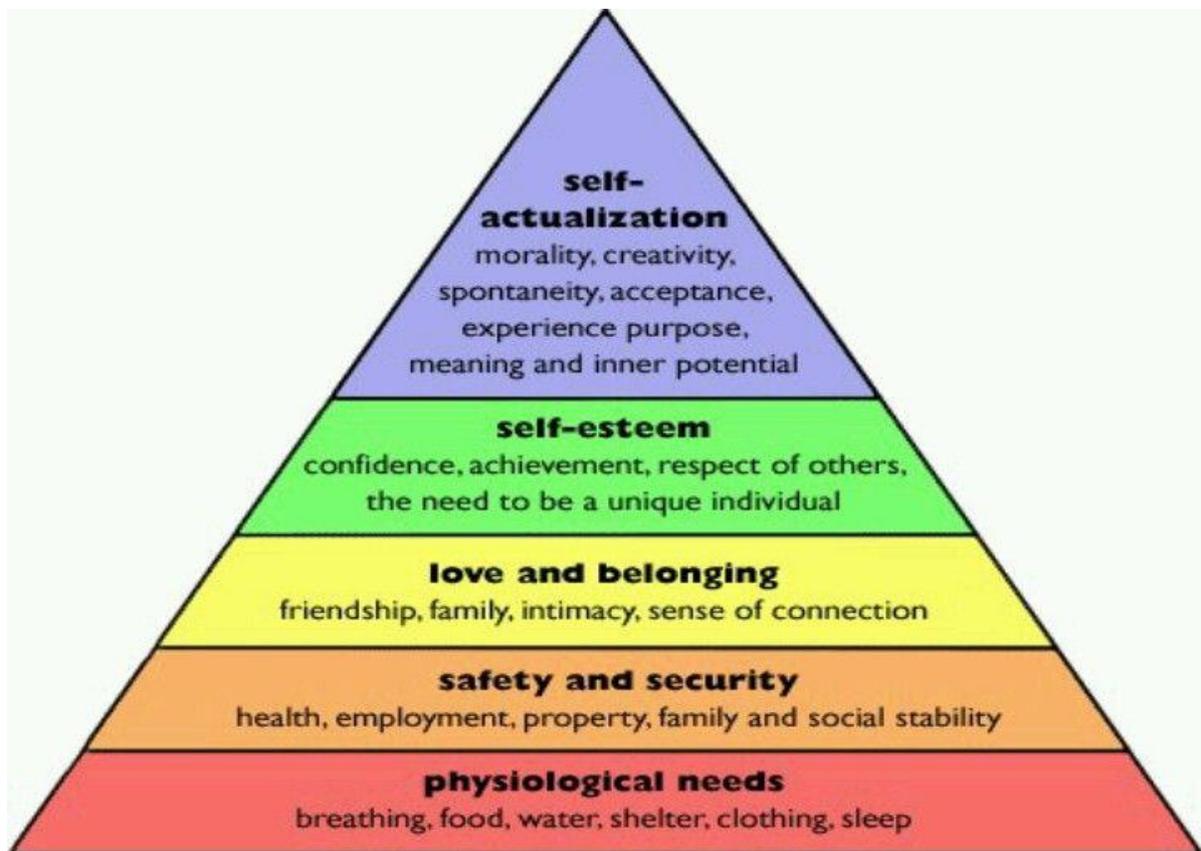
Abraham Maslow's Humanism

As a leader of humanistic psychology, Abraham Maslow approached the study of personality psychology by focusing on subjective experiences and free will. He was mainly concerned with an individual's innate drive toward self-actualization—a state of fulfillment in which a person is achieving at his or her highest level of capability. Maslow positioned his work as a vital complement to that of Freud, saying: "It is as if Freud supplied us the sick half of psychology and we must now fill it out with the healthy half."

In his research, Maslow studied the personalities of people who he considered to be healthy, creative, and productive, including Albert Einstein, Eleanor Roosevelt, Thomas Jefferson, Abraham Lincoln, and others. He found that such people share similar characteristics, such as being open, creative, loving, spontaneous, compassionate, concerned for others, and accepting of themselves.

Personality and the Hierarchy of Needs

Maslow is perhaps most well-known for his hierarchy of needs theory, in which he proposes that human beings have certain needs in common and that these needs must be met in a certain order. These needs range from the most basic physiological needs for survival to higher-level self-actualization and transcendence needs. Maslow's hierarchy is most often presented visually as a pyramid, with the largest, most fundamental physiological needs at the bottom and the smallest, most advanced self-actualization needs at the top. Each layer of the pyramid must be fulfilled before moving up the pyramid to higher needs, and this process is continued throughout the lifespan.



Maslow believed that successful fulfillment of each layer of needs was vital in the development of personality. The highest need for self-actualization represents the achievement of our fullest potential, and those individuals who finally achieved self-actualization were said to represent optimal psychological health and functioning. Maslow stretched the field of psychological study to include fully-functional individuals instead of only those with psychoses, and he shed a more positive light on personality psychology.

Characteristics of Self-Actualizers

Maslow viewed self-actualizers as the supreme achievers in the human race. He studied stand-out individuals in order to better understand what characteristics they possessed that allowed them to achieve self-actualization. In his research, he found that many of these people shared certain personality traits.

Most self-actualizers had a great sense of awareness, maintaining a near-constant enjoyment and awe of life. They often described *peak experiences* during which they felt such an intense degree of satisfaction that they seemed to transcend themselves. They actively engaged in activities that would bring about this feeling of unity and meaningfulness. Despite this fact, most of these individuals seemed deeply rooted in reality and were active problem-seekers and solvers. They developed a level of acceptance for what could not be changed and a level of spontaneity and resilience to tackle what could be changed. Most of these people had healthy relationships with a small group with which they interacted frequently. According to Maslow, self-actualized people indicate a *coherent personality syndrome* and represent optimal psychological health and functioning.

Criticism of Maslow's Theories

Maslow's ideas have been criticized for their lack of scientific rigor. As with all early psychological studies, questions have been raised about the lack of empirical evidence used in his research. Because of the subjective nature of the study, the holistic approach allows for a great deal of variation but does not

identify enough constant variables in order to be researched with true accuracy. Psychologists also worry that such an extreme focus on the subjective experience of the individual does little to explain or appreciate the impact of society on personality development. Furthermore, the hierarchy of needs has been accused of cultural bias—mainly reflecting Western values and ideologies. Critics argue that this concept is considered relative to each culture and society and cannot be universally applied.

Assignment Questions-

1. What are humanistic theories of personality.
2. Explain the Humanistic theory concept by Carl Rogers.
3. Explain the steps for attainment of “Good Life” by Rogers.
4. What criticism of Maslow’s Need theory.
5. Explain the Need Theory of Maslow with suitable example.

Madhubanti banerjee

GEOGRAPHY
CLASS XII
CHAPTER 7 (NUMERICALS)

$$\textcircled{1} \text{ DENSITY OF POPULATION} \rightarrow \frac{\text{TOTAL POPULATION}}{\text{TOTAL AREA}}$$

FOR EXAMPLE:-

DENSITY OF POPULATION
OF INDIA

INDIA'S TOTAL POPULATION (CENSUS 2011) \rightarrow 1210.10 million

TOTAL AREA OF INDIA \rightarrow 3.17 million sq. km.

$$\begin{aligned} \therefore \text{DENSITY OF POPULATION} &\rightarrow \frac{\text{TOTAL POPULATION}}{\text{TOTAL AREA}} \\ &= \frac{1210.10}{3.17} = 382 \text{ persons/sq. km.} \end{aligned}$$

$$\textcircled{2} \text{ INDEX OF CONCENTRATION} \rightarrow \frac{\text{TOTAL POPULATION OF A STATE / UNION TERRITORY}}{\text{TOTAL POPULATION OF INDIA}} \times 100$$

FOR EXAMPLE \rightarrow INDEX OF CONCENTRATION OF UTTAR PRADESH

TOTAL POPULATION OF UP (CENSUS 2011) = 199.5 million

TOTAL POPULATION OF INDIA (CENSUS 2011) = 1210.10 million

$$\begin{aligned} \therefore \text{INDEX OF CONCENTRATION} &\rightarrow \frac{\text{TOTAL POPULATION OF UP}}{\text{TOTAL POPULATION OF INDIA}} \times 100 \\ &\rightarrow \frac{199.5}{1210.10} \times 100 \\ &\rightarrow 16.5\% \end{aligned}$$

③ POPULATION GROWTH RATE $\rightarrow \frac{P_2 - P_1}{P_1} \times 100$

Where,

$P_1 \rightarrow$ Population of the Base year.

$P_2 \rightarrow$ Population of the Present year.

FOR EXAMPLE \rightarrow POPULATION GROWTH RATE OF W.B. FROM 2001 - 2011.

NAME OF THE STATE	TOTAL POPULATION	
	2001	2011
WEST BENGAL	80176197	91347736

POPULATION GROWTH RATE $\rightarrow \frac{P_2 - P_1}{P_1} \times 100$

WHERE,

$P_1 \rightarrow$ POPULATION OF THE BASE YEAR (HERE \rightarrow 2001)

$P_2 \rightarrow$ POPULATION OF THE PRESENT YEAR (HERE \rightarrow 2011)

$\rightarrow \frac{91347736 - 80176197}{80176197} \times 100$

$\rightarrow \frac{11171539}{80176197} \times 100$

$\rightarrow 12\%$

④ ABSOLUTE GROWTH $\rightarrow P_2 - P_1$ | $P_1 \rightarrow$ BASE YEAR
 $P_2 \rightarrow$ PRESENT YEAR

FOR W.B $\rightarrow 91347736 - 80176197$

$\rightarrow 11171539$

SAYANTI CHATTERJEE

ASSINGMENT 7(NUMERICALS) :- (SOLVE THESE NUMERICALS WITH THE HELP OF ABOVE EXPLANATION AND VIDEO CLASS PROVIDED FOR THIS TOPIC)

1. i) Find out the Arithmetic density of population of each of the following state.
 - ii) Which state has the lowest density of population?
 - iii) Which state has the highest density of population?

S.No.	Name of the State	Population (in lakhs)	Area (lakh sq. km.)
1.	Arunachal Pradesh	13.8	8.36
2.	Bihar	1038.0	17.39
3.	Kerala	333.9	3.89
4.	Uttar Pradesh	1995.8	2.94
5.	West Bengal	913.5	8.78

2. Study the given data and answer the following questions:

- i) Identify the state with the highest growth rate of population.
- ii) Calculate the absolute growth of population for the state mentioned in the given data table.

S. No.	Name of the State/Union Territory	Total Population	
		2001	2011
1.	N.C.T. of Delhi	1,38,50,507	1,67,53,235
2.	Uttar Pradesh	16,61,97,921	19,95,81,477
3.	Bihar	8,29,98,509	10,38,04,637
4.	West Bengal	8,01,76,197	9,13,47,736

3. If the total population of Maharashtra is 199.58 million according to the census of 2011 then find out the index of concentration of this state (the total population of India according to the census of 2011 is 1 210.1 million).

Sociology

Date – 09.05.2020

Class – XII

Political Organization

Panchayati Raj

- Panchayati Raj is a **system of rural local self-government in India.**
- It has been established in all the states of India by the acts of the state legislature to build democracy at the grass root level. It is entrusted with rural development and was constitutionalized through the **73rd Constitutional Amendment Act of 1992.**
- Indian society has a long tradition of rule by the people of local level. In history of this country we get references of self dependent complete villages with active self government. Representation of five members at village level to look after the civic facilities as also the judicious solution of interpersonal disputes regarding land or relationship was quite common.
- Especially Gandhi considered local self government of traditional India as the best option to decentralize power to the grass root level to ensure democratic society in free India. Gandhi stood for the concept of Gram Swaraj, which is most suitable for developing a village based socio economic reality.

Panchayat system,

1. Introduces and spreads Democratic behaviour among common people.
 2. Strengthens faith in community identity.
 3. Combines social relationship with political and judicial institutions.
 4. Creates a ground for awareness and ambition for a greater value system for a specific society.
- It was only in 1959, that the Panchayat Raj system came into existence in a formal way after the study team headed by Balwant Rai Mehta expressed

concern about the lack of popular participation in the Community Development Programme and made a strong plea for the devolution of power to lower level through Panchayati Raj.

Evolution of Panchayati Raj in India

- Panchayati Raj was not a new concept to India. Indian villages had Panchayats (council of five persons) from very ancient time, which were having both executive and judicial powers and used to handle various issues (land distribution, tax collection etc.) or disputes arising in the village area.
- Gandhiji also held the opinion of empowerment of Panchayats for the development of rural areas. Thus, recognizing their importance our Constitution makers included a provision for Panchayats in part IV of our constitution (directive principles of state policy).
- **Art. 40** confers the responsibility upon State to take steps to organise Village Panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government. But it does not give guidelines for organising village panchayats.
- Thus, its formal organisation and structure was firstly recommended by **Balwant Rai** committee, 1957 (Committee to examine the Community Development Programme, 1952).
- The Committee, in its report in November 1957, recommended the establishment of the scheme of 'democratic decentralisation', which ultimately came to be known as Panchayati Raj. It recommended for a three tier system at village, block and district level and it also recommended for direct election of village level panchayat. Rajasthan was the first state to establish Panchayati Raj at it started from Nagaur district on October 2, 1959.
- After this, **Ashok Mehta Committee** on Panchayati Raj was appointed in December 1977 and in August 1978 submitted its report with various recommendations to revive and strengthen the declining Panchayati Raj system in the country.
- Its major recommendation were two tier system of panchayat, regular social audit, representation of political parties at all level of panchayat elections,

provisions for regular election, reservation to SCs/STs in panchayats and a minister for panchayati raj in state council of ministers.

- Further, **G V K Rao Committee** appointed in 1985 again recommended some measures to strengthen Panchayati Raj institutions.
- **LM Singhvi Committee** appointed in 1986 first time recommended for the constitutional status of Panchayati Raj institutions and it also suggested for constitutional provisions to ensure regular, free and fair elections to the Panchayati Raj Bodies.
- In response to the recommendations of **LM Singhvi committee**, a bill was introduced in the Lok Sabha by Rajiv Gandhi's government in July 1989 to constitutionalize Panchayati Raj Institutions, but the bill was not passed in Rajya Sabha.
- The V P Singh government also brought a bill, but fall of the government resulted in lapse of the bill. After this P V Narashima Rao's government introduced a bill for this purpose in Lok Sabha in September, 1991 and the bill finally emerged as the 73rd Constitutional Amendment Act, 1992 and came into force on 24th April, 1993.

Features of the Amendment Act 1992-

1. **Gram Sabha** – Gram Sabha is a body consisting of persons registered in the electoral roll of a village or a group of villages which elect a Panchayat. It is recognized now that primary source of Democratic power is a village.
2. **Three tier system** – The act provides for a uniform three tier system of Panchayat (village, intermediate and district level). Only the states with population less than twenty lakhs are not required to establish a Panchayat at the intermediate level.
3. **Reservation of seats** – The act provides for reservation of seats for scheduled Castes and Scheduled Tribes on each proportion to their population. One – Third of seats reserved for these Castes and tribes are also reserved for women.
4. **Composition of Panchayat** – Persons chosen through direct elections from Territorial constituencies fill all the seats in Panchayat. The chairperson at the village level is elected in a manner provided by the Legislature of the state concerned. The Chairpersons at the intermediate and district levels are elected by and from amongst the elected members.

5. **Duration of Panchayats** – The duration is for a period of five years. If it is dissolved for any reason before the end of this period, elections are held within six months. The reconstituted Panchayat functions for the remaining period of the total five years.
6. **Conduct of elections** – The superintendence, direction and control of the preparation of electoral role for, and the conduct of all elections to the Panchayats is vested in the State Election Commission.
7. **Finance Commission** – Such commissions are formed by every state to look after the financial needs of the Panchayats. The commission is expected to be responsible for reviewing financial conditions of Panchayats and for making related recommendations to the respective Governors.
8. **Development Activities** – The activities marked for Panchayat initiatives may be grouped into five major developmental aspects – Economic, Education, Health, Welfare activities including women and child development programmes, Infrastructural development.
9. **Transfer of Subjects** – Twenty nine subjects, which were in the State list, are identified and enlisted in the 11th schedule of the Constitution. These subjects are to be transferred to the Panchayat institutions. These subjects were mostly linked to development and welfare functions at the local level. The actual function depends upon the state legislation. Each state decides how many of these twenty nine subjects would be transferred to the local bodies.

Home Work –

1. Define Panchayati Raj.
2. Briefly explain the Features of the Amendment Act 1992.
3. Explain the evolution of Panchayati Raj in India.
4. Mention the duration of Panchayats.
5. Mention the date and year when Panchayati Raj came into force in India.

Commerce Class XII

Chapter : Management (Part -6)



SECTION - D ⇒ FUNCTIONS OF MANAGEMENT



3.26. Meaning of functions of management

Management is the art of getting things done by the people for the accomplishment of predetermined objectives. For attaining those objectives, a manager has to perform a series of functions. The functions of management refer to those activities which are required to be undertaken for the achievement of organisational goals.



3.27. Classification of managerial functions

The study of the functions of management is an important topic in the theory of management. Different classification of managerial functions have been attempted by different experts in this field. Some of the important classifications of managerial functions are as follows :

<i>Management experts</i>	<i>Managerial functions specified</i>
(1) Henry Fayol	(i) Planning and forecasting ; (ii) Organising ; (iii) Commanding ; (iv) Coordinating ; (v) Controlling.

<i>Management experts</i>	<i>Managerial functions specified</i>
(2) Harold Koontz and Cyril O' Donnell	(i) Planning ; (ii) Organising ; (iii) Direction and leadership ; (iv) Controlling ; (v) Staffing.
(3) Luther Gullick	(i) Planning ; (ii) Organising ; (iii) Directing ; (iv) Staffing ; (v) Co-ordinating ; (vi) Reporting ; (vii) Budgeting.
(4) George R. Terry	(i) Planning ; (ii) Organising ; (iii) Actuating ; (iv) Controlling.
(5) Lyndall Urwick	(i) Planning ; (ii) Organising ; (iii) Commanding ; (iv) Co-ordinating ; (v) Communicating ; (vi) Forecasting ; (vii) Investigating.
(6) Ernest Dale	(i) Planning ; (ii) Organising ; (iii) Staffing ; (iv) Direction ; (v) Control ; (vi) Innovation ; (vii) Representation.

Thus, the various functions of management may be divided into two categories, namely,

(A) Main functions

- (a) Planning ;
- (b) Organising ;
- (c) Directing ;
- (d) Staffing ;
- (e) Co-ordinating ;
- (f) Motivating ;
- (g) Controlling ;
- (h) Reporting ;
- (i) Budgeting.

(B) Subsidiary functions

- (a) Communication ;
- (b) Decision-making ;
- (c) Innovation ;
- (d) Representation.



3.27.1. Main functions

- (1) **Planning** : Planning is the conscious determination of a future course of action to achieve the desired results. It is the process of thinking before doing. It depicts a framework within which other management functions will operate. It is a continuous process that takes place at all levels of management.

Planning consists of deciding in advance the following aspects :

- (a) What is to be done in future ;
- (b) How it is to be done ;
- (c) Where it is to be done ;
- (d) When it is to be done ;
- (e) By whom it is to be done.

Planning involves the functions of decision-making and problem-solving. In other words, planning involves a selection of business objectives and deciding the future course of action for achieving these objectives. The process of planning involves a number of steps, which are as follows :

- (i) Selection of business objectives ;
- (ii) Establishment of the planning premises ;
- (iii) Development of alternative courses of action ;
- (iv) Evaluation of alternative courses of action ;
- (v) Selection of best course of action from available alternatives ;
- (vi) Formulation of plans (short/medium/long) ;
- (vii) Making arrangements for effective implementation of plans ;
- (viii) Review of existing plans to determine its limitation.

- (2) **Organising** : This provides the necessary framework for the management. It is the creation of a harmonious structure of authority-responsibility relationship. It involves the assignment of grouped activities to various managerial levels. The function of organising is to arrange, guide, co-ordinate, direct and control the activities of an enterprise. It is the mechanism through which management directs, co-ordinates and controls business operations. The purpose of organising is to relate organisational people to each other and to work for the achievement of organisational goals. It aims at achieving optimum coordination of various business functions. It contributes to the efficiency of the enterprise.

The process of organising involves the following steps :

- (i) To establish the objectives, policies and plans of business ;
- (ii) To identify the activities to be performed ;
- (iii) To classify those activities into convenient rules ;
- (iv) To assign such group activities to different individuals ;
- (v) To delegate authority and fix responsibility for carrying out these activities ;
- (vi) To co-ordinate various activities for goal achievement.

(3) Directing : Directing is the process of instructing, guiding, supervising, motivating and leading the subordinates for the achievement of organisational objectives. It is concerned with the execution of plans through organised action. It is concerned with the manner in which a manager influences the actions of his subordinates. The main activities involved in direction are — (a) supervising ; (b) communicating ; (c) motivating ; and, (d) leading.

According to George R. Terry,

- (i) Direction provides motion to the action ;
- (ii) It provides instruction to subordinates for doing some work ;
- (iii) It gives them an order for doing the work ;
- (iv) It provides motivation to employees ;
- (v) It provides stimulating power among employees.

Directing is a continuous function and is performed at all levels of management. It consists of the following steps :

- (i) Issuing orders and instructions by a superior to his subordinates ;
- (ii) Motivating subordinates to contribute to the best of their capability ;
- (iii) Providing leadership to subordinates to influence group activities ;
- (iv) Observing the activities of the subordinates ;
- (v) Helping subordinates to resolve their work problems.

(4) Staffing : This refers to the managerial function of recruiting, activating, developing and motivating human resources for achieving organisational goals. It also involves upgrading the quality and usefulness of existing members of the organisation. It is a process of matching the jobs with individuals. The sole aim of staffing is to take the right man for the right job. It involves proper recruitment, selection, training, placement, promotion, demotion and finally the retirement of employees.

The basic framework of staffing consists of the following sequence of functions :

- (i) Manpower planning ;
- (ii) Selection and recruitment of personnel ;
- (iii) Placement and orientation of personnel ;
- (iv) Providing training to personnel ;
- (v) Evaluating performance of personnel ;
- (vi) Development, promotion/demotion, transfer, etc. of personnel ;
- (vii) Determining a fair remuneration policy ;
- (viii) Determining retirement policy ;
- (ix) Determination of remuneration of personnel.

- (5) **Co-ordinating** : This is the art of achieving harmony of individual and group efforts for the accomplishment of organisational goals. It ensures unity of action in the realisation of common objectives. It involves synchronisation of different actions, so that the planned objectives can be achieved with the minimum of conflict. It develops team spirit and creates an atmosphere of co-operation among the staff. It is a conscious process of assembling and synchronising various activities with a view to achieving specific objectives. Thus, co-ordinating is the orderly arrangement of group efforts for the accomplishment of the organisational goals. Co-ordination is considered as the essence of management.

An efficient manager co-ordinates in the following ways :

- (i) Mutual co-ordination between different departments ;
- (ii) Co-ordination between the efforts of different employees ;
- (iii) Co-ordination between the efforts of employees and managers.

The principles of co-ordination can be described as follows :

- (a) Co-ordination should be started at an early stage ;
- (b) Co-ordinating parties should meet personally to discuss the matter ;
- (c) The principle of reciprocity helps in co-ordinating the efforts of both parties ;
- (d) Co-ordination secures unity of action ;
- (e) It is a continuous and dynamic process ;
- (f) It has a common purpose of getting organisational objectives accomplished.
- (g) It involves integrating and harmonising the activities of different departments and individuals for the accomplishment of organisational goals.

- (6) **Motivating** : This means inspiring the subordinates with a zeal to do work for the accomplishment of organisational objectives. It is an inner impulse causing man to action. It is a means of triggering human desire to action. It is the act of stimulating individuals to get the desired result. It induces workers to contribute their best efforts for the fulfilment of organisational objectives. It minimises the waste of human and other resources.

The process of motivation involves the following steps :

- (i) Providing effective leadership ;
- (ii) Inspiring people to co-operate ;
- (iii) Effective communication ; and
- (iv) Providing a climate for subordinates' development.

- (7) **Controlling** : It is a process which enables the management to get its policies implemented and take corrective action if performance is not according to the predetermined standards. It is the process of verifying whether actual performance is in conformity with planned performance. It ensures qualitative and quantitative performance of work in the organisation for the achievement of its objective. The main purpose of control is to see whether everything in the organisation is being done in accordance with predetermined plans. Control measures the performance, corrects negative deviations and ensures accomplishment of plans by fixing responsibility.

The process of control involves the following steps :

- (i) Establishing standards of performance ;
- (ii) Measuring actual performance ;
- (iii) Comparing the actual performance with the standard ;
- (iv) Finding variances (or deviations), if any ; and
- (v) Taking corrective measures, where necessary.

- (8) **Reporting** : A report is a written form of communication. Report is meant for use of the management for the purpose of planning, decision-making and controlling. Normally, a report is sent by a subordinate to his superior. It serves as a feedback to the management. The reports should be prepared periodically and submitted to appropriate levels promptly. It is often said that report delayed is report denied. A report should contain all relevant information, diagrams and charts to facilitate ready understanding. The report should be clear, brief and simple to understand. The form of report should be designed to suit different levels of management. Operating reports are prepared to reveal the various functional results. On the other hand, financial reports provide information regarding financial position of an organisation. Sometimes, special reports are prepared to cover specific (or special) matters concerning the organisation. Generally, routine reports are prepared to cover normal activities of an organisation.
- (9) **Budgeting** : Planning is essential for every organisation. The budget operationalises the plan. The budget lays down the path to be followed for the achievement of the planned objectives. Budgeting forces the management to think ahead and prepare for the unforeseen conditions. A comprehensive budget includes the separate plans made for the various segments of an organisation. It provides estimates of revenues, costs and expenses for a defined period of time. Budget can be viewed as a systematic plan for the utilisation of materials, labour and other resources. Budget is a quantitative blue-print for action. Thus, a budget is an estimate of future needs arranged according to an orderly basis, for a definite period of time. A budget can function as a device not only for planning and co-ordination, but also for control. The budget must be realistic and it should cover all phases of operations of an organisation. Budgeting should be based on the responsibility accounting system. There should be a sound system of review and follow-up.



3.27.2. Subsidiary functions

- (1) **Communication** : It means exchange of ideas, knowledge, opinions, etc., by speech, writing or signs. It is a process of transmitting information from one person to another. It involves a systematic and continuous process of telling, listening and understanding. It is the life-blood of modern business and industry. It helps the management to keep itself informed of various problems, difficulties and grievances. It helps in securing the largest possible participation in decision-making, planning and general administration.
- (2) **Decision-making** : The right decision at the right time by the right person is essential for the success of any business. Management has to take numerous decisions in different situations. Right decision helps the management in the growth of a business. Moreover, appropriate decision-making helps in the smooth running of the enterprise.
- (3) **Innovation** : It involves preparing people and the organisation to face new challenges of fast-changing situations. The management must try to create new products, new practices, new ideas and new structures, keeping in mind the needs of the future. The function of innovation involves preparing people and the organisation to face new challenges. It enables the management to keep pace with modern techniques and up-to-date demands.
- (4) **Representation** : It means representing the business concern in the outside world. It implies an effort to promote the image of the enterprise to the outside world through meetings, seminars, discussions, etc. The management has the responsibility of representing the organisation to the various interested groups (e.g., shareholders, Government, customers, employees, suppliers, trade unions, financiers, etc.). The management has to project its own image as well as the image of the organisation to the outside world.

Home assignment :

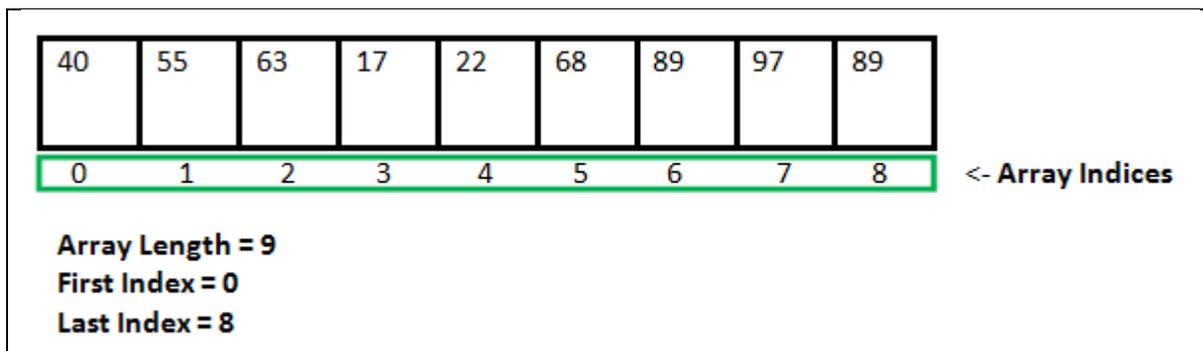
1. Briefly explain the main functions of Management.
2. Explain briefly the subsidiary functions of Management.

**CLASS – 12
COMPUTER SCIENCE**

ARRAYS

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

Instantiating an Array in Java (Single Dimensional Array):

When an array is declared, only a reference of array is created. To actually create or give memory to array, you create an array like this:

var-name = new type [size];

Here, type specifies the type of data being allocated, size specifies the number of elements in the array, and var-name is the name of array variable

that is linked to the array. That is, to use new to allocate an array, you must specify the type and number of elements to allocate.

Example:

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

OR

```
int[] intArray = new int[25]; // combining both statements in one
```

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

ASSIGNMENT VI (PART- 1)

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

Assignment -15
Maths class -12
Differentiation (Revision)

Exs If $y = \sqrt{\frac{1-x}{1+x}}$, then prove that

Ans $(1-x^2) \frac{dy}{dx} + y = 0$.

Now $y^2 = \frac{1-x}{1+x}$.

Taking differentiating in both sides.

$$2y \frac{dy}{dx} = \frac{(1+x)(-1) - (1-x)(1)}{(1+x)^2} = \frac{-1-x-1+x}{(1+x)^2}$$

$$= -\frac{2}{(1+x)^2}$$

or $y \frac{dy}{dx} = -\frac{1}{(1+x)^2} \Rightarrow \frac{dy}{dx} = -\frac{1}{(1+x)^2 y}$

L.H.S $(1-x^2) \frac{1}{(1+x)^2 y} + y$

$$= -\frac{(1+x)(1-x)}{(1+x)^2 y} + y$$

$$= -\frac{(1-x)}{(1+x) y} + y$$

$$= -\frac{y^2}{y} + y = -y + y = 0 = \text{R.H.S}$$

proved

Ex 2 If $y = x^{\cos x} + (\cos x)^{\sin x}$.

Find $\frac{dy}{dx}$.

Ans Now $y = y_1 + y_2$.

Let $y_1 = x^{\cos x}$, $y_2 = (\cos x)^{\sin x}$.

Hence $\frac{dy}{dx} = \frac{dy_1}{dx} + \frac{dy_2}{dx}$.

$y_1 = x^{\cos x}$, Taking log in both sides.

$\log y_1 = \log x^{\cos x}$
 $\Rightarrow \log y_1 = \cos x \log x$.

Now d.w.r.t x .

$\frac{1}{y_1} \frac{dy_1}{dx} = -\sin x \log x + \frac{\cos x}{x}$

$\frac{dy_1}{dx} = \frac{y_1}{x} (\cos x - x \sin x \log x)$
 $= \frac{x^{\cos x}}{x} (\cos x - x \sin x \log x)$

$y_2 = (\cos x)^{\sin x}$

$\log y_2 = \log (\cos x)^{\sin x}$
 $\Rightarrow \log y_2 = \sin x \log (\cos x)$

Now d.w.r.t x .

$\frac{1}{y_2} \frac{dy_2}{dx} = \cos x \log (\cos x) + \frac{\sin x (-\sin x)}{\cos x}$

$\frac{dy_2}{dx} = \frac{y_2}{\cos x} (\cos^2 x \log (\cos x) - \sin^2 x)$

$\frac{dy_2}{dx} = \frac{(\cos x)^{\sin x}}{\cos x} (\cos^2 x \log (\cos x) - \sin^2 x)$

Hence $\frac{dy}{dx} = \frac{x^{\cos x}}{x} (\cos x - x \sin x \log x) + \frac{(\cos x)^{\sin x}}{\cos x} (\cos^2 x \log (\cos x) - \sin^2 x)$

Ex 3 If $y = (\sin^{-1}x)^2 + (\cos^{-1}x)^2$ then

prove that

$$(1-x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} = 4.$$

Ans

D. w. r. t. x

$$\frac{dy}{dx} = \frac{2 \sin^{-1}x}{\sqrt{1-x^2}} + 2 \cos^{-1}x \left(\frac{-1}{\sqrt{1-x^2}} \right)$$

$$= \frac{2}{\sqrt{1-x^2}} (\sin^{-1}x - \cos^{-1}x)$$

$$\sqrt{1-x^2} \frac{dy}{dx} = 2 (\sin^{-1}x - \cos^{-1}x)$$

Again d.w.r.t x

$$\sqrt{1-x^2} \frac{d^2y}{dx^2} + \frac{1}{2} (1-x^2)^{-\frac{1}{2}} (-2x) \frac{dy}{dx} = \frac{2}{\sqrt{1-x^2}} + \frac{2}{\sqrt{1-x^2}}$$

$$\text{or, } \sqrt{1-x^2} \frac{d^2y}{dx^2} - \frac{x}{\sqrt{1-x^2}} \frac{dy}{dx} = \frac{4}{\sqrt{1-x^2}}$$

$$\text{or, } \frac{(1-x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx}}{\sqrt{1-x^2}} = \frac{4}{\sqrt{1-x^2}}$$

$$\text{or, } (1-x^2) \frac{d^2y}{dx^2} - x \frac{dy}{dx} = 4 \quad \underline{\underline{\text{Proved}}}$$

HW ① If $e^y(x+1) = 1$, show that

$$\frac{d^2y}{dx^2} = \left(\frac{dy}{dx}\right)^2.$$

② If $x\sqrt{1+y} + y\sqrt{1+x} = 0$ ($x \neq y$), then

prove that $\frac{dy}{dx} = \frac{-1}{(1+x)^2}$.

③ If $y = e^{a \cos^{-1} x}$, where $-1 \leq x \leq 1$ then show

that:-

$$(1-x^2)y_2 - xy_1 - a^2y = 0 \quad \left[\text{where } y_2 = \frac{d^2y}{dx^2} \right. \\ \left. y_1 = \frac{dy}{dx} \right]$$

④ If $y = x^x$, prove that

$$\frac{d^2y}{dx^2} - \frac{1}{y} \left(\frac{dy}{dx}\right)^2 - \frac{y}{x} = 0.$$

⑤ Find $\frac{dy}{dx}$ when $x = \cos^{-1} \frac{1}{\sqrt{1+t^2}}$, $y = \frac{\sin^{-1} t}{\sqrt{1+t^2}}$.

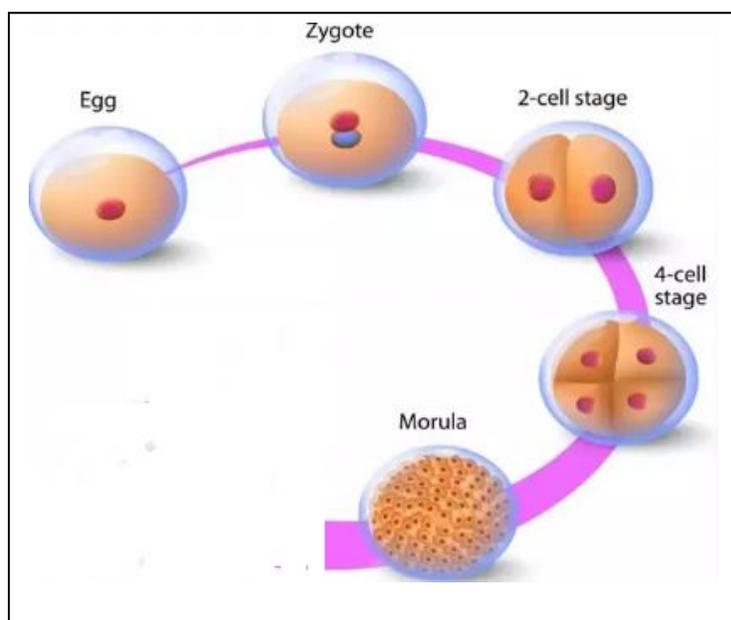
CHAPTER – HUMAN REPRODUCTION

EXPLANATION

EARLY EMBRYONIC DEVELOPMENT

CLEAVAGE

- Cleavage is a unique embryological process which transforms a single fertilized egg cell , the zygote ,into a hollow , spherical & a multicellular stage, called blastula.
 - Cleavage involves a series of mitotic divisions giving rise to daughter cells that are genetically similar to the parent cell.
 - Cleavage increases cell number but it does not result in growth.
 - In animals with little yolk in the egg, the zygote undergoes **holoblastic cleavage**(complete), in which the entire zygote is cleaved repeatedly; in animals with a lot of yolk in the egg, the zygote undergoes **meroblastic cleavage**, (partiall)in which only part of the zygote is cleaved.
 - Human zygote undergoes holoblastic & equal cleavages.
 - Cleavage occurs in the fallopian tube during the passage of zygote towards uterus.
 - The first cleavage takes about 30 hours after fertilization, resulting in formation of two **blastomeres** – one slightly bigger than the other.
- ↓
- 2nd cleavage takes about 60 hours after fertilization, & the two blastomeres divide to form a **four celled stage**.
 - 3rd cleavage takes 72 hours after fertilization. Subsequent cleavages takes place in an orderly manner .
 - The embryo now becomes a solid mass of cells called **Morula**.



Zygote to Morula formation by cleavage

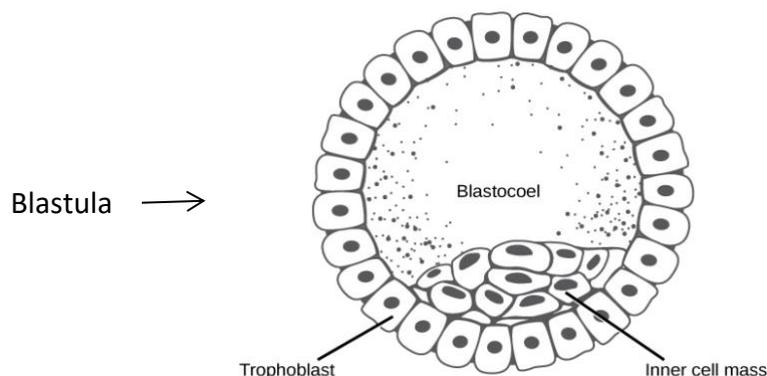
MORULA

- Morula consist of 16-32 cells but is of the same size as the zygote.
- It consist of a group of centrally located cells, **the inner cell mass** , suurounding it is present the **outer cell mass**.
- The inner cell mass gives rise to the **tissues of the embryo proper**.
- The outer cell mass gives rise to the **trophoblast**, which later develops into placenta.
- Morula reaches the uterus 4-6 days after fertilization with **zona pellucida** remaining intact.



BLASTULA

- As the cells of morula continue to divide , a cavity appears in the morula.
- This sphere of cells with a cavity located at the centre is called **blastula**.
- The centrally located cavity is called **blastocoel**.
- The blastocoel (fluid filled space) is the site where embryos of ancestral form lodged food material in the form of yolk.
- The cells in the blastula arrange themselves in two layers: the inner cell mass and an outer layer called the **trophoblast**.
- The inner cell mass is also known as the **embryoblast**; this mass of cells will go on to form the embryo. At this stage of development, the inner cell mass consists of embryonic stem cells that will differentiate into the different cell types needed by the organism.
- The trophoblast will contribute to the placenta and nourish the embryo.
- The blastula forms the **blastocyst** in the next stage of development.
- As the blastocyst is formed , the zona pellucida disintegrates , facilitating the rapid growth of the embryo.



IMPLANTATION

- The attachment of the blastocyst to the uterine wall is called **implantation**.
 - It usually takes place 5-7 days after ovulation.
 - The blastocyst comes in direct contact with the endometrium of the uterus.
 - The direct contact between the blastocyst & the endometrium, stimulates the trophoblast cells over the embryonal pole to divide rapidly.
 - These trophoblast cells release a **proteolytic enzyme**, which erodes the endometrium.
 - The blastocyst sinks into the pit formed in the endometrium & endometrium grows around the blastocyst.
 - Later on the trophoblast of invading blastocyst develops rudiment of chorion, one of the extra embryonic membrane, which develops into foetal part of placenta.
- ❖ The chorionic cells of placenta secrete a hormone called **Human Chorionic Gonadotropin (HCG)**. It substitutes the function of pituitary LH during pregnancy. It carries out the following functions –
- 1) HCG maintains the corpus luteum.
 - 2) It stimulates the secretion of progesterone by corpus luteum.
 - 3) Progesterone maintains the endometrial lining of uterus & cause it to grow throughout pregnancy.
- ❖ By the 16th week of pregnancy the placenta starts producing sufficient progesterone & corpus luteum regresses.

GASTRULATION

- Gastrulation is an important dynamic process in the development which involves the movement of prospective organ forming areas from the blastomeric vesicle to their definitive positions in the embryo & their reorganization into three primary germinal layer.
- The outermost layer is called **Ectoderm**.
- The middle layer is called **Mesoderm**.
- The innermost layer is called **Endoderm**.
- These are called the primary germ layer.

FATE OF GERMINAL LAYERS IN EMBRYONIC DEVELOPMENT

ECTODERM	MESODERM	ENDODERM
<ul style="list-style-type: none">• Epidermis of skin and its derivatives (including sweat glands, hair follicles)• Epithelial lining of mouth and anus• Cornea and lens of eye• Nervous system• Sensory receptors in epidermis• Adrenal medulla• Tooth enamel• Epithelium of pineal and pituitary glands	<ul style="list-style-type: none">• Notochord• Skeletal system• Muscular system• Muscular layer of stomach and intestine• Excretory system• Circulatory and lymphatic systems• Reproductive system (except germ cells)• Dermis of skin• Lining of body cavity• Adrenal cortex	<ul style="list-style-type: none">• Epithelial lining of digestive tract• Epithelial lining of respiratory system• Lining of urethra, urinary bladder, and reproductive system• Liver• Pancreas• Thymus• Thyroid and parathyroid glands

ASSIGNMENT 4

- 1) State the function of HCG.
- 2) How is blastocyst formed?
- 3) How does implantation occur?

MOUMITA GANGULY

DATE-09.05.2020 (SATURDAY)

CLASS-XII

SUBJECT-PHYSICS

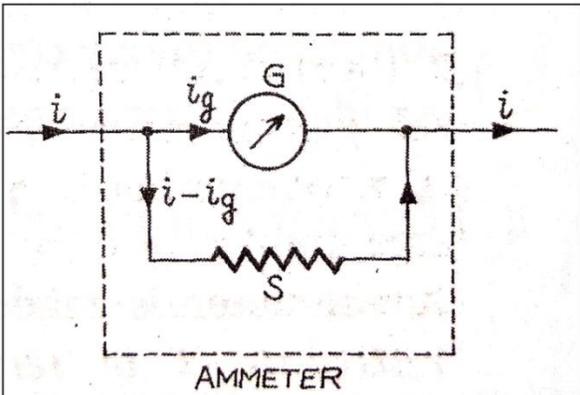
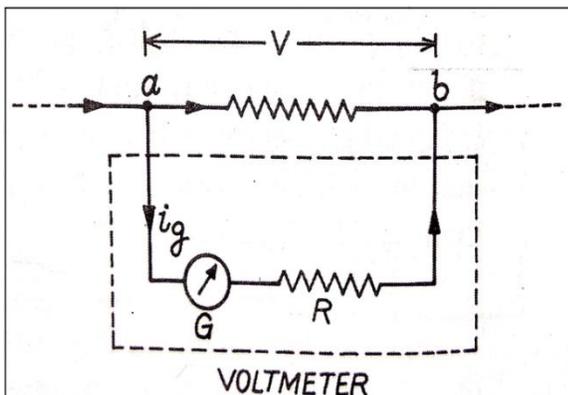
CHAPTER- 8.TORQUE ON A CURRENT-LOOP-MOVING-COIL GALVANOMETER (2nd CLASS)

Ammeter

An ammeter is an instrument used to measure currents in electrical circuits directly in ampere (A). The resistance of the ammeter is very small compared to other resistances in the circuit. The resistance of ideal ammeter is zero.

Voltmeter

An voltmeter is an instrument used to measure potential differences between two points in an electrical directly in volt (V). The resistance of the voltmeter should be very high compared to any other resistances in the circuit. The resistance of ideal voltmeter is infinity.

Galvanometer to Ammeter	Galvanometer to Voltmeter
<ul style="list-style-type: none">• Required shunt to be connected with a galvanometer in parallel to convert it to an ammeter, $S = \frac{I_G}{I - I_G} \cdot G$ <p>[where S = shunt resistance, G = galvanometer resistance, I_G = maximum galvanometer current, I = main current in circuit]</p> <ul style="list-style-type: none">• If the range of an ammeter be increased to n-times, then $S = \frac{1}{\frac{I}{I_G} - 1} \cdot G = \frac{G}{n - 1}$	<ul style="list-style-type: none">• To convert the galvanometer into a voltmeter for measuring a maximum voltage of V, the resistance to be connected in series with the galvanometer, $R = \frac{V}{I_G} - G$ <ul style="list-style-type: none">• If the range of the voltmeter be increased to n-times, then $R = G \left(\frac{V}{V_G} - 1 \right) = G(n - 1)$
	

ASSIGNMENT-8

CHAPTER- 8.TORQUE ON A CURRENT-LOOP-MOVING-COIL GALVANOMETER (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 function of shunt in an ammeter?
2. Why resistance of voltmeter is high and that of ammeter is very low?
3. Can we increase or decrease the range of an ammeter and voltmeter? Explain how.
4. (i) A galvanometer coil has resistance 12Ω and the meter shows full scale deflection for a current of 3 mA. How will you convert the galvanometer into a voltmeter of range 0-18 V?
(ii) A galvanometer coil has resistance 15Ω and the meter shows full scale deflection for a current of 4 mA. How will you convert the galvanometer into an ammeter of range 0-6 A?