

Question # 02

Define Intelligence. What are the major theories of Intelligence?

## I). INTRODUCTION

Intelligence is the ability to acquire, process, and apply information in various contexts and domains. It is a complex and multifaceted phenomenon that can be measured and evaluated in different ways. Intelligence is important because it enables us to solve problems, adapt to changing situations, learn from experience, and communicate effectively with others. Intelligence also influences our creativity, curiosity, motivation and self-regulation.

## II). DEFINITION OF INTELLIGENCE

Intelligence can be defined as:

"The capability to understand the world, think rationally and use resources effectively."

(David Wechsler, 1975)

In other words, intelligence can be defined as:

"The ability to adapt the environment and to learn from experience are

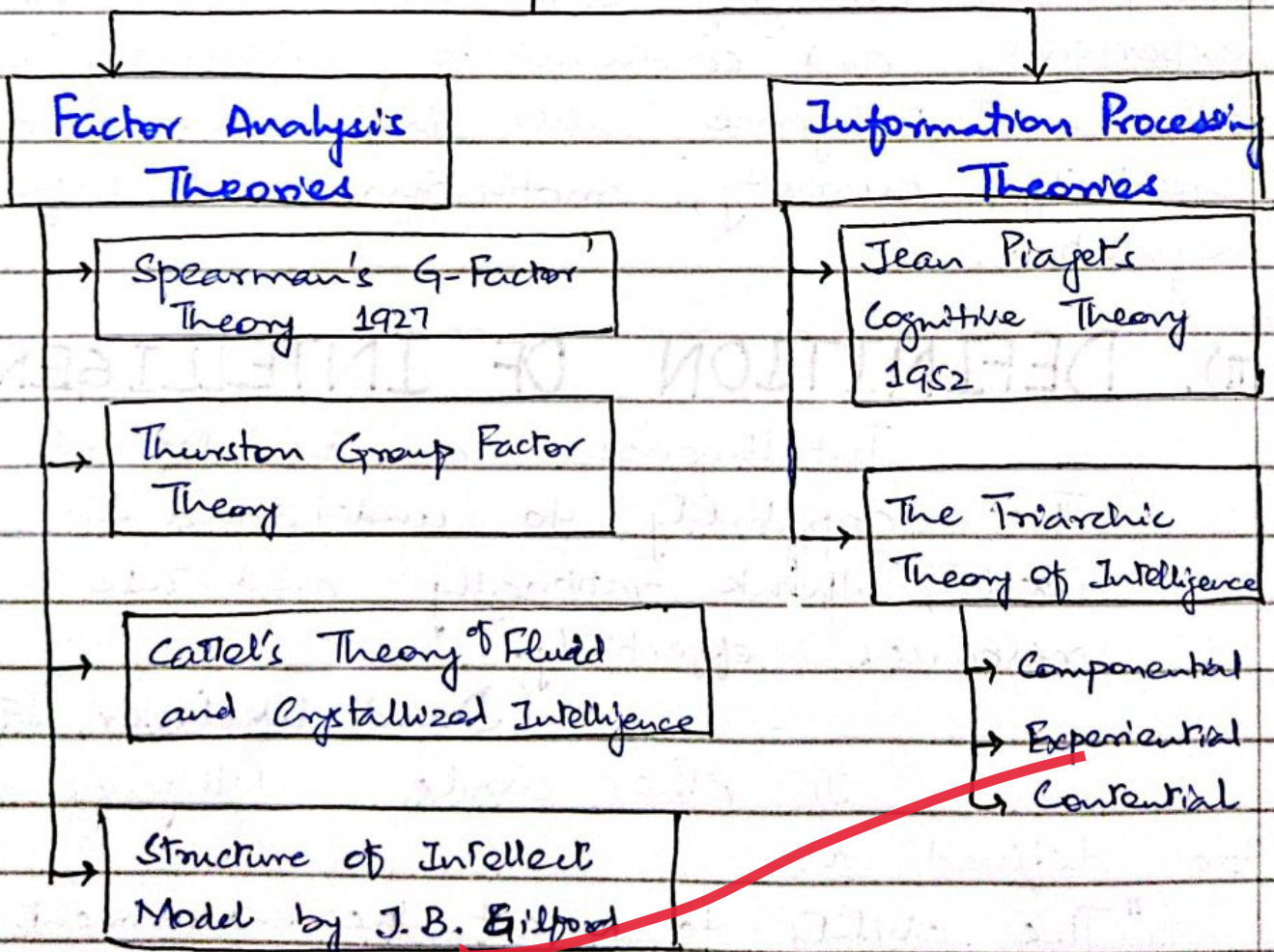
essential ingredient of the definition of intelligence."

## III). THEORIES OF INTELLIGENCE

There are two types of theories based on organization of mental ability and nature of mental processes.

- 1). Factor Analysis Theories.
- 2). Information Processing Theories.

### Theories of Intelligence



## 1). Factor Analysis Theories

Following are the major theories related to Factor Analysis Theories:

- i). Spearman's G-Factor Theory 1927
- ii). Thurston's Group Factor Theory
- iii). Cattell's Theory of Fluid and Crystallized Intelligence.
- iv). Structure of Intellect Model by J.B. Gelford.

### i). Spearman's G-Factor Theory 1927

They said there was a general factor for mental ability called G-Factor. It was G-Factor presumably being measured of tests. He noted that one person performed good at one or two particular areas, so he performed and included a specific factors "S" i.e. a student bad at Psychology performs very well at Mathematics.

### ii). Thurston's Group Factor Theory

Louis L. Thurston, a factor analyst, designed a PMAT which had a number of subtests, i.e., Primary Mental Abilities Test.

These tests measured:

- a - Verbal Comprehension.
- b - Word Fluency.
- c - Number Concepts
- d - Spatial Relationship Skills.
- e - Memory.
- f - Perception
- g - Reasoning.

Different abilities of individuals would explain why he did good at Maths and bad at History. Thurston later found that people who did well in one area also did well at other areas.

### iii. Cattell's Theory of Fluid and Crystallized Intelligence (1967 - 1987)

According to Cattell's Theory, there are two types of Intelligence:

- a - Fluid Intelligence.
- b - Crystallized Intelligence.

#### a). Fluid Intelligence.

Ability to deal with new problems and encounter, i.e. grouping of letters to some orientation, independence of education and socialization, only the potential intelligence.

## b. Crystallized Intelligence.

Sorting information skills and strategies that one acquired through use of fluid intelligence. This reflects number of ones cultural exposure, formal education, knowledge and skills.

## iv). Structure of Intellect Model by J.B. Gilford

3-Dimensional theory of J.B. Gilford provides 120 factors of intelligence.

- a). 5 Operations : Actions of a person.
- b). 6 Products : Result of thinking about information
- c). 5 Contents : Information of a person thinking about the proposed that there are 150 separate mental abilities underlying intelligence.

## 2. Information Processing Theory.

Following are the major theories of Information Processing Theory.

- i). Jean Piaget's Cognitive Theory 1952.
- ii). The Triarchic Theory of Intelligence.

## i. Jean Piaget's Cognitive Theory 1952

Stages	Age Range	Major Characteristics
1. Sensorimotor	Birth - 2 years	i) Development of objective performance. ii) Development of motor skills, iii) Low capacity for symbolic representation.
2. Preoperational	2 - 7 years	Development of language and symbolic thinking and egocentric thinking.
3. Concrete Operational	7 - 12 years	i) Development of conversation, ii) Mastery of concepts of reversibility.
4. Formal Operational	12 - Adulthood	Development of logical and abstract thinking.

## ii. The Triarchic Theory of Intelligence

Robert Sternberg 1985 suggested three major aspects of intelligence:

- a). Componential
- b). Experiential.
- c). Contextual.

#### a). Componential

Focuses on mental components and analyze information to solve problems.

#### b). Experiential

Focuses on how a person's previous experiences are related to intelligence and how it is used to solve problems.

#### c). Contextual

Deals with success in facing demands of everyday environments.

Recent approaches have focused heavily on Sternberg's third aspect, i.e., Contextual.

### IV. CONCLUSION

In conclusion, intelligence can be defined as the capability to understand the world, think rationally and use resources effectively. There are two categories of intelligence, factor analysis theories and Information Processing Theories. These are further subclassified into numerous theories.

## Question # 04

What do you know about origin of Psychology? Describe major schools of thought in Psychology in detail.

### I. INTRODUCTION

The word 'Psychology' is derived from two Greek words "psyche" meaning "the mind, soul or spirit" and "logos" meaning "discourse or to study". These words combined produce the "Study of the mind". The traces of Psychology can be found in the era of Plato and Aristotle. However, Wilhelm Wundt is considered the father of Psychology as he established the Psychology laboratory in 1879. There are various major schools of thought in Psychology that will be discussed. Like Structuralism, Functionalism, etc.

### II. ORIGIN OF PSYCHOLOGY

If we want to trace the development of Psychology from the beginning, we would need to start before the earliest pages of recorded history, beyond even the early Greek philosophers, such as Plato and Aristotle.



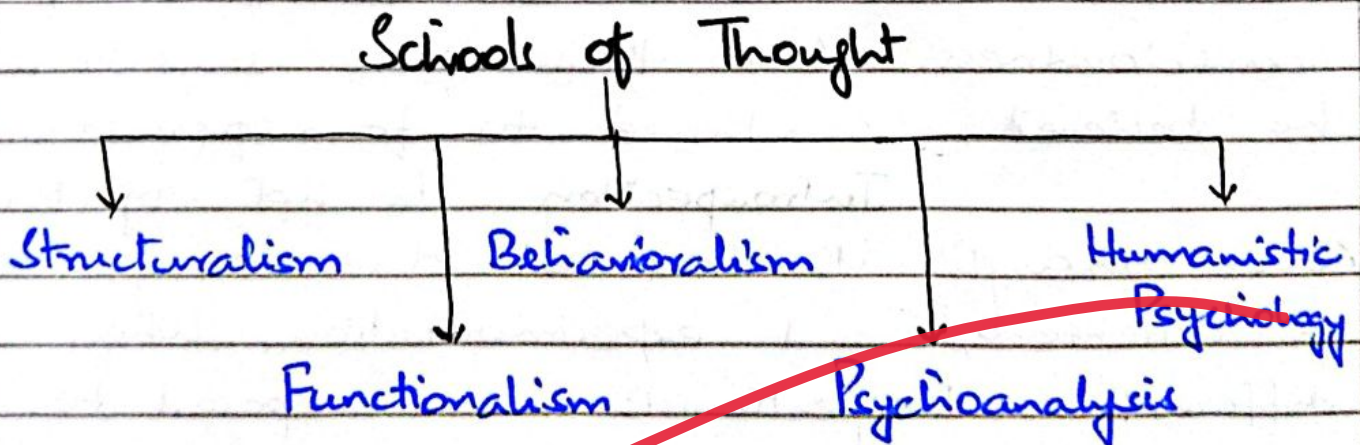
Psychology became distinct from Philosophy when researchers began to use the scientific method to study behavior and mental processes.

By the 1920s, the field's earliest researchers had laid the foundations of the major schools of thought and psychological perspectives that exist in Psychology today.

As the field grew and research finally accumulated, specialty areas within the field began to follow distinctive pathways.

### III. MAJOR SCHOOLS OF THOUGHT IN PSYCHOLOGY

Following are the major schools of thought in Psychology.



# 1. Structuralism

Wilhelm Wundt (1832 - 1920) who is generally thought of as the "father" of Psychology. Wundt established a psychological laboratory at the University of Leipzig in Germany in 1879, an event considered to mark the birth of Psychology as a formal academic discipline. Wundt's most famous student, Englishman Edward Bradford Titchener (1867 - 1927) gave the name Structuralism to this first formal school of thought in Psychology. Like Wundt before him, Titchener thought that consciousness could be reduced to its basic elements: just as water ( $H_2O$ ) can be broken down into its constituent elements. Pure sensations such as sweetness, coldness, or redness were the basic elements of consciousness. And these pure sensations, he believed, combined to form perceptions. Introspection is not objective, even though it involves observation, measurement, and experimentation. When different Introspectionists were exposed to the same stimulus, such as the click of metronome, they frequently reported different experiences.

Later schools of thought in Psychology were established, partly as a reaction against structuralism, especially after the death of Titchener. Nevertheless, the structuralists were responsible for establishing psychology as a science.

## 2. Functionalism

As structuralism began losing its influence in the United States in the early 20th Century, a new school of Psychology called Functionalism was taking shape. Functionalism was concerned not with the structure of consciousness but with "how mental processes function" that is, how humans and animals use mental processes in adapting to their environment.

The influential work of Charles Darwin (1809 - 1882), especially his ideas about evolution and the continuity of species, was largely responsible for an increasing use of animals in psychological experiments.

The famous American Psychologist William James (1842 - 1910) was an advocate of functionalism. James taught that "mental processes are fluid and have continuity,"

rather than the rigid, or fixed, structure that the structuralists suggested.

Functionalism broadened the scope of Psychology to include the study of behavior as well as mental processes. It also allowed the study of children, animals, and the mentally impaired, groups that could not be studied by the structuralists because they could not be trained to use introspection.

Functionalism also focused on an applied, more practical use of Psychology by encouraging the study of educational practices, individual differences, and adaptation in the workplace (Industrial Psychology).

### 3. Behaviorism

Psychologist John B. Watson (1878-1958) looked at the study of Psychology as defined by the structuralists and functionalists and disliked virtually everything he saw.

In his article, "Psychology as the Behaviorist Views it" (1913), Watson prepared a radically new approach to Psychology, one that rejected the subjectivity of both structuralism and functionalism.

This school of Psychology confines itself to the study of behavior because behavior is observable and measurable, and, therefore, objective and scientific. Behaviorism also emphasizes that behavior is determined primarily by factors in the environment.

Skinner agreed with Watson that concepts such as mind, consciousness, and feelings are neither objective nor measurable and, therefore, not appropriate subject matter for Psychology.

Skinner argued that these concepts are not needed to explain behavior. One can explain behavior, he claimed, by analysing the conditions that are present before a behavior occurs and then analyzing the consequences that follow the behavior.

Skinner's research on "Operant Conditioning" emphasized the importance of reinforcement in learning and in shaping and maintaining behavior.

Skinner maintained that any behavior that is reinforced (followed by pleasant or rewarding consequences) is more likely to be performed again.

#### 4). Psychoanalysis

Sigmund Freud (1856-1939), developed a theory of human behavior based largely on case studies of his patients. Psychoanalysis maintains that human mental life is like an iceberg. The smallest visible part of the iceberg represents the conscious mental experience of the individual.

Just like an iceberg, hidden from view, floats a vast store of unconscious impulses, wishes, and desires. Freud insisted that individuals do not consciously control their thoughts, feelings and behavior; these are instead determined by unconscious forces.

The overriding importance that Freud placed on sexual and aggressive impulses caused much controversy both inside and outside the field of psychology.

The most notable of Freud's famous students - Carl Jung, Alfred Adler, and Karen Horney - broke away from their mentor and developed their own theories of personality.

These three and their followers are often collectively referred to as neo-Freudians. Thus, the Psychoanalytic

approach continues to be influential, although in a form that has been modified considerably over the past several decades by the neo-Freudians.

### 5). Humanistic School of Thought

Abraham Maslow and other early humanists, such as Carl Rogers (1902 - 1987), pointed out that Freud based his theory primarily on data from his disturbed patients.

Humanistic psychologists reject with equal vigor.

i). The Behaviorist view that behavior is determined by factors in the environment.

ii). The view of the Psychoanalytic approach stating that the human behavior is determined primarily by unconscious forces.

Humanistic Psychology focuses on the uniqueness of human beings and their capacity for choice, growth, and Psychological health.

Humanists maintain that people are innately good and that they possess free will.

## IV. CONCLUSION

In a nutshell, the traces of Psychology can be found in the history, from the era of Plato and Aristotle. Wilhelm Wundt is known as the "father" of Psychology. There are numerous schools of thought in Psychology named as Structuralism, Functionalism, Behaviorism, Psychoanalysis, Humanistic Psychology.

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### Question # 03

Define Perception. Differentiate sensation and Perception. Illustrate.

## I. INTRODUCTION

Perception refers to the process by which individuals organize and interpret sensory information to give meaning to their surroundings. Whereas, sensation is input about the physical world obtained by our sensory receptors. There are various parameters on the basis of which sensation and perception differentiates with each other.

## II. DEFINITION OF PERCEPTION

Perception can be defined as:

"It is a process that gives understanding and unity to the sensory input."

Another definition of perception can be:

"It is a process in which sensory information is organized and interpreted in the brain."

Another definition of it can be:

"The sorting out interpretation, analysis, and integration of stimuli by sensory organs and brain is called Perception."

Another way of defining perception is:  
 "Perception is a process based on past experiences and sensory cues, which gives a meaningful pictures and understanding of the situation."

### III). DIFFERENCE BETWEEN SENSATION AND PERCEPTION

The difference between sensation and perception are as follows:

Sensation	Perception
Definition	
Sensory is input about the physical world obtained by our sensory receptors.	Perception is the process by which the brain selects, organizes, and interprets these sensations.
Existence	
Sensation exists out of: sight, sounds, smell, taste, and feeling.	Perception exists out of: sight, sounds, smell, taste feeling, social (understanding individuals and groups), speech, faces, social touch. (elicits emotional reactions)

## Sensation

## NOT Perception

### Process

The process of receiving information through your senses, which can be interpreted by our brain.

The process of interpreting the information received by the sensation process.

### Source

The source is the stimuli received by our senses.

The source is the information sent to the brain through sensation.

### Results in

Sensation results in raw information from your senses.

Perception results in meaning of that information.

### In General

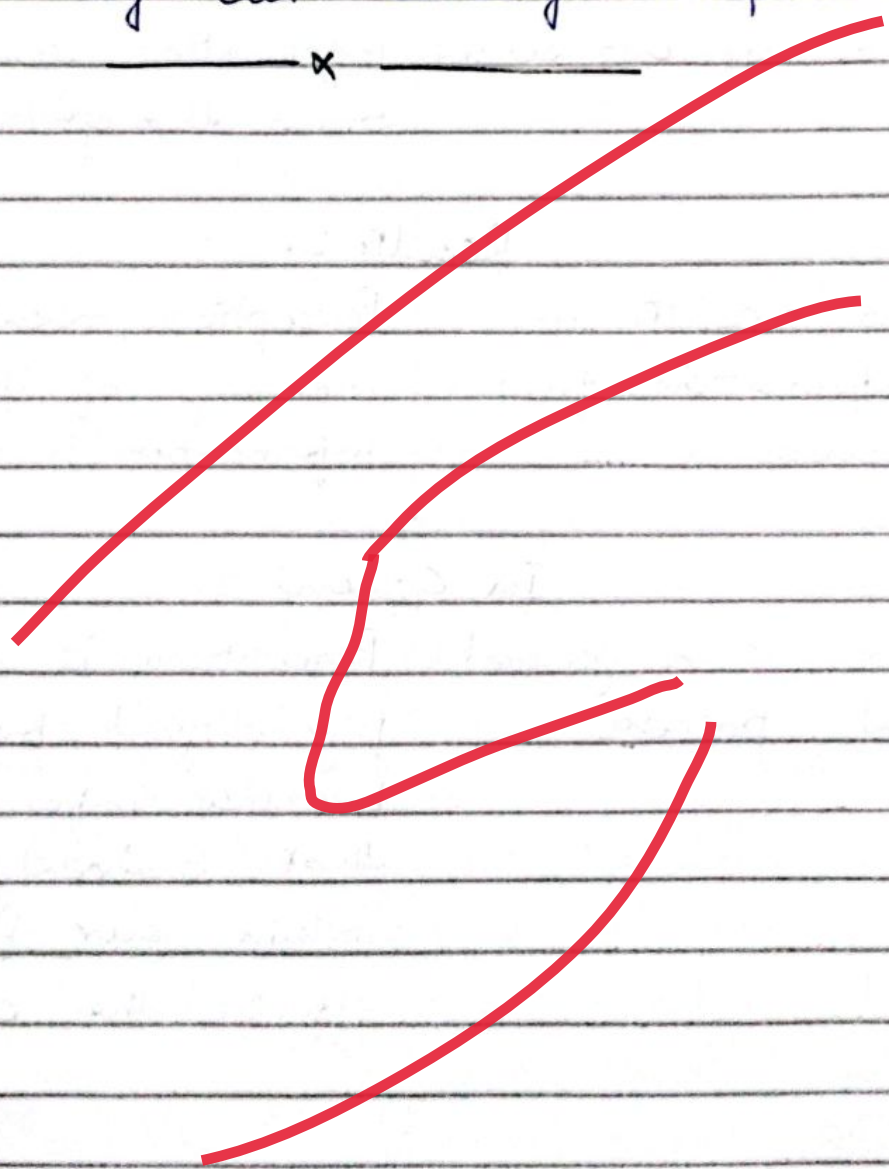
Sensation is a general biological process.

Perception is a more psychological process because information that is already stored within our brain affects the outcome.

## IV. CONCLUSION

In conclusion, perception is a process in which sensory information is organized and interpreted in the brain. We act and behave after experiencing a stimuli and in order to experience something we need to sense it through our sensory organs. Thus, sensation is the input about the physical world obtained by our sensory receptors.

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## Question # 06

Define Memory and Learning. Also, discuss various theories of Learning.

### I. INTRODUCTION

Memory and Learning has a huge role in Psychology. Memory refers to the processes that are used to store, retain, and recall information or experiences. On the other hand, learning is a relatively permanent change in behavior or knowledge that results from experiences. Moreover, there are various theories of learning like behaviorism, Cognitive Learning Theory, Operant Conditioning, Classical Conditioning, and Constructivism.

### II. DEFINING MEMORY AND LEARNING

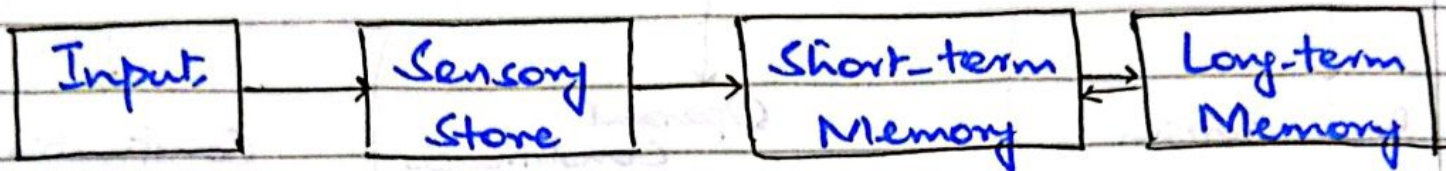
#### 1. Definition of Memory

Memory can be defined as:

"Memory refers to the processes that are used to store, retain and recall information or experiences.

It involves encoding (inputting information), storage (retaining information over time), and retrieval (recovery)

information when needed). Memory plays a crucial role in learning, as it allows individuals to retain and use the knowledge or skills acquired through experiences."



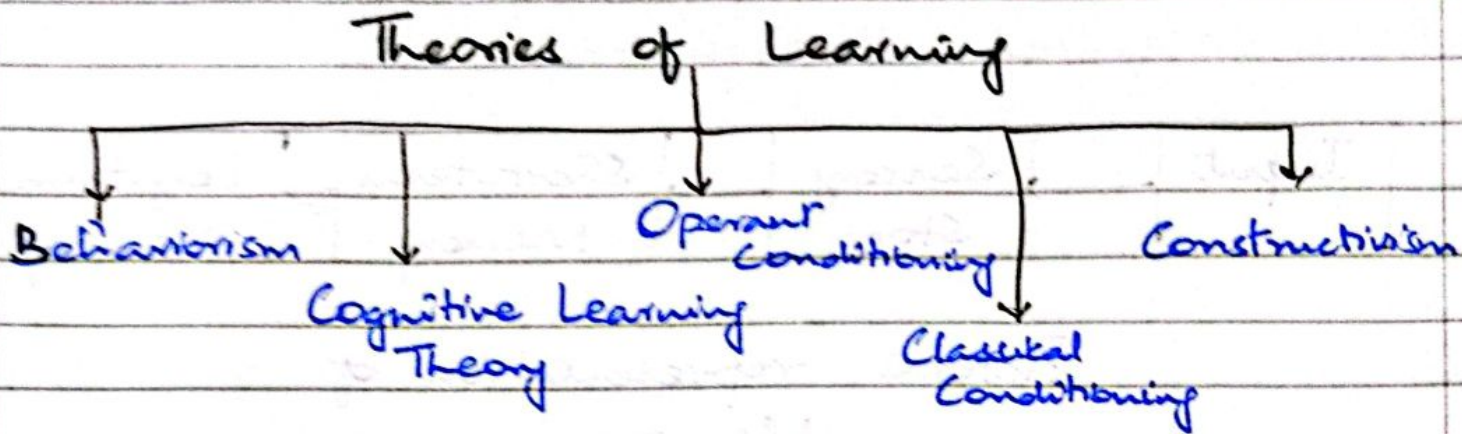
### Pictorial representation of Memory

## 2. Definition of Learning

Learning can be defined as:  
"Learning is a relatively permanent change in behavior or knowledge that results from experience. It involves the acquisition of new information, skills, behaviors, or attitudes through various processes, and it can occur consciously or unconsciously. Learning is a fundamental aspect of human and animal behavior, enabling individuals to adapt to their environment and respond to new situations."

## III. MAJOR THEORIES OF LEARNING

Following are the major theories of learning:



### 1). Behaviorism

The key figures of this theory were B.F. Skinner and John.B. Watson. Behaviorism emphasizes observable behaviors and the impact of the environment on behavior. It suggests that learning is a result of responses to external stimuli and reinforcement or punishment.

### 2). Cognitive Learning Theory

The key figures of this theory were Jean Piaget and Albert Bandura. In 1970, Jean Piaget suggested the theory of cognitive development based on conscious. He gave cognitive development in the children as stages and involve adjustment.

and assessment of the children.

a). Adjustment : The relationship that any organism establishes with respect to its environment.

b). Assessment: Development of an idea or evaluation of surrounding processes.

He suggested that children around the world proceed through a series of four stages in a fixed order. These four cognitive stages are:

- i). Sensori-motor
- ii). Pre-operational
- iii). Concrete Operational
- iv). Formal Operational.

### 3). Operant Conditioning

Operant conditioning is a concept of an American Psychologist B. F. Skinner. He believed that learning can be described in terms of Observational behavior, he did the most in classical conditioning. In other words, operant conditioning involves learning through the consequences of behavior. The key concepts in this theory are:

- i). Positive Reinforcement
- ii). Negative Reinforcement.



- iii). Punishment
- iv). Extinction.

#### 4). Classical Conditioning.

Classical Conditioning is also known as Pavlov Conditioning or Respondent Conditioning. Classical conditioning involves learning through the association of stimuli. It explores how neutral stimuli can become associated with a response through repeated pairings with an unconditioned stimulus. Ivan Pavlov is the key figure of Classical conditioning. He discovered this phenomenon through an experiment which is conducted on a dog. Pavlov observed five different processes in the experiment which are known as Classical conditioning. These are as follows:

- i). Acquisition.
- ii). Extinction
- iii). Spontaneous Recovery.
- iv). Generalization
- v). Stimulus Discrimination
- vi). Higher Order Conditioning.

## 5). Constructivism

The key figures of this concept are Jean Piaget and Lev Vygotsky. Constructivism posits that learning is an active process of constructing knowledge through experiences and interactions. Piaget's theory emphasises individuals cognitive development, while Vygotsky's social cultural theory highlights the social context and collaborative learning.

## IV. CONCLUSION

In conclusion, memory and learning are important concepts of Human Psychology. Memory is related to the processes that are used to store, retain, and recall information or experiences. Whereas, learning is a permanent change in behavior from experience. Major theories of learning are behaviorism, cognitive learning theory, classical conditioning, operant conditioning, and constructivism. These theories provide different perspectives on how learning occurs, reflecting the complex and multifaceted nature of the learning process:-

## Question # 07

Define motivation and emotions. What are the major theories of Motivation?

### I. INTRODUCTION

Motivation and emotions are vital concepts of human psychology. Motivation is a process that leads toward a goal. On the other hand, emotions are feeling that generally have both physiological and cognitive elements that influence behavior. The major theories of motivation includes Need Theory, Process Theory, and Instinct Theory.

### II. DEFINING EMOTIONS AND MOTIVATION

#### 1). Definition of Emotions

Emotions can be defined as:

"Emotions are complex psychological and physiological responses to stimuli or situations that involves subjective feelings, physiological arousal, expressive behaviors, and cognitive appraisal. Emotions play a crucial role in human experience, influencing how individuals perceive,

interpret, and respond to the world around them. Basic emotions, such as happiness, sadness, fear, anger, surprise, and disgust, are considered universal across cultures."

## 2). Definition of Motivation.

Motivation can be defined as:

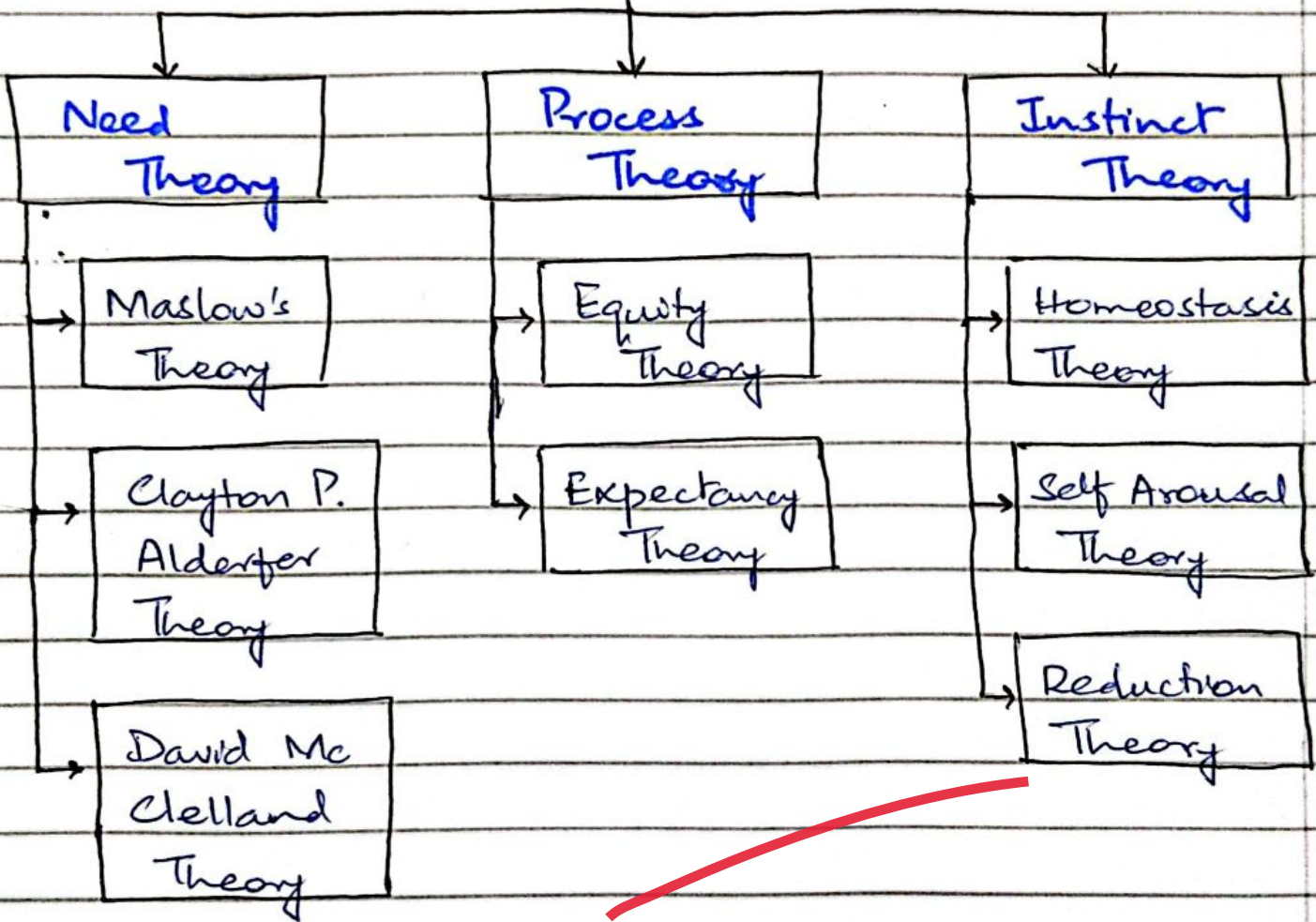
"Motivation refers to the internal and external factors that drive individuals to initiate, sustain, and direct their behavior toward the attainment of specific goals or outcomes. It is the force that energizes and directs behavior, influencing the choices people make and the effort they put into achieving their objectives.

Motivation can arise from intrinsic factors such as personal interests and values, as well as extrinsic factors, including rewards, punishments, or external pressures.

## III. THEORIES OF MOTIVATION

There are three main theories of motivation.

### Theories of Motivation



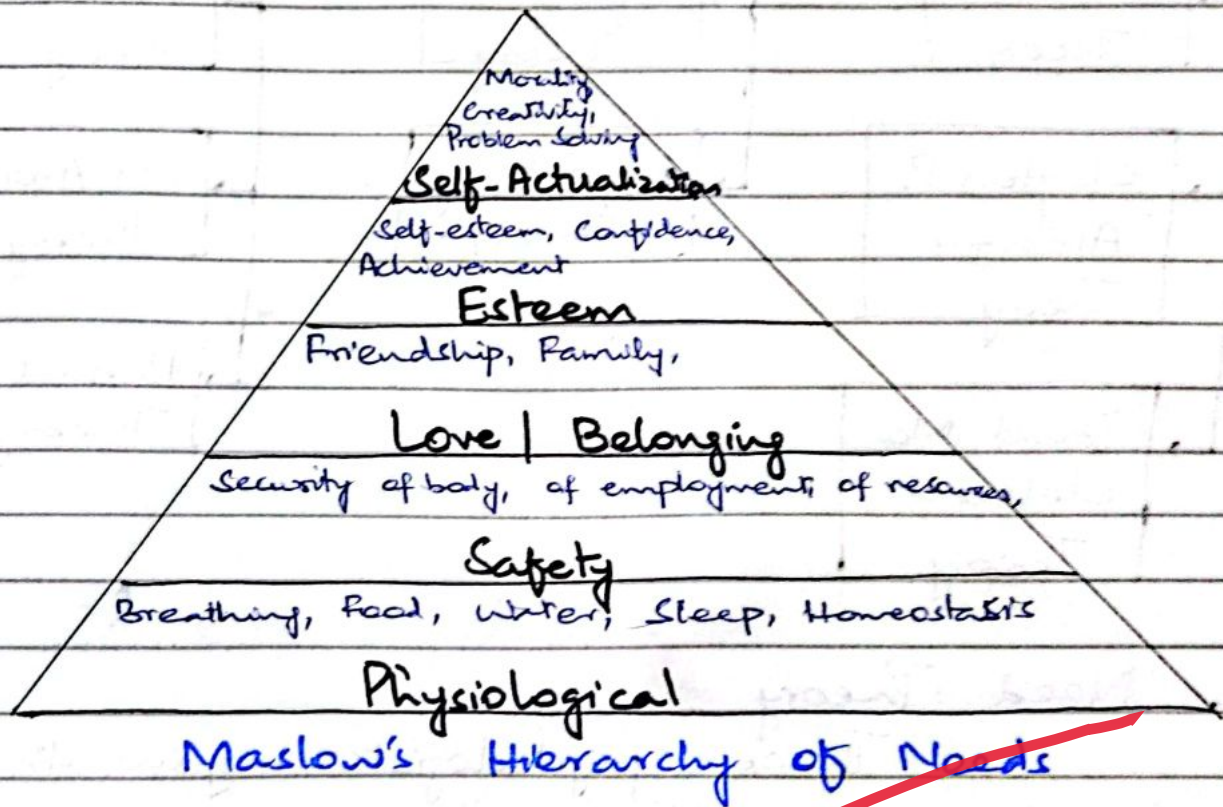
### 1). Need Theory

Three psychologists gave theories based on needs. These theories were named after them.

- i). Maslow's Theory.
- ii). Clayton's Theory.
- iii). David Mc Clelland's Theory.

## i). Maslow's Theory.

This theory was based on human needs. Maslow gave hierarchy concept. The theory has five main points. The main concept of this theory was that needs are a stepwise process, they increase step wise. Maslow stated, that first the low order needs should be fulfilled after that a person thinks about higher level needs.



Maslow believes that the best human is the one who has potential to solve all the problems and has reached the level of self actualization.

## ii. Clayton P. Alderfer's Theory.

Alderfer condensed theory of Maslow into three parts:

- a). Existence
- b). Relatedness
- c). Growth.

### a). Existence

For existence physical and safety needs should be fulfilled.

### b). Relatedness

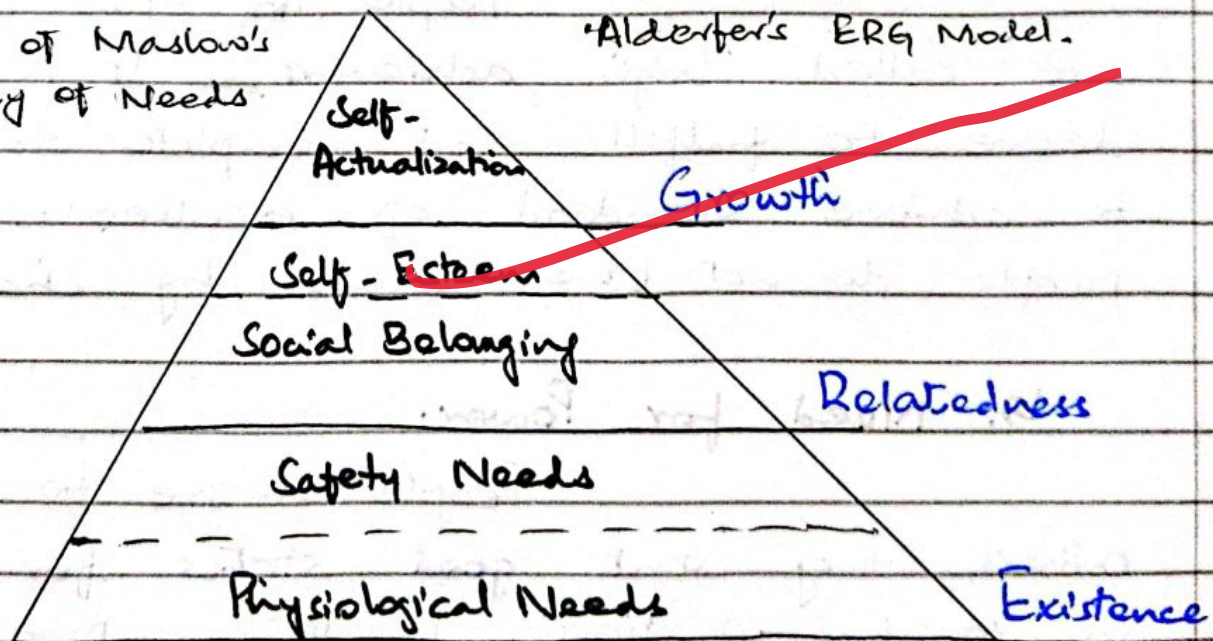
It is related to social behavior. It is also a need and makes a person to stand on a point where society accepts him or rejects him.

### c). Growth

It includes self-respect, social acceptance, and self-actualization.

5 levels of Maslow's Hierarchy of Needs

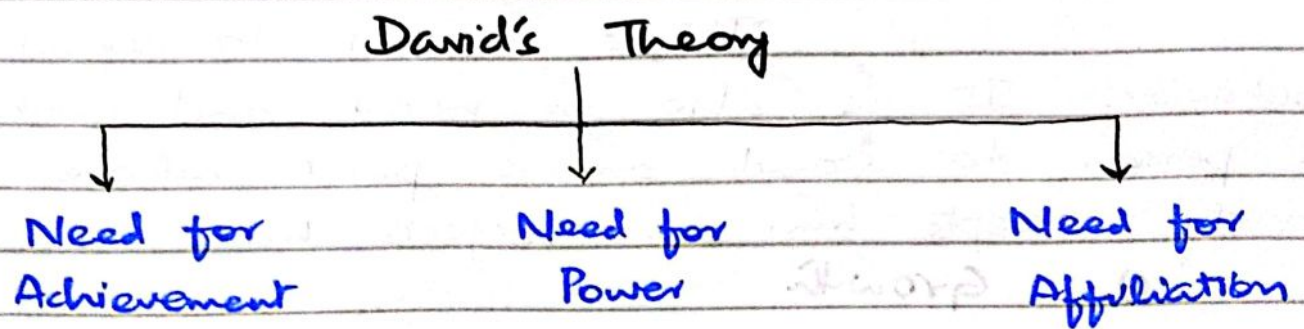
Alderfer's ERG Model.



Maslow's point of view was that need is like a ladder when one is fulfilled another one comes forward but Alderfer said that more need can be operated at a time.

iii). David Mc Clelland's Theory.

David's theory was based on three needs:



a). Need for Achievement

People in this category are called "high" achievers. It is a desire to fulfill and complete tasks and to achieve standard of excellence. Such people do not like success by chance.

b). Need for Power:

People desire to influence others, they want good status for dominance in society. A person in this category wants to be assigned with powerful people.

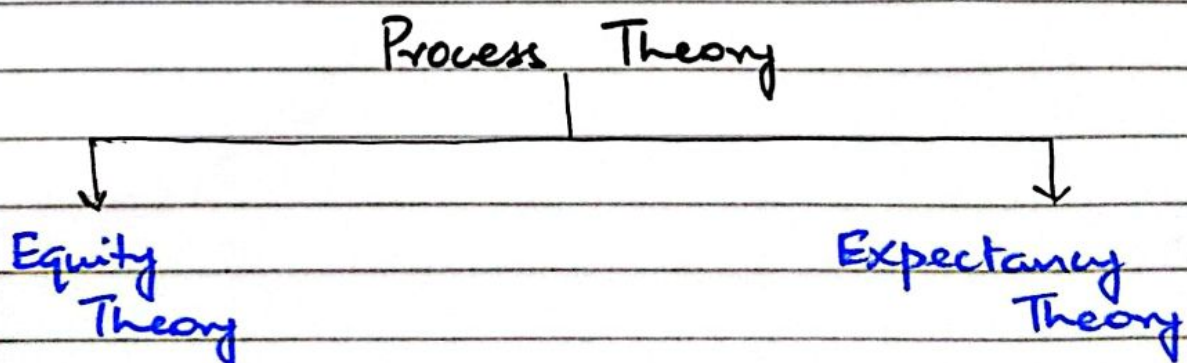


## ② Need for Affiliation

People in this group desire to maintain warm and friendly relations with others. They are social people. Relationships are more important to them.

## 2). Process Theory

This concept was given by Julian B. Rotter, which describes personality as a relatively stable set of potentials for responding to situations in a particular way. There are two sub types:



### i). Equity Theory:

This theory focuses on individual's perception on how well he is treated with respect to others. Equity means to equate by comparing things. People compare education, their pay, their ability with promotion, with their efforts to benefits.

## ii). Expectancy Theory.

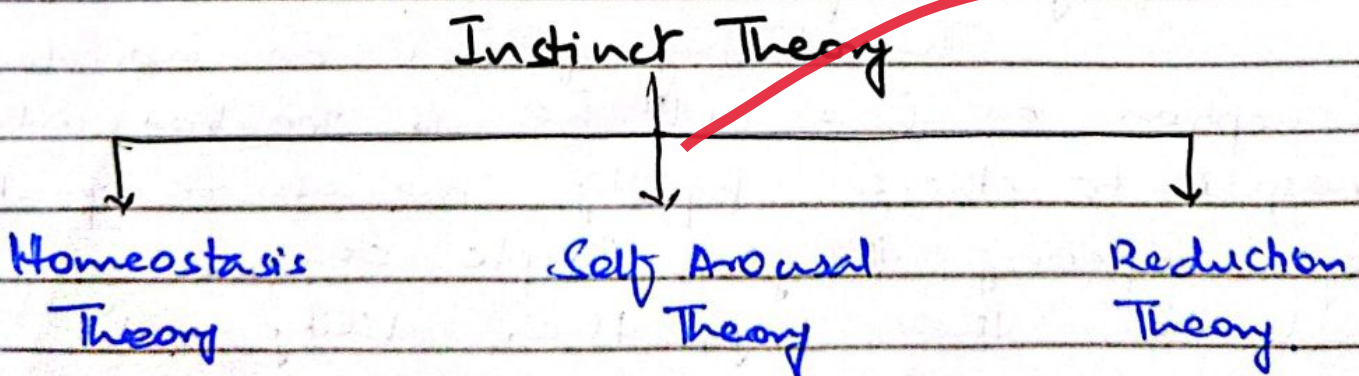
This expectancy theory relies upon three things:

- a). Individual Efforts.
- b). Reward
- c). Ultimate Goals.

Expectancy theory suggests that individual strength of expectation for a particular thing depends on the strength of motivation that the act would be followed by a particular outcome and attractiveness of the outcome.

## 3). Instinct Theory.

Motivation is the result of inborn pattern of behavior; By instinct we mean inborn pattern of behavior that are biologically determined rather than learned. Instinct theory has three sub-theories under its umbrella:



## a). Homeostatic Theory

According to Grossman:

"It is a body's motivation to make a stable state of balance."

Hunger and Thirst are the biological motives that operates with homeostatic cycle. It is a principle by which an organism tries to maintain balance or steady state.

## b). Self Arousal Theory:

Each person tries to maintain a certain level of stimulation and activity.

## c). Reduction Theory

According to Hulls and Woodworth:

"Animal learning is based on the need to reduce some kind of primary drive."

Lack of basic biological requirement such as: ~~Derive of water:~~ water produces a derive to obtain this requirement a person will be motivated to fulfill this drive.

#### IV. CONCLUSION

In conclusion, emotions and motivation are important components of human psychology. Major theories of motivation are Need Theory, Process Theory and Intrinsic Theory.

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Good ✨