



**INDIAN SCHOOL MUSCAT
DEPARTMENT OF HUMANITIES
PSYCHOLOGY
CLASS – XI
CHAPTER – 3**

THE BASES OF HUMAN BEHAVIOUR

1. What is evolution?

Evolution refers to gradual and orderly biological changes that result in a species from their pre-existing forms in response to the changing adaptational demands of the environment.

2. What are the three factors which are differentiating modern human being from ancestors?

The three important features or the factors differentiating modern human beings from their ancestors are

- i. A bigger and well developed brain for better cognitive functioning.
- ii. The ability to walk up right with support of two legs.
- iii. A free hand with workable opposing thumb.

3. Define neuron and explain the structure of a neuron?

Neuron is the basic unit of our nervous system, these are specialized cells, which possess unique property of converting various forms of stimuli into electrical impulses.

The structure of neuron is having three basic fundamental components Soma, dendrites and axon. Soma or the cell body is the main part of the cell and it contains nucleus and it is supportive in cell reproduction and protein synthesis.

Dendrites are the branches emanating from the soma, They are receiving ends of a neuron and their function is to receive the incoming neural impulses from adjacent neurons.

4. What is synapse and synaptic cleft?

The axon tip of a preceding neuron make functional connections or synapse with dendrites of the other neuron. A neuron is never physically connected with another neuron and there is a minor gap between the two and this gap is known as synaptic cleft.

5. Explain about C.N.S?

The central nervous system is the center of all neural activity, it integrates all incoming sensory information. The CNS is the combination of Brain and Spinal cord.

6. Explain about P.N.S?

PNS is composed of all the neurons and nerve fibers that connect the CNS to the rest of the body. The PNS is classified into somatic nervous system and autonomic nervous system. The autonomic nervous system is further classified into sympathetic and parasympathetic systems. The PNS basically provides information to the CNS from sensory receptors and relays back motor commands from the brain to the muscles and glands.

7. Explain the structure of Hind Brain?

Medulla Oblongata: It is the lowest part of the brain and it exists in continuation with the spinal cord. It contains neural centres which regulate basic life supporting activities like breathing, heart rate, and blood pressure.

Pons: It is connected with medulla on one side and with the midbrain on the other. A nucleus of pons receives auditory signals relayed by our ears. It is believed that pons is involved in sleep mechanism, particularly the sleep characterized by dreaming.

Cerebellum: A highly developed part of the brain and it can be easily recognized by its wrinkled surface. It maintains and controls posture and equilibrium of the body. Its main function is coordination of muscular movements. It also stores memory of movement patterns so that we do not have to concentrate on how to walk, dance, or ride a bicycle.

8. Explain the structure of Mid Brain?

Mid brain is relatively small in size and it connects the hind brain with the fore brain. The mid brain consists of few neural centers related to some special reflexes and auditory, visual sensations are found here. The important part of the mid brain is Reticular activating system and it is responsible for arousal. It makes us active by regulating sensory inputs.

9. Explain the structure of Fore Brain and various Lobes of Brain?

Fore brain is considered as an important part of the brain due to its functions and it performs various cognitive, emotional and motor activities.

Hypothalamus: It is the smallest structure in the brain, but plays a vital role in our behavior. It supports and regulates physiological processes involved in emotional and motivational behavior, such as eating, drinking, sleeping, temperature regulation and sexual arousal.

Thalamus: It consists of an egg – shaped cluster of neurons situated on the ventral side of the hypothalamus. It is like a relay station that receives all incoming sensory signals from sense organs and sends them to appropriate parts of the cortex for processing it.

Limbic system: It is composed of a group of structures that form part of the old mammalian brain. It helps in maintaining internal homeostasis by regulating body temperature, blood pressure, and blood sugar level. It is closely connected with hypothalamus and the limbic system comprises the hippocampus and amygdala. Hippocampus plays an important role in long term memory and amygdala plays an important role in emotional behavior.

The Cerebrum: It makes two third of the total mass of the human brain. Its thickness varies from 1.5mm to 4 mm and it covers the entire surface of the brain and it contains neurons and neural nets, and bundles of axons. The various cognitive functions such as attention, learning, memory, language behavior, reasoning and problem solving.

Frontal lobe is mainly concerned with cognitive functions, such as attention, thinking, memory, learning and reasoning. **Parietal lobe** is totally concerned with cutaneous sensations and their coordination with visual and auditory sensations. The **temporal lobe** is concerned with processing of auditory information and **Occipital lobe** is mainly concerned with visual information.

10. Explain the structure and functions of Spinal cord?

The Spinal cord is a long rope – like collection of nerve fibers, it runs along the full length inside the spine. Its one end is connected with medulla

oblongata of the brain and other side is free at the tail end. The butterfly shaped grey matter is present in the entire spinal cord contains association neurons and various other cells. Surrounding the grey matter white colored matter is present and it is composed of ascending and descending neural tracts.

Spinal cord plays the role of a huge cable, it exchanges messages with the CNS and the two major functions of the spinal cord are, it carries the sensory impulses from the various parts of the body to the brain and the commands from the brain to the muscles and glands. Simple reflex actions are under the control of the spinal cord.

11. Explain about Endocrine Glands and their functions?

Pituitary Gland: IT is located in cranium below the hypothalamus and it is divided into anterior pituitary and posterior pituitary. Anterior pituitary is connected to the hypothalamus and it mainly regulates the hormonal secretions. The hormones secreted by anterior pituitary are controlling the functions of various other endocrine glands. The hormones are secreted at steady rate and others secreted at an appropriate time in life.

Thyroid Gland: Thyroid is located in the neck and it produces thyroxin that influences the body's metabolic rate. The thyroid functioning is affected by anterior pituitary's Thyroid stimulating hormone (TSH). The steady secretion of this hormone produces the energy, consumption of oxygen and elimination of wastes in body cells. Low production of TSH leads to physical and psychological lethargy.

Adrenal Gland: It is divided in to two parts, Adrenal medulla and Adrenal cortex. The secretion of adrenal cortex is controlled and regulated by ACTH (Adrenocorticotropic hormone) of anterior pituitary. Adrenal cortex secretes a group of hormones called corticoids and these are utilized in regulation of minerals like potassium, sodium and chlorides. Low secretion will seriously affect the nervous system.

Adrenal medulla secretes two hormones namely epinephrine and nor epinephrine. Sympathetic activation such as increased heart rate, oxygen

consumption and metabolic rate and muscle tone take place through the secretion of the two hormones.

Pancreas: Pancreas is lying near the stomach, it has a primary role in digestion of food, but it also secretes a hormone known as insulin. Insulin helps the liver to break down glucose for use by the body or for storage as glycogen by the liver. Due to failure of generating insulin people develop a disease called diabetic mellitus.

Gonads: Gonads refers to testes in male and ovaries in females, The hormones by these glands control and regulate sexual behaviors and reproductive functions. The functions of these glands are regulated and controlled by gonadotropic hormone secreted by anterior pituitary. GTH secretion starts around the age of 10-14 years in human beings and it stimulates the development of primary and secondary sexual characteristics.

Ovaries in female produces estrogens and progesterone. Estrogens guide the sexual development of the body, primary sexual characteristics like reproduction, egg cell development and secondary sexual characteristics such as breast development, rounded body contours, widened pelvis..etc are affected with estrogen. The progesterone is not having any role in sexual development and its major function is preparation of uterus for the possible reception of fertilized ovum.

12. What is genetics?

The study of the inheritance of physical and psychological characteristics from the ancestors is known as genetics.

13. What is mutation and what is impact on human development?

Change of a gene from one form to another form is known as mutation. The type of mutation that occurs spontaneously in nature provides variations in genotypes and permits evolution of new species in the world.

14. What are chromosomes?

Chromosomes are the hereditary elements of the body, they are thread like-paired structures in the nucleus of each cell. The number of chromosomes distinctive and constant for each living organism.

15. What is socialization and what are the various agents?

Socialization is a process by which people acquire knowledge, skills and dispositions which enable them to participate as effective members of the groups and society. socialization forms the ground or the base for the transmission of culture from one generation to another generation.

Agents of socialization

Parents: The first and most important agent in the process of socialization is the parent and the way how the parents will provide information regarding various matters makes the child familiar. The role of mother is very significant in the process of socialization and encouraging the child to learn and understand about the society.

School: School is an important agent of socialization and the amount of socialization takes place in school is much more than in family. The child will learn and understand various things in school while having interactions with different socializing agents like Teachers, friends and peer group. The interactions of the children with multi religions and multi cultures will make them to understand the world in a much better way.

Peer groups: The children will learn various good qualities while working along with the friends. The various qualities like sharing, trust, mutual understanding, role acceptance and working for collective or common tasks will be improved.

Media: in the modern world the print, digital media is playing major role in the process of socialization. The children are learning good qualities while accessing to the information available to them and the potential threat with this media is the amount of violence on television is increasing aggressive behavior among the children.

16. What is Enculturation?

Enculturation refers to all the learning that takes place without direct or deliberate teaching. Many concepts people learn automatically because of due to availability of those concepts in their culture.

17. What is Acculturation and what are its strategies explain with the relevant examples?

Acculturation refers to the cultural and psychological changes which are resulting due to the interaction of various cultures in one's life. The acculturation process is basically seen in the way how individuals interact with other cultural groups.

Integration: It is a process where an individual will interact with other cultural groups and have respect for their customs and traditions and follows his own culture.

Assimilation: It is an acculturation strategy where an individual will leave his own cultural identity and will be part of a new or different culture.

Separation: Separation is a strategy followed by the people with strict commitment to their own culture and customs. People will not like or prefer to interact with other cultural groups and they are more positive towards their own culture and they avoid interactions with other cultural groups.

Marginalization: People have less interest in cultural matters and they will get mix with any culture quickly in their social interactions.