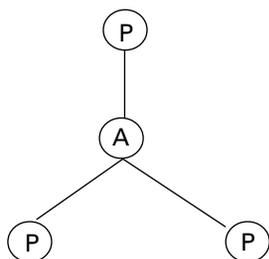


- 3) While doing exercise, why does the muscle pain increase in a rapid way ?
 - 4) Can we do any exercise without getting pain ?
 - 5) What is the meaning of aerobic and anaerobic respiration ?
 - 6) By which respiration lactic acid gets accumulated in muscles ?
4. 1) Cellular respiration occurs in a series of chemical reactions which results in the release of energy.
 - 2) Each small parcel of chemical energy from the breakdown of sugar is stored up in special compound known as ATP.
 - 3) Adenosine triphosphate is also known as energy currency.
 - 4) An energy rich compound capable of carrying energy wherever needed within the cell.
 - 5) Each ATP molecule gives 7,200 calories of energy. This energy is stored in the form of phosphate bonds.



- II. 1) D 2) A 3) C 4) D 5) B
 6) C 7) B 8) B 9) D 10) C
 11) A 12) B 13) A 14) C 15) D
 16) C 17) B 18) D 19) B 20) D

CHAPTER – 3

Transportation-The Circulatory System

- I. 1. 1) Blood vessels which carries pure blood are known as arteries.
 - 2) They carry blood from heart to different body parts.
 - 3) Due to contraction of heart blood flows into arteries with great pressure.
 - 4) To retain original structure against high pressure, arteries are rigid in nature.
2. 1) Heart beat is not similar to all age groups.
 - 2) Basing on health condition, heart beat is varied.

- 3) According to age heart beat is as follows.

New born (0-3 months)	Infants (3-6 months)	Infants (6-12 months)	Children (1-10 years)	Children (over 10)	Adults
100-150	90-120	80-120	70-130	60-100	40-60

3. 1) The rigid vessels called arteries which originate from the heart supply blood to various organs in the body.
 - 2) From the upper part of the left ventricles a thick blood vessel called aorta arises. It supplies oxygenated blood to the body parts.
 - 3) From the upper part of the right ventricle pulmonary artery arises that supply deoxygenated blood to the lungs.
 - 4) A pair of coronary arteries carries oxygenated blood to the muscles of heart.
 - 5) All the arteries carry oxygenated blood except pulmonary artery.
4. 1) In fishes two chambered heart is present only one auricle and one ventricle.
 - 2) In amphibians three chambered heart is formed with two auricle and one ventricle.
 - 3) In insects like cockroach 13 chambered heart is present without any blood vessels.
 - 4) In earthworm eight pairs of hearts are present which connects with dorsal and ventral blood vessels.
 - 5) In reptiles heart is incompletely divided into four chambers.
 - 6) In aves and mammals heart is divided into four chambers and connected to well defined blood vessels.
 - 7) So circulatory system in vertebrates has undergone several changes during evolution.

- II. 1) A 2) B 3) C 4) A 5) D
 6) B 7) A 8) B 9) C 10) D
 11) C 12) A 13) D 14) D 15) C

CHAPTER – 4

Excretion – The Wastage Disposing System

- I. 1. 1) In each kidney more than one million microscopic and thin tubular functional units called nephrons are present.
- 2) Each nephrons contains Bowman's capsule and renal tubule.
- 3) Bowman's capsule is filled with Network of blood capillaries known as glomerulus.

- 4) In glomerulus ultra filtration takes place.
- 5) This filtration takes place by four stages. They are :
 - 1) Glomerular filtration
 - 2) Tubular reabsorption
 - 3) Tubular secretion
 - 4) Concentration of urine
2. 1) ESRD means 'end stage renal disease'.
 - 2) In such patients we should remove wastes by a process known as Dialysis.
 - 3) This process is painful process and continuous process.
 - 4) So Transplantation of kidney is the best method in ESRD patients.
3. He got following doubts about heamodialysis.
 - 1) What is the use of dialysis ?
 - 2) How the impurities are separated from blood ?
 - 3) How much time needed to complete dialysis ?
 - 4) How frequently, does a patient should undergo dialysis ?
 - 5) How to prevent blood coagulation during dialysis ?
 - 6) What is major difference between kidney and artificial kidney ?
 - 7) Can this process done at home ?
4. 1) In plants two types of biochemical substances are produced. They are primary and secondary metabolites.
 - 2) Primary metabolites are carbohydrates, fats and proteins.
 - 3) Secondary metabolites are Alkaloids, Tannins, Resins, Gums and Latex.
 - 4) Alkaloids are nitrogenous by products and poisonous.
 - 5) Tannin are carbon compounds which are deep brown in colour.
 - 6) Gums are economically valuable and used as adhesives.
 - 7) Latex is a sticky, milky white substances secreted by plants.
 - 8) Resins are produced from Gymnosperms which are used in varnishes.

- II.** 1) D 2) B 3) B 4) C 5) B
 6) C 7) B 8) C 9) A 10) C
 11) C 12) D 13) D 14) B 15) D
 16) C

CHAPTER – 5

Coordination - The Linking System

- I. 1. 1) Synapse is the functional region between two neurons where information from one neuron is transmitted or relayed to another neuron.
 - 2) Information is passed from one nerve cell to the other through these gaps either in the form of chemical or electrical signals or both.
 - 3) These synapses are mainly found on the brain, spinal cord and around the spinal cord.
 - 4) Beyond these areas the axon carries the signals to respective areas in our body.
2. 1) 1990-2000 is known as decade of brain.
 - 2) During this decade many scientists were conducted experiments on brain.
 - 3) How dreams occur and how we imagine the situation are not revealed till now.
 - 4) So scientists were studied about the functional brain.
3. 1) In human body all the functions are co-ordinate by Nervous system.
 - 2) But this co-ordination in brought by Nervous system and Endocrine system.
 - 3) Because Nervous system co-ordinate our body with external environment.
 - 4) Endocrine system co-ordinate our body internally by producing hormones.
 - 5) Hormones are the chemical substances which are secreted from endocrine glands.
 - 6) These glands are located in different parts of the body and bring co-ordination inside the body by hormones.
4. 1) Banting, Best and Macleod were extracted insulin hormone from degenerate animal pancreas.
 - 2) This hormone is secreted from inslets of langerhans of pancreas first identified by Paul Wargerhans.
 - 3) They studied about insulin which control glucose levels in blood.
 - 4) If blood contains high amount glucose insulin is secreted and control the glucose levels by converting it into glycogen.

- II.** 1) C 2) D 3) A 4) B 5) C
 6) D 7) B 8) D 9) D 10) C
 11) C 12) B 13) A 14) B 15) C
 16) D