

10th Biology Chapter Bise Test

Chapter 1: Cell – Structure and Functions

MCQs (10)

1. The basic unit of life is:
(A) Atom
(B) Molecule
(C) Cell ☒
(D) Tissue
2. Which organelle is known as the powerhouse of the cell?
(A) Nucleus
(B) Mitochondria ☒
(C) Ribosome
(D) Golgi body
3. The jelly-like substance inside the cell is called:
(A) Cytoplasm ☒
(B) Nucleoplasm
(C) Protoplasm
(D) Plasma
4. Cell wall is present in:
(A) Animal cells only
(B) Plant cells only ☒
(C) Both
(D) None
5. The site of protein synthesis is:
(A) Ribosome ☒
(B) Mitochondria
(C) Chloroplast
(D) Nucleus
6. Which of the following is found in plant cells but not in animal cells?
(A) Lysosome

- (B) Cell wall ☒
 - (C) Mitochondria
 - (D) Nucleus
7. DNA is stored in:
- (A) Cytoplasm
 - (B) Nucleus ☒
 - (C) Ribosome
 - (D) ER
8. Golgi apparatus is responsible for:
- (A) Protein synthesis
 - (B) Transport and packaging ☒
 - (C) Respiration
 - (D) Photosynthesis
9. Cell membrane is made up of:
- (A) Proteins only
 - (B) Lipids only
 - (C) Proteins and Lipids ☒
 - (D) Carbohydrates only
10. Which type of cell division helps in growth and repair?
- (A) Mitosis ☒
 - (B) Meiosis
 - (C) Binary fission
 - (D) Budding

Short Questions (8)

1. Define a cell.
2. Name two differences between plant and animal cells.
3. What is cytoplasm?
4. Function of mitochondria?
5. What is the function of ribosomes?
6. Define nucleus.
7. What is the function of the cell wall?

8. Give one function of Golgi apparatus.

Long Questions (5)

1. Explain the structure of a typical plant cell with a labeled diagram.
2. Describe the differences between prokaryotic and eukaryotic cells.
3. Write a note on the functions of cell organelles.
4. Explain the structure and functions of the cell membrane.
5. Describe the process of cell division (mitosis) in detail.

Chapter 2: Tissue – Plant and Animal Tissues

MCQs (10)

1. Meristematic tissue is responsible for:
(A) Photosynthesis
(B) Growth ☒
(C) Storage
(D) Support
2. Which tissue transports water in plants?
(A) Xylem ☒
(B) Phloem
(C) Parenchyma
(D) Collenchyma
3. Which tissue provides mechanical support?
(A) Collenchyma
(B) Sclerenchyma
(C) Parenchyma
(D) Both A and B ☒
4. Which tissue helps in food conduction?
(A) Xylem
(B) Phloem ☒
(C) Collenchyma
(D) Parenchyma

5. Muscle tissue that is voluntary is:
(A) Cardiac
(B) Skeletal ☒
(C) Smooth
(D) None
6. Which tissue covers the body surface?
(A) Connective
(B) Epithelial ☒
(C) Muscle
(D) Nervous
7. Blood is a type of:
(A) Connective tissue ☒
(B) Epithelial tissue
(C) Muscle tissue
(D) Nervous tissue
8. Cartilage is made up of:
(A) Cells and fibers ☒
(B) Only fibers
(C) Only cells
(D) None
9. Neurons are specialized for:
(A) Conduction of impulse ☒
(B) Secretion
(C) Protection
(D) Storage
10. Adipose tissue stores:
(A) Carbohydrates
(B) Fat ☒
(C) Protein
(D) Minerals

Short Questions (8)

1. Define tissue.
2. Give two examples of permanent tissues.

3. Function of xylem?
4. Function of phloem?
5. Give one function of epithelial tissue.
6. Name three types of muscle tissues.
7. Define connective tissue.
8. Function of cartilage?

Long Questions (5)

1. Describe types of plant tissues with diagrams.
2. Explain the classification of animal tissues.
3. Write a note on the structure and function of skeletal muscle.
4. Explain the structure and function of xylem and phloem.
5. Compare meristematic and permanent tissues.

Chapter 3: Cell Division

MCQs (10)

1. Mitosis results in:
(A) Two identical daughter cells ☒
(B) Four daughter cells
(C) One daughter cell
(D) None
2. Meiosis produces:
(A) Two identical cells
(B) Four gametes ☒
(C) One gamete
(D) Six cells
3. The stage of cell division where chromosomes line up at the equator is:
(A) Prophase
(B) Metaphase ☒
(C) Anaphase
(D) Telophase

4. Crossing over occurs during:
- (A) Prophase I of meiosis ☒
 - (B) Metaphase I
 - (C) Anaphase II
 - (D) Telophase II
5. Centromere is the:
- (A) Tip of chromosome
 - (B) Middle region of chromosome ☒
 - (C) DNA molecule
 - (D) None
6. Cytokinesis occurs during:
- (A) Prophase
 - (B) Metaphase
 - (C) Telophase ☒
 - (D) Interphase
7. Which process reduces chromosome number by half?
- (A) Mitosis
 - (B) Meiosis ☒
 - (C) Binary fission
 - (D) Budding
8. Somatic cells divide by:
- (A) Meiosis
 - (B) Mitosis ☒
 - (C) Fertilization
 - (D) None
9. Gametes are formed by:
- (A) Mitosis
 - (B) Meiosis ☒
 - (C) Binary fission
 - (D) None
10. During which phase do sister chromatids separate?
- (A) Anaphase ☒
 - (B) Telophase

- (C) Metaphase
- (D) Prophase

Short Questions (8)

1. Define mitosis.
2. Define meiosis.
3. Difference between mitosis and meiosis.
4. What is a gamete?
5. What is cytokinesis?
6. Explain interphase.
7. What is a centromere?
8. Importance of meiosis in sexual reproduction.

Long Questions (5)

1. Explain the stages of mitosis with diagrams.
2. Explain the stages of meiosis with diagrams.
3. Compare mitosis and meiosis in a table.
4. Describe the importance of cell division.
5. Explain how crossing over increases genetic variation.

Chapter 4: Nutrition in Plants

MCQs (10)

1. Photosynthesis occurs in:
 - (A) Chloroplast ☒
 - (B) Mitochondria
 - (C) Nucleus
 - (D) Ribosome
2. The green pigment in plants is called:
 - (A) Chlorophyll ☒
 - (B) Carotene

- (C) Xanthophyll
- (D) Hemoglobin

3. Plants store energy in the form of:

- (A) Glucose
- (B) Starch ☒
- (C) Protein
- (D) Fat

4. Which gas is released during photosynthesis?

- (A) Carbon dioxide
- (B) Oxygen ☒
- (C) Nitrogen
- (D) Hydrogen

5. The raw materials of photosynthesis are:

- (A) CO_2 and H_2O ☒
- (B) O_2 and H_2O
- (C) Glucose and CO_2
- (D) Water and Oxygen

6. Autotrophs are organisms that:

- (A) Make their own food ☒
- (B) Eat others
- (C) Are parasites
- (D) None

7. Heterotrophs:

- (A) Make their own food
- (B) Depend on other organisms for food ☒
- (C) Photosynthesize
- (D) None

8. The stomata help in:

- (A) Photosynthesis
- (B) Gas exchange ☒
- (C) Transport
- (D) Respiration

9. The main product of photosynthesis is:

- (A) Oxygen

- (B) Glucose ☒
- (C) Carbon dioxide
- (D) Water

10. Which enzyme helps in carbon fixation?

- (A) Rubisco ☒
- (B) Amylase
- (C) Protease
- (D) Lipase

Short Questions (8)

1. Define photosynthesis.
2. Write the photosynthesis equation.
3. Function of chlorophyll.
4. Define autotroph and heterotroph.
5. Role of stomata in plants.
6. Importance of sunlight in photosynthesis.
7. Explain carbon dioxide fixation.
8. Mention two photosynthetic organisms other than plants.

Long Questions (5)

1. Explain the process of photosynthesis with diagram.
2. Describe the factors affecting photosynthesis.

Chapter 5: Nutrition in Animals

MCQs (10)

1. Carnivores eat:
 - (A) Plants
 - (B) Animals ☒
 - (C) Both plants and animals
 - (D) None
2. Herbivores eat:
 - (A) Plants ☒

- (B) Animals
- (C) Both
- (D) None

3. Omnivores eat:

- (A) Plants
- (B) Animals
- (C) Both plants and animals ☒
- (D) None

4. The process of breaking down food into simpler substances is called:

- (A) Absorption
- (B) Digestion ☒
- (C) Assimilation
- (D) Excretion

5. Stomach secretes:

- (A) Bile
- (B) Hydrochloric acid ☒
- (C) Insulin
- (D) Saliva

6. Small intestine absorbs:

- (A) Water only
- (B) Nutrients ☒
- (C) Fats only
- (D) Minerals only

7. Enzyme amylase digests:

- (A) Protein
- (B) Carbohydrates ☒
- (C) Fats
- (D) Nucleic acids

8. Bile is produced by:

- (A) Stomach
- (B) Liver ☒
- (C) Pancreas
- (D) Small intestine

9. Food is stored in:
(A) Small intestine
(B) Stomach
(C) Large intestine
(D) Rectum ☒
10. Which part of digestive system absorbs water?
(A) Small intestine
(B) Large intestine ☒
(C) Stomach
(D) Esophagus

Short Questions (8)

1. Define carnivores, herbivores, and omnivores.
2. What is digestion?
3. Function of stomach.
4. Function of small intestine.
5. Function of liver in digestion.
6. What is bile?
7. Role of pancreas in digestion.
8. Function of large intestine.

Long Questions (5)

1. Explain the human digestive system with a diagram.
2. Describe the process of digestion in humans.
3. Explain the role of enzymes in digestion.
4. Compare carnivorous and herbivorous digestive systems.
5. Explain absorption and assimilation of nutrients.

Chapter 6: Respiration in Animals and Plants

MCQs (10)

1. Respiration is the process of:
 - (A) Making food
 - (B) Releasing energy from food ☒
 - (C) Transporting oxygen
 - (D) Photosynthesis
2. Aerobic respiration requires:
 - (A) Oxygen ☒
 - (B) Carbon dioxide
 - (C) Water
 - (D) Nitrogen
3. Anaerobic respiration occurs in:
 - (A) Presence of oxygen
 - (B) Absence of oxygen ☒
 - (C) Chloroplast
 - (D) Mitochondria
4. End product of aerobic respiration is:
 - (A) Lactic acid
 - (B) Alcohol
 - (C) Carbon dioxide and water ☒
 - (D) Oxygen
5. Glycolysis occurs in:
 - (A) Nucleus
 - (B) Cytoplasm ☒
 - (C) Mitochondria
 - (D) Ribosome
6. Breathing is:
 - (A) Same as respiration
 - (B) Movement of air in and out of lungs ☒
 - (C) Cellular energy release
 - (D) Photosynthesis
7. Fermentation produces:
 - (A) Lactic acid or alcohol ☒
 - (B) Glucose

- (C) Oxygen
- (D) ATP

8. Plant cells also respire:

- (A) Only at night
- (B) Only in light
- (C) Both day and night ☒
- (D) Never

9. ATP is:

- (A) Energy currency of cell ☒
- (B) Protein
- (C) Carbohydrate
- (D) Fat

10. The organelle where most aerobic respiration occurs:

- (A) Ribosome
- (B) Mitochondria ☒
- (C) Nucleus
- (D) Chloroplast

Short Questions (8)

1. Define respiration.
2. Difference between aerobic and anaerobic respiration.
3. Function of mitochondria in respiration.
4. What is glycolysis?
5. What is fermentation?
6. Role of ATP in cells.
7. How do plants respire?
8. Difference between breathing and respiration.

Long Questions (5)

1. Explain aerobic and anaerobic respiration with examples.
2. Describe the process of glycolysis.
3. Explain fermentation in plants and animals.

4. Describe the role of mitochondria in energy production.
5. Compare breathing and cellular respiration.

Chapter 7: Transport in Plants

MCQs (10)

1. Xylem transports:
(A) Water and minerals ☒
(B) Food
(C) Hormones
(D) Oxygen
2. Phloem transports:
(A) Water
(B) Food ☒
(C) Minerals
(D) Oxygen
3. Transpiration is:
(A) Water absorption
(B) Loss of water vapor from leaves ☒
(C) Food transport
(D) Photosynthesis
4. Root hairs help in:
(A) Food transport
(B) Water absorption ☒
(C) Gas exchange
(D) Photosynthesis
5. Guard cells control:
(A) Water absorption
(B) Stomatal opening and closing ☒
(C) Food transport
(D) Respiration
6. Cohesion in xylem helps in:
(A) Cell division
(B) Water transport ☒

- (C) Photosynthesis
- (D) Respiration

7. The pressure that pushes water upward in xylem is called:

- (A) Root pressure ☒
- (B) Transpiration pull
- (C) Osmotic pressure
- (D) Turgor pressure

8. Phloem is made of:

- (A) Tracheids and vessels
- (B) Sieve tubes and companion cells ☒
- (C) Guard cells
- (D) Xylem fibers

9. Water movement from roots to leaves is called:

- (A) Translocation
- (B) Transpiration ☒
- (C) Photosynthesis
- (D) Respiration

10. Which process creates negative pressure in xylem?

- (A) Root pressure
- (B) Transpiration pull ☒
- (C) Osmosis
- (D) Diffusion

Short Questions (8)

1. Define xylem and phloem.
2. Explain root pressure.
3. Function of guard cells.
4. What is transpiration?
5. Role of cohesion and adhesion in xylem transport.
6. What are sieve tubes?
7. Define translocation.
8. Explain water absorption by roots.

Long Questions (5)

1. Explain the structure and function of xylem and phloem with diagrams.
2. Describe the process of transpiration.
3. Explain how root pressure and transpiration pull help in water transport.
4. Compare xylem and phloem in a table.
5. Explain the significance of water transport in plants.

Chapter 8: Transport in Animals

MCQs (10)

1. Blood is a type of:
(A) Muscle
(B) Connective tissue ☒
(C) Epithelial
(D) Nervous
2. The liquid part of blood is called:
(A) Plasma ☒
(B) Serum
(C) Platelets
(D) Lymph
3. Red blood cells transport:
(A) Carbon dioxide
(B) Oxygen ☒
(C) Hormones
(D) Enzymes
4. White blood cells are responsible for:
(A) Oxygen transport
(B) Immunity ☒
(C) Clotting
(D) Nutrition
5. Heart has how many chambers?
(A) 2

(B) 3

(C) 4 ☒

(D) 5

6. Arteries carry:

(A) Oxygenated blood from heart ☒

(B) Deoxygenated blood

(C) Lymph

(D) Plasma

7. Veins carry:

(A) Oxygenated blood

(B) Deoxygenated blood ☒

(C) Food

(D) Hormones

8. Capillaries connect:

(A) Arteries to veins ☒

(B) Heart to lungs

(C) Veins to heart

(D) None

9. Platelets help in:

(A) Oxygen transport

(B) Clotting ☒

(C) Immunity

(D) Nutrition

10. The pacemaker of the heart is:

(A) Aorta

(B) SA node ☒

(C) AV node

(D) Vena cava

Short Questions (8)

1. Define blood and its components.
2. Function of red blood cells.
3. Function of white blood cells.

4. Role of platelets.
5. Structure and function of heart.
6. Difference between arteries and veins.
7. What are capillaries?
8. What is circulation?

Long Questions (5)

1. Explain the structure of the human heart with diagram.
2. Describe the systemic and pulmonary circulation.
3. Explain the role of blood in transport.
4. Compare arteries, veins, and capillaries.
5. Explain the function of blood components in detail.

Chapter 9: Excretory Products and Their Elimination

MCQs (10)

1. Excretion is the process of:
(A) Taking in food
(B) Removing waste products ☒
(C) Transporting blood
(D) Respiration
2. Main excretory organ in humans is:
(A) Liver
(B) Kidney ☒
(C) Skin
(D) Lung
3. Urine contains:
(A) Glucose
(B) Urea ☒
(C) Hormones
(D) Enzymes

4. Nephrons are present in:
- (A) Liver
 - (B) Kidney ☒
 - (C) Skin
 - (D) Lungs
5. Filtration occurs in:
- (A) Bowman's capsule ☒
 - (B) Loop of Henle
 - (C) Collecting duct
 - (D) Ureter
6. Ureters carry urine from:
- (A) Kidney to bladder ☒
 - (B) Bladder to kidney
 - (C) Kidney to urethra
 - (D) None
7. Excess water and salts are excreted by:
- (A) Lungs
 - (B) Skin ☒
 - (C) Kidney
 - (D) Liver
8. Sweat contains:
- (A) Urea, water, salts ☒
 - (B) Glucose
 - (C) Hormones
 - (D) Enzymes
9. The process of removing CO₂ is:
- (A) Excretion
 - (B) Respiration ☒
 - (C) Digestion
 - (D) Circulation
10. The functional unit of kidney is:
- (A) Nephron ☒
 - (B) Alveoli

- (C) Capillary
- (D) Neuron

Short Questions (8)

1. Define excretion.
2. What are nephrons?
3. Function of kidneys.
4. Role of liver in excretion.
5. What is urine composed of?
6. Function of sweat glands.
7. How is CO₂ removed from body?
8. Difference between filtration and reabsorption.

Long Questions (5)

1. Explain the structure and function of human kidney with diagram.
2. Describe the process of urine formation.
3. Explain the role of liver in excretion.
4. Describe the role of skin in excretion.
5. Compare excretion in humans and plants.

Chapter 10: Locomotion and Movement

MCQs (10)

1. Bones and muscles together form the:
 - (A) Nervous system
 - (B) Skeletal system ☒
 - (C) Circulatory system
 - (D) Digestive system
2. The human skeleton is:
 - (A) Endoskeleton ☒
 - (B) Exoskeleton

- (C) Hydrostatic skeleton
- (D) None

3. Joints are:

- (A) Connective tissue
- (B) Connections between bones ☒
- (C) Muscles
- (D) Tendons

4. Ball and socket joint is found in:

- (A) Knee
- (B) Shoulder ☒
- (C) Elbow
- (D) Skull

5. Hinge joint is found in:

- (A) Shoulder
- (B) Knee ☒
- (C) Hip
- (D) Skull

6. Muscles work in:

- (A) Pairs ☒
- (B) Alone
- (C) Groups of 3
- (D) None

7. The protein responsible for muscle contraction is:

- (A) Actin and Myosin ☒
- (B) Collagen
- (C) Elastin
- (D) Keratin

8. Voluntary muscles are:

- (A) Skeletal ☒
- (B) Cardiac
- (C) Smooth
- (D) None

9. Involuntary muscles are:

- (A) Skeletal

(B) Cardiac and Smooth ☒

(C) Only Skeletal

(D) None

10. Tendons connect:

(A) Bone to bone

(B) Muscle to bone ☒

(C) Muscle to muscle

(D) Bone to muscle

Short Questions (8)

1. Define skeleton.
2. Name the types of joints.
3. Function of bones.
4. Function of muscles.
5. Difference between voluntary and involuntary muscles.
6. What is a tendon?
7. Explain hinge and ball-and-socket joints.
8. What proteins help in muscle contraction?

Long Questions (5)

1. Explain human skeleton with labeled diagram.
2. Describe different types of joints with examples.
3. Explain structure and function of muscles.
4. Explain locomotion in humans.
5. Compare voluntary and involuntary muscles.