

MODEL PAPER BIOLOGY CLASS 9

NOTE: Attempt all questions of Section-A by filling the corresponding bubble on the **MCQs RESPONSE SHEET**. It is mandatory to return the attempted MCQs sheet to the Superintendent within given time

SECTION –A

Time: 20 Minutes

Marks: 12

1. The branch of biology that deals with the study of virus is:
 - A. Paleontology
 - B. Microbiology
 - C. Pharmacology
 - D. Entomology
2. Which one of the following statements describes hypothesis the best?
 - A. It is made with five senses
 - B. It helps biologists to do experiments
 - C. It is a proposed statement to answer the problem
 - D. It allows other people to verify the results
3. Organism's anatomical features and evolutionary history are considered during its:
 - A. Classification
 - B. Growth
 - C. Reproduction
 - D. Development
4. In animal cell, hollow and cylindrical organelles are:
 - A. Plastids
 - B. Golgi bodies
 - C. Cytoskeleton
 - D. Centriole
5. Diffusion is a type of passive transport because
 - A. cell membrane does not spend energy when molecules diffuse through it.
 - B. cell membrane spends energy when molecules diffuse through it.
 - C. cell wall does not spend energy when molecules diffuse through it.
 - D. cell wall spends energy when molecules diffuse through it.
6. Which of the following events takes place during the G1 phase of cell cycle?
 - A. RNA, ribosomes and several enzymes are synthesized
 - B. Cell prepares proteins
 - C. Cell duplicates its chromosomes
 - D. Microtubules appear from the area of centrioles at each end

7. In adult organisms, the number of cells are kept relatively constant through:
- A. Apoptosis and necrosis
 - B. Necrosis and division
 - C. Apoptosis and division
 - D. Necrosis only
8. In *Lock and Key* model, the active site of enzyme and substrate have specific
- A. names of substrate.
 - B. role of substrate.
 - C. geometric shapes.
 - D. size.
9. Respiration is an oxidation-reduction process during which food molecules are broken down into:
- A. Oxygen and water
 - B. Hydrogen and water
 - C. Nitrogen and water.
 - D. Carbon dioxide and water
10. At dawn and sunset, the intensity of light will be
- A. high.
 - B. low.
 - C. moderate.
 - D. zero.
11. Calcium is the most abundant mineral in the human body that plays an important role in:
- A. Transport of oxygen to the cell of the body
 - B. Blood clotting
 - C. Controls of blood cholesterol
 - D. Absorption of heat in human body
12. The transpiration pull occurs when mesophyll cells of leaves lose water vapors, and more water enters in them from the
- A. phloem vessels of leaf.
 - B. phloem vessels of root.
 - C. xylem vessels of leaf.
 - D. phloem vessels of stem.

SECTION-B

Time: 2 Hours 40 Minutes

Marks: 32

1. Attempt any **EIGHT** of the following short questions. Each question carries 4 marks.

- i. Complete the organization levels against each example.

Example	Organization level
Stomach	
Man	
Glucose	
Ribosome	

- ii. Briefly explain the following **FOUR** distinguishing characteristics of kingdom Protista
a. Cell type b. Nuclear envelope c. Cell wall d. Mode of nutrition
- iii. Write short note on electron microscope keeping in view its radiation type, lenses, magnification and images.
- iv. Define turgor and also write any **TWO** points to show its importance in plants.
- v. How is a prokaryotic cell different from a eukaryotic cell in terms of nucleus, cell membrane, cell wall and size?
- vi. Enlist the events (and show with a diagram) through which mitotic apparatus is formed in prophase in animal cells.
- vii. How are enzymes specific for their substrate? Justify it with the help of diagram of shape of active site of enzyme and its specificity. Also give its **TWO** examples.
- viii. Both respiration and photosynthesis are important for living organisms. How these two processes are opposite of one another. Write **FOUR** differences between respiration and photosynthesis.
- ix. Write any **FOUR** deficiency symptoms of vitamin D.
- x. List any **FOUR** functions of plasma in human body.
- xi. Why are arteries important? Draw a labelled diagram of an artery. .

SECTION-C

Marks: 21

NOTE: Attempt any **THREE** of the following questions. Each question carries 7 marks.

2. i. Explain the application of mathematics rules used in biology research work. 3
ii. Define the term conservation. Write any **THREE** examples of the steps taken in Pakistan to conserve biodiversity. 1+3
3. i. Briefly explain following animal tissues. 4
a. Fibrous connective tissues b. Smooth muscles c. Nervous tissues
d. Epithelial tissue
ii. Define Cell Cycle and write names of its **TWO** main stages. 1+2
4. i. Why is mitochondrial enzyme called intracellular? Give justification. 3
ii. Explain the synthesis and breaking of ATP through ATP-ADP cycle with proper diagrams. 2+2
5. i. State the symptoms, causes and preventions of diarrhea. 1+1+1
ii. Differentiate between Atherosclerosis and Arteriosclerosis 2+2