ZIAUDDIN UNIVERSITY EXAMINATION BOARD

Total Time 3 hours
Total Marks: 75

Class: IX **SECONDARY SCHOOL CERTIFICATE MODEL PAPER 2026**
Time Allowed: 20 minutes **SUBJECT: BIOLOGY**
Q1: **SECTION "A" (MULTIPLE CHOICE QUESTIONS)** **Marks: 12**

Note: Attempt **ALL** questions from section "A". Each question carries **ONE** mark.

i. Blood is classified as a special type of _____.
A. Cell B. Organ C. System D. Tissue

ii. Which molecule is primarily produced during photosynthesis?
A. Glucose B. Fatty Acid C. Amino Acid D. Nucleotide

iii. In which kingdom is the virus classified in the Five Kingdom System?
A. Monera B. Protista C. Fungi D. None of these

iv. Enzymes are primarily _____ in nature.
A. Steroids B. Proteins C. Lipids D. Carbohydrates

v. Volvox is a polyphyletic genus belonging to which group?
A. Red Algae B. Brown Algae C. Green Algae D. Blue-Green Algae

vi. In the human body, the trachea and esophagus are both connected to which organ?
A. Stomach B. Large Intestine C. Pharynx D. Larynx

vii. What is the scientific name of a frog?
A. Palaeon B. Rana tigrina C. Periplaneta D. Pheretima

viii. Glycolysis produces a limited amount of energy, which is sufficient to generate how many ATP molecules?
A. 2 ATP B. 5 ATP C. 9 ATP D. 45 ATP

ix. A patient experiencing fatigue and pale skin is diagnosed with anemia. Which vitamin deficiency is likely the cause?
A. Vitamin D B. Vitamin K C. Vitamin B D. Vitamin C

x. A student is observing the movement of chromatids under a microscope. Which mitotic phase is being studied when movement halts and chromatids settle at opposite poles?
A. Prophase B. Metaphase C. Anaphase D. Telophase

xi. During an experiment on photosynthesis, a student observes oxygen release. Which specific process is responsible for this?
A. Hydrolysis B. Photolysis C. Glycolysis D. Respiration

xii. While identifying biological specimens, a student comes across Felis catus. What animal is being referred to?
A. Dog B. Neem Tree C. Cat D. Onion

(Practical Based Assessment)

Marks: 15

Q2. Attempt **ALL** questions. Each question carries **THREE** marks.

i. A student observes a drop of pond water under a microscope and sketches a unicellular organism covered in tiny hair-like structures (cilia). This practical observation falls under the study of:
A. Botany B. Microbiology C. Histology D. Entomology

ii. If a student places a red blood cell in a highly concentrated salt solution (hypertonic), the cell will:
A. Swell and burst B. Shrink and shrivel up C. Perform photosynthesis D. Remain completely unchanged

iii. While observing an onion peel under a compound microscope, a student uses iodine solution as a stain. The specific purpose of this stain is to:
A. Kill the cells
B. Provide energy to the cells
C. Induce cell division
D. Make the transparent cell wall and nucleus highly visible

iv. A lab technician is asked to identify a tissue sample that consists of closely packed cells with no intercellular spaces, functioning to line the outer surfaces of organs. This is:
A. Nervous tissue B. Muscular tissue C. Epithelial tissue D. Connective tissue

v. To observe the detailed internal ultrastructure of a mitochondrion (such as the cristae), a researcher must use a:
A. Light microscope
B. Hand lens
C. Scanning electron microscope (SEM)
D. Transmission electron microscope (TEM)

vi. A student observes a prepared slide of onion root tip cells. In one cell, the chromosomes are perfectly aligned along the equator (center) of the cell. This cell is in:
A. Prophase B. Metaphase C. Anaphase D. Telophase

vii. A researcher notices that a specific chemical stops the formation of spindle fibers during mitosis. Applying this chemical to a dividing cell will prevent:
A. DNA replication
B. The separation of sister chromatids
C. Cytokinesis
D. The breakdown of the nuclear envelope

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viii. In a lab studying tissue regeneration, an earthworm regrows a lost segment of its body. The cellular process making this repair possible is:
A. Meiosis B. Mitosis C. Binary fission D. Budding

ix. A student conducts an experiment digesting starch with salivary amylase. If the student boils the amylase enzyme before adding it to the starch, the reaction will not occur because the enzyme has been:
A. Activated B. Denatured C. Saturated D. Inhibited competitively

x. A student places an aquatic plant (Elodea) in a beaker of water under a bright lamp. Soon, bubbles begin rising from the leaves. These bubbles consist primarily of:
A. Oxygen gas B. Hydrogen gas C. Nitrogen gas D. Carbon dioxide gas

xi. In an experiment, a plant is kept in a dark room for 48 hours. When its leaves are tested with iodine, no blue-black color appears. This practically demonstrates that:
A. The plant requires oxygen B. Chlorophyll has been destroyed
C. Starch turns into protein in the dark D. Sunlight is strictly necessary for starch synthesis

xii. Yeast is added to a warm sugar solution in an airtight flask attached to a balloon. Over a few hours, the balloon inflates due to the production of:
A. Oxygen via photosynthesis B. Carbon dioxide via alcoholic fermentation
C. Lactic acid via aerobic respiration D. Water vapor

xiii. A student tightly ties a plastic bag over the leafy branch of a potted plant exposed to sunlight. After a few hours, water droplets appear inside the bag. This practical setup demonstrates:
A. Transpiration B. Translocation C. Guttation D. Respiration

xiv. While observing a blood smear slide under a microscope, a student notices tiny, non-nucleated cell fragments responsible for blood clotting. These are:
A. Red blood cells (Erythrocytes) B. White blood cells (Leukocytes)
C. Platelets D. Plasma cells

xv. During a clinical practical, a doctor measures a patient's blood pressure using a sphygmomanometer. The high-pressure reading recorded during the contraction of the heart ventricles is known as the:
A. Diastolic pressure B. Systolic pressure
C. Pulse rate D. Venous pressure

END OF SECTION A

Class: IX **SECONDARY SCHOOL CERTIFICATE MODEL PAPER 2026**
Time: 2 hours 40 minutes **SUBJECT: BIOLOGY (SECTION "B" & SECTION "C")** **Total Marks 48**
SECTION "B" (SHORT ANSWER QUESTIONS) **24 Marks**

Q3. Answer any **EIGHT** questions from this section.

i. Define the following:
   a. Parasitology
   b. Environmental Biology
   c. Biotechnology
ii. Illustrate the biological method with a flowchart.
iii. Describe any three principles of classification.
iv. Describe the various types of chromosomes with their respective diagrams.
v. List three differences between a light microscope and an electron microscope.
vi. Define mitosis and explain its process.
vii. List three effects of malnutrition on the human body.
viii. Draw and label a diagram of Amoeba.
ix. Discuss three causes of deforestation.
x. State one function each of the following organelles:
   a. Mitochondria
   b. Golgi Bodies
   c. Plastids
xi. List three characteristics of Kingdom Fungi.
xii. Identify three career fields in Biology and describe them.

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SECTION "C" DETAILED ANSWER QUESTIONS — 24 Marks

Q4. Answer any **FOUR** questions this section.

i. Draw a well-labeled diagram of either the Human Alimentary Canal or the Internal Structure of the Human Heart.
ii. Write the name of any two blood diseases. Describe their symptoms and causes.
iii. Define the following terms:
   a. Vitamins
   b. Goiter
   c. Stomata
   d. Cisternae
   e. Nucleoplasm
   f. Activator
iv. What are the major components of a balanced human diet. Describe the importance of any two components.
v. Define enzyme and write four of its characteristics.
vi. Compare respiration and photosynthesis in plants by writing any six points of difference.

END OF PAPER