



Class: XI

Time Allowed: 50 minutes

MODEL PAPER EXAMINATION 2026

SUBJECT: BIOLOGY

SECTION "A"

Marks: 17

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

- i. Tracheophytes lacking roots and leaves are categorized in:  
A. Psiopsida    B. Syphenpsida    C. Lycopsida    D. Pteropsida
- ii. All amino acids share the same general formula except:  
A. Alpha carbon    B. Hydroxyl group    C. Radical group    D. Amino group
- iii. Infectious agents smaller than viruses with single-stranded RNA are:  
A. Viroids    B. Priors    C. Minus strand virus    D. Double-stranded DNA virus
- iv. Plants growing in salt marshes near the sea are called:  
A. Hydrophytes    B. Xerophytes    C. Mesophytes    D. Halophytes
- v. Which is not involved in antigen presentation?  
A. Macrophage    B. Dendritic cell    C. Neutrophil    D. None of these
- vi. The hypothalamic secretion that raises body temperature during infection is:  
A. Oxytocin    B. Vasopressin    C. Prostaglandin    D. Somatostatin
- vii. When bacterial habitats become harsh and nutrients are depleted, they form:  
A. Capsule    B. Cell wall    C. Endospore    D. Mesosome
- viii. Unsegmented animals with pseudocoelom and dimorphism are:  
A. Arthropods    B. Annelids    C. Flatworms    D. Roundworms
- ix. Immunity developed after receiving a vaccine for a dog bite is \_\_\_\_\_ immunity.  
A. Active natural    B. Active artificial    C. Passive natural    D. Passive artificial
- x. The process in plants oxidizing sugar in chloroplasts during the day without energy production is:  
A. C4 Cycle    B. Photorespiration    C. C3 Cycle    D. Photophosphorylation
- xi. From where do plants primarily obtain essential nutrients?  
A. Water    B. Air    C. Soil    D. Light
- xii. The total number of ATPs generated by complete oxidation of a glucose molecule is:  
A. 36    B. 38    C. 37    D. 40
- xiii. In banana plants, flowers are covered by one or more large bracts called:  
A. Spathes    B. Spadix    C. Capitulum    D. None of these
- xiv. What is the function of the trachea?  
A. Gaseous exchange    B. Filters the air we breathe  
C. Exhales air from the body    D. All of the above
- xv. Coenzymes are composed of:  
A. Protein    B. Carbohydrate    C. Lipid    D. Vitamin
- xvi. In animal cells, which organelle prevents hydrolytic enzyme damage by compartmentalization?  
A. Chloroplast    B. Lysosome    C. Peroxisome    D. Glyoxysome
- xvii. This disease is caused by an arbovirus:  
A. Mumps    B. Yellow fever    C. Measles    D. Rabies

**Practical Based Assessment (PBA)**
**Marks: 15**

Note: Attempt **ALL** questions. Each question carries **ONE** mark..

- xviii. After boiling a sample of milk with Benedict's solution, a yellow colour is observed. Which conclusion about the sample of milk is correct?  
A. Reducing sugars are not present    B. Reducing sugars are present  
C. There is a high concentration of fructose    D. There is a low concentration of sucrose
  - xix. Tests for biological molecules were carried out on three solutions. The observations were as follows:  
Solution 1    Benedict's test – blue to orange  
Solution 2    Benedict's test after acid hydrolysis – blue to red  
Solution 3    Biuret test – blue to purple  
Which observations would show the solutions that contained sucrose and amylase?  
A. 1, 2 and 3    B. 1 and 3 only    C. 2 and 3 only    D. 2 only
  - xx. What are the characteristics of a non-competitive enzyme inhibitor?
- |   | binding            | effect of adding more substrate |
|---|--------------------|---------------------------------|
| A | At active site     | Reduces inhibition              |
| B | At active site     | Not reduces inhibition          |
| C | Not at active site | Reduces inhibition              |
| D | Not at active site | Not reduces inhibition          |
- xxi. Which of the following statements are true of all enzymes?  
A. Soluble in water    B. Catalyse the breakdown of large molecules  
C. Only have one active site    D. Have a quaternary structure

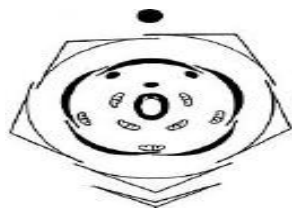
Which terms describe the methods by which water is transported within xylem vessel elements?

1. Mass flow      2. Cohesion-tension      3. Osmosis  
A. 1 and 2      B. 1 and 3      C. 2 only      D. 3 only

xxiii. In the Gram staining technique, when alcohol is applied on the bacterial smear, the smear will appear:

- A. Pink      B. Violet      C. Dark blue      D. Colourless

xxiv. Given is the floral diagram of the flower *Cassia fistula*. The arrangement of sepals and petals in the flower is:



- A. Valvate      B. Twisted      C. Vexillary      D. Imbricate

xxv. Some stains can be used to identify cell structures in living cells. A dilute solution of one stain causes the whole cell to appear blue. The blue colour rapidly disappears in most cell structures. Those cell structures that release energy stay blue. Which type of cell structure is likely to stay blue?

- A. Endoplasmic reticulum      B. Golgi body      C. Lysosome      D. Mitochondrion

xxvi. A student uses methylene blue on cheek cells. What does it help visualize?

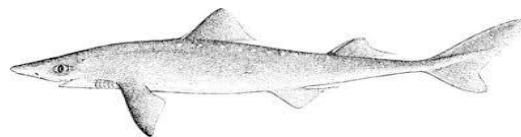
- A. Nucleolus      B. Cell membrane only      C. Nucleus      D. Chloroplasts

xxvii. If two leaves (sunlight vs. shaded) are tested by chromatography, which result is expected?

- A. Both have identical pigment bands  
B. Sunlight leaf shows stronger bands of chlorophyll a and b  
C. Shaded leaf has more carotenoids than chlorophyll  
D. Pigment concentration is not affected by the environment

xxviii. The given image shows a marine animal belonging to class chondrichthyes. Based on its body structure and features, which of the following adaptations helps it survive in deep water environments?

- A. Process of gill slits and cartilaginous skeleton  
B. Air bladder for buoyancy control  
C. Slimy skin with mucus glands  
D. Lungs and four-chambered heart

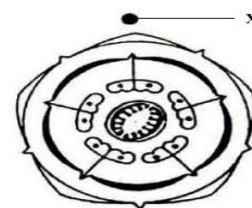


xxix. A student observes cocci in clusters under microscope. These bacteria belong to which group?

- A. Streptococcus      B. Staphylococcus      C. Bacillus      D. Spirillum

xxx. The diagram shows a transverse section of a flower. If structure X is identified as a petal, which of the following hypotheses can best explain its functional role during pollination?

- |  |
|--|
| A- X contains the ovules and assists in gamete formation   |
| B- X secretes enzymes to digest pollen tubes   |
| C- X helps in attracting pollinators through colour and scent, increasing chances of cross-pollination |
| D- X protects the anthers from insects attack during fertilization                                     |



xxxi. If nodules are absent in a legume plant, what may be the reason?

- A. Excess sugar in soil      B. Lack of rhizobium in soil  
C. Too much chlorophyll production      D. High starch concentration

xxxii. A filamentous organism showing a chain of bead-like cells is most likely:

- A. Oscillatoria      B. Anabaena      C. Amoeba      D. Spirogyra



**ZIAUDDIN UNIVERSITY**  
EXAMINATION BOARD

Class: XI

MODEL PAPER EXAMINATION 2026

Time: 2 hours 40 minutes      SUBJECT: BIOLOGY SECTION "B" AND SECTION "C"

Total Marks 68

Q2:      SECTION "B" SHORT ANSWER QUESTIONS

36 Marks

Note: Answer any **FOUR** questions from reasoning question and any **FIVE** questions from non-reasoning question. All questions carry equal marks.

**Q.2. (a) Reasoning questions**

- How do plants adapt to high temperatures?
- Reptiles and birds are both vertebrates: Why are birds capable of flight while most reptiles are not?
- Why are protostomes named so?
- Why is the SA node referred to as the pacemaker of the heart?
- What advantages does osmotic adjustment provide to plants?
- Why do desert plants minimize their leaf size?
- How does having a double-circuit heart benefit organisms compared to a single-circuit heart?
- How can cartilaginous fishes be differentiated from bony fishes?

**Q2. (b) Non-Reasoning Questions**

- i. What is the role of Nitrogen and Potassium in plants, and what are the symptoms of their deficiency?
- ii. What is meant by the term 'prosthetic group'?
- iii. What characteristics enable fungi to thrive in various environments where life is possible?
- iv. Write the botanical names of any four of the following plants:  
A. Brinjal      B. Tomato      C. Pear      D. Sweet pea      E. Rice      F. Mulhethi
- v. How are hepatitis and jaundice related to the liver's function?
- vi. What is meant by the 'ascent of sap' in plants?
- vii. What are the health risks associated with obesity?
- viii. Differentiate between peroxisomes and glyoxysomes.

**SECTION "C" DETAILED ANSWER QUESTIONS****32 Marks**

**Note:** Answer any **TWO** questions from this section. All question carries equal marks.

Q3

- (a) Describe the structure and function of the Golgi complex.
- (b) Differentiate between transformation and transduction in bacteria.

Q4

- (a) What is the difference between arteries and veins? Explain in detail.
- (b) Define lipids and describe the characteristics and functions of acylglycerols, phospholipids, and terpenoids.

Q5

- (a) What is circulation? Explain its importance and the reasons for its necessity.
- (b) What is respiration? Describe the human respiratory system in detail.

**END OF PAPER**