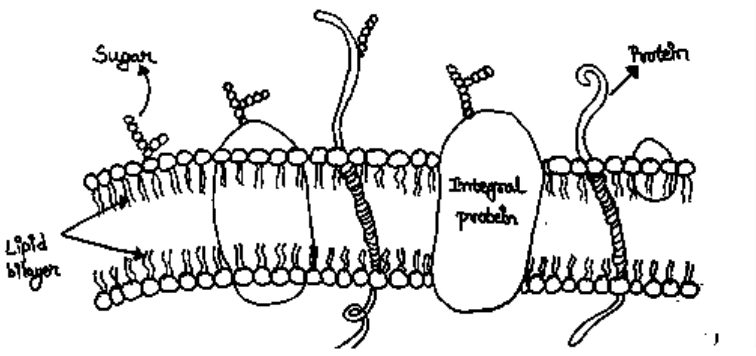
Indian School Al Wadi Al Kabir
Unit test (2025-2026)

Class: XI | Subject: Biology (044) | Max. marks: 30
Date: 20.05.2025 | SET- I | Time: 1 hour

General Instructions:
(i) All questions are compulsory.
(ii) The question paper has five sections and 14 questions. All questions are compulsory.
(iii) Section–A has 6 questions of 1 mark each; Section–B has 3 questions of 2 marks each; Section– C has 3 questions of 3 marks each; Section– D has 1 case-based question of 4 marks and Section–E has 1 question of 5 marks.
(iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
(v) Wherever necessary, neat and properly labelled diagrams should be drawn.

SECTION A		
Q. No	**Question**	**Marks**
1.	Cytoplasmic threads which connect the cytoplasm of the neighboring cells in plant cells are named as: A. Middle lamellae B. Endoplasmic reticulum C. Cell wall D. Plasmodesmata	1
2.	Polysome is formed by: A. A ribosome with several subunits. B. Ribosomes attached to each other in a linear arrangement. C. Several ribosomes attached to single mRNA. D. Many ribosomes attached to a strand of endoplasmic reticulum.	1
3.	Cells which are not dividing are likely to be at: A. G1 B. G2 C. Go D. S phase	1
4.	Which of the events listed below is not observed during mitosis? A. Chromatin condensation B. Movement of centrioles to opposite poles. C. Appearance of chromosomes with two chromatids joined together at the centromere. D. Crossing over	1

Question No. 5 and 6 consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below: A. Both A and R are true and R is the correct explanation of A. B. Both A and R are true and R is not the correct explanation of A. C. A is true but R is false. D. A is false but R is true.		
5.	**Assertion(A)**: Mesosomes are formed by the extensions of plasma membrane into the cell. **Reason(R)**: They help in cell wall formation, DNA replication etc.	1
6.	**Assertion(A)**: In eukaryotic cells, there is an extensive compartmentalisation of cytoplasm. **Reason(R)**: Eukaryotic cells have membrane bound organelles.	1
	SECTION B	
7.	Draw various types of chromosomes on the basis of the position of centromere.	2
8.	Compare ribosomes of prokaryotic and eukaryotic cells. State the functions of ribosomes.	2
9.	*Attempt either option A or B.* A. Distinguish between the anaphase of mitosis and anaphase of meiosis I. Support your answer with appropriate diagrams. **OR** B. How does cytokinesis in plant cells differ from that of an animal cell?	2
	SECTION C	
10.	Explain the structure of chloroplast with a neat labelled diagram.	3
11.	*Attempt either option A or B.* A. Study the given figure and answer the following questions:  (i) What does this structure depict? (ii) How is the fluid nature of the membrane helpful to the cell? (iii) Polar molecules cannot pass through the nonpolar lipid bilayer but how do they pass through the plasma membrane?	3

	OR B. Give reason for the following: (i) Golgi apparatus remains in close association with the endoplasmic reticulum. (ii) Lysosomes are called the suicide bags of the cell. (iii) Mitochondria are the sites for aerobic respiration.	
12.	A. List any two differences each between mitosis and meiosis. B. Why is meiosis essential in sexual reproducing organisms?	3
	SECTION D	
13.	The cell cycle, or cell-division cycle, is the sequential series of events that take place in a cell that causes it to divide into two daughter cells. These events include the growth of the cell, duplication of its DNA (DNA replication) and some of its organelles, and subsequently the partitioning of its cytoplasm, chromosomes and other components into two daughter cells in a process called cell division. A. Is it possible for a cell to undergo mitosis without entering 'S' phase? Explain. B. Name the events in G1 phase of interphase. C. What is the significance of S phase? D. Why is mitosis called equational division?	4
	SECTION E	
14	Cell division is a progressive process. Explain the key events of the different stages of mitosis. **OR** Prophase of the first meiotic division is longer and complex as compared to prophase of mitosis. Explain various stages of Prophase I of meiosis.	5