QB365 Question Paper Software
11th Standard - Biology
Cell: The Unit of Life Assertion and reason

Exam Time: 00:20 Hrs | Date: 2025-10-10

Total Marks: 10

Questions:

Assertion and reason

1. **Assertion:** Organisms are made up of cells.
   Reason: Cells are structural unit of living organisms. A cell keeps its chemical composition steady within its boundary.
   Codes:
   (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
   (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
   (c) If Assertion is true but Reason is false.
   (d) If both Assertion and Reason are false.

2. **Assertion:** The number of cells in a multicellular organism is inversely proportional to size of body.
   Reason: All cells of biological world are alive.
   Codes:
   (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
   (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
   (c) If Assertion is true but Reason is false.
   (d) If both Assertion and Reason are false.

3. **Assertion:** Smaller cells are usually metabolically active cells.
   Reason: Smaller cell nucleocytoplasmic ratio and surface volume ratio is higher.
   Codes:
   (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
   (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
   (c) If Assertion is true but Reason is false.
   (d) If both Assertion and Reason are false.

4. **Assertion:** Ribosomes are non-membrane bound organelles found in the prokaryotic cells only.
   Reason: These are present only in the cytoplasm.
   Codes:
   (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
   (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

5. **Assertion**: Proteins are modified in the cisternae of the Golgi bodies.
Reason: Modified proteins are released from the Cis- face of the Golgi bodies
Codes:
A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
B. Assertion and reason both are correct and reason is not the correct explanation of Assertion.
C. Assertion is correct but reason is wrong.
D. Both Assertion and Reason are false.

6. **Assertion:** A cell membrane show fluid behaviour.
Reason: A membrane is a mosaic or compositr of diverse lipids and proteins
Codes:
A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
B. Assertion and reason both are correct and reason is not the correct explanation of Assertion.
C. Assertion is correct but reason is wrong.
D. Both Assertion and Reason are false.

7. **Assertion**: Prokaryotic genome consists of a single circular DNA molecule.
Reason: Genetic variations do not occur in prokaryotes.
Codes:
A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
B. Assertion and reason both are correct and reason is not the correct explanation of Assertion.
C. Assertion is correct but reason is wrong.
D. Both Assertion and Reason are false.

8. **Assertion:** Cell is the basic unit of life.
Reason: All the activities of life are performed by cells.
Codes:
A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
B. Assertion and reason both are correct and reason is not the correct explanation of Assertion.
C. Assertion is correct but reason is wrong.
D. Both Assertion and Reason are false.

9. **Assertion:** Leucoplasts are found in varied shapes and sizes with stored nutrients.
Reason: Leucoplasts are coloured plastids.
Codes:
A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
B. Assertion and reason both are correct and reason is not the correct explanation of Assertion.
C. Assertion is correct but reason is wrong.
D. Both Assertion and Reason are false.

10. **Assertion (A):** Leucoplasts perform photosynthesis.
Reason (R): Leucoplasts consists photosynthetic pigments.
Codes:
1) Both (A) and (R) are true and (R) is the correct explanation of (A)
2) Both (A) and (R) are true and (R) is not the correct explanation of (A)
3) (A) is true but (R) is false
4) Both (A) and (R) are false

Answers Key:

Assertion and reason

1. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
Explanation:
Cells are the basic structural and functional unit of organism.
2. (d) If both Assertion and Reason are false.
Explanation:
The size and shape of the cell in multicellular organism depends upon the location and function performed by them.

3. (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
Explanation:
Metabolically active cells are usually smaller due to higher nucleocytoplasmic ratio and higher surface volume ratio. The former will allow the nucleus to have better control of metabolic activities, while the latter will allow quicker exchange of materials between the cells and its outside environment.
4. (d) If both Assertion and Reason are false.
Explanation:
Ribosomes are non-membrane bound organelles found in eukaryotic as well as prokaryotic cells. Within the cell, ribosomes are found not only in the cytoplasm but also within the two organelles – chloroplasts (in plants) and mitochondria and on rough ER
5. C. Assertion is correct but reason is wrong.
6. A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
7. C. Assertion is correct but reason is wrong.
8. A. Assertion and reason both are correct and reason is the correct explanation of Assertion.
9. C. Assertion is correct but reason is wrong.
10. 4) Both (A) and (R) are false