



ST. JOSEPH'S COLLEGE, PRAYAGRAJ

HALF YEARLY EXAMINATION 2024

BIOLOGY

CLASS – IX

TIME: 2 Hours

MM: 80

Answer to this paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of the paper is the time allotted for writing the answers.

Attempt all questions from Section A and any four questions from section B.

The intended marks for questions are given in the brackets

SECTION A – [40 Marks]

(Attempt all questions from this section)

Q 1) Choose the correct option from the given choices:

[15]

1. Exine is a covering found in:
 - a) Maize grain
 - b) Pollen grain
 - c) Bean seed
 - d) Embryo
2. The tissue responsible for the transport of water and minerals from the roots to the upper plant parts:
 - a) Parenchyma
 - b) Sclerenchyma
 - c) Phloem
 - d) Xylem
3. Assertion (A): Wind can carry pollen grains for pollination in some plants.
Reason (R): Some pollens are very light in weight so that it can be carried away to distant places.
 - a) A is true but R is false.
 - b) R is true but A is false.
 - c) Both are false.
 - d) Both are true.
4. A muscle tissue that is striated in appearance but is involuntary in action is:
 - a) Skeletal muscle
 - b) Cardiac muscle
 - c) Smooth muscle
 - d) Nerve tissue
5. Ornithophily is a type of pollination done by:
 - a) Wind
 - b) Water
 - c) Insects
 - d) Birds
6. Cleistogamy is a type of pollination that occurs:
 - a) Between different flowers on the same plant
 - b) In the same flower on the same plant
 - c) In a closed flower
 - d) Between different flowers present on different plant but of same species
7. Cell organelle that synthesizes and secrete enzymes and hormones:
 - a) Golgi bodies
 - b) Granules
 - c) Endoplasmic reticulum
 - d) Vacuole
8. The plant tissue that is responsible for increasing the diameter of the plant is:
 - a) Lateral meristematic tissue
 - b) Apical meristematic tissue
 - c) Epidermis
 - d) Sclerenchyma



9. The condition that does not favour self-pollination is:
 - a) Complete flower
 - b) Dichogamy
 - c) Homogamy
 - d) Monoecious plants
10. The non-membranous cell organelle is:
 - a) Lysosome
 - b) Ribosome
 - c) Chloroplast
 - d) Vacuole
11. Emasculation means:
 - a) Removal of cell wall from the plant cell
 - b) Covering the flower with a polythene bag for protection
 - c) Removal of carpel from a bisexual flower
 - d) Removal of stamens from a bisexual flower
12. The chemical used to absorb any oxygen from its surroundings is:
 - a) Lime water
 - b) Alkaline pyrogalllic acid
 - c) Potassium hydroxide solution
 - d) Carbollic acid
13. Gamosepalous is a condition:
 - a) When the sepals are fused
 - b) When the sepals are freely attached to each other
 - c) When the petals are fused
 - d) When the petals are freely attached to each other
14. Epithelial tissue that provides lashing movement to the substances in a specific direction is:
 - a) Squamous epithelial tissue
 - b) Glandular epithelial tissue
 - c) Ciliated columnar epithelial tissue
 - d) Stratified epithelial tissue
15. Tissue specialized to store fat is:
 - a) Blood
 - b) Lymph
 - c) Adipose
 - d) Cartilage

Q 2) Give scientific terms for the following:

[5]

1. The energy currency of the cell.
2. Male and female flowers growing on same plant.
3. The manner in which the ovules are arranged to the wall of the ovary.
4. The packing tissue of the body.
5. A plastid that stores starch.

Q 3) Arrange and rewrite the term in correct order beginning with the term that is underlined:

[5]

1. Seed coat bursts, epicotyl elongates, radicle grows downward, hypocotyl forms loop above the soil.
2. pollen tube, Stigma, micropyle, male gametes, egg cell.
3. Corolla, androecium, gynoecium, calyx.
4. Perikaryon, Dendrons, axon ending, axon.
5. Plasmamembrane, cytoplasm, cell wall, nucleus, nucleolus.

Q 4) Read the explanation given below and name the structure:

[5]

1. Food conducting tissue in vascular plants.
2. The part of seed that develops into shoot.
3. The epithelium tissue found in the skin.
4. The type of muscles present in the iris of eyes.
5. A flower which contains only carpel.

Q 5) Define the following terms:

[5]

1. Geitonogamy
2. Fruit
3. Neuter flower
4. Triple fusion
5. Inflorescence

Q 6) Write any two points of difference for each of the terms:

[5]

1. Respiration and Photosynthesis
2. Prokaryotic cell and Eukaryotic cell
3. Monocot and Dicot plant
4. Nucleus and Nucellus
5. Self-pollination and Cross pollination

SECTION B – [40 Marks]

(Attempt any four questions from this section)

Q 7) 1. What is Glycolysis?

[1]

2. Explain anabolic and catabolic processes.

[2]

3. Why do some plants show viviparous types of germination?

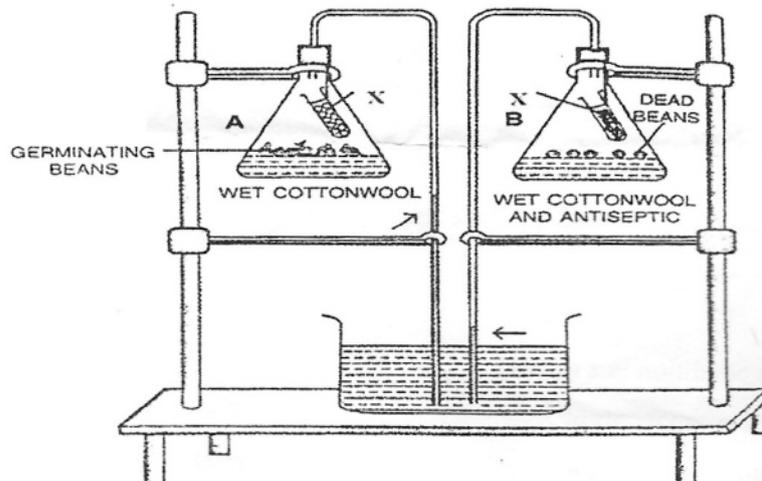
[2]

4. Differentiate between Experimental and Control set up.

[2]

5. Given below is a set up to demonstrate a physiological process. Observe the same and then answer the following questions.

[3]



a) State the aim of the experiment.

b) Name the chemical marked as X and state its role inside the flasks.

c) Why does the water column rise in the tube of set up A?

Q 8) 1. What do you understand by the term 'Double fertilization'.

[1]

2. To demonstrated anaerobic respiration in seeds, mercury is used instead of water. Why?

[2]

3. Differentiate between:

a) Collenchyma and Sclerenchyma.

b) Tendons and ligaments

[2]

4. Discuss the role of

a) Tracheid

b) Companion cell in a plant.

[2]

5. Draw a well labelled diagram of a germinated pollen grain.

[3]

Q 9) 1. What is 'bract'?

[1]

2. Mention the exact location of the following of in a seed: (a) micropyle b) Hilum

[2]

3. Give difference between:

[2]

a) Striated and unstriated muscle.

b) Cartilage and bone.

4. Give scientific reasons for the following: [2]

- a) Seeds should not be sown very deep in the soil
- b) Raw tomatoes are green in colour while ripe ones are red.

5. Draw a neat diagram of a bacteria and label at least three structures [3]

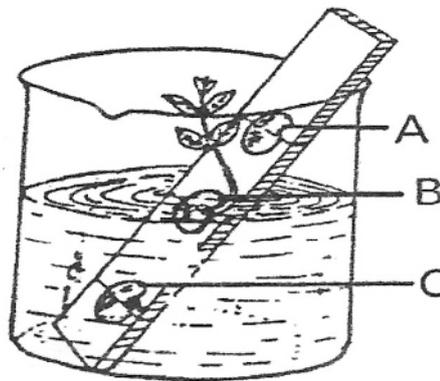
Q 10) 1. Name the plastid that contains pigments like carotene and xanthophyll. [1]

2. Differentiate between epigeal and hypogeal germination. [2]

3. Write balanced chemical reaction of both aerobic and anaerobic respiration [2]

4. What advantage does the presence of cell wall and a vacuole provide to the plant cell? [2]

5. Given below is a set up. Observe and answer the following questions. [3]



- a) State the aim of the experiment.
- b) Write your observation and give reasons for the same.
- c) Define seedling.

Q 11) 1. What is Polyadelphus condition in a flower? [1]

2. Name the living and the dead components of Xylem tissue. [2]

3. While demonstrating respiration in green plants using a bell jar, certain precautions must be taken? Which is the most important precaution that must be taken and why? [2]

4. State one role of both the sepals and the petals. [2]

5. Draw a neat and well labelled diagram of a longitudinal section of a Maize grain. Show and Label the following structures- Aleurone layer, Endosperm, Coleoptile, Coleorhiza. [3]