



Estd. 1861

BOYS' HIGH SCHOOL AND COLLEGE
FIRST TERM EXAMINATION (2025-26)
CLASS - IX
BIOLOGY (SCIENCE PAPER – 3)

TIME- 2 HOURS

MM- 80

Attempt *all* questions from *Section A* and any *four* questions from *Section B*.
 The intended marks for questions or part of questions are given in brackets [].

Section A (40 marks)

Attempt all questions from this section.

Question 1.

Choose the correct answer from the given alternatives-

[15]

- i. _____ is a colourless plastid.
 - a. Chloroplast
 - b. Leucoplast
 - c. Chromoplast
 - d. None
- ii. The cell was discovered by-
 - a. Robert Brown
 - b. Schultze
 - c. Robert Hooke
 - d. Leuwenhoek
- iii. Cell wall is made up of:
 - a. Cellulose
 - b. Chitin
 - c. Pectin
 - d. Lignin
- iv. Which of the following meristem is present at the internodes of the stems and at the leaf bases?
 - a. Lateral
 - b. Intercalary
 - c. Apical
 - d. Both b. and c.
- v. Which of the following is not a function of epithelial tissue?
 - a. Protection
 - b. Absorption
 - c. Secretion
 - d. materials exchange
- vi. Which of the following is a complete flower?
 - a. *Hibiscus*
 - b. Palm
 - c. Papaya
 - d. Maize
- vii. Additional floral whorl outside the calyx in *Hibiscus* is called as _____.
 - a. Perianth
 - b. Spur
 - c. Epicalyx
 - d. Bract
- viii. Pollination by water is called as:
 - a. Anemophily
 - b. Entomophily
 - c. Ornithophily
 - d. Hydrophily
- ix. Which of the following is an insect pollinated flower?
 - a. *Vallisneria*
 - b. *Hydrilla*
 - c. *Salvia*
 - d. *Rafflesia*
- x. The scar on the concave surface of the seed, where the ovule was attached to the ovary wall:
 - a. Micropyle
 - b. Hilum
 - c. Testa
 - d. Raphe
- xi. Which of the following conditions are necessary for germination of seed?
 - a. Water
 - b. Oxygen
 - c. Temperature
 - d. All
- xii. Inspiratory reserve volume is also called as _____.
 - a. Residual air
 - b. Supplemental air
 - c. Complemental air
 - d. Tidal air
- xiii. The structure that helps in respiration in a woody stem:
 - a. Cuticle
 - b. Lenticels
 - c. Stomata
 - d. All.
- xiv. Where is Respiratory Centre located?
 - a. Cerebrum
 - b. Cerebellum
 - c. Spinal cord
 - d. Medulla oblongata
- xv. The term used for the maturation of gynoecium and androecium at different time:
 - a. Protandry
 - b. Protogyny
 - c. Dichogamy
 - d. Homogamy

Question 2.

- i. **Give the technical/biological term for the following: -** **[5]**
 - a. Meristematic tissue that helps in increasing the girth of the plants _____.
 - b. The only living component of xylem _____.
 - c. The part of trachea concerned with sound _____.
 - d. A dome shaped muscular sheet that separates the thoracic and abdominal cavities _____.
 - e. The site of glycolysis _____.
- ii. **State whether the following statements are True or False. If false, rewrite them correctly-** **[5]**
 - a. Protein is the main respiratory substrate.
 - b. Anaerobic respiration is the complete breakdown of glucose.
 - c. There is a loss of weight after respiration.
 - d. Haemoglobin content decrease at high altitude.
 - e. Nasal passage is lined by columnar cells.
- iii. **Match the cell organelles in column I with their respective functions in column II-** **[5]**

Column I	Column II
a. Ribosomes	i. Intracellular digestion.
b. Centrosome	ii. Secretion of enzymes and hormones.
c. Lysosomes	iii. Synthesizes proteins.
d. Nucleus	iv. Initiates cell division.
e. Golgi apparatus	v. Controlling centre of the cell.

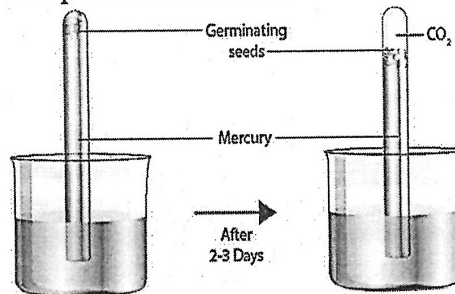
- iv. Give one example for each of the following- [5]
- Monocot albuminous seed.
 - Neuter flower.
 - Monoecious plant.
 - Dicot albuminous seed.
 - A flower which shows homogamy
- v. Select the odd one out from each of the following and write the category to which the other three belong- [5]
- Unisexuality, dichogamy, homogamy, heterostyly.
 - Integuments, antipodal cells, polar nuclei, synergids.
 - Stigma, style, ovary, thalamus.
 - Anther, pollen grain, connective, filament.
 - Parenchyma, collenchyma, epidermis, sclerenchyma.

Section B (40 marks)

Attempt any four questions from this section.

Question 3.

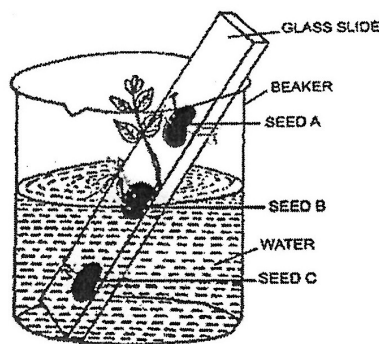
- i. The given figure shows an experiment which was set up to show anaerobic respiration in germinating seeds. Write the balanced chemical equation for the same. [1]



- ii. What is a Prokaryotic cell? Give the postulates of Cell theory. [2]
- iii. Describe in detail, what happens to the following structures/parts during breathing (inhalation and exhalation)- [2]
- Ribs
 - Diaphragm
- iv. Draw a neat and well labelled diagram of a Plant Cell [2]
- v. Write the function of the following- [3]
- Inner lining of the nasal chamber
 - Pleural fluid
 - Epiglottis

Question 4.

- i. Why the xylem and phloem are called as conducting or vascular tissues? [1]
- ii. Write the location of the following tissues in animal body- [2]
- Adipose tissues
 - Cartilage
- iii. Study the Three-bean experiment diagram given below and answer the questions that follow- [2]

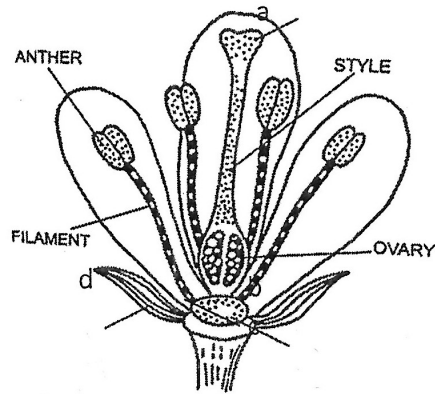


- What is the aim of the experiment?
 - Why the middle seed germinates properly while the top seed fail to germinate?
- iv. Give one word for the following- [2]
- Male and female flowers borne on different plants.
 - Undifferentiated calyx and corolla.
- v. Differentiate between the following on the basis of criteria mentioned in the bracket- [3]
- Chlorenchyma and collenchyma (function)
 - Cardiac muscles and skeletal muscles (working)
 - Meristematic tissue and permanent tissues (capability to divide)

Question 5.

- i. What are essential whorls of the flower? [1]
- ii. State the function of the following tissue- [2]
- Blood
 - Areolar tissue

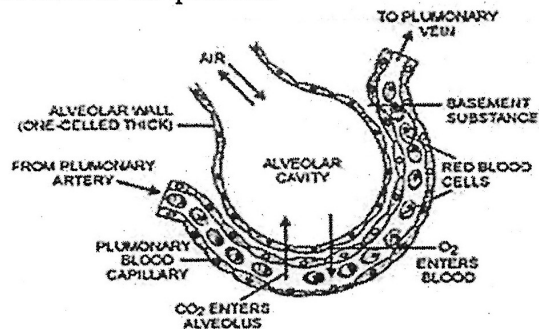
- iii. What happens to the following parts of the ovary post fertilization- [2]
 a. Ovary b. Ovule c. Ovary wall d. Egg cell
- iv. Draw a neat and well labelled diagram of a Nerve Cell. [2]
- v. Study the sectional view of a bisexual flower given below and answer the questions that follow- [3]



- a. Name the parts labelled as 'a', 'b', 'c' and 'd'.
 b. What is the function of the part labelled as 'a'?

Question 6.

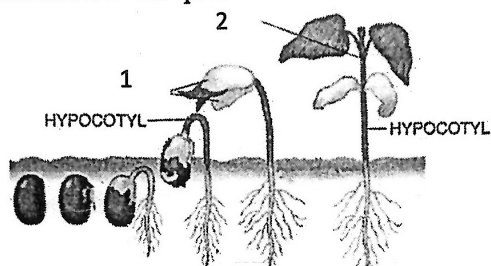
- i. What are dormant seeds? [1]
 ii. Fill in the blanks- [2]
 a. Special glands developed on or at the base of floral structures are _____.
 b. The flower is said to be _____, if pistil is absent.
- iii. Explain why- [2]
 a. The wall of trachea is supported by C – shaped cartilaginous rings.
 b. Breathing rate increases after a vigorous physical exercise.
- iv. Define- a. Placentation b. Inflorescence [2]
 v. Observe the given diagram and answer the questions- [3]



- a. Name the process explained in the given diagram.
 b. What type of blood does pulmonary artery carry?
 c. Name the structure which performs the similar process in plants.

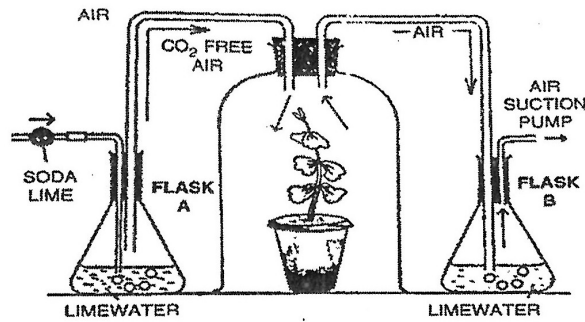
Question 7.

- i. State the function of the following with reference to the process of fertilization: - [1]
 a. Micropyle b. Tube nucleus
- ii. A. What is Triple fusion? [2]
 B. Arrange the following events which take place during fertilisation in a proper sequence-
 Division of generative nucleus, Release of male gametes into the embryo sac, Growth of pollen tube through the solid style, Fusion of male gamete and egg cell to form zygote, Degeneration of tube nucleus.
- iii. A. What are Cleistogamous flowers? [2]
 B. Comment on the statement- 'Cross pollination is not economical for the plants'. [2]
- iv. Study the diagram given below and answer the questions that follow:- [2]



- a. Name the parts labelled '1' and '2' in the figure.
 b. Define the type of germination shown in the diagram.

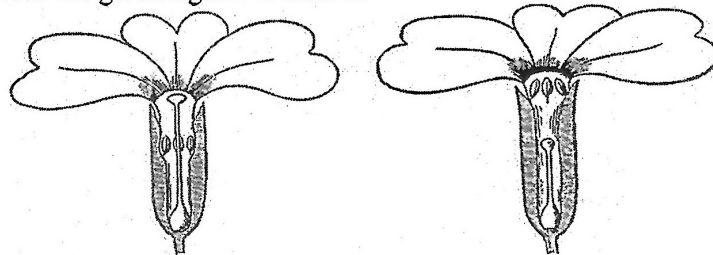
- v. Study the given apparatus, set up to demonstrate a particular process occurring in plants and answer the questions that follow: - [3]



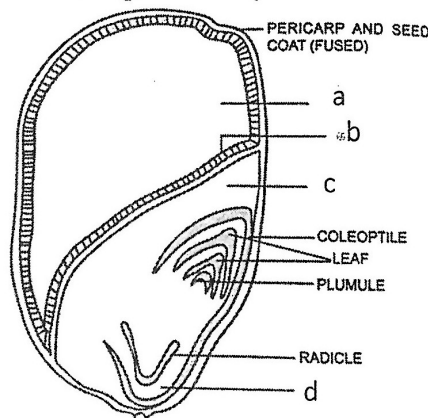
- Why is it necessary that this experiment should be carried out in the dark?
- What is the objective or aim of the experiment?
- What change would you observe in lime water kept in flask 'B' and why?

Question 8.

- i. What adaptation is shown in the given figure? Define it. [1]



- Write a few characteristics of a flower pollinated by wind. [2]
- Differentiate between: - [2]
 - Hypoxia and Asphyxiation
 - Vital capacity and total lung capacity
- Draw a neat and well labelled diagram to show the internal structure of Bean seed. [2]
- The diagram given below is L.S. of Maize grain. Study it and answer the questions that follow- [3]



- Name the parts labelled as 'a', 'b', 'c' and 'd'.
- State the function of the parts labelled as 'a' and 'd'.
