

**BUDHA DAL PUBLIC SCHOOL, PATIALA**  
**First Term Examination (1 September 2025)**

Class XI (Science)  
Subject - Biology (Set - B)

Time: 3hrs.

M.M. 70

**General Instructions:**

- (i) All questions are compulsory.
- (ii) The question paper has five sections and 33 questions. All questions are compulsory
- (iii) Section-A has 16 questions of 1 mark each; Section-B has 5 questions of 2 marks each; Section- C has 7 questions of 3 marks each; Section- D has 2 case-based questions of 4 marks each; and Section-E has 3 questions of 5 marks each.
- (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**

- Q1. The technical term used for the Androecium in a flower of China rose  
a) Monoadelphous b) Diadelphous c) Polyandrous d) Polyadelphous
- Q2. Which of these are used by frogs for protection?  
a) Speed b) Spikes c) Mimicry d) Playing dead
- Q3. Match List - I with List - II
- |                         |                           |
|-------------------------|---------------------------|
| List - I                | List - II                 |
| A) Aleurone layer       | I) Without fertilization  |
| B) Parthenocarpic fruit | II) Nutrition             |
| C) Ovule                | III) Double fertilization |
| D) Endosperm            | IV) Seed                  |
- Options:  
a) A - I, B - II, C - III, D - IV      b) A - II, B - I, C - IV, D - III  
c) A - IV, B - I, C - III, D - II      d) A - II, B - IV, C - I, D - III
- Q4. Canal system of porifera is not connected with?  
a) Food gathering b) Respiratory gas exchange c) Removal of waste d) Locomotion
- Q5. Gas vacuole, single envelope system, cyto skeleton, non-cellulosic wall, microfilaments, cytoplasmic streaming, lack any cell organelles  
How many of the above features are associated with Prokaryotic cell?  
a) One b) Four c) Two d) Three
- Q6. A dikaryon is formed when  
a) Meiosis is arrested b) the two haploid cells do not fuse immediately  
c) cytoplasm does not fuse d) none of the above
- Q7. 'Systematics' studies about living organisms considering information based on  
A) morphological characters  
B) Anatomical  
C) Evolutionary relationships  
D) Characters of cell structure
- Options:  
a) C only b) C, D only c) A, B, C, D d) B, C, D only
- Q8. The male and female sex organs of pteridophytes are -  
1) Mycosporophyll and Megasporophyll      2) Antheridia and Archegonia  
3) Spermatangia and Oogonia      4) Testes and ovary
- Q9. Which of the following statements is incorrect with respect to cilia?  
a) Microtubules of cilia are composed of tubulin  
b) The organized beating of cilia is controlled by fluxes of  $Ca^{2+}$  across the membrane  
c) Cilia contains an outer ring of nine doublet microtubules surrounding two singlet microtubules  
d) Cilia are hair-like cellular appendages

Q10. Which of the following is not an anatomical feature of Monocot leaf?

- a) Adaxial epidermis
- b) Bulliform cells
- c) Palisade and Spongy Mesophyll
- d) Bundle sheath cells

Q11. Which of the following is not an example of pteropsida?

- a) Psilotum
- b) Dryopteris
- c) Pteris
- d) Adiantum

Q12. The number of Gill slits in cyclostomes is

- a) 6-15 in number
- b) 36 - 225 in number
- c) 4 pairs
- d) 5 pairs

Two statements are given - one labelled Assertion (A) and the other labeled Reason (R).

Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- a) Both assertion and reason are true, and the reason is correct explanation of the assertion.
- b) Both assertion and reason are true, and the reason is not the correct explanation of the assertion.
- c) Assertion is true but reason is false.
- d) Assertion is false but reason are true.

Q13. Assertion : In animals, growth is determinate.

Reason : In animals, growth occurs by cell division only up to a certain age.

Q14. Assertion : The incomplete oxidation of glucose into lactic acid or ethanol is fermentation.

Reason : In only prokaryotes, it takes place under Anaerobic condition.

Q15. Assertion : Cell wall is also present in fungi and bacteria other than plants.

Reason : All cell wall is made up of cellulose.

Q16. Assertion : Frogs are Poikilotherms.

Reason : Frogs do not have constant body temperature.

#### Section - B

Q17. a) Which group of fungi is called algal fungi?

b) On what basis the fungi were earlier included in the plant kingdom?

Q18. Give one basic difference between Reticulate venation and parallel venation.

Q19. Describe the two special venous connections in the circulatory system of a frog.

Q20. What does 'S' refer to, in 70S and 80S ribosomes?

Q21. a) Define RQ.

b) Mention RQ value when Glucose Oxidized is completely. Name the process involved and what are the end products formed during process.

OR

Fill in the blank spaces (a), (b), (c) and (d) in the table given below:

Phylum/ Class	Excretory Organ	Respiratory Organs
Arthropoda	_____ (a) _____	Gills/ Lungs/ Tracheal system
_____ (b) _____	Nephridia	Skin/ Parapodia
Mollusca	Methanephridia	_____ (c) _____
Amphibia	_____ (d) _____	Lungs

#### Section - C

Q22. Find out what the terms 'algal bloom' and 'red-tides' signify.

Q23. Give the general characters of cephalochordate and urochordata. Provide one example each of the two groups.



- Q24. State the condition in which the flowers are described as  
 a) Perigynous b) epigynous and c) hypogynous  
 Give one example of each plant in which these flowers are found.
- Q25. Answer the following questions with reference to the anatomy of dicot root:  
 a) Where is pericycle located?  
 b) How are xylem vessels arranged?  
 c) What is casparian strip  
 d) Which type of tissue constitute the cortex?

Q26. Explain female reproductive system of Frog with the help of diagram.

Q27. Discuss "The respiratory pathway as an amphibolic pathway."

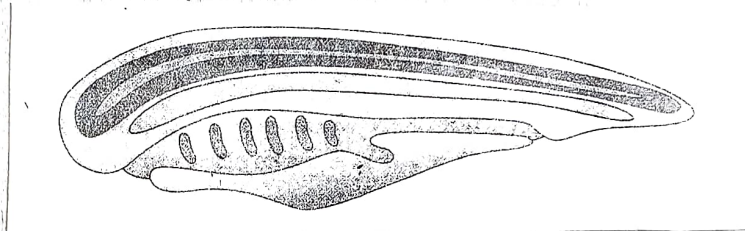
- Q28. a) Comment on the cartwheel structure of centriole.  
 b) Describe the structure of oxysome

OR

What is 9 + 0 and 9 + 2 arrangement of microtubule? Mention the organelles in which it is found.

#### Section - D

Q29. Study the given diagram and answer the questions that follow:



- a) What has been represented by the given diagram?  
 b) What is the position of central nervous system in chordates?  
 c) Is post anal tail present in all chordates?
- Q30. The fruit is a characteristic feature of angiosperms. It is a mature or ripened ovary, usually developed after fertilization, with a few exceptions.  
 a) What are parthenocarpic fruits?  
 b) Identify the three parts, the pericarp can be differentiated into, when it is thick and fleshy as in mango. Name the edible part in mango.  
 c) Write the similarities between the fruits of mango and coconut.

#### Section - E

- Q31. a) What is the Axile and parietal placentation  
 b) Draw its well labelled diagrams  
 c) Name the type of aestivation found in (i) dianthus (ii) marigold

OR

- a) Draw a labelled diagram of structure of Root tip  
 b) Write the function of each region
- Q32. Explain life cycle of Bryophytes. Differentiate between sporophyte of Gymnosperm and sporophyte of Bryophyte.

OR

- a) (i) Name one gymnosperm in which the male and female cones/strobili are borne on (i) the same plant and (ii) different plants  
 (ii) Where are pollen grains formed in a gymnosperm?  
 (iii) Mention the economic uses of agar.  
 b) Differentiate between Red Algae and Brown Algae  
 c) Liverworts and Mosses
- Q33. Explain the structure and function of two semiautonomous organelles.

OR

Explain with help of schematic representation Citre acid cycle for respiration in plants.