

Bhavan's Tripura Vidyamandir
1st Terminal Examination : (2025-2026)

Class: 11

Time: 3 Hours

Name of the student: _____

Subject : BIOLOGY

Total : 70 Marks

Roll: _____ Sec: _____

General instruction:

- a) All questions are compulsory.
- a) The question paper has five sections and 33 questions.
- c) Section A has **16 questions** of **1mark** 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: Section E has 3 questions of 5 marks each.
- d) 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.
- e) Wherever necessary, neat and properly labelled diagram should be drawn.

SECTION-A

1. Cell wall composition in fungi is
 - a) Cellulose
 - b) Chitin
 - c) Peptidoglycan
 - d) Pectin
2. Genetic material in retroviruses is-
 - a) dsDNA
 - b) ssDNA
 - c) dsRNA
 - d) ssRNA
3. Plasmodium belongs to-
 - a) Sporozoa
 - b) Ciliates
 - c) Flagellates
 - d) Amoeboids
4. Name the stored food in brown algae
 - a) Starch
 - b) Mannitol and laminarin
 - c) Glycogen
 - d) Floridean starch
5. Body cavity in arthropods is termed as -
 - a) True coelom
 - b) Pseudocoelom
 - c) Haemocoel
 - d) Acoelom
6. Notochord in chordates is
 - a) Dorsal and hollow
 - b) Ventral and hollow
 - c) Dorsal and solid
 - d) Ventral and solid
7. Gynoecium in mustard is mainly -
 - a) Monocarpellary
 - b) Bicarpellary syncarpous
 - c) Polycarpellary syncarpous
 - d) Apocarpous
8. Example of hypogynous flower
 - a) Mustard
 - b) Sunflower
 - c) Guava
 - d) China rose
9. Name the Common passage for digestive, urinary and reproductive systems in frog
 - a) Rectum
 - b) Cloaca
 - c) Anus
 - d) Ureter
10. The smooth ER in animal liver cells is mainly involved in
 - a) ATP synthesis
 - b) Lipid metabolism and detoxification
 - c) Photosynthesis
 - d) Protein glycosylation
11. Nucleolus is the site for
 - a) rRNA synthesis and ribosome assembly
 - b) DNA replication
 - c) Lipid synthesis
 - d) mRNA translation
12. Plastids that store starch are
 - a) Chromoplasts
 - b) Amyloplasts
 - c) Elaioplasts
 - d) Proteinoplasts

Question No- 13 to 16 consists of two statements- Assertion(A) and Reason(R). Answer these questions 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. Both Assertion and Reason are false.

13. Assertion (A): All chordates possess a notochord in the adult stage.

Reason (R): Notochord is a dorsal, hollow, rod-like structure present during embryonic development.

14. Assertion (A): Cymose inflorescence is also called indefinite inflorescence.

Reason (R): The main axis in cymose inflorescence grows indefinitely.

15. Assertion (A): Starch and cellulose are polymers of glucose.

Reason (R): Both contain β (1 $\rightarrow$ 4) glycosidic linkages.

16. Assertion (A): Plant cells form a cell plate during cytokinesis.

Reason (R): Golgi vesicles fuse at the equatorial region to form a new cell wall.

SECTION-B

17. a) Mention two examples of organisms belonging to the same genus but different species.

b) State the advantages of binomial nomenclature. (1+1)

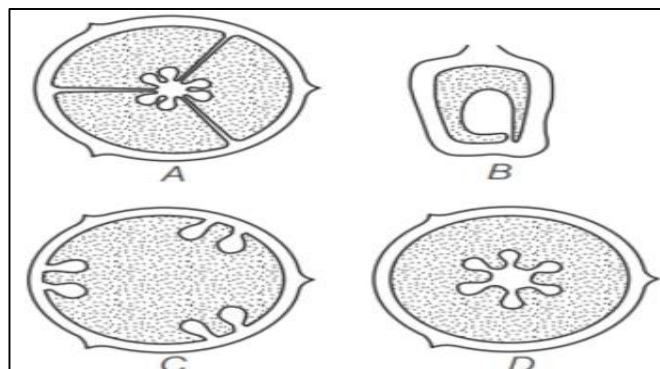
18. a) Mention two examples of animals showing metameric segmentation but lacking jointed appendages.

b) Give two examples of animals with indirect development. (1+1)

OR

Mention two characteristics of phylum Echinodermata.

19. Observe the following diagram and name the types of placentation which is shown in the diagram with example



20. Name any two digestive glands present in frog and write one function of each.

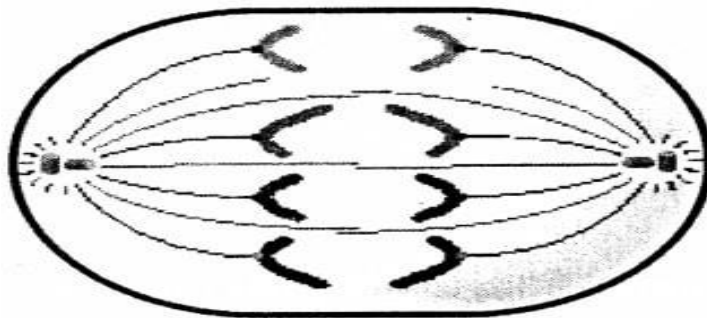
21. i) Explain the composition of triglyceride.

ii) Draw the structure of the amino acid, alanine.

(1+1)

SECTION-C

22. i) "Mammals are the most successful and dominant animals today" Give evidence.
ii) Name a vertebrate in which jaws are absent. (2+1)
23. I) Write down the example of each of the followings-
a. Imbricate Aestivation
b. Palmately compound leaf
c. Racemose inflorescence
d. Monocot seed
II) Write down the floral formula of solanaceae family. (2+1)
24. i) Name the outermost layer of a young dicot stem.
ii) Write down the name the tissue that stores food in monocot root.
iii) Draw the diagram of both open and closed conjoint vascular bundle system. (1+1+1)
25. i) Name the three organs used for respiration in frog.
ii) What is the function of vocal sacs in male frog?
iii) Which part of frog's brain is well developed for vision? (1+1+1)
26. Name the two types of plastids involved in photosynthesis and storage. Give one function of each. (1+1)
27. With the help of a diagram, explain the primary, secondary, tertiary, and quaternary structure of proteins with example.
28. Observe the diagram very carefully and answer the followings-



- a) which phase of mitosis cell division is observed here.
- b) State at least three features of this phase of cell division. **(1+2)**

OR

- a) In which phase of meiosis cell division crossing over takes place and chiasmata has formed.
- b) Write the features of telophase I of meiosis I cell division. (2+1)

Section-D

29. A student collected two algal samples from a pond. Sample A was green, multicellular, and had cellulose cell walls. It stored food as starch. Sample B was brown, multicellular, had a holdfast and fronds, and stored food as laminarin.
- a) Identify Sample A and Sample B with their respective classes.
- b) Write the pigment composition of each sample. (2+2)

OR

Mention one economic importance of each type.

(2)

30. A student observed an animal basking on a rock in the sun. It had a dry, scaly skin made of keratin, was cold-blooded, and had a three-chambered heart (except in one group where it is four-chambered). Fertilization was internal, and the eggs had leathery shells.

1. Identify the class and give two examples.
2. Name that one group that has a four-chambered heart.
3. State one adaptation in skin for terrestrial life.

(2+1+1)

OR

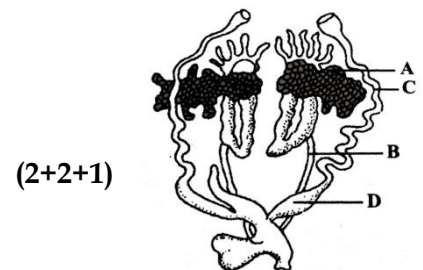
Differentiate this class with amphibians with at least two major points.

(2)

SECTION-E

31. Answer the followings-

- a. Identify A, B, C, D
- b. State the functions of A and C.
- c. Differentiate between tadpole and adult frog based on their different features.

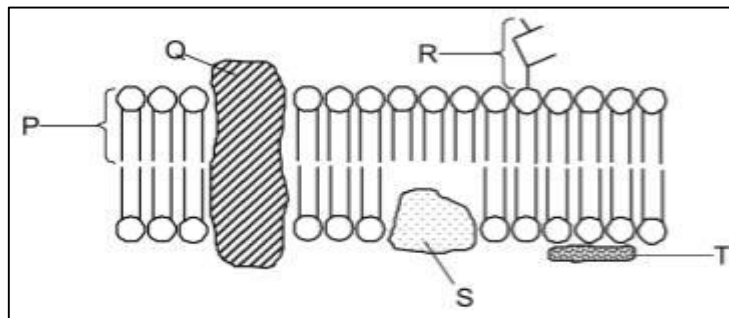


(2+2+1)

OR

- i. Name the largest artery in frog.
- ii. Write down the function of the sinus venosus in frogs
- iii. How many pairs of aortic arches are present in frog?
- iv. Explain the double circulation in frog with a flow chart. (1+1+1+2)

32. Answer the following questions after observing the diagram of plasma membrane carefully.



- i) Label P, Q, R and S
- ii) Write down the functions of Q
- iii) "Plasma membrane is semi-permeable in nature"-Explain the statement.

(2+1+2)

OR

- i) Draw a clear and neat labelled diagram of mitochondria.
- ii) Write down the functions of oxysome present in mitochondrial cristae.

(3+2)

33. i) Differentiate between DNA and RNA on the basis of their structure and functions.

ii) Explain the different types of polysaccharides with suitable examples

(2+3)

OR

- i) Name two factors that affect the rate of enzyme activity.
- ii) Give one example of a cofactor that affects enzyme activity.
- iii) Differentiate between competitive and non-competitive enzyme inhibition.

(1+1+3)