

HSS

## HALF YEARLY EXAMINATION - 2024

XI - Std

## BIOLOGY

Time : 3.00 Hrs



Marks : 70.

## Bio - Botany ( Section - I)

I Note : i) Answer all the questions. ii) Choose the most suitable answer from the given four alternatives and write the option code and the corresponding answer :- 8 X 1 = 8

1. The above structure represents .....

- a) Shoot Apical cell theory  
b) Root Apical cell theory  
c) Shoot Histogen theory  
d) Root Histogen theory



Protoderm  
Ground tissue  
Vascular Cambium

Plerome  
Periblem  
Dermatogen  
Root cap

2. For every CO<sub>2</sub> molecule entering the C<sub>3</sub> cycle, the number of ATP & NADPH required  
a) 2 ATP + 2 NADPH b) 2 ATP + 3 NADPH c) 3 ATP + 2 NADPH d) 3 ATP + 3 NADPH

3. Which of the following is the correct statement?

- a) In Pisum sativum leaflets modified into tendrils b) In Atlantia terminal bud is modified into thorns  
c) In Nepenthes midrib is modified into lid d) In Smilaxe inflorescence axis is modified into tendrils

4. Life cycle of Fucus and Spirogyra respectively are .....

- a) Haplontic, Diplontic  
b) Diplontic, Haplontic c) Haplodiplontic, Haplontic d) Haplodiplontic, Diplontic

5. Assertion : Deficiency symptoms of Nitrogen, Phosphorous and potassium first appear on young leaves.  
Reason : These minerals are relatively immobile.

- a) Both Assertion and Reason is correct, Reason is correct explanation of Assertion  
b) Both Assertion and Reason is correct, but Reason is not the correct explanation of Assertion  
c) Assertion is correct but Reason is wrong d) Both Assertion and Reason is wrong

6. In Meiosis crossing over is initiated at

- a) Diplotene b) Pachytene c) Laptotene d) Zygotene

7. Select the correctly matched one.

- A) Human urine - i) Auxin - B  
B) Corn Gram oil - ii) GA<sub>3</sub>  
C) Fungus - iii) Abscisic acid II  
D) Herring fish sperm - iv) Kinitin  
E) Unripe maize grains - v) Auxin A  
F) Young cotton bolls - vi) Zeatin

a)	A-iii	B-iv	C-v	D-vi	E-i	F-ii
b)	A-v	B-i	C-ii	D-iv	E-vi	F-iii
c)	A-iii	B-v	C-vi	D-i	E-ii	F-iv
d)	A-ii	B-iii	C-v	D-vi	E-iv	F-i

8. .... is the world's largest fruit.

- a) Anacardium Occidentale  
b) Artocarpus heterophyllus c) Lodoicea maldivica d) Punica granatum

## Section - II

II Note : Answer any four questions :-

4 X 2 = 8

9. Define Bolting.  
10. Write the overall equation of photosynthesis.  
11. Why do farmers plant leguminous crops in crop rotations/mixed cropping?  
12. Write any two Aims of biosystematics.  
13. Draw a neat labelled diagram of Brachysclereids.  
14. Write any two significance of mitosis.

## Section - III

III Note : Answer any three questions. Question No. 19 is compulsory :-

3 x 3 = 9

15. Write any three differences between Gymnosperms and Angiosperms.  
16. Write the role of nitrogenase enzyme in nitrogen fixation.  
17. How is Racemose inflorescence classified based on growth pattern of main axis?  
18. Draw and label the structure of 'power house of a cell'  
19. Give the molecular structure of 'universal energy currency of the cell'

## Section - IV

IV Note : Answer all the questions :-

2 X 5 = 10

20. a) Write the botanical description of Allium Cepa. (OR)  
b) Write about Pachytene and Diplotene of Prophase - I.  
21. a) Write the Schematic representation of Glycolysis or EMP pathway. (OR)  
b) i) A transverse section of the trunk of a tree shows concentric rings which are known as growth rings. How are these rings formed? What are the significance of these rings?  
ii) Define Dendroclimatology.

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**BIO ZOOLOGY (SECTION - I)****MARKS : 35**

8×1=8

**Note : i) Answer the all the questions.****ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.**

- Prevention of substances from leaking across the tissue is provided by  
a) Tight junction, b) Adhering junction, c) Gap junction, d) Elastic junction
- Match column I with column II and choose the correct option.

**Column I**

P) Small intestine

Q) Pancreas

R) Liver

S) Colon.

**Column II**

i) Largest factory

ii) Absorption of water

iii) carrying electrolytic solution.

iv) Digestion and absorption

a) (P-iv) (Q-iii) (R-i) (S-ii)

b) (P-iii) (Q-ii) (R-i) (S-iv)

c) (P-iv) (Q-iii) (R-ii) (S-iv)

d) (P-ii) (Q-iv) (R-iii) (S-iv)

- Find out the wrong pair from the following.**

- Flame cells - Earthworms
- Green glands - prawns
- renette glands - Ascarislumbricoids
- Malpighian tubules - Insects

- ATPase enzyme needed for muscle contraction is located in  
a) actinin b) troponin c) myosin. d) actin

- Assertion :** Diabetes insipidus is marked by production of large amount of urine.

**Reason :** Hypo secretion of ADH leads to a condition of reduced water absorption. thus the urine becomes diluted without sugar or glucose.

- Assertion and reason are correct.
- Assertion incorrect and reason is wrong.
- The assertion is true. The reason is false..
- Both the assertion and reason are false.

- Choose the wrong statement.  
a) The wall of earthworm is thin and moist. b) There are cuticle and epithelial layer.  
c) The body cavity which lies between the digestive system and body wall does not act as a fluid filled structure. d) The coelomic fluid is alkaline and milky in nature.

- Which of the following hormones are secreted by kidney?

- Renin
- Gastrin
- Calcitriol
- secretin

- (ii & iii)
- (i& iii)
- (ii & iv)
- ( i& ii)

- What is the average rate of respiration of a healthy man?

- 12.-16 times
- 8-10 times
- 5 - 10 times
- 15-30 times.

**SECTION - II****Note : Answer any four of the following questions.**

4×2=8

- What is lymph? Write its function.
- Write the significance of Goblet cells.
- Differentiate between probiotics and pathogenic bacteria.
- What are the ducts present in the salivary glands.
- Where is pineal body situated? What is its functions?
- Name the three zones which are present in Adrenal cortex.

**SECTION - III****Note : Answer any three questions of the following questions. Question No 19 is Compulsory.**

3 × 3 = 9

- What is difference between a Zoo and Wildlife sanctuary.
- Air moving from the nose to the trachea passes through a number of structures. List in order of the structures.
- Differentiate between white adipose tissue and brown adipose tissue.
- List the disorders of the muscular system.
- Explain heart's role in secreting a hormone that regulates renal function? what hormone is this?

**SECTION - IV****Note : Answer the following questions.**

5×2=10

- a) Describe about the mechanism of Vision. (OR)  
b) Describe the mechanism by which the human heart beat is initiated and controlled.
- a) Explain the distinct features of Phylum Chordata. (OR)  
b) Discuss the various techniques adopted in cattle breeding.

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