DAV BR PUBLIC SCHOOL, BINA.
HALF YEARLY EXAMINATION Session 2024-25
Practice Paper

Class XI **SUBJECT : Biology**
Time Allowed: 3 hours **Max. Marks: 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.
Wherever necessary, Draw neat and properly labeled diagrams ..

SECTION A

1 Which one is less general in characteristic as compared to the genus?
a) Class
b) Division
c) Family
d) Species

2 Which of the following is not a macromolecule?
a) DNA
b) Protein
c) Polysaccharide
d) Lipid

3 The giant Redwood tree (Sequoia sempervirens) is a/an:
a) Pteridophyte
b) Angiosperm
c) Free fern
d) Gymnosperm

4 Which among the following does not reproduce by spore formation:
(a) Penicillium fungus

(b) Yeast fungus
(c) Mucor fungus
(d) Rhizopus fungus

5 Water vascular system is the characteristic of which group of the following
(a) Porifera
(b) Ctenophora
(c) Echinodermata
(d) Chordata

6 Identify the polymer that makes exoskeleton of insects.
a. Chitin
b. Cellulose
c. Suberin
d. Inulin

7 What do Elioplast and Aleuroplast stores respectively?
a. Starch and Fats
b. Fats and Proteins
c. Proteins and Fats
d. Starch and proteins

8 To inhibit the action of suucinic dehydrogenase that works on succinate, _____ needs to be added .

a	Melonate	c	Succinate
b	Oxalic acid	d	Propaneolate

9 Birds shows which kind of excretion?
a) Ammonotelic in water and ureotelic on land
b) Ureotelic
c) Uricotelic
d) Ammonotelic

10 Higher plants possess specific areas that take part in the formation of new cells. These areas are called _____.
a) Permanent tissue
b) Meristems
c) Collenchyma
d) Parenchyma

11 Identify which of the following polymer makes the external coating on the body of Periplaneta americana (cockroach).

a	Cellulose	c	Chitin
b	Glycogen	d	Inulin

12 Name the book written by Carolus Linnaeus is

a	Systema naturae	c	Taxonomy of living
b	Origin of species	d	Naturae systema

Assertion Reason questions

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

13 Assertion: Obelia is dimorphic in nature.
Reason: Polyp and Medusa form are exhibited by Obelia

14 Assertion : Algae and fungi are grouped in thallophyta.
Reason : Algae and fungi show no differentiation in thallus

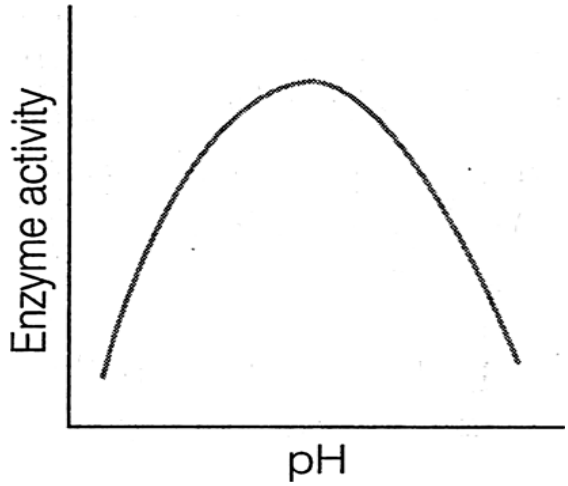
15 **Assertion :** Microcyst of Myxamoebae lacks a cell wall.
Reason (R): Microcyst is formed in sexual reproduction of cellular slime moulds.

16 **Assertion (A):** Aerobic animals are not truly aerobic.
Reason (R): They produce lactic acid anaerobically.

SECTION B

17 Frogs are beneficial for mankind, justify the statement.
OR
What is meant by Heterosporous Fern . Give an example of heterosporous ans homosporous Gymnosperm.

18 Enzymes are proteins in which the amino acids are linked to each other by bonds having many functional groups in their structure. As they are weak acids and bases in chemical nature, this ionization is influenced by the pH of the solution. For many enzymes, activity is influenced by the surrounding pH. This is depicted in the curve below, explain briefly the given graph.



19 You are given two slides having T.S. of roots and stems. How will you identify which slide is of root and which is of stem?

20 Why there is a need to standardise the system of naming of living organisms?

21 List down various Protozoans belonging to Porifera and Describe each one of them briefly. Draw any one representative too

22 Explain Alternation of generation in Funaria with the help of suitable diagram.

23 What is meant by fluid mosaic model? Explain with the help of suitable diagram.

24 What is the meaning of isogamous and Anisogamous ? Name any two alga that goes for Oogamous reproduction.

25 Explain the following terms with the help of examples.

a. Metagenesis
b. Dikaryon
c. Pseudocoelom
d. Red tides

26 Differentiate belween Centriole and Cillia with the help of diagram

27 Differentiate between a prokaryotic cell and an eukaryotic ones . (6 Points in a tabular form)

or

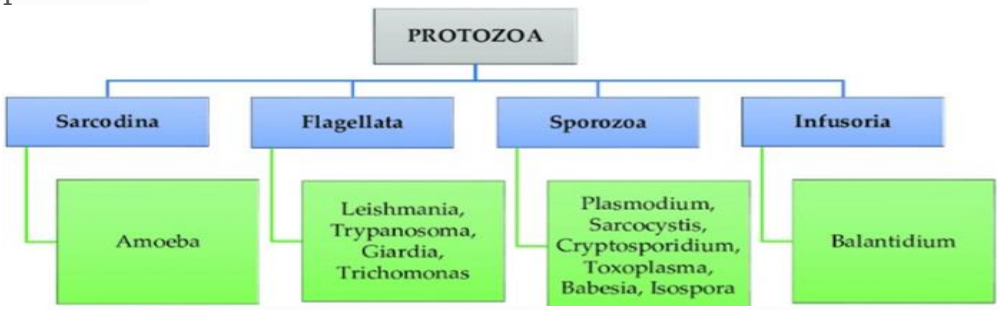
Differentiate between nucleotide and nucleoside of mRNA by giving 3 points in a tabular form.

28 Explain competitive inhibition with the help of relevant diagram and examples. Justify that this phenomenon is useful for man kind.

SECTION D CASE STUDY 4

29 **Read the text carefully and answer the questions:**

Sarcodines are unicellular/jelly-like protozoa found in fresh or sea water and in moist soil. Their body lacks a periplast. Therefore, they may be naked or covered by a calcareous shell. They usually lack flagella and have temporary protoplasmic outgrowths called pseudopodia. These pseudopodia or false feet help in movement and capturing prey. They include free-living forms such as Amoeba or parasitic forms such as Entamoeba. Zoo flagellates ciliates and I sporozoans are other groups of protozoan protists. They are all unicellular and heterotrophic. They may be holozoic, saprobic or parasitic.



i. Write two lines about flagellated protozoans and also mention some flagellated protozoans.

OR

ii. Which protozoan group has two nuclei, macronucleus, and micronucleus? Mention characteristics of it.

iii. Observe the given protozoan classification and mention what is the basis of protozoan classification.

iv. Mention some locomotory organs of protozoa.

30 **Read the passage given below and answer the following questions:** 2

Polysaccharides may be very large molecules. Starch, glycogen, cellulose, and chitin are
examples of polysaccharides.
Starch is the stored form of sugars in plants and is made up of amylose and amylopectin (both polymers of glucose). Amylose is soluble in water and can be hydrolyzed into glucose units breaking glycocidic bonds, by the enzymes α- amylase and β-amylase. It is straight chain polymer. Amylopectin is a branched chain polymer of several D-glucose molecules. 80% of amylopectin is present in starch. Plants are able to synthesize glucose, and the excess glucose is stored as starch in different plant parts, including roots and seeds. The starch that is consumed by animals is broken down into smaller molecules, such as glucose. The cells can then absorb the glucose.
Glycogen is the storage form of glucose in humans and other vertebrates, and is made up of monomers of glucose. It is structurally quite similar to amylopectin . Glycogen is the animal equivalent of starch. It is stored in liver and skeletal muscles.
Cellulose is one of the most abundant natural biopolymers. The cell walls of plants are mostly made of cellulose, which provides structural support to the cell. Wood and paper are mostly cellulosic in nature. Like amylose, cellulose is a linear polymer of glucose. Cellulose is made up of glucose monomers that are linked by bonds between particular carbon atoms in the glucose molecule. Every other glucose monomer in cellulose is flipped over and packed tightly as extended long chains. This gives cellulose its rigidity and high tensile strength—which is so important to plant cells. Cellulose passing through our digestive system is called dietary fiber.

Answer the following questions

1. In animals , Glycogen is stored in :
A. Liver
B. Spleen
C. Lungs
D. Small Intestine

2. Amylose is :
A. straight chain , water insoluble component of starch ,which constitutes 20 % of it .
B. straight chain , water soluble component of starch ,which constitutes 20 % of it.
C. branched chain , water insoluble component of starch,which constitutes 80 %.of it
D. branched chain , water soluble component of starch ,which constitutes 80 % of it .

3. Which biopolymer breaks down to release glucose , whenever glucose levels drop in our body :
A. starch
B. cellulose
C. chitin
D. glycogen

4. The linkages which join monosaccharide to form long chain

polysaccharides:

A. Peptide linkage

B. Disulphide bonds

C. Hydrogen bonds

D. Glycosidic linkage

5. Cellulose on complete hydrolysis yields:

A. amylose

B. amylopectin

C. glucose

D. amylose and amylopectin

6. . The linkages which join alanin to methionine to form a polymer is

____

A. Peptide linkage

B. Disulphide bonds

C. Hydrogen bonds

D. Glycosidic linkage

Answer the following questions in detail.

31 Provide a technical/Biological term for the following:

1. Blood filled cavity in arthropods
2. A stinging organ of jellyfish
3. Free-floating form of Cnidaria
4. Lateral appendages in aquatic annelids.
5. Stinging cells of Hydra.
6. Collar cells of Sponges
7. Excretory organ of Ptatyhelminths
8. Covering on gill slits in Labeo rohita
9. Respiration in frog during summer sleep.
10. Locomotory organ of Leeches.

32 Classify plant kingdom in a tabular form ? Give one characteristic feature and examples for each category. 5

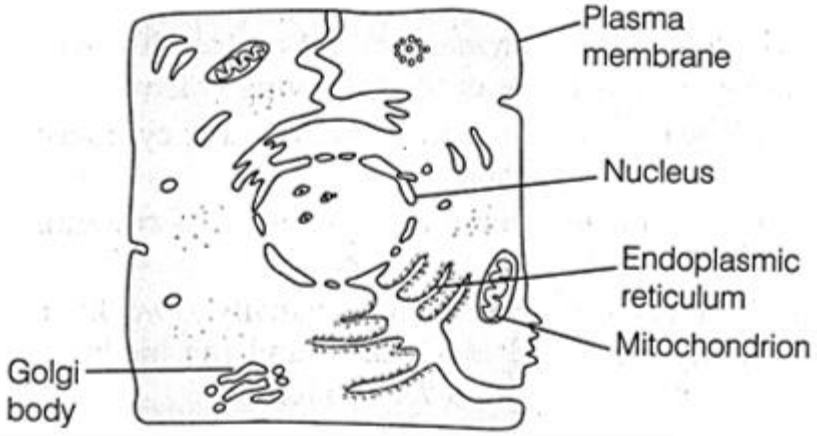
Or

a. What are the 4Bmodifications that are observed in birds that help them fly?

b.Match the following

a) Operculum	(i) Ctenophora
(b) Parapodia	(ii) Mollusca
(c) Scales	(iii) Porifera
(d) Comb plates	(iv) Reptilia
(e) Radula	(v) Annelida
(f) Hairs	(vi) Cyclostomata and Chondrichthyes
(g) Choanocytes	(vii) Mammalia
(h) Gill slits	(viii) Osteichthyes

33 The diagram shows some of the structures present in an animal cell. 5



Which of these structures is responsible for

i. Manufacture of lipids and steroids
ii. Release of energy
iii. Manufacture of hormones and digestive enzymes
iv. Production of spindle fibres in cell division
v. Endo and exocytosis?

OR

Structure and function are correlatable in living organisms. Can you justify this by taking the plasma membrane as an example?

########### BEST OF LUCK###########