BRAIN INTERNATIONAL SCHOOL

SESSION 2024-25

CLASS: XI **TERM 1 REVISION SHEET** **SUBJECT: BIOLOGY**

Chapter -5 Morphology of flowering plants

Q1.Mcqs

i.In racemose, flowers are arranged in:

a. Acropetal order

b. Centrifugal order

c. Centripetal order

d. Basipetal order

ii.Diadelphous condition is related to:

a. Androecium

b. Gynoecium

c. Inflorescence

d. All

iii. Androecium is a whorl of:

a. Anthers

b. Stamens

c. Filaments

d. Tepals

Q2. ASSERTION AND REASON QUESTIONS

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

(i) Both A and R are true and R is correct explanation of the assertion.
(ii) Both A and R are true but R is not the correct explanation of the assertion.
(iii) (iii) A is true but R is false.

(iv) A is false but R is true.

a) Assertion: A floral formula is the representation of the morphology of a flower with the help of signs and symbols.

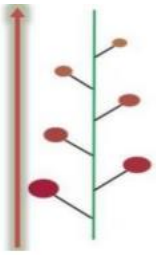
Reason: An incomplete flower in one where one or more whorls are absent.

Q3. **CASE STUDY QUESTION**

Read the passage carefully and answer the Questions that follows

A flower is a modified shoot wherein the shoot apical meristem changes to floral meristem. The apex produces different kinds of floral appendages laterally at successive nodes instead of leaves. When a shoot tip transforms into a flower, it is always solitary. The arrangement of flowers on the floral axis is termed as inflorescence. Depending on whether the apex gets developed into a flower or continues to grow, two major types of inflorescences are defined – racemose and cymose. In racemose type of inflorescences, the main axis continues to grow, the flowers are borne laterally in an acropetal succession. In cymose type of inflorescence the main axis terminates in a flower, hence is limited in growth. The flowers are borne in a basipetal order. The flower is the reproductive unit in the angiosperms. It is meant for sexual reproduction. A typical flower has four different kinds of whorls arranged successively on the swollen end of the stalk or pedicel, called thalamus or receptacle.

1.Identify the type of inflorescence in the figure given below.



a) Racemose

b) Cymose

c) Basipetal

d) Solitary

2.The main function of the flower is

a) To produce nectar

b) Vegetative growth

c) Sexual reproduction

d) Aesthetic beauty.

3.The stage on which the flower is placed is called the

a) Pedicel

b) Receptacle

c) Calyx

d) Stigma

4.The accessory whorls that are indirectly helping in the function of reproduction are

a) Corolla and Calyx

b) Androecium-filament and anther

c) Gynoecium-ovary, style and sigma

d) Anther and Ovary

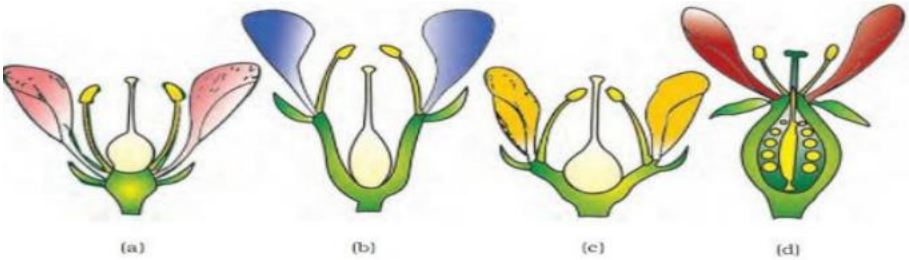
5. All incomplete flowers are unisexual

a) True

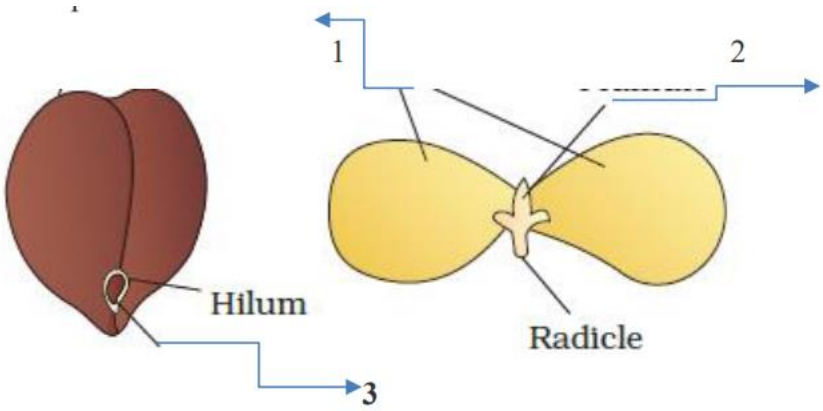
b) False

Q4.Answer the following questions :

1.Identify the position of the floral parts on the thalamus as shown in the diagram below.



1.What is 2.aestivation, Explain the types with diagrammatic representation and any one example.



3.a) The diagrams given above represent the structure of dicotyledonous seed, Identify the parts labelled 1,2,3 and state their functions.

b) How is an endosperm formed, State its significance.

Chapter 6: Anatomy of flowering plants

Q1.Mcqs

i.The Pith and the cortex do not at any term differentiate in

a)Monocot stem of the plant
b)Dicot stem of the plant
c)Monocot root of the plant
d)Dicot root.of the plant

ii. What are Cork cambium and Vascular cambium?

a)They are parts of secondary xylem and phloem
b) Parts of pericycle
c)Lateral meristem
d)Apical meristem

Q2. ASSERTION AND REASON QUESTIONS

a) Assertion :Monocot stem has collateral open vascular bundle.

b) Reason: Open vascular bundle is without vascular cambium.

Q3. CASE STUDY QUESTION

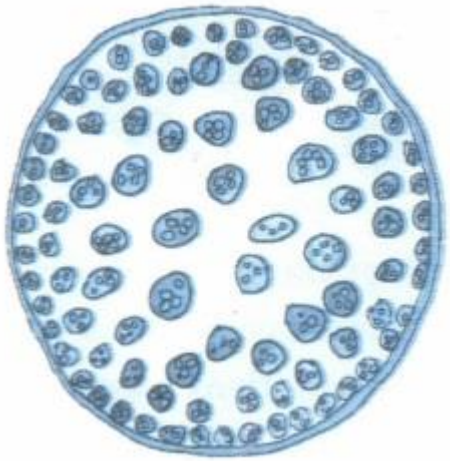
Read the passage carefully and answer the Questions that follows

The growth of roots and stems of plants in length accomplished by the apical meristems, is called primary growth. The dicotyledonous plants show secondary growth, i.e. an increase in the girth of stem and root with the help of lateral meristems

(a) Name the lateral meristems involved in secondary growth of dicot stems.
(b) Why is more secondary xylem than secondary phloem formed during secondary growth?
(c) What are secondary medullary rays?

Q4.Answer the following questions :

i.Identify the three types of vascular bundles, A, B and C shown above. Give one example for each type.



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ii.The ground plan of a transverse section of a monocot stem is shown above.
(a) Name the cell type, the hypodermis of monocot stem is made of.
(b) Write any four characteristics of the vascular bundles in a monocot stem.

Chapter 7: Structural organisation in animals

Q1.Mcqs

i.The forebrain of a frog includes

a. diencephalon

b. olfactory lobes

c. cerebrum

d. all of these

ii.The number of cranial nerves in a frog is

a. 7 pairs

b. 8 pairs

c. 10 pairs

d. 12 pairs

iii.The ureters in a female frog open into

a. urinary bladder

b. cloaca

c. Bidder's canal

d. Both a and c

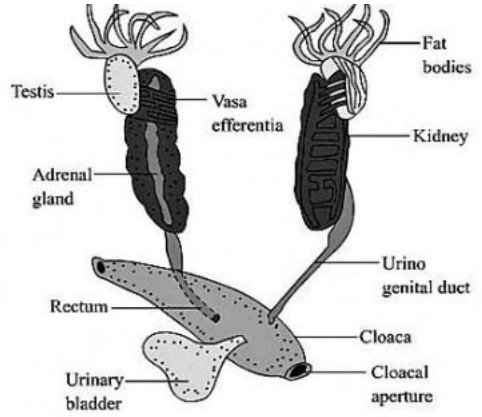
Q2. ASSERTION AND REASON QUESTIONS

i.Assertion :Frog has osmoreceptors in its mouth.

Reason: Osmoreceptors help frog in locating a mate.

Q3. CASE STUDY QUESTION

The diagram of the reproductive system of a male frog is shown below Observe the diagram and answer the questions that follow:



a. How are the testis adhered to the upper part of kidney?

b. Why are the ureters in a male frog called urinogenital ducts?

c. Where do the vasa efferentia arise from? How many of them are there?

Where do they enter further and open into?

d. Where do the urinogenital ducts open into?

Q4.Answer the following questions :

i)a)Frogs are diocious and sexually dimorphic.

b) Write two features in which the male frogs can be distinguished from the female frogs, externally?

ii. What is cutaneaous respiration? When does a frog carry out cutaneous respiration?

iii) How is digestion aided in the stomach and intestine in frogs?

Chapter- 8 CELL: THE UNIT OF LIFE

Q1.Mcqs

i.Which structures perform the function of mitochondria in bacteria?

(a) Nucleoid

(b) Ribosomes

(c) Cell wall

(d) Mesosomes

ii.Choose incorrect match

(a) Chloroplast - Thylakoid

(b) Golgi bodies - Cristae

(c) Mitochondria – Oxysome

(d) Centriole – Microtubules

iii.What is a tonoplast?

(a) Outer membrane of mitochondria

(b) Inner membrane of chloroplast

(c) Membrane boundary of the vacuole of plant cells

(d) Cell membrane of a plant cell

Q2. ASSERTION AND REASON QUESTIONS

Assertion: The Golgi apparatus mainly performs the function of packaging materials.

Reason: Materials to be packed in the form of vesicles from the ER fuse with trans face of the Golgi Apparatus.

Q3. CASE STUDY QUESTION

A chloroplast is a type of membrane-bound organelle known as a plastid that conducts photosynthesis mostly in plant and algal cells. The photosynthetic pigment chlorophyll captures the energy from sunlight, converts it, and stores it in the energy-storage molecules ATP and NADPH while freeing oxygen from

water in the cells. The ATP and NADPH is then used to make organic molecules from carbon dioxide in a process known as the Calvin cycle. Chloroplasts carry out a number of other functions, including fatty acid synthesis, much amino acid synthesis, and the immune response in plants. The number of chloroplasts per cell varies from one, in unicellular algae, up to 100 in plants like Arabidopsis and wheat.

i) The ground material in Chloroplast is

(a) Matrix

(b) Stroma

(c) Lamellae

(d) Thylakoid

(ii) When green tomatoes fruits turn to red, then

(a) new chromoplasts are formed

(b) chloroplasts are disintegrated and get converted into chromoplasts

(c) chromoplasts are changed to chloroplasts

(d) none of these

iii.)In chloroplasts, the parallel layering of membranes is suited for

(a) maximum exposure of enzymes

(b) maximum light absorption

(c) minimum light absorption so cells can maintain their temperature

(d) all of these

Q4.Answer the following questions :

i)What does "S" stand for in the 70S and 80S ribosome?

ii) What is a mesosome in a prokaryotic cell? Mention the functions that it performs

iii) . Write the functions of the following:

a. Centromere

b. Smooth ER

c. Centrioles

CHAPTER-9. BIOMOLECULES

Q1.Mcqs

i.. An amino acid is essential because it is

.(A)used in metabolic pathways

(B) an enzyme

(C) must be taken in food

ii.Example of a typical homopolysaccharide is

(A) Inulin

(B) Suberin

(C) Lignin

(D) Starch

iii) The RNA contains a base uracil in place of

(A) adenine

(B) guanine

(C) cytosine

(D) thymine

Q2. ASSERTION AND REASON QUESTIONS

i.. Assertion: Each enzyme has a substrate binding site in its molecule which forms highly reactive enzymes substrate complex

. Reason: The enzyme substrate complex is long lived and dissociates into its product and unchanged enzyme.

Q3. CASE STUDY QUESTION

Read the passage carefully and answer the Questions that follows

.Lipids form a heterogeneous group but all are made up of carbon hydrogen and oxygen. These are insoluble in water and soluble in organic solvents like acetone, ether, alcohol etc. The number of oxygen atoms is very small compared to carbon atoms. They need a large amount of oxygen for their oxidation to release energy. They could be simple lipids, compound lipids, and derived lipids. Simple lipids are esters of fatty acid and alcohol. Compound lipids are formed when simple lipids combine with another compounds for example glycolipids, phospholipids and lipoproteins. Derived lipids are of various types and important example being steroids.

(i) Lipids mainly consist of

(A) Carbon only (B) carbon hydrogen and nitrogen (C) carbon hydrogen and oxygen (D) Hydrogen only

(ii) Among the given options non-polymeric molecule is

(A)Nucleic acids (B) proteins (C) Lipids (D) polysaccharides

(iii) An example of unsaturated fatty acid is

(A) oleic acid (B) stearic acid (C) Linoleic acid (D) both a and c Answer: (D) both a and c

(iv) The number of carbon atoms as compared to oxygen atoms in lipids is

Q4.Answer the following questions :

i)Amino acids exist as zwitter ions. Give its structure. Why is it formed ?

ii). Differentiate between cofactors, coenzymes & prosthetic group

iii) .What is enzymatic competitive inhibition? Give one example?

CHAPTER-10 CELL CYCLE AND CELL DIVISION

Q1.Mcqs

.i) A fruit fly has 8 chromosomes (2n) in each of its body cells. What would be the number of chromosomes after S phase of interphase in a cell

(a) 4

(b) 8

(c) 16

(d) 32

ii) During G1 phase of cell division

(a) RNA and proteins are synthesized

(b) cell grows in size

(c) decision for cell division occurs

(d) all of these

Q2. ASSERTION AND REASON QUESTIONS

i)Assertion: DNA synthesis occurs in G1 and G2 periods of cell cycle.

Reason: During G1 and G2 phase, the DNA content become double.

Q3. CASE STUDY QUESTION

Read the passage carefully and answer the Questions that follows

The prokaryotic cells are represented by bacteria, blue-green algae, mycoplasma and PPLO (Pleuro Pneumonia like Organisms). They are generally smaller and multiply more rapidly than the eukaryotic cells. They may vary greatly in shape and size. The four basic shapes of bacteria are bacillus (rod like), coccus (spherical), vibrio (comma shaped) and spirillum (spiral). The organisation of the prokaryotic cell is fundamentally similar even though prokaryotes exhibit a wide variety of shapes and functions. All prokaryotes have a cell wall surrounding the cell membrane except in mycoplasma. The fluid matrix filling the cell is the cytoplasm. There is no well-defined nucleus. The genetic material is basically naked, not enveloped by a nuclear membrane. In addition to the genomic DNA (the single chromosome/circular DNA), many bacteria have small circular DNA outside the genomic DNA. These smaller DNA are called plasmids. The plasmid DNA confers certain unique phenotypic characters to such bacteria. One such character is resistance to antibiotics. Nuclear membrane is found in eukaryotes. No organelles, like the ones in eukaryotes, are found in prokaryotic cells except for ribosomes. Prokaryotes have something unique in the form of inclusions. A specialised differentiated form of cell membrane called mesosome is the characteristic of prokaryotes. They are essentially infolding of cell membrane.

1.) _____ is the fluid matrix, which fills the prokaryotic cell.

a.) Cell sap b) Cytoplasm c.) Water d.) Both a & b

2.) Identify incorrect statement

Statement 1 – In prokaryotic cell nucleus is absent..

Statement 2 – In prokaryotic cells genetic material appears naked.

Statement 3 – In prokaryotic cells genetic material not enveloped by a nuclear membrane

. Statement 4 – prokaryotic cells do not have a cell wall.

a.) Only 1 b) Only 4 c.) Both 2 & 3 d.) All of the above

3.) Give reason – why genetic material in prokaryotic cell is not enveloped in nuclear membrane

4.) Define mesosome.

5.) Give the any two characteristic of prokaryotic cells

6.) Enlist the shapes of bacteria are generally occurs

Q4.Answer the following questions :

i) Write the characteristic events that takes place in anaphase of mitosis.

ii) why is meiosis necessary in sexually reproducing organisms?