Grade X | Biology
Time:2Hours | Assessment-1 | MM:20

Instructions: Read the question paper carefully. Write neatly and legibly. Do not over write. Pay special attention to spelling. Read the answers before submitting the answer sheet.

SECTION -A(Attempt all questions)

Question 1. Select the correct answer to the questions from the given options. **(15)**

i. The rate of photosynthesis is not affected by
a)light intensity b)Humidity c)temperature d)CO_2 concentration

ii. The term "chromosome" literally means
a)Inherited bodies b)Twisted threads c)Colored bodies d)Shining threads

iii. Which one of the following is phenotypic monohybrid ratio in F_2 generation
a)3 : 1 b)1 : 2 : 1 c) 2 : 1 d)1 : 3

iv. What is responsible for Guttation
a)Osmotic pressure b)Root pressure c)Suction pressure d)Capillarity

v. A plant cell placed in a certain solution got plasmolysed .What was the kind of solution?
a)Isotonic sugar solution b)Hypotonic salt solution
c)Hypertonic salt solution c)Isotonic salt solution

vi. One of the internal factor which affect the rate of transpiration
a)big size of the leaf b)colour of the leaf c)sunken stomata d)sunny day

vii. Most of the transpiration in tall trees occurs through
a)stomata b)Lenticels c)Cuticle d)Bark

viii. During photosynthesis, the oxygen in glucose comes from
a)CO_2 b)water c)both water and CO_2 d)Oxygen via air

ix. Absorption of water by the plants cells by surface attraction is called
a)Diffusion b)Osmosis c)Imbibition d)Endosmosis

x. The 9 : 3 : 3: 1 dihybrid ratio is due to
a)Segregation b)crossing over c)independence day d)homologous pairing

xi. Synthesis phase in the cell cycle is called so for the synthesis of more of
a)RNA b)RNA and proteins c)DNA d)Glucose

xii._____ is the price which the plant pays for photosynthesis
a)Transpiration b)Absorption c)Guttation d)Osmosis

xiii. The number of water molecules required in the chemical reactions to produce one molecule of glucose during photosynthesis
a)six b)twelve c)eighteen d)twenty four

xiv. Chlorophyll in a leaf is required for
a)Breaking down water into hydrogen and oxygen b)trapping light energy
c)emitting green light d)storing starch in the leaves.

xv. With decrease in atmospheric pressure, the rate of transpiration will
a)increase b)decrease rapidly c)decrease slowly d)remain the same

(8)

Q 2 (I) Name the following.

1.The structure in a leaf that allow guttation.
2. The part of chloroplast where the dark reaction of photosynthesis takes place.
3.The term for inward movement of solvent molecules through the plasma membrane of a cell.
4.The type of bond which joins the complementary nitrogenous bases.
5.The complex structure consisting of DNA strand and a core of histones.
6.The tissue concerned with upward conduction of water of water in plants.
7.An instrument used to find the rate of transpiration.
8.A plastid without pigment.

(7)

(II) Fill in the blanks.

1.The chemical substances used to test the presence of starch in the leaf is_____
Gra2.Transpiration is the loss of water as water _____
3.Active transport is one in which the ions outside the roots move in by utilizing_____
4.Meiosis occurs only in _____
5.DNA replicates in_____ phase of the cell cycle.
6.Closing of_____ and shedding of leaves reduce_____

(5)

(III) Match the following.

1.Genetics	i)ATP(adenosine tri phosphate)
2 Cell wall	ii)Semipermeable
3. Chlorophyll	iii)Study of law of inheritance of character
4.Root pressure	iv)Permeable
5.Stored energy in the cells	v)Osmosis
	vi)Guttation
	vii)Magnesium

(IV) Given below the groups of terms. In each group ,the first pair indicates the relationship between the two terms. Complete the second pair accordingly. (5)

a)Chlorophyll :Magnesium : : Hemoglobin :.....
b)Light reaction ; Granum : : Dark reaction: .....
c)Producers : Autotrophs : : Consumers : .....
d)Respiration : Carbon dioxide : : Photosynthesis : .....
e)Water and minerals : Xylem : : Prepared food : .....

SECTION B (Attempt any four questions from this section)

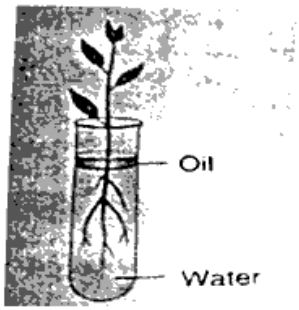
Question 3,.(i) Define photo synthesis. (1)

(ii)Distinguish between stoma and stroma. (2)

(iii)Give reason :-It is necessary to place a plant in the dark before starting an experiment on photosynthesis. (2)

(iv)State Mendel's law of segregation. (2)

(v)Study the diagram given below and answer the questions that follow; (3)



a)Name the process being studied in the above.

b)Explain the process mentioned in (a) above experiment.

c)Why is oil placed over water?

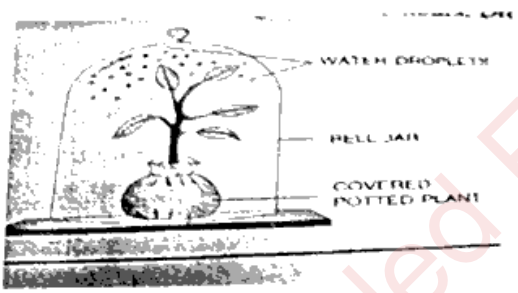
Question 4.(i)Define wilting. (1)

(ii)Distinguish between Guttation and Bleeding. (2)

(iii)What is a lenticular transpiration? (2)

(iv)How rate of transpiration is affected by humidity of the atmosphere? (2)

(v)An apparatus as shown below was set up to investigate a physiological process in plants. The setup was kept in sunlight for two hours. Droplets of water were then seen inside the bell jar. Answer the questions that follow : (3)



a)Name the process named being studied.

b)Explain the process named above in(a).

c)List three adaptations in plants to reduce the above mentioned process.

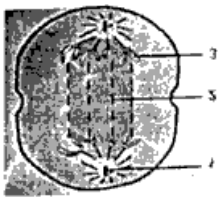
Question 5.(a)Define organelles. (1)

(b)Explain why generally only the male child suffers from colour blindness and not the female. (2)

(c)Name any two genetic diseases in human.

(d)A plant cell when kept in a hypertonic salt solution for about 30 minutes turn flaccid .why? (2)

(e)The diagram below represents a stage during cell division. Study the same and then answer the questions that follow: (3)



a)Name the parts labelled 1,2and 3.

b)Mention the type of cells in our body where this type of cell division occurs.

c)Name the three stages prior to this stage. (1)

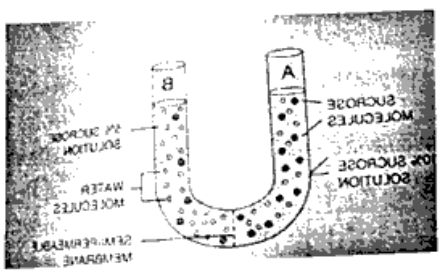
Question 6.a)Define cell division. (2)

b)Distinguish between chloroplast and chromoplast. (2)

c)Why meiosis referred to as "reductional division"? (2)

d)Name and explain the various stages of the cell division. (3)

e)Study the experiment setup in figure and then answer the questions that follow



a)What phenomenon is being studied by this setup.

b)Explain the phenomenon mentioned in(a) above.

c)What is meant by semipermeable membrane.

Question 7.a)Define photolysis of water? (1)

b)Addition of salt to pickle prevent the growth of bacteria .Explain by giving two examples. (2)

c)What is lenticular transpiration? (2)

d)Differentiate between plasmolysis and De plasmolysis. (2)

e)Draw a neat labelled Diagram of stomata (3)

Question 8.

i)Define. (1)

ii)Mention two adaptation in leaves to perform photosynthesis. (2)

iii)forest tends to bring more rain (2)

iv)Mention two adaption in leaves to perform photosynthesis. (2)

v)Briefly explain how the rate of transpiration is affected by

a)Intensity of light b)Humidity of the atmosphere c)Temperature (3)