

St. Mary's Convent Inter College , Prayagraj
First Terminal Examination 2024-25

Time: 2hrs

Class 10
Biology

M.M :80

Name Roll No..... Date.....

Section – A (40 marks)

Note:- Attempt all the questions

Q.1) Choose the correct option :-

(15)

a.) Point of attachment of each chromosome is termed as:-

- 1.) Centrosomes. 2.) Centromere.
3.) Centriole. 4.) Chromatid.

b.) The process of loss of water as droplets from the margins of certain leaves:-

- 1.) Guttation. 2.) Hydathodes.
3.) Lenticels. 4.) All of the above.

c.) The tissue concerned with upward conduction of water:-

- 1.) Phloem. 2.) Xylem.
3.) Tendon. 4.) Ligament.

d.) The factor that does not affect rate of transpiration:-

- 1.) Intensity of light. 2.) Velocity of wind.
3.) Carbon dioxide. 4.) Oxygen.

e.) Specific sequence of nucleotides, which regulates the body feature:-

- 1.) Genes. 2.) Centromere.
3.) Chiasmata. 4.) All of the above.

f.) Main cause of Ozone depletion is:-

- 1.) SO₂. 2.) CO₂
3.) NO₂. 4.) CFC.

g.) Hormone that promote ripening of fruits is:-

- 1.) Cytokinin. 2.) Gibberelin.
3.) Auxin. 4.) Ethylene.

h.) Function of light energy in photosynthesis is:-

- 1.) Reduce CO₂. 2.) Activate chlorophyll.
3.) Formation of glucose. 4.) Splitting of water into H⁺ and OH⁻

i.) Monohybrid phenotypic ratio is:-

- 1.) 3:1. 2.) 2:3
3.) 9:3:3:1 4.) 1:2:1

j.) A cell shrink in a Solution:-

- 1.) Isotonic. 2.) Hypotonic.
3.) Hypertonic. 4.) None of the above.

k.) G1, S, G2 phases are present in:-

- 1.) Prophase. 2.) Interphase.
3.) Metaphase. 4.) Anaphase.

l.) Active transport needs:-

- 1.) Energy.
- 2.) Osmotic Pressure
- 3.) Root Pressure
- 4.) All of them.

m.) With increase in atmospheric pressure, the rate of transpiration will:-

- 1.) Increases.
- 2.) Decreases
- 3.) Remain steady
- 4.) Slowly increases.

n.) The individual flattened stacks of membranous structure inside the chloroplast:-

- 1.) Grana.
- 2.) Stroma
- 3.) Thylakoids.
- 4.) Cristae.

o.) Growth of pollen tube towards the ovule is an example of:-

- 1.) Phtotropism.
- 2.) Geotropism
- 3.) Chemotropism.
- 4.) Hydrotropism.

Q.2)A) Complete the following statements by choosing the appropriate option for each blank :-

(5)

- a.) Mitosis occurs in Cells.
- b.) is the stage of mitosis in which nuclear membrane reappears.
- c.) The dissimilar pairs of genes present in an individual are known as.....
- d.) The semi-permeable membrane in plant cell is.....
- e.) is the sex linked disease.

B.) Name the following:-

(5)

- a.) A chemical leading to the formation of ozone holes.
- b.) The phase of mitosis in which chromosomes are seen on the poles.
- c.) A EX-linked inherited disease.
- d.) A cell in a fully distended condition.
- e.) A solution in which cell shrinks.

C.) Arrange the terms in each groups in correct order:-

(5)

- a.) Soil water, Xylem, Root hair, Cortex.
- b.) Interphase, Anaphase, Metaphase, Telophase, Prophase.
- c.) Karyokinesis, S- phase , Cytokinesis, G1phase, G2phase.
- d.) Stomata, Mesophyll cells, Xylem, Substomatal space, Intercellular space.
- e.) Water molecule, Oxygen, Grana, Hydrogen and hydroxyl ions, photons.

D.) State the exact location of the following:-

(5)

- a.) Chloroplast.
- b.) Thylakoids.
- c.) Guard cells.
- d.) Palisade parenchyma.
- e.) Root hair

E.) State whether following statements are true or false:-

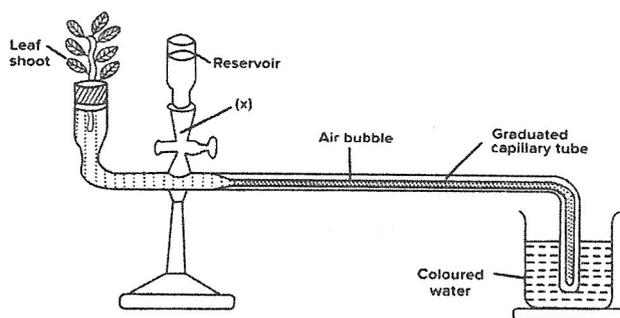
(5)

- a.) The resting stage in mitosis is called interphase. ()
- b.) Chromosomes other than the pair of sex chromosome are called alleles. ()
- c.) Bleeding is because of root pressure. ()
- d.) Moist cobalt chloride paper is blue in colour. ()
- e.) Dark reaction of photosynthesis is light dependent. ()

Section – B. (40 marks)

Attempt any four questions

- Q.3) i.) Define Crossing over. (1)
- ii.) Give one difference between ^{Crossation} Genotype and ^{Bleeding} Phenotype. (2)
- iii.) Give two harmful effects of air pollution. (2)
- iv.) Give one difference between flaccid condition and turgid condition. (2)
- v.) Explain the constitution of DNA. (3)
- Q.4) i.) Expand the abbreviation NADP. (1)
- ii.) Name any two nitrogenous bases. (2)
- iii.) State Mendel's Law of Dominance. (2)
- iv.) Give one difference between autosomes and sex chromosomes. (2)
- v.) Give reason for the following:- (3)
- a) Potato cubes when placed in water increases in size.
 - b) On a bright sunny day, the leaves of certain plants roll up.
 - c) During the starch test, the leaf is boiled in methylated spirit.
- Q5.) i.) Define Tropic movement. (1)
- ii.) Mention two important role hormone ABA. (2)
- iii.) Why it is not possible to demonstrate respiration in green plants in day time? (2)
- iv.) Explain the term Plasmolysis. (2)
- v.) Study the given diagram below and answer the questions:- (3)



- a.) Name the apparatus, what is it used for.
- b.) What is the role played by the air bubble in this experiment.

Q.6) a.) Define photophosphorylation. (1)

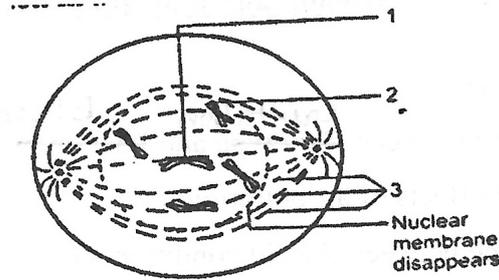
b.) State two internal factors which effect photosynthesis. (2)

c.) Mention two limitations of using Ganong's photometer. (2)

d.) Give two examples of turgor movements in plant. (2)

e.) Given below is a diagram representing a stage during mitotic cell (3)

Study the diagram and answer the following questions:-



1.) Identify the stage.

2.) Name the cell organelle that forms the asters.

3.) Name the part labeled 1.

Q.7) a.) A homozygous tall plant (T) bearing red coloured (R) flower is crossed with a (1)
Homozygous dwarf (t) plant bearing white (r) flowers give the genotype of the plant in F₁
generation.

b.) Define law of independent assortment. (2)

c.) Give one difference between phenotype and genotype. (2)

d.) Write the role of cohesive force in ascent of sap. (2)

e.) Mention three adaptations found in plants to reduce transpiration. (3)