

T.I. School

Ambattur, Chennai - 600053

HALF-YEARLY EXAMINATION (DEC 2022)

BIOLOGY-BOTANY

Total Marks: 35 Marks

Duration: 1 Hr. 30 Min

Class: 11

I) Choose the correct answer:

8 X 1 = 8

- Vexillary aestivation is characteristic of the family
a) Fabaceae b) Asteraceae c) Solanaceae d) Brassicaceae
- Aggregate fruit develops from
a) Multicarpellary, apocarpous ovary b) Multicarpellary, syncarpous ovary
c) Multicarpellary ovary d) Whole inflorescence
- Match the columns and identify the correct option:

Column-I	Column-II
(a) Thylakoids	(i) Disc-shaped sacs in Golgi apparatus
(b) Cristae	(ii) Condensed structure of DNA
(c) Cisternae	(iii) Flat membranous sacs in stroma
(d) Chromatin	(iv) Infoldings in mitochondria

- a) a - (iii) b - (iv) c - (ii) d - (i) b) a - (iv) b - (iii) c - (i) d - (ii)
c) a - (iii) b - (iv) c - (i) d - (ii) d) a - (iii) b - (i) c - (iv) d - (ii)
- The two subunits of ribosomes remain united at critical ion level of
a) Magnesium b) Calcium c) Sodium d) Ferrous
- Synapsis occur between
a) mRNA and ribosomes b) spindle fibres and centromeres
c) two homologous Chromosomes d) a male and a female gamete
- The correct sequence in cell cycle is
a) S-M-G₁-G₂ b) S-G₁-G₂-M c) G₁-S-G₂-M d) M-G-G₂-S
- Proteins perform many physiological functions. For example some functions as enzymes. One of the following represents an additional function that some proteins discharge:
a) Antibiotics b) Pigment conferring color to the skin
c) Pigments making colors of flowers d) Hormones
- Enzymes that catalyze interconversion of optical, geometrical or positional isomers are
a) Ligases b) Lyases c) Hydrolases d) Isomerases

II) Answer any four among the following questions:

4 X 2 = 8

- Give the technical terms for the following: -
a. A sterile stamen
b. Stamens are united in one bunch
c. Stamens are attached to the petals
- Find out the floral formula for a bisexual flower with bract, regular, pentamerous, distinct calyx and corolla, superior ovary without bracteole.
- State the protoplasm theory
- Write any three significance of mitosis.
- What is Coenanthium?
- What is Pollinium?

III) Answer any three among the following questions: (question No.16 is compulsory)

3 X 3 = 9

- Draw the ultrastructure of the plant cell
- Differentiate between mitosis and meiosis.
- List out the functions of the cell wall.
- What is a lock and key mechanism?
- Differentiate Nucleoside and Nucleotide.

IV) Answer the following questions in detail:

2 X 5 = 10

20.i) Explain the different types of placentation with examples.

OR

ii) Difference between plant and animal cell

21. i) Enumerate the physical properties of protoplasm.

OR

ii) Explain the types of racemose inflorescence with stick diagrams.

TIMHSS

SAMPLE