

**PART – A**  
**BOTANY**  
(Maximum : 30 Scores)

Time : 1 Hour

(3 × 1 = 3)

**I. Answer any 3 questions from 1 to 4. Each carries 1 score.**

1. Fill in the blank :

The dark reaction of photosynthesis takes place at \_\_\_\_\_ of the chloroplast.

2. Choose the correct answer :

Monocot seed consists of one large and shield shaped cotyldon known as \_\_\_\_\_.

- |                    |                |
|--------------------|----------------|
| (a) Aleurone layer | (b) Scutellum  |
| (c) Coleoptile     | (d) Coleorhiza |

3. Which class of algae is commonly known as Brown algae ?

4. Which of these cell organelles is not covered by a membrane ?

- |                  |                           |
|------------------|---------------------------|
| (a) Golgi bodies | (b) Endoplasmic reticulum |
| (c) Ribosomes    | (d) Vacuoles              |

**II. Answer any 9 questions from 5 to 15. Each carries 2 scores.**

(9 × 2 = 18)

5. (a) Write the name of the phase of Prophase-I of Meiosis in which crossing over takes place. 1

(b) What is the significance of crossing over ? 1

6. Match the following :

( $\frac{1}{2} \times 4$ )

Class of Fungi	Example
(a) Phycomycetes	(i) Agaricus
(b) Ascomycetes	(ii) Alternaria
(c) Basidiomycetes	(iii) Rhizopus
(d) Deuteromycetes	(iv) Penicillium

7. (a) What is Glycolysis ? 1

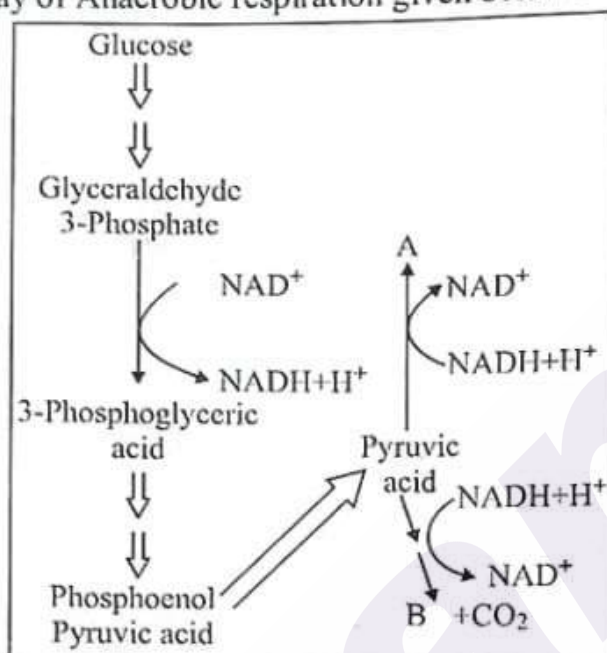
(b) Where does it takes place ? 1

8. (a) Write one function of Absciscic acid. 1

(b) Why Absciscic acid is known as 'Stress hormone' ? 1

9. Write two differences between the anatomy of Stem and Root.

10. Observe the pathway of Anaerobic respiration given below :



(a) Label the compounds marked as A & B.

(b) What happens to pyruvic acid in muscles if oxygen is inadequate ?

11. (a) Write the function of stomata.

(b) What is the difference between the shape of Guard cells of Dicot plants and Monocot plants (Grasses) ?

12. Arrange the given functions of plant hormones in appropriate columns :

( $\frac{1}{2} \times 4$ )

(a) Ripening of fruit

(b) Initiate rooting in stem cutting

(c) Induce parthenocarpy

(d) Breaks seed and bud dormancy

Auxins	Ethylene

13. Write brief notes about

(a) Thermoacidophiles

(b) Halophiles

14. (a) Which plants are known as naked seeded plants ?

(b) Why ?

15. Cell cycle consists of four phases –  $G_1$ , S,  $G_2$  and M.

Write one important event takes place during each phase.

( $\frac{1}{2} \times 4$ )

(3 × 3 = 9)

III. Answer any 3 questions from 16 to 19. Each carries 3 scores.

16. Leucoplasts are classified into three types based on the stored food.

(a) Which are they ?

1½

(b) Write the name of stored food present in them.

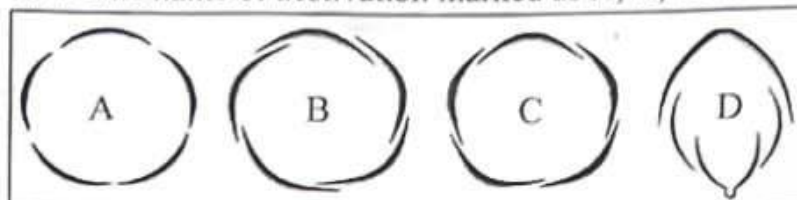
1½

17. (a) What is aestivation ?

2

(b) Write the name of aestivation marked as A, B, C and D in the given diagram.

1



18. (a) Which are the two types of cells that participate in  $C_4$  pathway ? (Hatch and Slack pathway)

1

(b) What is the name of the first  $C_4$  acid formed in this pathway ?

1

(c) Write two examples of  $C_4$  plants.

1

19. Observe the figure of Citric acid cycle.

(a) Where does it take place in a cell ?

1

(b) Write the name of compounds marked as A, B, C and D in the figure.

2

