PART – A

BOTANY

(Maximum : 30 Scores) **Time : 1 Hour**

I. Question 1 to 5. Answer any 3, each question carries 1 score. **(3 × 1 = 3)**

1. Diatoms belong to the following classifications : _____

   (a) Chrysophytes (b) Protozoans

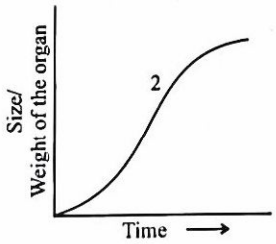
   (c) Dianoflagelletes (d) Euglenoids

2. The stored food material present in Rhodophyceae is _____ .

3. Which type of venation do you observe in dicot leaf ?

4. Name the stage of Meiosis during which Synaptonemal complex is formed.

5. In the following growth curve, what does the number '2' represent ?



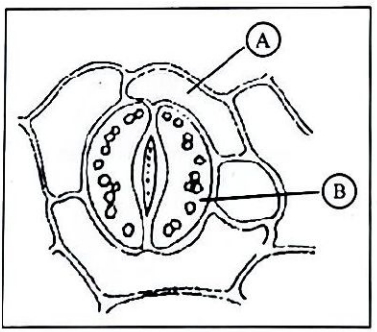
II. Question 6 to 16. Answer any 9, each question carries 2 scores. **(9 × 2 = 18)**

6. What do the terms Phycobiont and Mycobiont signify ?

7. Match the following :

	I		II
a.	Chlamydomonas	–	1. Moss
b.	Cycas	–	2. Pteridophytes
c.	Selaginella	–	3. Algae
d.	Shagnum	–	4. Gymnosperm

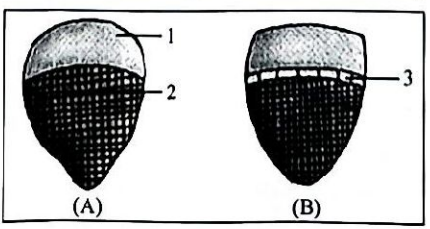
8. Observe the figure and answer the following questions :



I. Name the parts (A) and (B)

II. Which parts of stomata constitute the stomatal apparatus ?

9. Identify the types of vascular bundles given below and label the parts.



10. An accepted model of the structure of a cell membrane was proposed by Singer and Nicolson.

(a) Name the model.

(b) List the 2 major biomolecules which this membrane is composed of.

(c) State one function of this membrane.

11. Find the odd one and justify your answer.

(a) Stroma, Grana, Cristae, Stroma lamellae.

(b) Chromatid, Fimbriae, Kinetochore, Centromere.

12. Expand the abbreviation RuBP. What is its role in Photosynthesis ?

13. In a C3 plant a light dependent cyclic process is occurring that require oxygen.

(a) Name the process.

(b) In this process instead of producing, it consume energy. Evaluate the statement.

14. Pyruvate undergoes an oxidative decarboxylation by a complex set of reactions before entering the Krebs cycle.

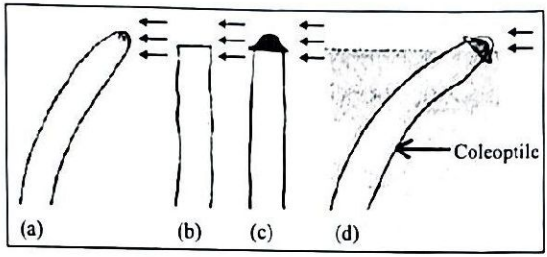
(a) Name the compound formed from this reaction which then enters Krebs cycle.

(b) Name the enzyme that catalyses this reaction.

15. (a) What is bolting ?

(b) Which hormone is used for bolting ?

16. Observe the figure given below :



(a) Source of which plant hormone is indicated in the figure ?

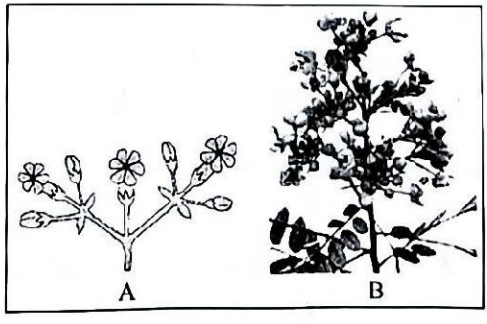
(b) Write three roles of above identified hormone.

III. Question 17 to 20. Answer any 3, each question carries 3 scores. **(3 x 3 = 9)**

17. Observe the figures A and B.

(a) Identify the type of inflorescence A & B.

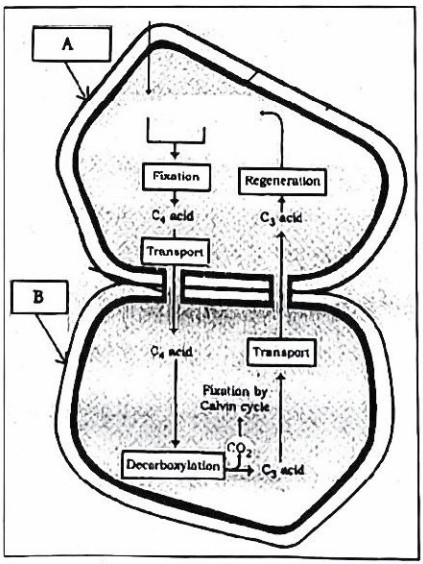
(b) Write any two difference between them.



18. Given below is the diagrammatic representation of a particular stage of mitosis.

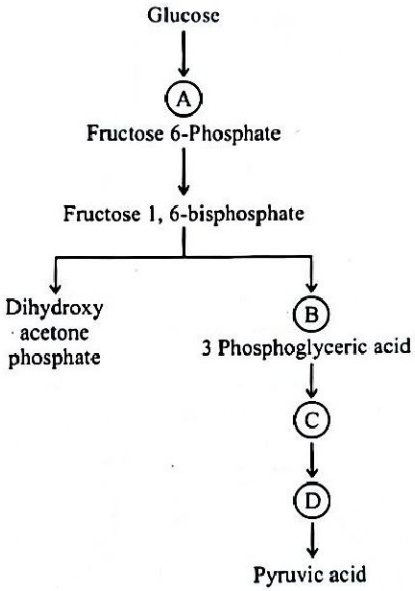
(a) Identify the stage.
(b) Write any two features of this stage.
(c) Write any three significance of mitosis.

19. Diagrammatic representation of Hatch and Slack pathway is shown below. Analyse the figure.



(a) Identify the cells A and B.
(b) Why this pathway is called C4 pathway ?
(c) Write any 3 advantages of C4 plants over C3 plants .

20. Observe the incomplete schematic representation given below and answer the questions.



(a) Identify this pathway common for both aerobic and anaerobic respiration.

(b) Complete the scheme by filling the boxes A, B, C and D.

(c) Mention the three ways in which different cells handle pyruvic acid produced by this pathway.