



Malappuram Botany Teacher's Association

FIRST YEAR HIGHER SECONDARY TESTSERIES 1 – 2022

Part III-BOTANY

HSE: I

Maximum score: 30

Time: 1.hr

Cool off time: 10 mnt

General Instructions to Candidates:

- **There is a 'cool off time' of 10 minutes in addition to the writing time of 1.hour.**
- **Use the cool off time to get familiar with questions and to plan your answers.**
- **Read the instructions and questions carefully before answering**
- **Total score of this examination is 30.**
- **Candidates can attempt any questions of their choice from the options given in the each section.**
- **You are not allowed to write your answers or to discuss with others during the cool offtime.**

I. Answer any 7 of the following. Each question from 1 -10 carries 1 score.

1.Observe the relationship between the first pair and fill up the blanks using appropriateterms.

Pheophyceae – Laminarin & mannitol

Rhodophyceae -

2.Who proposed viruses are 'Contagium vivum fluidum**'?**

3.Fill up the blanks by observing the relationship with the first pair

.....: Two kingdom classification

R.H Whittaker : Five kingdom classification

4.Which of the following cell help the grass leaves curl inwards during very dry weather.

a) Guard cell

b) Complimentary cells

- c) Subsidiary cell
 - d) Bulliform cell
5. "The fungi imperfecti" are,
- a) Phycomycetes
 - b) Ascomycetes
 - c) Basidiomycetes
 - d) Deuteromycetes
6. Observe the floral diagram and identify the family.



7. Identify the statement which is **not** related with Dicot leaf
- a) Stomata are equally distributed on both the epidermis
 - b) Mesophyll is divided into palisade and spongy parenchyma
 - c) Dorsi-ventral leaf
 - d) Stomata are more in lower epidermis
8. An example of edible underground stem is
- a) Carrot
 - b) Groundnut
 - c) Sweet potato
 - d) Potato
9. Asexual reproduction in liverworts takes place by formation of green, multicellular asexual buds known as.....
10. Pick the odd one from the following
- a) Tracheids, Vessels, Sieve tube, Xylem parenchyma

II. Answer any 7 of the following. Each question from 11-20 carries 2 scores.

11. In most woody trees, epidermis breaks to form a lens shaped opening
- a) What are these openings called?
 - b) Write its function

12. In some plants roots modified to perform functions other than absorption and conduction of water. Mention any two root modifications meant for **support** with suitable examples.

13. Five kingdom arrangement of organism was given by R.H Whittaker. State the criteria followed by Whittaker for his classification

14. Match the following

A	B
Bryophytes	Naked seeded plant
Pteridophyte	Amphibians of the plant kingdom
Gymnosperm	Flowering plants
Angiosperm	Independent sporophytic and gametophytic phase commonly called ferns

15. State the location and function of apical meristem and lateral meristem

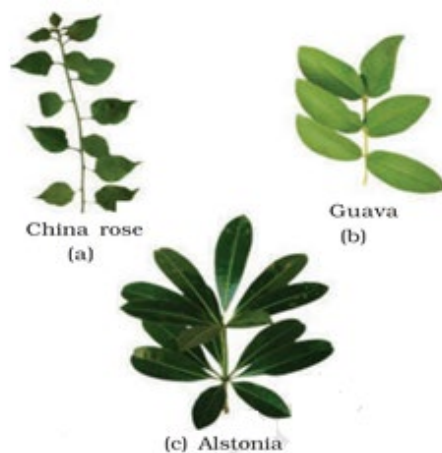
16. Stomata are structures present in epidermis of leaves.

a) State any difference of guard cell seen in dicot stomata with that of monocot

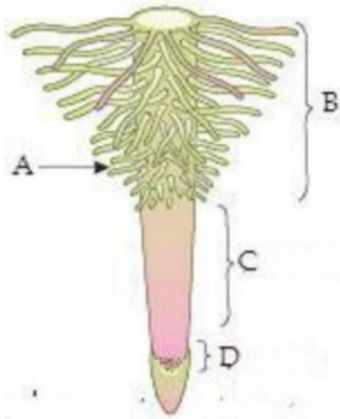
b) Write the function of guard cell

17. Differentiate Hypogynous and Epigynous flowers with examples.

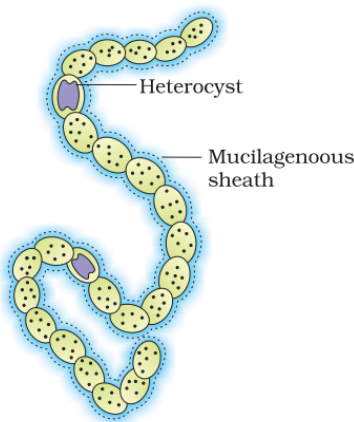
18. What you mean by phyllotaxy? Identify the types of phyllotaxy in a,b &c



19. Given below is the regions of root. Mark A, B, C & D



20. Observe the figure and identify the organism. Write down the function of heterocyst

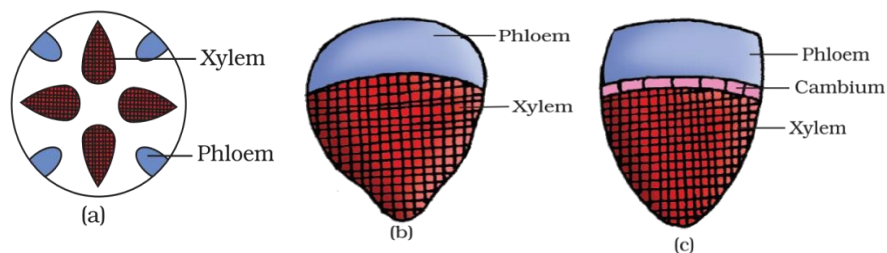


Answer any 3 of the following. Each question from 21-25 carries 3 scores.

21. Arrangement of flowers on the peduncle varies depending upon the nature and branching of the peduncle. Can you substantiate your answer with suitable examples?

22. Diagrammatic representation of vascular bundles are given

- Distinguish a, b and c
- State the differences between a and b



23. Dicot plants show secondary growth in their stem and root

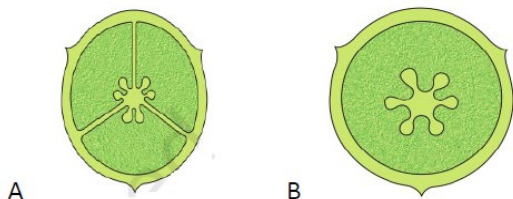
- Name the meristems that cause secondary growth in vascular region and cortex
- Comment on the activity of this meristem

24. The following are the anatomical features of flowering plants. Arrange these features in the table given below.

- Exarch xylem
- Palisade parenchyma
- Conjoint vascular bundle
- Spongy parenchyma
- Endarch xylem
- Radial vascular bundles

Stem	Root	Leaf

25. Observe the diagrams. Identify and briefly describe the type of placentation A & B. Give one example for each



ANSWER KEY
MBTA- +1 BOTANY SERIES TEST- I

Total Score – 30

CATEGORY	QU.NO	ANSWER KEY / VALUE POINTS	SLIT SCORE	TOTAL SCORE
I		Answer any 7 questions from 1-10 Each carries 1 marks		
	1	Floridean starch		1
	2	M.W Beijerinck		1
	3	Carl Linnaeus		1
	4	d) Bulliform cells		1
	5	Deuteromycetes		1
	6	Liliaceae		1
	7	a) Stomata are equally distributed on both the epidermis		1
	8	d) Potato		1

	9	Gemmae/ Gemma cup		1
	10	Sieve tube		1
II		Answer any 7 questions from 11-20.Each carries 2 marks		
	11	a) Lenticel b) Transpiration,Gaseous exchange	1x2	2
	12	a) Prop root- eg; Banyan tree b) Stilt root- eg; Sugar cane or Maize	$\frac{1}{2} \times 4$	2
	13	<ul style="list-style-type: none"> • Cell structure • Mode of nutrition • Thallus organization • Mode of reproduction • Phylogenetic relationship(any four) 	$\frac{1}{2} \times 4$	2
	14	a) Bryophytes- Amphibians of plant kingdom b) Pteridophytes- Independent sporophytic and gametophytic phase commonly called ferns c) Gymnosperms- Naked seeded plants d) Angiosperms- Flowering plants	$\frac{1}{2} \times 4$	2
	15	Apical meristem-Occurs at the tip of roots and stem- Increase in the length of plant Lateral meristem-Occurs in the mature regions of roots and shoots-Growth in Girth	1 1	2

	16	a)Dicot guard cell- Bean/ Kidney shaped Monocot guard cell- Dumb bell shaped b) Function- Control opening and closing of stomata	$\frac{1}{2}$ $\frac{1}{2}$ 1	2
	17	Hypogynous - Ovary is located at the top, all the floral parts are attached to the thalamus below the ovary.Eg: Hibiscus,Brinjal Epigynous - Thalamus become cup shaped and is fused with the ovary, all the floral parts are arise above the ovary.Eg: Guava,Cucumber	1 1	2
	18	Mode of arrangement of leaves on stem a) Alternate b) Opposite c) Whorled	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
	19	A) Root hair B) Region of maturation C) Region of elongation D)Region of meristematic activity	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2

	20	Filamentous blue green algae-Nostoc Can fix Atmospheric Nitrogen	1 1	2
III		Answer any 3 questions from 21-25.Each carries 3 marks		
	21	1)Racemose -The main axis continue to grow 2)Cymose-Main axis terminate in a flower	1½ 1½	3
	22	<ul style="list-style-type: none"> a)Radial b)Conjoint-Closed c)Conjoint-open Radial-Xylem and phloem occur in different radii Conjoint-Xylem and phloem are situated at the same radius 	1½ 1½	3
	23	a)Vascular cambium and Cork Cambium b)Vascular cambium responsible for cutting off vascular tissues such as xylem and phloem Cork cambium-cork produced by cork cambium Protect the underlying tissues from mechanical damage	1 1 1	3
	24	<ul style="list-style-type: none"> Stem-Endarch xylem,Conjoint vascular bundle Root-Exarch xylem,Radial Vascular bundle Leaf-Palisade parenchyma,Spongy parenchyma 	1 1 1	3
	25	<ul style="list-style-type: none"> A)Axile placentation-Placenta is axial and ovules are attached to it in a multi locular ovary.Eg:Tomato B)Free central-The ovules are born on central axis Dianthes 	1½ 1½	3