

2021
Department of Botany
Kaliachak College
BOTANY (Honours)
Paper Code: II-A
[New Syllabus]

Full marks: 14

Time: Twenty Minutes

Choose the correct answer.

Each question carries 1 mark.

1. The Type of stele in *Equisetum* —
(A) Haplostele
(B) Actinostele
(C) Plectostele
(D) Siphonostele

2. Special type of root inhabited by microbes in *Cycas* is —
(A) Coralloid root
(B) Adventitious roots
(C) N₂ fixing roots
(D) Rhizophores

3. Bryophytes are amphibians because —
(A) They require water for sexual reproduction
(B) They occur in damp places
(C) They are mostly aquatic
(D) All of the above

4. The production of sporophyte directly from a gametophyte without syngamy or sexual fusion is called —
(A) Apogamy
(B) Apospory
(C) Fertilization
(D) Apomixis

5. Heterospory is found in —
(A) Selaginella
(B) Isoetes
(C) Marsilea
(D) All of tile above

6. The structure offering protection of sorus is —
(A) Rhizophore
(B) Bract
(C) Synangium
(D) Indusium

7. According to available fossil records which of the following were the to land vascular plant.—

- (A) Psilophytales
- (B) Lycopods
- (C) Horse tail
- (D) *Cycads*

8. *Rhynia* belongs to the geological period —

- (A) Devonian
- (B) Permean
- (C) Carboniferous
- (D) Cambrian

9. The name of the reconstructed plant by Prof. Birbal Sahani is —

- (A) *Williamsonia sewardiana*
- (B) *Calymmaatotheca hoeninghausii*
- (C) *Pinus succinifera*
- (D) None of these

10. In *Pinus*, the wings of the seed develops from —

- (A) Wall of Ovule
- (B) Integument
- (C) Nucellus
- (D) Bract

11. In *Marchantia* the rhizoids are —

- (A) Branched unicellular
- (B) Branched multicellular
- (C) Unbranched unicellular
- (D) Unbranched multicellular

12. Gemma as vegetative reproduction unit is present in —

- (A) *Funaria*
- (B) *Marchantia*
- (C) Fern
- (D) *Riccia*

13. Telome theory was proposed by —

- (A) Eanaes
- (B) Zimmermann
- (C) Sahani
- (D) Mehta

14. The most primitive type of stele is —

- (A) Atactostele
- (B) Protostele
- (C) Dictyostele
- (D) Siphonostele

2021

Department of Botany

Kaliachak College

BOTANY (Honours)

Paper Code: II-B

[New Syllabus]

Full marks: 14

Time: Two Hours Forty Minutes

The figure in the margin indicate full marks

Group: A

1. Write short answers of any two of the following : 4x2=8

- (a) Describe spore dispersal mechanism and protonema of *Sphagnum*. 2+2=4
(b) What is synangium ? Comment on gametophyte of *Psilotum*. 1+3=4
(c) Explain the types of peristome teeth with diagram. Write down its function. 2+2= 4
(d) Mention the important features to distinguish the strobilus of *Lycopodium* from that of *Equisetum*. Name one Indian species of *Lycopodium*. 3+1=4

2. Answer any two of the following : 10x2=20

- (a) What is heterospory? Write a brief note on heterospory and seed habit. 2+8=10
(b) Describe development of sporophytes of *Anthoceros* with diagrams. Mention the biological significance of sporophyte of *Anthoceros*. 7+3=10
(c) Discuss progressive sterilization of sporophytes of bryophytes in the members you have studied. 10
(d) Briefly describe the structural features and evolutionary significance of reconstructed genus *Calamites*. Add a note on its geological and geographical distribution. 2+8=10

Group: B

3. Write short answers of any two of the following : 4x2=8

- (a) Write down the economic importance of Gymnosperms. 4
(b) Discuss the development of female gametophyte of *Gnetum*. 4
(c) Give a comparative account of female and male strobili of *Pinus*. 4
(d) Write a short note on the importance of study of fossil. 4

4. Answer any two of the following : 10x2=20

- (a) Give a comparative account of development process of female gametophyte of *Cycas* and *Pinus* with suitable diagrams. Comment on the fact that “seeds of *cycas* shows three generations”. 8+2=10

(b) Mention geological and geographical distribution of *Williamsonia*. Describe stem anatomy and male fructification of *Williamsonia*. $2+4+4=10$

(c) Why 'Gondwanaland' is so-named ? How it is formed ? Mention different megafloral assemblages of Lower Gondwana in different series. $1+2+7=10$

(d) What is geological time scale? Briefly describe the types of fossil based on their modes of preservation with proper diagram. $8+2=10$