

Government General Degree College at Kaliganj

Test Examination

2019

Botany (Honours)

Part –II

Full Marks = 75

Time = 4 hour

Pteridophyta (Marks: 15)

Q.1. Answer any three of the following: 1 x 3 = 3

- a) What is incipient heterospory?
- b) Name one pteridophyte used as vegetable.
- c) Define telome.
- d) What is trabeculae?

Q.2. Answer any two of the following: 2 x 1 = 2

- a) Mention two diagnostic characters of Zosterophyllopsida.
- b) Differentiate apogamy and apospory.

Q.3. Answer any one of the following: 10 x 1 = 10

- a) Discuss the origin of Psilopsida, Sphenopsida and Pteropsida in light of Telome theory.
- b) Write a note on heterospory and seed habit.
- c) Draw and describe stem anatomy of *Equisetum*. Differentiate vallecular canal and Carinal canal.

8+2

Gymnosperms (Marks: 10)

Q.4. Answer any one of the following: 1 x 1 = 1

- a) What are coralloid roots ?
- b) Write geological and geographical distribution of the reconstructed plant *Williamsonia sewardiana* .

Q.5. Answer any two of the following: 2 x 2 = 4

- a) Name a source plant of “ canada balsam “ . Name a gymnosperm where “ circinate vernation “ is found .
- b) Give example of Gnetum species (one example for each) which show the following habit :-
* Parasitic * Tree
- c) Which gymnosperm is commonly known as “ maiden hair fern “ and why ? Name scientific name of the following plants :- Chir Pine , Biue Pine , Chilgoza Pine , Khasi Pine .

Q.6. Answer any one of the following: 5 x 1 = 5

- a) Name different parts of the reconstructed plant *Lyginopteris oldhamia*. With diagram briefly describe features of seed of the same plant mentioned above. 2 + 3
- b) What are pre pollen ? Schematically represent development of male gametophyte of *Cycas* . 1 + 4

Palaeobotany (Marks: 10)

Q.7. Answer any one of the following: 10 x 1 = 10

- a) With diagram describe the stages of evolution of primary vascular system in gymnosperm. Name different gymnospermous plants recorded from lower Gondwana flora. 1 + 9
- b) What is Geologic time scale ? Briefly mention major events of plant life through geological ages . 1 + 9

Taxonomy (Marks: 30)

Q.8. Answer any two of the following: 1 x 2 = 2

- a) What is Sympleiomorphy?
- b) Define Flora.
- c) Name the largest Herbarium of Asia mentioning its acronym.

Q.9. Answer any three of the following: 2 x 3 = 6

- a) State fourth principle of ICN.
- b) Distinguish Taxon and Rank.
- c) What is superfluous Name? Cite example.
- d) Differentiate Monophyly and Paraphyly.
- e) State the differences of OTU and OEU.

Q.10. Answer any two of the following: 6 x 2 = 12

- a) State the rules of Valid Publication. Mention two limitation of Principle of Priority.
- b) Give an account of different types of Author citation you have studied.
- c) Differentiate Lectotype and Paratype. Write a note on Phases of Taxonomy. 5+1

Q.11. Answer any one of the following: 10 x 1 = 10

- a) Why Phylogenetic classification is considered advanced in comparison with Natural Classification? Give a broad outline of a phylogenetic classification you have studied. Mention three merits and demerits of the classification for each. 1+6+(1 ½ + 1 ½)=10
- b) With the help of reproductive characters compare Acanthaceae and Lamiaceae. Mention the primitive features of Alismataceae. Mention two economical important plants of Rubiaceae and Malvaceae for each. 6+2+2=10

Angiosperm Morphology & Embryology (Marks: 10)

Q.12. Answer any one of the following: 1 x 1 = 1

- a) What is samara?
- b) Differentiate Syngeneious and Synandrous Stamen.
- c) Mention two contrivances of cross pollination.

Q.13. Answer any two of the following: 2 x 2 = 4

- a) Differentiate gynostegium and gynostemium.
- b) Draw a polygonum type of Embryosac.
- c) Draw the diagrammatic figure a Spikelet inflorescence
- d) What is Cyathium?

Q.14. Answer any one of the following: 5 x 1 = 5

- a) Describe the events of Megagametogenesis with the help of diagrams.
- b) Discuss the Embryogenesis of *Capsella* with the help of suitable diagrams.
- c) Draw and describe different types of schizocarpic fruits.