

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BT/MC/BP24

B.Sc. DEGREE EXAMINATION, APRIL 2019
BRANCH V(A) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

COURSE : MAJOR – CORE
PAPER : BRYOPHYTES, PTERIDOPHYTES AND GYMNOSPERMS
TIME : 3 HOURS MAX. MARKS: 100

SECTION –A

ANSWER ALL QUESTIONS:

I Choose the correct answer: (5 x 1 = 5)

- The common name for Anthocerotopsida is
a) Liverworts b) Hornworts c) mosses d) Bryophytes
- The genus *Polytrichum* belongs to the class
a) Hepaticopsida b) Anthocertopsida c) Bryopsida d) None
- Lycopodium is commonly called as
a) Maiden hair fern b) club moss c) water clover d) horse tail fern
- Which Gymnosperm shows angiospermic character?
a) *Gnetum* b) *Cycas* c) *Lycopodium* d) *Polytrichum*
- The word epoch is related with
a) Bryophytes b) Pteridophytes c) Gymnosperms d) Fossils

II Fill in the blanks: (5 x 1 = 5)

- Anthoceros* belongs to the class _____.
- In *Porella*, the anterior edge of each leaf covers the posterior edge of the leaf in front is called _____.
- Aggregation of sporophylls of *Lycopodium* is called _____.
- Sexual reproduction of *Cycas* is _____ type.
- The fossils are the _____ of past plant life.

III State whether the following sentences are True or False (4 x 1 = 4)

- Polytrichum* is one of the highly evolved Bryophytes.
- In *Equisetum*, the leaves are scaly and isophyllous.
- In *Gnetum*, vascular bundles are arranged in the shape of the inverted greek letter Omega.
- The Geological time scale consists of six major eras.

IV Match the following:**(4 x 1 = 4)**

- | | | |
|--------------------|---|-----------|
| 15. Dug out | - | Proskauer |
| 16. corolloid root | - | Reimers |
| 17. Bryophytes | - | Fossils |
| 18. Pteridophytes | - | Cycas |

V. Answer any SIX of the following.**(6 x 3 = 18)****Each answer not to exceed 50 words:**

19. Draw the dorsal and ventral view of *Porella*.
20. Any three Indian species of *Anthoceros*.
21. *Polytrichum* thallus
22. Actinostele.
23. Classification of *Equisetum*.
24. Arrangement of leaves in *Marsilea*.
25. Corolloid root.
26. Male cone of *Gnetum*.
27. Importance of fossils.

SECTION – B**(4 x 6 = 24)**

**ANSWER ANY FOUR OF THE FOLLOWING IN NOT MORE THAN 200 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY.**

28. Describe the structure of the sporophyte of *Porella*.
29. Describe the internal structure of the thallus of *Anthoceros*.
30. Briefly discuss the internal structure of the sporocarp of *Marsilea*.
31. Write notes on the internal structure of the stem of *Equisetum*.
32. Give a brief note on the structure of microsporophyll and megasporophyll of *Cycas*.
33. Describe the structure of *Gnetum* ovule.

SECTION – C**(2 x 20 = 40)**

**ANSWER ANY TWO OF THE FOLLOWING IN NOT MORE THAN 1000 WORDS.
DRAW DIAGRAMS WHEREVER NECESSARY.**

34. Enumerate the classification of Pteridophyta and discuss the characteristic features of Lycopsidea, Sphenopsida and Pteropsida.
35. Discuss the three methods of reproduction in *Polytrichum*.
36. Describe the internal structure of the stem of *Lycopodium*.
37. Discuss the life cycle of *Gnetum*.
