UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 2nd Semester Examination, 2022

CC4-BOTANY

ARCHEGONIATE

Time Allotted: 2 Hours   Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

1.   Answer any *five* questions from the following: 1×5 = 5

   (a) What do you mean by alternation of generation?

   (b) What is meant by gradate sorus?

   (c) What is circinate ptyxis?

   (d) What is carinal canal?

   (e) What is trabeculae? Where it is found?

   (f) What are epicranoid peristome teeth?

   (g) What is cleavage polyembryony of *Pinus*?

   (h) Define the term "leptosporangiate".

GROUP-B

2.   Answer any *three* questions from the following: 5×3 = 15

   (a) Describe with labelled diagram the morphological and anatomical features of   2+3 = 5
       Marchantia gametophytes.

   (b) Discuss the origin of megaphyllous leaf of pteropsida and sporangiophore of $2\frac{1}{2} + 2\frac{1}{2} = 5$
       sphenopsida in the light of the telome theory.

   (c) Briefly describe the anatomical structure of *Pinus* needle with suitable diagram.   3+2 = 5
       Name two timber yielding plants of Pinaceae.

   (d) Write a short note on the economic importance of Bryophytes.   5

   (e) Describe the evolution of stele in pteridophytes.   5

GROUP-C

3.   Answer any **two** questions from the following: 10×2 = 20

   (a) Describe the anatomical structure of *Selaginella* stem with labelled diagram. 4+4+2 = 10
        Comment on the seed habit of *Selaginella*. What is rhizophore?

   (b) Describe the structure of the capsule of *Funaria* in longitudinal section. Is the 6+4 = 10
        axis of *Funaria* really a stem? Justify your answer.

   (c) Describe the structure of *Gnetum* ovule in detail with labelled diagram. 4+4+2 = 10
        Mention the angiospermic characters of *Gnetum*. Name two Indian species of
        Gnetum.

   (d) State the systematic position, geological distribution and characteristic features 3+2+5 = 10
        of *Rhynia* sporophyte.

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