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Your Roll No.....

1292

B.Sc.(Hons.) BOTANY /II Sem. A

Paper BTHT-203

(Biodiversity-III Archegoniate)

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt *Five* questions in all including

Question No. 1 which is compulsory.

All questions carry equal marks.

1. (a) Fill in the blanks :

(i) Botanical name of Bog moss is.....

(ii) Meristematic region/Intercalary meristem is seen
in the sporophyte of.....

(iii) The young developing sporophyte of *Marchantia*
are protected by..... individually
and.....in a row.

(iv) *Equisetum* is commonly known as.....

P.T.O.

(v) Dictyostelic condition of the rhizome is found
in.....

(vi)is a heterosporous pteridophyte.

(vii)is called chilgoza pine.

(viii) The resin of *Abies balsamia* having refractive
index hearing glass is known as.....

(ix) The anticancer drug Taxol is derived
from..... $1 \times 10 = 10$

(b) Match the following :

(i) Transfusion Tissue (a) *Funaria*

(ii) Sago Palm (b) *Pinus* needle

(iii) Antical lobe (c) *Cycas circinalis*

(iv) Peristome (d) *Equisetum*

(v) Carinal canal (e) *Porella* $1 \times 5 = 5$

2. (a) Why are bryophytes called the amphibians of plant kingdom ? 5
- (b) *Cycas* is a living fossil. Comment. 4
- (c) Discuss briefly the Stejar evolution in Pteridophytes. 6
3. (a) Through neat labelled diagrams only, compare the ovules of *Cycas* and *Gnetum* at the time of fertilization. 8
- (b) Sporophyte of *Funaria* is partially independent. Comment. 3
- (c) What is apogamy ? How is it different from apospory ? 4
4. Write short notes on any *five* :
- (a) Seed scale complex;
- (b) Pollen of *Pinus*;
- (c) Coralloid roots;

- (d) Asexual reproduction in *Marchantia*;
- (e) Anatomical features of the Gametophyte of *Sphagnum*;
- (f) Xerophytic adaptation in *Equisetum*. 3×5=15
5. (a) Draw neat labelled diagrams of any *three* of the following :
- (i) L.S. *Funaria* Capsule;
- (ii) T.S. *Psilotum* Syngonium;
- (iii) T.S. *Pinus* needle;
- (iv) L.S. *Gnetum* male cone;
- (v) T.S. *Equisetum* stem. 3×3=9
- (b) Differentiate between any *two* :
- (i) Gametophyte of *Anthoceros* and *Porella*;
- (ii) Antheridial and Archegonial Head of *Funaria*;
- (iii) Spore bearing organs of *Selaginella* and *Equisetum*. 2×3=6

6. Explain any *five* of the following giving examples :

(a) Telome theory;

(b) Moss Protonema;

(c) Feeder;

(d) Heterospory;

(e) Transfusion tissue;

(f) Anomalous secondary growth in *Gnetum ula*;

(g) Sporangiphore of *Equisetum*.

3×5=15