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The Open University of Sri Lanka
B.Sc./B.Ed Degree Programme-Level 03-2008/2009
BTU 1201/BTE 3201 – Plant Diversity
Assessment Test II(No Book Test)

Duration – One (01) hour

Reg.No.

Date: 21st February 2009

Time: 11.30 a.m.– 12.30 p.m.

Answer all questions on this paper itself.

There are three (04) questions and four (04) pages in this question paper.

01. Given below include both true and false statements. Indicate the true statement by writing letter "T" and false statement by writing "F" in the space given in front of each statement.
- i. The vegetative body of algae is not differentiated into true roots, stems and leaves.(.....)
 - ii. Algae are classified into five divisions.(.....)
 - iii. Starch is the main food storage compound in both green algae and dinoflagellates. (.....)
 - iv. *Volvox* is the smallest and the least complex form of motile coenobium in the green algae. (.....)
 - v. Bryophytes are the plants that are regarded as the pioneer land invaders.(.....)
 - vi. *Marchantia* has separate male and female plants and are called dioecious.(.....)
 - vii. In *Anthoceros*, antheridial initial cells are hypodermal cells and not superficial cells.(.....)
 - viii. The mosses are the most numerous, visible and most complex group in bryophytes.(.....)
 - ix. The protonema of *Sphagnum* is filamentous and forms two gametophytes.(.....)
 - x. The characteristic feature of Genus- *Andreaea* is that the spore divides while still within the spore wall.(.....)
 - xi. Young embryo of *Pogonatum* is different from all the other bryophytes by having two apical cells.(.....)
 - xii. *Psilotum* is unique among living vascular plants as it lacks both roots and leaves. (.....)
 - xiii. Most of the massive sea weeds referred to as kelps are members of the brown algae. (.....).
 - xiv. *Mixtae* constitutes the most advanced ferns.(.....)
 - xv. The sporangia of *Marsilea* are borne in special, bean shaped structures called sporocarps.(.....)

02. a. The chloroplasts of green algae are widely different in their shapes. Write the shape of chloroplast in front of each alga given below.

- Chlamydomonas*
- Mougeotia*
- Zygnema*
- Spirogyra*
- Ulothrix*
- Oedogonium*
- Cladophora*
- Chlorella*

b. List one function of each of the structure of *Marchantia* below.

- Photosynthetic filaments
- Rhizoids
- Gemmae
- Antheridia
- Involucre

c. List five (05) primitive features of Psilopsida.

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-
-
-
-
-

03. Write two differences between the following.

a. Thallus of *Marchantia* and *Riccia*

- | | <i>Marchantia</i> | <i>Riccia</i> |
|-----|-------------------|---------------|
| i. | | |
| | | |
| ii. | | |
| | | |



b. Sporophytes of *Marchantia* and *Pogonatum*

Marchantia

Pogonatum

- i.
.....
.....
- ii.
.....
.....

c. Transverse sections of stems of *Selaginella* and *Equisetum*

Selaginella

Equisetum

- i.
.....
.....
- ii.
.....
.....

d. Life cycles of *Chlamydomonas* and *Ulva*

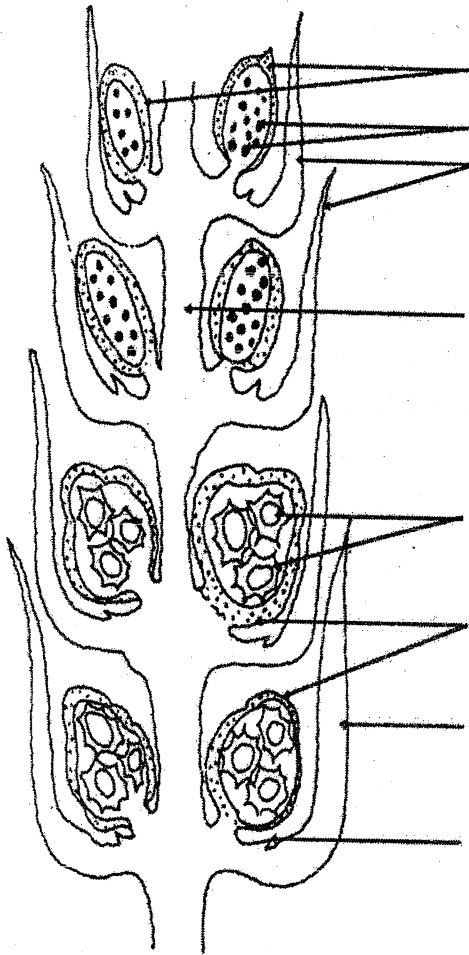
Chlamydomonas

Ulva

- i.
.....
.....
- ii.
.....
.....

04. Fully label the following diagrams.

a. Vertical section of strobilus – *Selaginella*



b. Ventral view of gametophyte in *Nephrolepis*

