LEAD CITY UNIVERSITY, IBADAN
Faculty of Sciences
Department of Microbiology/Biology

COURSE PARTICULARS

Course Title: SEEDLESS PLANTS (EDUCATION)

Course Code: BOT 212

Lecturers:-

Name: Dr. B.A. Bamkefa

Qualification: B.Sc, M.Sc and Ph.D University of Ibadan. Nigeria

Phone number: 08035268612

Area of specialization: Botany, Phytopathology and Nematology

Name: Mr Kehinde Adegbehingbe

Qualification: B.Sc. and M.Sc.

Phone number:

Area of specialization:

Course Description: BOT 212 entails the general biology of alga, bryophytes and pteridophytes (including fossils).

Course Objectives: To ensure students are able to describe the phylogenetic trend of algae, bryophytes and pteridophytes.

Assessment

Class attendance	5 marks
Tests and Assignments	35marks
Final Examination	60 marks

Teaching Plan:

Week 1:	Classification of Algae: Basic types and forms
Week 2:	Algae characteristics and importance
Week 3:	Detailed study of different groups of Algae
Week 4:	Algae: Growth and Reproduction
Week 5:	Bryophytes: Definition, Description and Classification
Week 6:	Relevance of Bryophytes to Life
Week 7:	Distinguishing Characters of Mosses, Liverworts and Hornworts
Week 8:	Evolutionary Advances of bryophytes over algae
Week 9:	Detailed study of named Bryophytes
Week 10:	Reproduction in Bryophytes

Week 11:	Pteridophytes: Definition, characteristics and classification
Week 12:	Detailed study of named examples of pteridophytes; A fern life cycle
Week 13:	Revision

Course Requirement/Assessment:

Attendance	**5%**
Continuous Assessment Test	35%
Terminal Examination	60%
Total	**100%**

Reading List:

Dutta T. C. (2010) Botany for Degree students 6th edition

Section B:

Tutorial Questions:

1 A) Write briefly on the green alga B). With the aid of well labelled diagrams, describe reproduction in *Spirogyra*

2 How would you classify and group alga?

3. Discuss extensively asexual and sexual reproduction in a named blue green alga

6a. State the characteristics of a moss

b. Describe the life cycle of a moss

7. State the characteristics of a named horn liverwort

b. Describe the life cycle of a named horn liverwort

8. Write short notes on the following: a) Antheridium b). Archegonium

9. Discuss the relevance of bryophytes to life

10a. What are pteridophytes? Discuss the advancement of pteridophytes over lower plants

b. What are the roles of pteridophytes in environmental minority and soil conservation?

11a. What are the various features used to classify Pteridophytes?

b. Giving examples, state the classification of Pteridophytes.

12a. Define 'alternation of generations'.

b. Describe the sexual reproduction of a named Pteridophyte.

13a. Give an account of stelar advancement in Pteridophytes.

b. State the usefulness of Pteridophytes in the present day society.

14a. State the primitive characteristics of Psilotum.

b. Compare and contrast Lycopodium and Selaginella

Marking Guide:

1 A) characteristics green alga

Classification table – 5 marks
Explanation or Essay – 5 marks
Terms – 5 marks

1 Botanical names 7 marks

B). well labelled diagrams 6 marks

describe reproduction in *Spirogyra* 7 marks

TOTAL 20 marks

2. Classification table – 5 marks
Explanation or Essay – 5 marks
Terms – 5 marks
Botanical names correctly spelt – 5 marks
Total – 20 marks

3. Name 1 mark

Asexual reproduction in a named blue green alga 9 marks

Sexual reproduction 10 marks

Total 20 marks

4a. Characteristics of a moss stated

8 marks

b. Life cycle of a named moss discussed

12 marks
Total 20 marks

5a. Characteristics of a liverwort stated

8 marks

b. Life cycle of a named liverwort discussed

12 marks

Total 20 marks

6. Short notes on antheridium with diagram 10 marks

Short notes on archegonium with diagram 10 marks

Total 20 marks

7. Relevance of bryophytes discussed

20 marks

8a. Definition 5 marks

b. Developmental changes 15 marks

9a.Microphylls have single vein, vary in size.

Megaphylls have expensive & branching veination. 5 marks

b. Psilotopsida eg Psilotum

Lycopsida eg Lycopodum

Sphenopsida e.g. Equisetum

c. Plant organs, gametophytes and spores response to light, temp, hormones and fungal

patners

5 marks

10a. form or term in mode of reproduction alternates between haploids and diploids with examples.

b. Saprophyte and gametophyte generations, sporophylls, sporangia and spores, Female and male prothallic oosore etc. 15 marks

11a. Protostele

Actinostele

Plectostele with diagram

Siphonostele

Dictyostele 15 marks

11b. hold and form soil food, fodder, fertilizer coal formation – ancient, medicine

5 marks

12a. axial nature of plant body, dichotomous branching, absence of roots terminal sporangia homospory etc.

10 marks

b. Lycopodum – homoporous sporangia spores geminate bearing antheridia and archegonia Selaginella – microsporangia and megasporangia etc

10 marks