

**Integrated UG/PG Biotechnology (Third Semester)**

**Examination, 2014**

**LBBS 303: Plant Diversity**

**Time Allowed: Three hours**

**Maximum Marks: 30**

**MODEL ANSWERS**

**Note: Question No. 1 is compulsory.**

**1. Select one correct option for each of the following questions: 1x10=10**

1. Oogamous
2. *Volvox*
3. *Aspergillus*
4. Early blight of potato
5. Lack of vascular tissue
6. Jacket layer of sterile cells
7. BirbalSahni
8. *Lycopodium*
9. To count the number of annual rings
10. Mature sieve-tube cell

**Subjective questions: Answer any four of the following: 5x4=20**

**Ans 2:** Classification, name of the pigment present in blue green algae, general characters, cell structure and describe briefly about nitrogen fixation in heterocyst with diagram.

**Ans 3:** Definition of heterothallism, name the scientist with year (A.F Blakeslee, 1904), Types of Heterothallism a) Morphological and b) Physiological heterothallism  
Physiological heterothallism is of two types i) 2-allele and ii) Multiple-allele (bipolar and tetrapolar)

**Ans 4:** *Alternaria*- Systematic position and examples of *Alternaria* with disease. The disease caused by *A. solani*, symptoms (concentric rings called as target board symptoms) and asexual reproduction by conidia.

Economic importance of fungi: Fungi used as food, medicine, steroids, vitamins, antibiotics, production of organic acid with example. The role of fungi in industries, agriculture and as test organism with example.

**Ans 5:** The vegetative propagation in bryophytes takes place by following methods: (write any five but formation of gemma with diagram and example is must)

a) Fragmentation b) formation of tubers c) formation of gemma with diagram and example d) formation of adventitious roots e) Innovation f) primary and secondary protonema g) persistent apices.

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**Ans 6:** Focus on a) formation of cambium ring (stellar region) and how they cut secondary xylem and phloem b) formation of cork cambium and how they form phelloderm and phellem with well labeled suitable diagram.

**Ans 7:** T.S of rizhophore of *Selaginella*: Neat and clean well labeled diagram showing the region of epidermis, hypodermis, cortex, endodermis, pericycle, phloem and xylem. T.S of leaf of *Selaginella*: Diagram indicating the following regions-Upper epidermis, air spaces, mesophyll tissue, xylem, phloem, lower epidermis region

**Ans 8:** Merits of Bentham and Hooker's classification of plants (atleast 6 points), Demerits (atleast 4 points).

Ans  
24/11/14