

JSS COLLEGE FOR ARTS, COMMERCE AND SCIENCE
(AUTONOMOUS)OOTY ROAD, MYSURU- 25
POST GRADUATE DEPARTMENT OF BOTANY

M.Sc., Degree----- Semester Examination May/June-20--

Course/Paper:

Course/Paper Code.....

Time: 3 Hrs.

Max Marks: 100

Instructions: 1) Answer all questions.

2) Draw neat and labelled diagrams wherever necessary.

BOTANY SKILL ENHANCEMENT COURSE

SCHEME OF EXAMINATION/ASSESSMENT THEORY/ PRACTICAL EXAM

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|---------------------------------|----|
| • FIELD VISIT/ WORK | 50 |
| • VIVA VOCE EXAMINATION | 30 |
| • PRACTICAL SPECIMEN SUBMISSION | 20 |

Bio fertilizers

(Credits: Theory 2, Practical Training/ Field visit ·4)

THEORY (Lectures: 30)

Unit 1: General account about the microbes used as biofertilizer - Rhizobium - isolation, identification, mass multiplication, and carrier based inoculants, Actinorrhizal symbiosis.

Unit 2: *Azospirillum*. Isolation and mass multiplication - carrier based inoculant, associative effect of different microorganisms, *Azotoboccer*: classification, characteristics- crop response to *Azotoboccer* inoculum, maintenance and mass multiplication.

Unit 3: Cyanobacteria (blue green algae), *Azolla* and *Anabaena*, azollae association. Nitrogen Fixation, factors affecting growth, blue green algae and *Azolla* in rice cultivation.

Unit 4: Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield- colonization of VAM - isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

Practical/ Training/Field visit Based on Theory paper

Suggested Readings

1. Dubey, R. C. 2005 A Text book of Biotechnology S. Chand & Co. New Delhi.
2. Kumaresan, V. 2005, Biotechnology, Saras Publicatlons. New C.
3. John jothi Prakash, E. 2004. Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
4. Subha Rao, N.S. 2000. Soil Microbiology. Oxford & IBH Publishers. New Delhi.
6. Vayas. S. C. Vayas. S. and Modi, H.A. 1998. Bio-fertilizers and organic Farming. Akta Prakashan, Nadiad.