

POSTGRADUATE DEPARTMENT OF STUDIES IN BIOTECHNOLOGY

Value Added Course: Biofertilizer production technology

Credit hours-30

Course outcome:

- 1) To facilitate to understand basics of biofertilizers
- 2) To promote organic farming
- 3) Creation of skilled human resources and providing employment.

Unit-1 10 Hrs

Biofertilizer- Introduction, scope. A general account of microbes used as biofertilizer: Rhizobium, Actinorrhizal symbiosis, Azospirillum. Azotobacter, Cyanobacteria (BGA) as biofertilizers- Anabaena, Nostoc, Azolla. Anabaena.

Unit-2 10 Hrs

Mycorrhizal fungi - Introduction, scope. A general account of Endo, Ecto and Arbuscular mycorrhizae (AM). Methods of collection, wet sieving and decanting method and inoculum production. Culture of mycorrhizae - Cultural characteristics of Ectomycorrhizal fungi. Isolation and method of inoculation of Arbuscular mycorrhizae (AM), Legume - AM interactions.

Unit-3 10 Hrs

Production technology: Strain selection, sterilization, growth and fermentation, mass production of various biofertilizers. Mass production of Azotobacter, Azospirillum and Phosphobacteria. Mass cultivation of Azolla – Cyanobacterial biofertilizers - Field application of Cyanobacterial inoculants.

References

Subbarao N.S 1993. Biofertilizers in Agriculture and Forestry

Motsora M R 1995 Biofertilizer Technology, Marketing and Usage A Sourcebook-cum-glossary