MANGALORE UNIVERSITY

DEPARTMENT OF MICROBIOLOGY

MSc Microbiology

MBH-403: Mycology

56h

Unit I

Objectives:

After studying this course, the learners will be able to -

OBJECTIVES

1. Isolation, identification and maintenance of fungi from various ecosystems.
2. Study of plant, human and animal pathogens.
3. To learn fungal pathogens diagnosis and treatment.
4. Identification of wood rotting fungi and edible mushrooms.

COURSE OUTCOME

CO1: Mass cultivation industrially important fungi.
CO2: Isolation identification and mss cultivation of bio-fertilization and biocontrol agents.
CO3: Development of protocols for the production of antibiotics, enzymes other industrially important compounds.
CO4: Mass cultivation of mushrooms.
CO5: Mycological Culture collection centre

Unit I

History and development of Mycology, Recent developments in Mycology, General characters, distribution and classification of fungi, Ultra structure of fungal cell and cell wall. Growth, Hyphae and non-motile uni-cells, motile cells, spores and dormancy.

Unit II

Nutrition in fungi, Reproduction in fungi- Vegetative, Asexual and Sexual. Fungal spores and fruiting bodies. Difference between fungi and algae. Fungal systematic- Chytridiomycota, Hypochytridiomycota, Oomycota, Basidiomycota, Ascomycota, Deuteromycota,

Unit III

Different types of mycosis- Cutaneous, subcutaneous and Systemic mycosis. Mycotoxins Opportunistic fungal infections, Lab diagnosis and treatment of fungal infections. Aspergillosis, Candidiasis, Dermatitis, Plant Fungal Diseases

Unit IV

Economic importance of fungi- fungi in Agriculture, Industry, Medicine. Fungi as biocontrol agent, Mycorrhiza- Ecto and Endomycorrhiza, Vesicular and Arbuscular Mycorrhiza, Folicolous and Endophytic fungi, Lichens and their importance. Macrofungi and their importance in food industries – cultivation of mushrooms and applications. Role of fungi in biodegradation.

Note: Each unit is for 14h