

CBO-401

BACTERIOLOGY, PHYCOLOGY, MYCOLOGY AND PLANT PATHOLOGY

Unit-I Bacteriology

General characters and classification of Bacteria.

Structure of Bacterial cell.

Nutrition and reproduction in Bacteria.

Economic importance of Bacteria.

Main Reference(s):

Pelczar M J, Chan E C S and Krieg N R (2004) *Microbiology*, Tata McGraw-Hall Publishing Company Ltd., New Delhi (27th Reprint Edition).

Other Reference(s):

Dubey H C (2004), Bacteria, Viruses and Fungi, Vikas Publishing House P Ltd , New delhi.

Prescott, Harley and Klein, *Microbiology* (6th edition).

Sharma P D (2007), *Microbiology* (6th edition).

Patel R J and Patel K R (2000), *Experimental Microbiology Vol.-I*, Aditya, Amdavad.

Powar and Daginawala (1997), *General Microbiology Vol.I & II*, Himalaya Publishing House, Mumbai.

Unit-II Phycology

General characters and classification of different divisions (classes) of Algae: Cyanophyta, Chlorophyta, Charophyta, Phaeophyta, Rhodophyta.

Thallus organization (Range of thallus) and reproduction in Algae.

Life cycle patterns in Algae.

Economic importance of Algae.

Main Reference(s):

Hait G, Bhattacharya K and Ghosh A K (2008) A Text Book of Botany, Vol-I, New Central Book Agency (P) Ltd., Kolkata (1st Edition's Reprint).

Singh V, Pande P C and Jain D K (2008-09) A Text Book of Botany, Rastogi Publications, Meerut (4th Revised Edition's Reprint).

Other Reference(s):

Vasishtha B R, Sinha A K and Singh V P (2007), Botany for degree students-Algae (5th edition), S. Chand & Co. Ltd., New Delhi.

Pandey B P (2001), College Botany Vol. I, S. Chand & Co. Ltd., New Delhi.

Purohit S S and Deo P P (2005), UGC Unified College Botany –First Year, Student edition, Jodhpur.

Gangulee S.C., Das K.S., Dutta C.D. and Kar (1985), College Botany Vol. I, II & III, New Central Book Agency, Kolkata.

Pandey S N, Misra S P, Mukharjee and Trivedi P S (2003) A Text Book of Botany Vol.I& II, Vikas Publ. H. P L, N. Delhi.

Unit-III Mycology

General characters and classification of different divisions (classes) of Fungi: Phycomycetes, Ascomycetes, Basidiomycetes and Deuteromycetes.

Nutrition in Fungi.

Reproduction in Fungi and Heterothallism.

Economic importance of Fungi: food and fodder, industry, medicine.

Main Reference(s):

Hait G, Bhattacharya K and Ghosh A K (2008) A Text Book of Botany, Vol-I, New Central Book Agency (P) Ltd., Kolkata (1st Edition's Reprint).

Singh V, Pande P C and Jain D K (2008-09) A Text Book of Botany, Rastogi Publications, Meerut (4th Revised Edition's Reprint).

Sharma P D (2003) *The Fungi*, Rastogi Publications, Meerut (2nd Edition's Reprint).
Vashishta B R and Sinha A K (2007) *Botany for Degree Students –Fungi*, S Chand & Company Ltd., New Delhi (1st Edition's Revised and Multicolour-Reprint).

Other Reference(s):

Vasishtha B R and Sinha A K (2002), *Botany for degree students-Fungi* (5th edition), S. Chand & Co. Ltd., New Delhi

Sharma O P (2002), *Text Book of Fungi* (9th edition), Tata McGraw-Hill Publishing Co Ltd., Delhi.

Dubey H.C. (2005), *An Introduction to Fungi*, (3rd edition), Vikas Publishing House P. Ltd., New Delhi

Sundra Rajan S (2001), *Introduction to Fungi*, (1st edition), Anmol Publications P. Ltd., New Delhi.

Swanton E W (2002), *Fungi* (), Surbhi Publications, Jaipur

Alexopoulos C.J., Mims C W and Blackwell M (2002) *Introductory Mycology* (3rd edition), John Wiley & Sons, New York.

Sumbali Geeta (2005), *The Fungi*, Narosa Publishing House, New Delhi.

Pandey B P (2002), *Botany B Sc I*, S Chand & Co L, New Delhi.

Unit-IV Plant Pathology

Introduction, general symptoms and classification of plant diseases.

Diseases of plant: Symptoms and types.

Defense mechanisms

Symptoms, causal organism, disease cycle and control measures of following diseases:

Citrus canker

Bacterial blight of Paddy

Downy mildew

Rusts and Smuts

Main Reference(s):

Rangaswami G (1988) *Diseases of Crop plants in India*, Prentice-Hall of India Pvt. Ltd., New Delhi (3rd Edition).

Pandey B P (2006) *Plant Pathology-Pathogen and Plant Diseases*, S Chand & Co. Ltd., New Delhi (1st Edition's Reprint).

Mehrotra R S (1991) *Plant Pathology*, Tata McGraw-Hill Publishing Co. Pvt. Ltd., New Delhi (8th Edition's Reprint).

Agrios George N (2004) *Plant Pathology*, Academic Press, Reed Elsevier India Pvt. Ltd., New Delhi (4th Edition/ 1st Indian Edition's Reprint).

Other Reference(s):

Sharma P D (2003) *Microbiology and Plant Pathology*, Rastogi Publications, Meerut (2nd Edition's Reprint).