

VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

M.Sc. Biotechnology (Five years integrated course)

Semester - I

IBT: 103

Course Title: Bioscience-I

Unit-I (7 hrs.)

Systematics: Definitions and significance, History and development of classification, Nomenclature; International code of Botanical Nomenclature, International rules of Zoological Nomenclature, International code of Bacteriological Nomenclature, International code of Viral Nomenclature. Systems of Biological classification.

Unit-II (7 hrs.)

Morphology of plants: Thallus structure, Morphology of Vegetative and reproductive structures of lower plants and higher plants.

Unit –III (7 hrs.)

General reproduction patterns, life cycles, Classification and characters of (up to the level of class):

- Algae
- Fungi
- Bryophyta
- Pteridophyta
- Gymnosperms (Family Pinaceae & Cycadaceae)
- Angiosperms (Cruciferae, Solanaceae, Malvaceae, Cucurbitaceae, Cyperaceae, Apocynaceae & Rubiaceae)

Unit-IV (7 hrs.)

Economically important taxa from algae, fungi and angiosperms

Unit –V (7 hrs.)

Classification and characters of non-chordates

- Protozoa
- Porifera
- Coelenterata
- Platyhelminthis
- Nemathelminthis
- Annelida
- Arthropoda
- Mollusca
- Echinodermata

Unit-VI (7 hrs.)

Classification and characters of Chordates

- Cyclostomata
- Osteichthyes
- Amphibia
- Reptilia
- Aves
- Mammals

References:

1. College Botany vol.1, Ganguly, Das & Dutta, New central Book Agency-1992
2. College Botany vol II, Ganguly & Kar, New central Book Agency -992
3. Taxonomy of Angiosperm V. Singh & D. K.Jain Rastogi Publications –1981
4. An Introduction to Taxonomy of Angiosperm ,Y.D. Tyagi Ramesh Book Des.-1985
5. Algae B.R Vashishta , S. Chand & Co.-1994
6. Fungi B.R Vashishta , S. Chand & Co.-1994
7. Bryophyta B.R Vashishta, S. Chand & Co.-1994
8. Pteridophyta P. C. Vashishta, S. Chand & Co.-1994
9. Gymnosperm P. C. Vashishta ,S. Chand & Co.-1994
10. Text Book of Systematic Botany, R.N.Sutaria, Khajadayta Book Depot. Ahemdabad 1962
11. Invertebrate Zoology – T.C.Majupuria Paradeep publishing
12. A Text book of Zoology –Vol.1 & 2 – P.S.Dhami and J.K.Dhami, R.Chand & Co.
13. Invertebrate series and minor phyla – R.L.Kotpal, Rastogi & Co.