

Rajarshi Shahu Mahavidyalaya (Autonomous), Latur
B. Sc. First Year
 Semester – I
 (MCQ + Theory Pattern)
BOTANY
Theory Paper-I: Biodiversity of Cryptogams and Gymnosperms

(Viruses, Bacteria, Fungi, Lichens, Algae, Bryophytes, Pteridophytes and Gymnosperms)

UNIT – I: BACTERIA AND VIRUSES (10 L)

BACTERIA:

1. General characters.
2. Size, Shape and Ultra structure.
3. Asexual reproduction (By binary fission).
4. Sexual reproduction (By conjugation).
5. Economic importance.

VIRUSES:

1. General characters.
2. Classification based on host.
3. Ultra structure of TMV.
4. Economic importance.

UNIT – II: FUNGI (12 L)

1. General characters and.
2. Classification (Alexopolous and Mims, 1979).
3. Systematic position, occurrence, structure, reproduction, and graphic life cycle of *Erysiphe*.
4. Economic importance.
5. Mycorrhiza (General characters).
6. General characters of lichens.
7. Types of Lichens.
8. Economic importance of Lichens.

UNIT – III: ALGAE AND BRYOPHYTES (10 L)

ALGAE:

1. General characters.
2. Classification (F.E.Fritsch, 1935).
3. Systematic position, occurrence, thallus structure, reproduction and graphic life cycle of *Oedogonium*.

BRYOPHYTES:

1. General characters.
2. Classification (N.S.Parihar).
3. Systematic position, occurrence, thallus structure (external and internal), reproduction, and graphic life cycle of (Developmental stages not expected) Funaria.

UNIT – IV: PTERIDOPHYTES AND GYMNOSPERMS (13 L)

PTERIDOPHYTES :

1. General characters.
2. Classification (N.S.Parihar) Systematic position, occurrence, thallus structure (external and internal), reproduction, and graphic life cycle with alternation of generation of (Developmental stages not expected) *Nephrolepis (ferm)*.

GYMNOSPERMS:

1. General characters.
2. classification (Arnold, 1948).
3. Morphology of vegetative and reproductive structures (Developmental stages are not expected), and life cycle of *Cycas*.

• Reference Books:

- Trivedi, A. N. (2002) - Advances in Pteridology
- Rashid, A. (1978) - An introduction to Pteridophytes.
- Sporne, K.R. (1966) - Morphology of Pteridophytes.
- Bower, F. O. (1963) - The Ferns.
- Sharma O.P. (2002) Gymnosperms, Pragati Prakashan, Meerut.
- Vashishta P.C., A.R. Sinha, Anil Kumar. 2006. Gymnosperms. S.Chand.
- Vashishta P.C. 2006. Pteridophytes. S. Chand.
- Parihar N.S. 1996. Biology and Morphology of Pteridophytes. Central Book Depot, Allahabad.

