

CBO-402

BRYOPHYTES, PTERIDOPHYTES, GYMNOSPERMS AND FOSSILS

Unit-I Bryophytes

General characters and classification (Rothmaler and Proskauer) of Bryophytes.

Study of gametophytes and sporophytes of following groups:

Hepaticopsida

Anthocerotopsida

Bryopsida

Evolution of sporophytes in Bryophytes.

Economic importance of Bryophytes.

Main Reference(s):

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

Vashishta B R and Sinha A K (2007) Botany for Degree Students –Bryophyta, S Chand & Company Ltd., New Delhi (1st Edition's Revised and Multicolour-Reprint).

Other Reference(s):

A V S S Sambamurty (2005), *A text book of Bryophytes, Pteridophytes, Gymnosperms and Paleobotany* (), Parihar N.S. (), *Pteridophyta*

Unit-II Pteridophytes

General characters and classification of Pteridophytes.

Telome theory (evolution of sporophytes), Types of Stele and Stelar evolution.

Soral evolution in ferns, Heterospory and seed habit.

Study of gametophytes and sporophytes of:

Psilotales

Lycopodiales

Filicales

Main Reference(s):

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

Vashishta B R and Sinha A K (2007) Botany for Degree Students –Pteridophyta, S Chand & Company Ltd., New Delhi (1st Edition's Revised and Multicolour-Reprint).

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).

Unit-III Gymnosperms

General characters and classification (Bierhorst) of Gymnosperms.

Comparative account of: Cycadales, Coniferels, Ephadrales, Gnetales, Ginkgoales.

Structure and evolution of male and female gametophytes of Gymnosperms.

Geological rise and fall of Gymnosperms.

Main Reference(s):

Biswas C and Johri B M (2004) *The Gymnosperms*, Narosa Publishing House, New Delhi (2nd Reprint Edition).

Vasishta P C (2005) **Botany for Degree Students Gymnosperms**, S Chand & Company Ltd., New Delhi (1st Edition's Reprint)

Other Reference(s)

Pandey B P (2003) **College Botany –Vol.-II**, S Chand & Company Ltd., New Delhi (1st Edition's Reprint)

Pandey S N, Misra S P and Trivedi P S (2003) **A Text Book of Botany –Vol.-II**, Vikas Publishing House Pvt Ltd., New Delhi (11th Revised 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).

Pandey B P (2003) **Simplified Course in Botany –B Sc-II**, S Chand & Company Ltd., New Delhi (1st Edition's Reprint)

Bhatnagar S P and Moitra Alok (2006) **Gymnosperms**, New Age International (P) Ltd, Publishers., New Delhi (1st Edition's Reprint)

Unit-IV Fossils

Nomenclature of Fossils

Geological Time-scale, Fossilization.

Detailed study of following fossils:

Rhynia, Asteroxylon, Protolpidodendron

General account of following fossils:

Bennettitales, Pentoxylales, Cordaitales

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).

Biswas C and Johri B M (2004) **The Gymnosperms**, Narosa Publishing House, New Delhi (2nd Reprint Edition).

Vasishta P C (2005) **Botany for Degree Students Gymnosperms**, S Chand & Company Ltd., New Delhi (1st Edition's Reprint)