



B.Sc. PLANT BIOLOGY & PLANT BIOTECHNOLOGY

Paper 2b APPLIED PALYNOLOGY

B. Sc. Va (Candidates admitted from the academic year 2008-2009)

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Elective Theory

UNIT I

Terminologies used in spore and pollen description according to LLP 1994. Difference between pollen and spores. Sporoderm:- Chemical composition..

Key words: Foot, Tectum, Columella, Exine, Intine and Exineless pollen.

UNIT II

Aperture: Inaperturate grain, simple and compound. NPC classification.
Sculpture: LO Analysis, various types of ornamentation. Shape and size of pollen.

Technique: Acetolysis method of pollen preparation.

Key words: Sulcus, Porus, Colpus, Pseudoaperture, Acetolysis mixture

UNIT III

Mellitopalynology: Bees that are commonly domesticated in India. Bee colony, Pollen nectar. Source (plant), pollen collection , Role of Mellitopalynology in Bee keeping. Season of honey production, Origin of honey, evaluation.

Mellitopalynological studies in India with special reference to Andhra Pradesh, Tamil Nadu. Extraction of pollen from honey, slide preparation, Identification.

Key words: Pollen basket, packing, Beebread. Honey flow period, dearth period

UNIT IV

Iatropalynology: Pollen in pharmaceuticals. Uses of pollen Crop Science as PGR, Nutrition and in Cosmetics.

UNIT V

Aeropalynology: Methods of collecting air borne particles. Identification, preparation of pollen calendar. Aerobiological studies in relation to allergy - Extraction of allergens, Testing patients and treatment. Other uses of Aeropalynology in relation to pollination, vegetation, yield in citrus-grapes.

Palynotaxonomy: Use of pollen in plant classification.

Forensic Palynology: Recent development in Forensic palynology.

Key words: Pollen trap, Aeroallergens, pollen calendar, Pollinosis

UNIT VI

Copropalynology: Uses of coprolite in Archeology - human settlement.

Geo/paleopalynology: pollen diagram construction, and interpretation of data. Paleoenvironment, vegetation, climate.

Key words: Coprolite, Palaeovegetation

Suggested Reading

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KEDVES, M. 1986. Introduction to the palynology of Pre-quatarnary Deposits. Part I & II Pub. House of the Hungarian Academy of Sciences, Budapest.

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MOORE, P.D, WEBB, J.A. 1978. An Illustrated guide to pollen analysis. Hodder and Stoughton, London.

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- TRAVERSE, A 1988. PALAEOPALYNOLOGY. UNWIN HYMAN, LONDON.
- TSCHUDY, RH, SCOTT, AR 1969. Aspects of Palynology. Wiley Interscience, New York.
- WODEHOUSE, R.P. 1935. Pollen grain - their structure, identification and significance in Science and Medicine. Hafner Publishing Co. New York.