



**Office of the Principal,
KHAIRA COLLEGE, KHAIRA, BLS.**

DIST- BALASORE (ODISHA), PIN-756048

website –www.khairacollegekhaira.com, E. Mail : khairacollege@gmail.com

Course Outcome of Degree Syllabus of BOTANY Honours

CBCS SYLLABUS

SEMESTER-I

Paper-CC I

PHYCOLOGY AND MICROBIOLOGY

- Students get to know about the different microbial organisms, their characters, reproduction type
- Students know about microbial nutrition, growth types.
- Know about algal world.
- Classification of algae, life cycle of different algal genera.

Paper- CC II

BIOMOLECULES AND CELL BIOLOGY

- Students get fundamental knowledge about cell types.
- Origin of eukaryotic cell, endosymbiotic theory.
- Ultra-structures and functions of cell organelles.
- In biochemical part of this paper helps in students learn about chemical bonds, atoms, molecules, compounds, etc
- Ph, buffer system and mechanism
- Learn about biomolecules and properties.
- Enzyme's structure, classification, mechanism of enzyme action, enzyme inhibition.

SEMESTER-II



Paper- CC III

MYCOLOGY AND PHYTOPATHOLOGY

- Learn details about fungi, fungal structure, classification and reproduction.
- Detail study of different algal classes and life cycles of algal genera.
- Student gain knowledge about economic importance of fungi.
- Plant diseases, their control methods, host-parasite relationship.
- Different types of lichen study and their economic importance.

Paper-CC IV

ARCHEGONIATES:

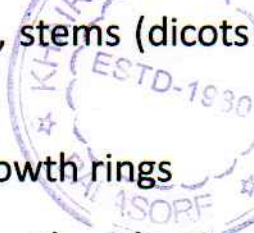
- In archegoniate paper bryophytes, pteridophyte and gymnosperm related information are given.
- Detail structures, classification, life cycles of Bryophyta are given
- Life cycles of different pteridophytes and gymnosperms
- Stellar evolution, seed habits, heterospory like important concepts are studied.
- Fossil plants, methods of fossilization and their affinities are given.

SEMESTER-III

Paper-CC V

ANATOMY OF ANGIOSPERMS

- Students learn about tissue systems, applications of plant anatomy.

- 
- Anatomy of primary structures of plants life root, stems (dicots and monocots), leaves
 - Secondary growth of plants, cork, bark, annual growth rings
 - Students know about anomalous secondary growth, adaptive anatomy, mechanical tissue system

Paper-CC VI

ECONOMIC BOTANY

- Students know about origin of cultivated plants and their genetic diversity.
- Know about cereals, legumes, spices, drug yielding plants
- Gain knowledge about timber, cotton, oil yielding plants.

Paper- CC VII

GENETICS

- This paper gives information about mendelian genetics, principles of inheritance, extra chromosomal inheritance.
- Students know about variation in chromosome leads to different conditions.
- Know about gene, gene mutation, detection methods.
- Population and evolutionary genetics.

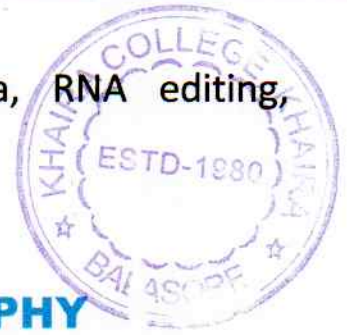
SEMESTER-IV

Paper- CC VIII

MOLECULAR BIOLOGY

- This paper is related to nucleic acids i.e., DNA, RNA, their discovery, structures
- Students know about process of replication, transcription and translation.

- They become aware about central dogma, RNA editing, regulation of genes.



Paper-CC IX

PLANT ECOLOGY AND PHYTOGEOGRAPHY

- This paper develops knowledge about ecology.
- Ecological factors like abiotic and biotic factors, their detail roles in ecosystem.
- Students become conscious about ecosystem, its structural and functional aspects.
- Phytogeographical study related to vegetation of India and Odisha.

Paper-CC X

PLANT SYSTEMATICS

- Plant identification, classification, nomenclature like important concepts is taught.
- Student know different taxonomical tools related to botanical nomenclature, systems of classification
- Know about evolution theories of angiosperms.
- Descriptive studies of different families.

SEMESTER-V

Paper- CC

REPRODUCTIVE BIOLOGY OF ANGIOSPERM

- Students know about reproductive parts of angiosperms
- Development methods of male and female spores.
- Process of pollination, gametes development and fertilization.
- This also gives ideas about endosperm, embryo developments.



Paper-CC XII

PLANT PHYSIOLOGY

- Students know about physiological role of water, pathways of water movements.
- How ascent of sap occurs? Process of translocation in the phloem tissue.
- Mineral nutrition, essential elements and their role.
- Students gain knowledge about growth regulators of plants.
- Physiology behind flowering, roles of phytochrome in flowering.

Paper-DSE I

ANALYTICAL TECHNIQUES IN PLANT SCIENCES

- This paper related to instrumentations used in biological studies.
- Imaging related techniques like microscopy, flow cytometry, electron microscopy.
- Separation techniques like centrifugation, chromatography, X-ray crystallography, etc
- Students also aware about biostatistics through this paper.

Paper-DSE II

NATURAL RESOURCE MANAGEMENT

- Students gain ideas about natural resources, sustainable utilization.
- They concern about natural biodiversity, threats and different biodiversity conservation policies.
- Students know about energy resources, their management.
- Waste management, efforts behind resources managements like important topics are given through this paper.

SEMESTER-VI



Paper- CC XIII

PLANT METABOLISM

- It gives knowledge about metabolic and signalling systems of plants.
- Photosynthesis, respiration and their mechanisms.
- Students also know about ATP synthesis mechanism.
- Lipid metabolism, nitrogen metabolism is also there.

Paper- CC XIV

PLANT BIOTCHNOLOGY

- Biotechnology related studies are given through this paper like plant tissue culture, protoplast culture, etc.
- Recombinant DNA technology like important concept is given.
- Students know about applications of biotechnology.

Paper-DSE III

HORTICULTURAL PRACTICES AND POST-HARVEST TECHNOLOGY

- This is an applied topic related to horticulture practices.
- Students know about ornamental plants, fruit and vegetable crops and horticulture tools and techniques.
- Students also know about different garden design idea.
- Through post-harvest technology, disease control and management ideas, they become efficient.



Paper-DSE IV

PROJECT PAPER

- Students prepare a project paper on selected topics.

A handwritten signature in green ink, appearing to be "P. K. Saha".

Principal
Principal
Khaira College, Khaira
Khaira College, Khaira
Balasore
Balasore