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Ranked 95 in College Category – 2021 under NIRF, Ministry of Education, Government of India
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College with "STAR STATUS" Conferred by DBT, Government of India
Recognised by UGC as "College with Potential for Excellence"

DEPARTMENT: BOTANY
MINUTES OF THE BOS MEETING

A meeting of the Board of Studies in BOTANY was held on 21/03/2024 at 2:00 PM in Online mode- Google meet – https://meet.google.com/tji-wfyc-nas to discuss the following agenda:

1. Review of III BSc NEP syllabus – Semester V and VI.
2. Student internship/ Project in III BSc
3. Any other matter.

Members present:
External Members:
Vice Chancellor nominee -
1. Dr Siddaraju M N – Assistant Professor, University College, Mangaluru.

Subject Experts -
1.Dr Giby Kuriakose – Assistant Professor, PG Dept of Botany, Sacred Heart College, Thevara, Kochi, Kerala, India – 682013.
2.Mr. Muhammed Haneef KA, Assistant Professor, Department of Botany, Government Brennen College, Thalassery, Kannur, Kerala – 670106.

Meritorious Alumnus -
1. Dr Bhagya N, Associate Professor, Yenepoya Research Centre, Yenepoya, (Deemed to be University), Deralakatte, Mangaluru.

Internal Members:
1. Mrs. Shilpa B, Chairperson & HOD
2. Dr Jyothi Miranda.
3. Dr Sana Sheikh.
4. Mrs. Akshitha Ramachandra Amin

Student Representative- Ms. Disha Suvarna BH- III BSc (MB) Register No. (2122302)

Dr Gibi and Dr Bhagya suggested to update and add new editions of text books in references for G507 DC1.8 Plant Biotechnology
Dr Siddaraju and all board members recommended and welcomed the changes to be made under NEP Syllabus overall.

Note - Duly signed feedback forms from the External Board members are collected.
Discussion/ Suggestion: Attached here as follows:

Agenda 1: 1. Review of NEP III BSc Syllabus – Semester V

III BSc Semester V - G507 DC1.5: - Plant Taxonomy and Resource Botany

Unit 2 – Polypetalae & Gamopetalae

2.1 - Diagnostic characters with morphological peculiarities are replaced as Diagnostic characters with morphology and economic importance of the following families.

Unit 3- Gamopetalae (Continued), Apetalae & Monocotyledonae
Diagnostic characters with morphological peculiarities are replaced as Diagnostic characters with morphology and economic importance of the following families.
3.1 Gamopetalae- Scrophulariaceae family is removed.
3.2 Apetalae- Moraceae is removed.
3.3 Monocotyledonae – Musaceae family is removed.

Unit 4: Botanical Resources
4.1 - Storage of Cereals and millets replaced as Storage techniques of Cereals and millets.

G507 DC2.5P: Plant Taxonomy & Resource Botany

Practical 3. Inclusion of Identification of plants up-to series level with characters and salient features of the following families.
Practical 10 – Poaceae family is removed.

G507 DC3.5 Genetics and Plant Breeding - No corrections

Semester VI- G507 DC1.6: Plant Physiology & Biochemistry
Unit 1- 1.3 – removal of advantages of transpiration.
Unit 3 – 3.2 – removal of brief note on antisense RNA technology.
4.2 Lipids: Importance and classification; Structure and properties of fatty acids, Brief account of storage & membrane lipids is replaced by Importance, classification, Structure and properties of lipids, simple lipids, structure of fatty acids, Brief account of storage & membrane lipids.

Semester VI - G507 DC3.6: Plant Biotechnology

Unit 1- 1.3 Media preparation: Physical factors, Composition of media; Nutrient and hormone requirements (role of vitamins and hormones); note on biohazards and biosafety. Concept of totipotency**,** cell differentiation, callus and organogenesis, Embryogenesis (somatic and zygotic)

is reframed as **Media preparation:** Physical factors, Composition of media; Nutrient and hormone requirements and their role -micronutrients, macronutrients, vitamins, amino acid and hormones, preparation of stock solutions, units and solution preparation, gelling agents. Note on biohazards and biosafety.

Removal of Concept of totipotency**,** cell differentiation, callus and organogenesis, Embryogenesis (somatic and zygotic)

Unit 2- 2.1: *In vitro* culture techniques: Stages of micropropagation, callus culture, meristem culture, anther culture, embryo culture, Protoplast isolation, culture and fusion, haploids, triploids and cybrids is reframed as

Different types of in vitro cultures: basic concept of totipotency**,** cell differentiation, callus and organogenesis, method and significance-callus culture, meristem culture, anther culture, pollen culture, embryo culture, endosperm culture, protoplast culture.

2.2 Somaclonal variation, Method of cryopreservation and applications is shifted to module 2.4

Inclusion of 2.2 Micropropagation technique - stages of micropropagation, embryogenesis – concept, method and applications.

2.3 – significance of secondary metabolites is reframed as application of suspension culture in the production of secondary metabolites.

Inclusion of 2.4 module Somaclonal variation: definition, selection of somaclonal variants, application.

Inclusion of 2.5 module Cryopreservation: Concept, slow cooling and fast cooling methods, general protocol for the cryopreservation, application.

Unit 3 -3.2. Genetic manipulation (GM) of plants: Gene Cloning, Transgenic crops for improved quality (GMOs- golden rice, BT brinjal, Bt –cotton, Flavr-savr tomato), Advantages and disadvantages of GMOs, safety, and public acceptance of cultivating transgenic plants is replaced with **3.2. Expression of transferred genes**: transient and stable gene expression, reporter gene and selectable marker genes – 2 examples for each along with their mode of action.

Unit 4 - 4.1. Application of Transgenic plants: Development of transgenic plants for resistance to virus, bacteria, fungi, insect, herbicide stress and tolerant, delayed fruit ripening is changed to

Transgenic plants: Gene Cloning, Transgenic crops for improved quality - golden rice, Flavr - savr tomato, transgenic plants for resistance to insects – Bt cotton. Advantages and disadvantages of GMOs.

Agenda 2: 2. Student internship/ Project in III BSc- Board members after discussion suggested to give student projects on topics like Lab equipment handling and Field work. They also recommended student presentation and viva-voce for internship and projects.

Agenda 3: Result
Results of Semester VI semester non-NEP batch and I, III semester NEP was discussed and board members rendered good opinion about the result.

Resolution: Board members agreed to pass the syllabus with small changes.
Action Taken: Modifications and reframing of topics approved by the board are considered.