Minutes of the meeting of Board of Studies in Plant Science

Date: 15-4-2019 Time 10 .00 AM to 5.00 PM
Venue: Department of Plant Science,
Central University of Kerala, Periye-671316

Ref. CUK/ACA/BoS/187/2013/2019/1714/E5566 dated 05th February 2019

As per the CUK letter cited, Board of studies meeting was conduced on 15-4-2019 from 10.00 AM to 5.00 PM with the following members.

Members present

Dr. K. Arunkumar
Chairman, PLS-BOS

Prof. (Dr.) T. Parimelazhagan
Expert-Member, Department of Botany
Bharathira University, Coimbatore

Prof. (Dr.) G. R. Janardhana
Expert-Member,Department of Botany
University of Mysore
Mysore

Prof. (Dr.) V. Sivaram
Expert-Member, Department of Botany
Bangalore University
Bangarore

Prof. Dr. T. Dennis Thomas
Member

Dr. K. Ramachandran
Member

Dr. Ginny Antony
Member

Draft syllabus submitted by the Department of Plant Science was thoroughly gone through and discussed based on the CUK CBCS regulations. Accordingly the board unanimously passed the following resolutions.

- Resolved to approve the proposed syllabus for M.Sc Plant Science programme to be adopted from the Academic year 2019-2020.
- Specific Textbooks of 10 to 15 are limited to each course.
- The credits for core courses were decided as 60 credits and 12 credits for elective courses.
- Accordingly 13 core courses each carry 4 credits were finalized
- Suggestions in the course content by the expert members were included and coursers were accordingly revised.
- Recent topics in all courses were included as per the expert suggestions.

15/4/19

Dr. K. Arunkumar
Chairman, PLS-BOS

Prof. Dr. T. Dennis Thomas 15/4/19
Member

Prof. (Dr.) T. Parimelazhagan
Expert-Member

Dr. K. Ramachandran
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Prof. (Dr.) G. R. Janardhana 15/4/19
Expert-Member

Dr. Ginny Antony
Member 15/4/19

Prof. (Dr.) V. Sivaram
Expert-Member

BTY 5003	**RECENT ADVANCES IN PLANT BIOLOGY** (Credits 3; Theory 3 hrs)
Aim	To educate post graduate students on grand challenges and important questions in Plant Science
Objectives	1. To educate and stimulate discussions on trending topics in Plant Science 2. To encourage students to think and read beyond the limits of the program
Learning outcome	On completion, the students will be aware of pressing challenges and recent advances in the field of Plant Science
S. No	**Theory**
1.	Organic farming: methods and approaches, sustainable intensification of farming, why farm organically.
2.	Nutraceuticals: classification, health benefits, nutritional therapy, global demand, regulations.
3.	Nano-biotechnology: definition and concepts and applications; Cellular Nanostructures; Nanopores; Biomolecular motors; Criteria for suitability of nanostructures for biological applications, Colloidal nanostructures; Nanovesicles; Nanospheres; Nanocapsules Nano biosensors, Nano pesticides and nano herbicides, Nano bio farming, use of carbon nano tubes in biotechnology, nano additives in food, Nanoparticles for diagnostics and imaging.
4.	Global climate change: carbon pollution and human activities that promote global warming, Impacts on global flora, impact of climate change on pollination, predictions, Plant responses to climate change. Approaches to adapt and mitigate climate change, ensuring food security and protecting bio diversity, restoration of ecosystems and re-engineering. case studies and discussion of recent research articles
5.	Precision genome engineering: sequence specific nucleases, ZFN, TALEN, CRISPR/cas9 and their use in chromatin modification and epigenetic regulation, transcriptional repression, transcriptional activation, gene editing and genome editing.

Text Books:

1. David S.Goodsell 2004. Bionanotechnology: Lessons from Nature. Wiley Publishers.
2. Aluko, R. 2012. Functional foods and nutraceuticals: springer.
3. Latest research articles/review articles relevant to the topics