Board of Studies meeting of the Department of Botany was conducted on 20 -03 -2018 at 11 AM in the Department of Botany. Following members were present in the meeting.

Dr. Mini Chacko (Chairperson)

Dr. (Fr.) Jose John, Vice Principal, SH College, Thevara

Dr. Joseph Job, Associate Professor, SB College, Changanassery

Dr. Rojimon P. Thomas

Dr. N. Hari

Dr. Basil George

Apology of Absence – Sri. Rajesh S. Moni, Manager, Quality Assuarance – Research and Development, Dr. Elizabeth Cherian, Assistant Professor, CMS College, Kottayam.

Dr. Mini Chacko, Chairperson of the Board of Studies welcomed the members. She appreciated the members for their active participation in the curriculum revision process. The following resolutions were taken after the discussions.

B.Sc. Botany Programme Curriclum

The syllabus of B.Sc. Botany 2017 of the Mahatma Gandhi University and the proposed UGC Curriculum forms the basis of the present syllabus recommended for the Department of Botany, C. M. S. College, Kottayam for the academic year 2018 – 19. Twelve core courses for B.Sc. Botany, Four complementary courses for B. Sc. Zoology and Family and Community science, one open course and one elective course for the UG programme were reviewed.

The core course content of the B. Sc. Botany programme of the M. G. University is well conceived with the aim of preparing students for competitive examinations and pursuing higher studies. Therefore, the syllabus of the M.G. University is adopted with minor changes. Feedback from students was the motivation for these minor changes, since they observed that it gave them a better understanding and insight into their subject of interest. The changes mainly involve,

1. Rearrangements in the syllabus, like shifting the topics from one course to another, where it is perceived to fit in better.
2. Addition of subtopics (brief) and topics to be made brief is specified wherever necessary, in order to convey and make the study of the topic easier.
3. Specifying examples and types for studying some topics

However, no change has been made in the basic structure and content of the UG Botany curriculum. The course specific changes that have been brought about are listed below.

Core Course 1

Methodology of Science and an Introduction to Botany

Module 1 Methodology of Science

1. The contents of **unit 1 and unit 2 of Module I** is combined to be completed in six teaching hours.
2. The 5 steps involved in scientific method is specified. They are
   a) Observation and Thoughts
   b) Formation of Hypothesis
   c) Experimentation
   d) Testing of hypothesis
   e) Formulation of theory and law
   Kosch's Experiment to be cited here as an example, to transact these steps.
3. In **unit 3 of module 1** - causes of evolution are added before evidences of evolution, in order to convey the importance of "Origin and Evolution of life"
4. It is also suggested to shift the major postulates namely isolation, mutation, genetic drift and speciation **from unit 3 of Module 1 in Sem I to unit 7 of Module 1 in Sem VI** i.e. the Core course – Genetics, Plant Breeding and Horticulture

Module 2 Introduction to Botany

It is recommended to have **2 units in module 2** in order to better structure the course.

Unit 1 - of 2 hours

- Diversity of life
- An introduction to classification
- Need for classifying organisms

Unit 2 - of 12 hours

- Types of classification
  (Study of Life cycle not required)

Module 3 Basic Botanical Skills

1. Microscopy – Evolution of Microscope – simple, compound, dissection, stereomicroscopes
2. Parts of a compound Microscope, Adjustments in Microscopy, Handling and Care of Microscopes
3. Temporary mounts: Hand sections, smears and squashes
4. Killing and Fixing, Permanent mounts and Herbarium - **deleted** from here since these topics are dealt under Micro technique (course V) and Taxonomy (course 11)

PRACTICALS

1. Mendel's Experiment
2. Field report with photographs to be submitted during practical examination
   (a field visit to nearby Biodiversity rich area is compulsory – one day trip)TLS and RLS deleted, LS added

Core Course 2

Microbiology, Mycology and Plant pathology

1. In Module 1, Unit 1, **Microbiology : A brief historical prelude with milestones** is added instead of Introduction to microbiology
2. Addition of Bacterial identification – based on motility, staining, colony characters and biochemical tests (IMVic only) – A short description after Ultrastructure of bacteria in Unit 2 of Module 1
3. The example of pour plate method is specified in, "Demonstrate the culture of bacteria", under the practical of Microbiology
4. No other changes are incorporated in the MGU syllabus.

Core Course 3

Phycology and Bryology

No changes are made in the MGU Syllabus

Core Course 4

Pteridology, Gymnosperms and Paleobotany

No changes are made in the MGU Syllabus

Core Course 5

Anatomy, Reproductive Botany and Microtechnique

A small portion of course 1, module 3 is included in module 3 of this course, since it fits better here.

Inclusions

1. Killing and fixing agents – Formalin, FAA, Carnoy's fluid, Farmer's fluid
2. Hand sections – T.S., L.S., T.L.S., R.L.S.
3. The term mounting media is changed to mountants

Under the Practicals of Reproductive Botany - Identification of embryo (chordate stage is specified)

Core Course 6

Research Methodology, Biophysics and Biostatistics

Compound microscope deleted from unit 2 of module 2 since it is well covered in core course 1. Instead, STEM is added to electron microscopy.

Core Course 7

Plant Physiology and Biochemistry

Lowry's method specified for "Quantitative estimation of protein using colorimeter" (Practical No. 5)

Core Course 8

Environmental Science and Human Rights.

The UGC Syllabus is adopted (50 hours).

Local knowledge (4 hours) is incorporated as Unit 2

Open Course

Agribased Microenterprises

No changes are made in the syllabus

Core Course 9

Genetics, Plant Breeding and Hoticulture

Module 1, Unit 7 – sub topics added under Hardy Weinberg Principle –

Factors affecting genetic equilibrium – mutation, selection, migration and genetic drift (brief account only)

Core Course 10

Cell and Molecular Biology

No changes are made in the MGU syllabus

Core Course 11

Angiosperm Morphology, Taxonomy and Economic Botany

No changes are made in the MGU syllabus

Core Course 12

Biotechnology and Bioinformatics

No changes are made in the MGU syllabus

Programme Elective Course

Biotechnology and Bioinformatics

No changes are made in the MGU syllabus

Complementary Courses for Model I B.Sc. Zoology

Complementary Course 1

Cryptogams, Gymnosperms and Plant Pathology

No changes are made in the MGU Syllabus

Complementary Course 2

Plant Physiology

No changes are made in the MGU Syllabus

Complementary Course 3

Angiosperm Taxonomy and Economic Botany

No changes are made in the MGU syllabus

Complementary Course 4

Anatomy and Applied Botany

Module 2, Unit 1 - Sub topics added under **Procedure of hybridization –** selection of parents, emasculation and pollination.

Module 3 – **Plant Tissue culture:**

1. MS medium specified under culture media
2. Surface sterilization specified for ex plants
3. Inoculation and incubation processes added

Dr. Mini Chacko (Chairperson)
In the absence of Member Secretary

(Read and confirmed)

Dr. Mini Chacko
(Chairperson)

Kottayam
20.03.2018