

Board of Studies meeting of the Department of Botany was conducted on 26.04.2018 at 10 AM in the Department of Botany. The 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 Assurance – Research and Development, Dr. Elizabeth Cherian, Assistant Professor, CMS College, Kottayam.

Dr. Mini Chacko, the Chairperson welcomed the members and in her introductory remarks she appreciated the members for their active participation in the curriculum revision process.

After discussion the following resolutions were taken.

Agenda Items

Agenda Item No.1. Syllabus Revision

It was decided to revise the curriculum of B.Sc. Botany, and the Complementary and Open courses offered by the Department of Botany, to be implemented in CMS College Kottayam w.e.f. 2018 admissions.

The feedback gathered from various stakeholders like students, teachers, parents, industrialists, employers, etc. were discussed. The restructuring of the syllabus was made in tune with the UGC model curriculum and the existing curriculum of the MG University. The curriculum was restructured by mapping the courses incorporating graduate program outcomes (GPO), program specific outcomes (PSO), course outcomes (CO).

The Courses in Botany were devised in such a manner:

1. To address the advances in research and technological infrastructure and to train the student about the scientific advances and discoveries.
2. Due significance was given to incorporate Local, National, Regional and Global developmental needs in the curriculum
3. The existing courses were streamlined with focus on Employability, Entrepreneurship and Skill development
4. In order to facilitate the courses, it was decided to sign MOUs to collaborate with organizations relating to the discipline that would be helpful to the students.

The Common Courses offered met the need to sensitise the students by incorporating aspects like Gender, Environment, Sustainable living, Human Values and Professional Ethics in the curriculum.

It was also decided to introduce Internship at the end of second semester.

B.Sc. Curriculum

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 lawKosch'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 syllabus.

Core Course 3

Phycology and Bryology

No changes are made in the syllabus

Core Course 4

Pteridology, Gymnosperms and Paleobotany

No changes are made in the 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).

Global conservation efforts (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 Horticulture

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 syllabus

Core Course 11

Angiosperm Morphology, Taxonomy and Economic Botany

No changes are made in the syllabus

Core Course 12

Biotechnology and Bioinformatics

No changes are made in the syllabus

Programme Elective Course

Biotechnology and Bioinformatics

No changes are made in the syllabus

Complementary Courses for Model I B.Sc. Zoology

Complementary Course 1

Cryptogams, Gymnosperms and Plant Pathology

No changes are made in the syllabus

Complementary Course 2

Plant Physiology

No changes are made in the syllabus

Complementary Course 3

Angiosperm Taxonomy and Economic Botany

No changes are made in the 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

It was decided to continue the UGC sponsored Add on Course the in the curriculum:

Add on Course

1. Medicinal and Ornamental Plants – Certificate Course in B.Sc. I year
2. Medicinal and Ornamental Plants –Diploma Course in B.Sc. II year
3. Medicinal and Ornamental Plants –Advanced Diploma Course in B.Sc. III year

It was decided to introduce Extra credit courses in the curriculum

Extra Credit Courses

1. Solid Waste Management
2. Processing and Preservation of fruits and vegetables

Agenda Item No. 2 PG Curriculum

M.Sc. Botany

It was decided to follow the existing syllabus of M.G. University without any change in the theory papers and practical papers.

Agenda Item No.3 Other matters arising from the floor

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

(Read and confirmed)

Dr. Mini Chacko
(Chairman)

Kottayam
26.04.2018