**Board of Studies meeting of the Department of Physics was conducted on 22/03/2018 at 10 am in the Department of Physics. The following members were present in the meeting.**

Dr. P. Rajagopal (Chairman), Dr. C. Sudarsanakumar, Dr. Sreelatha K.S., Dr. Pragash R., Dr. P. Nuja S. John, Dr. Ravikumar C., Dr. Arun kumar K.V, Dr.Seema R., Also present Dr. Preema C. Thomas, Member Secretary, Board of Studies , Physics.

Apology of absence – Mr. Preman D. Ninan, Country Manager, Molex Pvt . Ltd , Sadaramangala , Bangalore-67.

Dr. P. Rajagopal, the Chairman welcomed the members and in his introductory remarks he 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. Physics, and the Complementary and Open courses offered by the Department of Physics, 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 Physics 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 1: Methodology and Perspectives of Physics for semester 1 Program.**

The module I and module III of the present syllabus for this course was found to be very vast, from which questions could be asked in any dimension. The contents of module I and module III were modified by making them more precise. The line, surface and volume integrals were omitted from vector analysis as the students are studying it in their complementary course.

**Core 2: Mechanics and Properties of Matter for semester 2 Program.**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree.

**Core 3: Optics, Laser and Fiber Optics for semester 3 Program.**

It was suggested that the title of the course should be changed to Optical Physics. However the Syllabus Revision Core Committee disagreed with the title change.

**Core 4: Semiconductor Physics for semester 4 Program.**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree.

**Core 5: Electricity and Electrodynamics for semester 5 Program.**

This course was interchanged with the Thermal and Statistical Mechanics of the VI semester. This was done for the convenience of students. As they are studying statistics for their complementary in the first four semesters, the students will find it easier if they have this course in their V semester. **Hence Core 5 Course is Thermal and Statistical Mechanics**

The syllabus of Thermal and Statistical Mechanics was changed in accordance with the text book "Thermodynamics and Statistical Physics" by Brijlal, N. Subramanyam and P.S. Hemne.

**Core 6: Classical and Quantum for semester 5 Program.**

Module II was split up in to two by including a few topics from the prescribed text Modern Physics by R Murugesan. These topics deal with the fundamental concepts of Quantum Mechanics.

**Core 7: Digital Electronics and Programming for semester 5 Program.**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree.

**Core 8: Environmental Physics and Human Rights for semester 5 Program.**

Appropriate changes are brought about in module III and IV

**Open Course –Our Universe for semester 5 Program.**

Out of the three open courses suggested, we have opted for the course "Our Universe"

Since the students attending this course are from different streams, including arts, one of the tough topics 'Newtonian and Cassegrain telescopes' has been removed.

**Core 9: Thermal and Statistical Mechanics for semester 6 Program.**

This course was interchanged with 'Electricity and Electrodynamics' of semester V

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree. **Hence Core 9 Course is Electricity and Electrodynamics.**

**Core 10: Relativity and Spectroscopy for semester 6 Program.**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree.

**Core 11: Nuclear and Particle and Astrophysics 6 Program.**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national/international standards for bachelor's degree.

**Core 12: Solid State Physics for semester 6 Program.**

The various topics in the syllabus were rearranged in accordance with the prescribed text books "Solid State Physics by M. A. Wahab and Solid State Physics by S. O. Pillai.

**[Choice Based Course] Computational Physics for semester 6 Program.**

Out of the five choice based courses we have opted Computational Physics as the Choice Based Course. Computational Physics is an essential tool for students who pursue their higher studies. However certain advanced topics which are relevant at research level are excluded. Numerical methods by P Kandasamy, Dr. P. Thilagavathy and Dr. K. Gunavathi is opted as the text book.

**Complementary Mathematics for I, II, III and IV semester**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national standards for bachelor's degree.

**Complementary Chemistry for I, II, III and IV semester**

No changes are incorporated with the syllabus as it is found to be at par with the syllabi of national standards for bachelor's degree.

Syllabus of IV semester was restructured.

**B.Sc. Physics Core and Complimentary Practicals [All Semesters]**

In the present academic year, 2017-2018 we are conferred with the star college status. To keep in pace with it we have included the experiment 'Hall Effect' in the core practical paper-

Semiconductor Physics and Gouy's Method' in the core practical paper- Electricity, Magnetism and Lasers .

No other changes are made for the remaining practical papers of core and complementary courses.

It was decided to introduce the following courses in the curriculum:

**Add on Course**

**1.** Optics of Photography

**Extra Credit Courses**

1. Basic Instrumental Skills And Electrical Circuits
2. Scientific Computational Physics

**Agenda Item No. 2** PG Curriculum

## M.Sc. Pure Physics

It was decided to follow the existing syllabus of M.G. University without any change in the 16 theory papers and 4 practical papers.

## M.Sc. Applied Physics

It was decided to follow the existing syllabus of M.G. University without any change in the 16 theory papers and 4 practical papers.

**Agenda Item No.3** Other matters arising from the floor

Dr. Preema C. Thomas
*(Member Secretary*)

(Read and confirmed)

Dr. P. Rajagopal
*(Chairman)*

Kottayam
22.03.2018