

Department of Physics

Minutes of Meeting of Board of Studies in Physics (UG) held on 09-04-2021

A Meeting of the Board of studies in Physics (UG) was held on 09-04-2021 at 11.30 am through Google Meet (On-line). The following members were present for the meeting.

Chairman: Dr. A. Albert Irudayaraj

Members:

Mr. C. Tirupathi

Mr. D. Daniel Lawrence

Mr. M. Aravinthraj

Dr. S. Kalaiarasi

Mr. R. Ramesh

Mr. D. Rajkumar

Dr. A. Dhayal Raj

Mr. N. Madhavan

Dr. M. Jose

Dr. S. A. Martin Britto Dhas

Rev. Dr. G. Theophil Anand

Mr. G. Jayakumar

Mr. L. Anandaraj

Dr.S.John Sundaram

Rev. Dr. Gandhi Kallarasan

University Nominee:

Dr. D. Jaikumar,

Head, Department of Physics,

Voorhees College, Vellore

Subject Expert :

Dr. J. Suresh

Principal & Associate Professor,

Department of Physics,

The Madura College (Autonomous), Madurai

Alumnus:

Mr. M. Selvam,

Assistant Headmaster and PG Assistant in Physics,

Government Hr. Sec. School,

Palnangkuppam, Tirupattur

Mr.S.Naresh, Industrialist expressed his inability to attend the meeting due to his prior commitments

Students representatives:

- J. Deepan (AU180348), III B. Sc. Physics.
- J. Kamali (AU180316), III B. Sc. Physics.
- S. Deepika (BU180301), III B. Sc. Physics.
- S. Shasi Kumar (AU180354), III B. Sc. Physics.

Agenda:

1. To discuss and pass the program structure of B.Sc. Physics (Main) curriculum under choice based credit system for the students to be admitted during 2021-'22 and thereafter.
2. To discuss and pass the syllabi of courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.
3. To discuss and pass the evaluation pattern to be adopted for the courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

Resolutions:

1. Considered the program structure of B.Sc. Physics (Main) curriculum under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

After due deliberations and detailed discussion, it was resolved to adopt the following the program structure of B.Sc. Physics (Main) curriculum under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

2. Considered the syllabi of courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

After due deliberations and detailed discussion, it was resolved to adopt the following syllabi of courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

3. Considered the evaluation pattern to be adopted for the courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

After due deliberations and detailed discussion, it was resolved to adopt the evaluation pattern to be adopted for the courses/papers in B.Sc. Physics (Main) curriculum, Non Major Elective courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

Programme structure of B.Sc. Physics under CBCS

to be followed from 2021-'22 onwards

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| I | Main Core | Mechanics | 3 | 3 | 50 | 50 |
| | Main Core | Properties of matter | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – I | 4 | 4 | 50 | 50 |
| | Allied | Allied Mathematics - I | 6 | 5 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | | Communicative English | - | 1 | 50 | 50 |
| | Life Education | Personal Skills | 2 | 1 | 50 | 50 |
| | | Christian Religion–1 / Value Education-1 | 2 | 1 | 50 | 50 |
| TOTAL | | | 30 | 24 | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|----------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| II | Main Core | Heat and Thermodynamics | 3 | 3 | 50 | 50 |
| | Main Core | Waves and Oscillations | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – I | 4 | 4 | 50 | 50 |
| | Allied | Allied Mathematics – II | 6 | 5 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | | Communicative English | | 1 | 50 | 50 |
| | Life Education | Social Skills | 2 | 1 | 50 | 50 |
| | | Christian Religion-2/Value Education-2 | 2 | 1 | 50 | 50 |
| TOTAL | | | 30 | 24 | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|----------------------|--|----------------|-------------------|-------|-----|
| | | | | | CA | Sem |
| III | Main Core | Electricity and Magnetism | 3 | 3 | 50 | 50 |
| | Main Core | Optics | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – II | 4 | 4 | 50 | 50 |
| | Allied | Allied Chemistry –I | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | Life Education | Employability Skills –1 | 2 | 1 | 50 | 50 |
| | | Environmental Science | 2 | 1 | 50 | 50 |
| | Extra credit Course | 1. Special Project- I 2. NPTEL online courses | - | 2 [#] | 100 | - |
| TOTAL | | | 30 | 22+2 [#] | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------------|--|----------------|-------------------|-------|-----|
| | | | | | CA | Sem |
| IV | Main Core | Modern Physics | 3 | 3 | 50 | 50 |
| | Main Core | Electromagnetism | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – II | 4 | 4 | 50 | 50 |
| | Allied | Allied Chemistry –II | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | Life Education | Employability Skills –2 | 2 | 1 | 50 | 50 |
| | | Human Rights | 2 | 1 | 50 | 50 |
| | Extra Credit Course | 1. Special Project II (Repair and Maintenance of Lab Equipments) 2. Internship | - | 2 [#] | 100 | - |
| | Extension | Outreach program | - | 2 | | |
| | | SHELTERS | - | 2 | | |
| TOTAL | | | 30 | 26+2 [#] | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|--------------|-----------------------|--|----------------|--------------|-------|-----|
| | | | | | CA | Sem |
| V | Main Core | Classical mechanics and Statistical Physics | 4 | 4 | 50 | 50 |
| | Main Core | Semiconductor devices and their Applications | 4 | 4 | 50 | 50 |
| | Main Core | Solid State Physics | 4 | 4 | 50 | 50 |
| | Main Core | Mathematical Physics | 4 | 4 | 50 | 50 |
| | Main Core | Physics Main Practicals – III(General experiments) | 3 | 3 | 50 | 50 |
| | Main Core | Physics Main Practicals – IV(Electronic experiments) | 3 | 3 | 50 | 50 |
| | Subject Elective | 1. Nanomaterials and their applications 2. Electronic communication systems 3. Renewable Energy and Energy Harvesting | 3 | 2 | 50 | 50 |
| | Subject Elective | 1. Programming in C 2. 8085 Microprocessor and its applications 3. Medical Physics | 3 | 2 | 50 | 50 |
| | Self-Study Paper | 1. Astrophysics 2. Laser Physics and Fiber Optics | - | 1* | 100 | - |
| | Non-Major Elective | Offered by other departments | 2 | 1 | 100 | - |
| TOTAL | | | 30 | 27+1* | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|--------------|--------------------|---|----------------|--------------|-------|-----|
| | | | | | CA | Sem |
| VI | Main Core | Applied Electronics | 5 | 5 | 50 | 50 |
| | Main Core | Nuclear and Particle Physics | 5 | 5 | 50 | 50 |
| | Main Core | Quantum Mechanics and Relativity | 4 | 4 | 50 | 50 |
| | Main Core | Physics Main Practicals – III (General experiments) | 2 | 2 | 50 | 50 |
| | Main Core | Physics Main Practicals – IV (Electronic experiments) | 2 | 2 | 50 | 50 |
| | Subject skill | Electrical circuits and Networks | 5 | 4 | 50 | 50 |
| | Subject skill | Basic Instrumentation | 5 | 4 | 50 | 50 |
| | Self-Study Paper | Physics Revisited | – | 1* | - | 100 |
| | Non-Major Elective | Offered by other departments | 2 | 1 | 100 | - |
| Total | | | 30 | 27+1* | | |

| Semester | I | II | III | IV | V | VI | TOTAL |
|----------|----|----|-------------------|-------------------|-------|-------|------------------------|
| Hours | 30 | 30 | 30 | 30 | 30 | 30 | 180 |
| Credits | 23 | 23 | 22+2 [#] | 26+2 [#] | 27+1* | 27+1* | 150+4 [#] +2* |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-----|--------------------|---|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| V | Non-Major Elective | Repair and Maintenance of Household Appliances (offered by Physics department to other department students) | 2 | 1 | 100 | - |
| VI | Non-Major Elective | Physics in Everyday Life (offered by Physics department to other department students) | 2 | 1 | 100 | - |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| I | Allied -I | Allied Physics for Mathematics I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Mathematics | 2 | 1 | 50 | 50 |
| II | Allied -II | Allied Physics for Mathematics II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Mathematics | 2 | 1 | 50 | 50 |
| III | Allied -I | Allied Physics for Chemistry I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Chemistry | 2 | 1 | 50 | 50 |
| IV | Allied -II | Allied Physics for Chemistry II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Chemistry | 2 | 1 | 50 | 50 |
| III | Allied -I | Allied Physics for Computer Science I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Computer Science | 2 | 1 | 50 | 50 |
| IV | Allied -II | Allied Physics for Computer Science II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Computer Science | 2 | 1 | 50 | 50 |
| Total | | | 36 | 24 | | |

New Courses introduced :

1. Waves and Oscillations (in II semester) instead of Sound
2. Electricity and Magnetism (in III semester) instead of Electromagnetism
3. Electromagnetism (in IV semester) instead of Spectroscopy
4. Modern Physics (in IV semester) instead of Atomic Physics
5. Semiconductor devices and their Applications (in V semester) instead of Basic Electronics
6. Nanomaterials and their applications (Subject Elective, in V semester) instead of Crystal Growth and Nanotechnology
7. Programming in C (Subject Elective, in V semester) instead of Applied Optics
8. Laser Physics and Fiber Optics (Self study paper in V semester)

| Semester | Course | Changes made | New topics added |
|----------|---|--------------|------------------|
| I | Mechanics | 50% | 50% |
| | Properties of matter | 30% | 30% |
| II | Heat and Thermodynamics | 35% | 32% |
| | Waves and Oscillations | 60% | 60% |
| I & II | Physics Main Practicals – I | 10% | 10% |
| III | Electricity and Magnetism | 100% | 100% |
| | Optics | 20% | 20% |
| IV | Modern Physics | 40% | 40% |
| | Electromagnetism | 60% | 60% |
| III & IV | Physics Main Practicals – II | 10% | 10% |
| V | Classical mechanics and Statistical Physics | 5% | 5% |
| | Semiconductor devices and their Applications | 20% | 10% |
| | Solid State Physics | 20% | 15% |
| | Mathematical Physics | 26% | 20% |
| | Nanomaterials and their applications | 100% | 70% |
| | Electronic communication systems | 40% | 30% |
| | Renewable Energy and Energy Harvesting | 30% | 20% |
| | Programming in C | 100% | 100% |
| | 8085 Microprocessor and its applications | 30% | 30% |
| | Medical Physics | 10% | 10% |
| | Astrophysics | 80% | 80% |
| | Laser Physics and Fiber Optics | 100% | 100% |
| VI | Applied Electronics | 25% | 10% |
| | Nuclear and Particle Physics | 30% | 25% |
| | Quantum Mechanics and Relativity | 20% | 10% |
| | Electrical circuits and Networks | 30% | 25% |
| | Basic Instrumentation | 35% | 20% |
| | Physics Revisited | - | - |
| V & VI | Physics Main Practicals – III (General experiments) | 27% | 27% |
| | Physics Main Practicals – IV (Electronic experiments) | 30% | 30% |
| V | Repair and Maintenance of Household Appliances (offered by Physics department to other department students) NME | 30% | 30% |
| VI | Physics in Everyday Life (offered by Physics department to other department students) NME | 20% | 20% |

| Semester | Course | Changes made | New topics added |
|----------|--|--------------|------------------|
| I & II | Allied Physics for Mathematics I | 38% | 30% |
| | Allied Physics for Mathematics II | 47% | 40% |
| | Allied Physics practicals for Mathematics | 44% | 44% |
| III & IV | Allied Physics for Chemistry I | 35% | 30% |
| | Allied Physics for Chemistry II | 30% | 28% |
| | Allied Physics practicals for Chemistry | 50% | 50% |
| III & IV | Allied Physics for Computer Science I | 15% | 10% |
| | Allied Physics for Computer Science II | 40% | 40% |
| | Allied Physics practicals for Computer Science | 15% | 15% |

Evaluation pattern

(I) For Main core theory papers, Subject elective papers, Allied Physics theory papers and Non major elective papers

| Component | Marks |
|-------------------|-------|
| CA | 50 |
| End semester exam | 50 |
| Total | 100 |

CA components

| Component | Marks |
|---|-------|
| 2 CA tests | 30 |
| MCQ(Quiz) / Assignment / Problem solving / Open book test / Seminar | 15 |
| Attendance | 5 |
| Total | 50 |

In the CA components, 2 CA tests, Online quiz with multiple choice questions and attendance component are mandatory. Other components are optional and left to the discretion of the course teacher.

(2) Evaluation patterns for Practicals (B. Sc. Physics and Allied Physics Practicals)

| Component | Marks |
|--|-------|
| CA | 50 |
| Practical exam (at the end of even semester) | 50 |
| Total | 100 |

CA components

| Component | Marks |
|---|-------|
| Lab performance (Work sheet preparation, observations, calculation, result) | 20 |
| 2 CA tests | 20 |
| Record | 10 |
| Total | 50 |

(3) For Subject skill papers

Subject skill papers will be evaluated purely internally by the respective course teachers.

| Component | Marks |
|------------|-------|
| Theory | 50 |
| Practicals | 50 |
| Total | 100 |

Evaluation pattern for the Subject skill theory

| Component | Marks |
|---------------|-------|
| CA | 20 |
| Semester exam | 30 |
| Total | 50 |

CA components

| Component | Marks |
|---|-------|
| 2 CA tests | 10 |
| Assignment / Problem solving / MCQ(Quiz) / Open book test / Seminar | 5 |
| Attendance | 5 |
| Total | 20 |

In the CA components, 2 CA tests, Online quiz with multiple choice questions and attendance component are mandatory. Other components are optional and left to the discretion of the course teacher.

Evaluation pattern for the Subject skill practicals

| Component | Marks |
|--|-------|
| CA test / Circuit fault finding and rectifying/ Mini project | 20 |
| Semester Practical exam | 30 |
| Total | 50 |

For all the courses, there is no passing minimum in Continuous Internal Assessment. However, there will be passing minimum in the end semester examinations, which will be 20 Marks (40 %). The cumulative marks to secure a passing minimum is 40% in total (CIA + End Semester).

(4) For self study papers

Self study papers will be evaluated **purely internally** by the respective course teachers for 100 marks. A minimum of 40% marks is essential for the award of extra credit (One extra credit per self study paper passed).

(5) For extra credits courses

For the extra credits course, Special Project- I, students may do a physics project of their choice. On completion of the project the students should submit a project report. The project report submitted by the student will be evaluated by a team of two staff members appointed by the Head of the department. Based on their evaluation report, the students may or may not be awarded extra credits (maximum: 2 credits).

For the extra credits course, Special Project- II (Repair and maintenance of lab equipments), the students may choose some faulty equipment in the lab, identify the faults or problems in the equipments and rectify them. If the student rectifies the faults in the instrument and has spent a minimum of 20 hours in repairing the instrument, then based on their performance the staff in charge / HoD / Lab Director may recommend extra credits (maximum: 2 credits) for the students.

NPTEL online courses: Students may enroll themselves in government approved online courses (NPTEL, MOOC, SWYAM etc). A student will be awarded 1 extra credit on the submission of the original pass certificate of an approved one credit online course and he/she will be awarded 2 extra credits on the submission of the original pass certificate of an approved two credits online course.

Internship: Students can obtain 2 extra credits by undertaking Summer Internship for a minimum duration of 25 days at the end of IV Semester.

Question Paper Pattern for Semester Exam

(1) For Main Core theory papers (except Mathematical Physics and Subject Elective papers) and Allied Physics theory papers

Maximum marks : 100

Section A (10 x 2 = 20 Marks)

Ten short answer questions in which a minimum of two questions should be problems. Each question carries 2 marks. There should be two questions from each unit.

Section B (5 x 7 = 35 Marks)

Five either or type questions. Each question carries 7 marks. There should be one question from each unit. At least one subdivision (a or b) of any one of the questions should be a problem.

Section C (3 x 15 = 45 Marks)

Answer any Three out of Five essay type questions. Each question carries 15 Marks. There must be one question from each unit.

(2) For Mathematical Physics and Subject Elective papers:

Maximum marks : 100

Section A (10 x 2 = 20 Marks)

Ten short answer type questions. Each question carries 2 marks. There should be two questions from each unit.

Section B (5 x 7 = 35 Marks)

Five either or type questions. Each question carries 7 marks. There should be one question from each unit.

Section C (3 x 15 = 45 Marks)

Answer any Three out of Five essay type questions. Each question carries 15 Marks. There must be one question from each unit.

Question Paper Pattern for CA

For Main Core theory papers, subject elective papers and Allied Physics theory papers

Maximum marks : 50

Section A (6 x 2 = 12 Marks)

Six short answer type questions in which a minimum of two questions should be problems. Each question carries 2 marks.

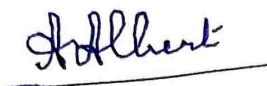
Section B (3 x 6 = 18 Marks)

Three either or type questions. Each question carries 6 marks.

Section C (2 x 10 = 20 Marks)

Answer any Two out of Three essay type questions. Each question carries 10 marks.

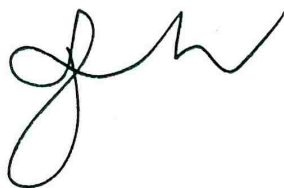
Dr. A. Albert Irudayaraj
Chairman



Dr. D. Jaikumar
University Nominee



Dr. J. Suresh
Subject Expert



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MADURAI - 625 011

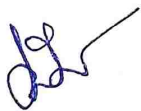
Mr. M. Selvam
Alumnus



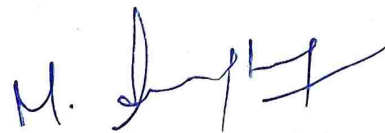
Mr. C. Tirupathi



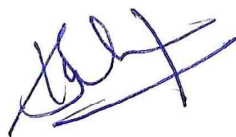
Mr. D. Daniel Lawrence



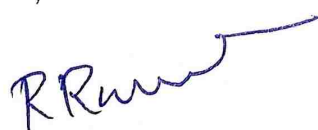
Mr. M. Aravinthraj



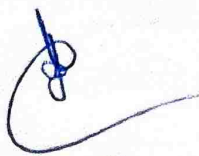
Dr. S. Kalaiarasi



Mr. R. Ramesh



Mr. D. Rajkumar



Dr. A. Dhayal Raj



Mr. N. Madhavan



Dr. M. Jose



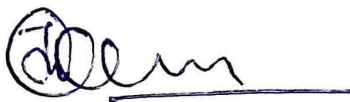
Dr. S. A. Martin Britto Dhas



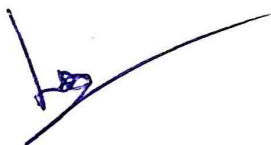
Rev. Dr. G. Theophil Anand



Mr. G. Jayakumar



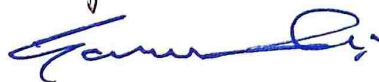
Mr. L. Anandaraj



Dr. S. John Sundaram



Rev. Dr. Gandhi Kalarasan



J. Deepan (Students representative)



J. Kamali (Students representative)



S. Deepika (Students representative)



S. Shasi Kumar (Students representative)



Department of Physics
Minutes of Meeting of Board of Studies in Physics (UG) held on 30-11-2020

A Meeting of the Board of studies in Physics (UG) was held on 30-11-2020 at 6.00 pm through Google Meet (On-line). The following members were present for the meeting.

Chairman: Dr. A. Albert Irudayaraj

Members:

Mr. C. Tirupathi

Mr. D. Daniel Lawrence

Mr. M. Aravinthraj

Dr. S. Kalaifarasi

Mr. R. Ramesh

Mr. D. Rajkumar

Dr. A. Dhayal Raj

Mr. N. Madhavan

Dr. M. Jose

Dr. S. A. Martin Britto Dhas

Mr. G. Jayakumar

Mr. L. Anandaraj

Dr.S.John Sundaram

University Nominee:

Dr. D. Jaikumar,
Head, Department of Physics,
Voorhees College, Vellore

Subject Expert:

Dr. J. Suresh
Principal & Associate Professor,
Department of Physics,
The Madura College (Autonomous), Madurai

Industrialist:

Mr. S. Naresh,
HR Representative II,
Caterpillar India Pvt. Ltd.,
Small Drivetrain Systems, Hosur.

Students representatives:

J. Deepan (AU180348), III B. Sc. Physics.

J. Kamali (AU180316), III B. Sc. Physics.

S. Deepika (BU180301), III B. Sc. Physics.

S. Shasi Kumar (AU180354), III B. Sc. Physics.

Following members expressed their inability to attend the meeting.

1. Rev. Dr. G. Theophil Anand
2. Rev. Dr. P. Gandhi Kallarasan
3. Mr. M. Selvam (Alumnus)

Agenda:

- To discuss and pass the program structure and the syllabi of courses in B. Sc. Physics (Main) curriculum, Non Major Elective Courses and the Allied Physics courses under choice based credit system for the students admitted during 2017-'18 and thereafter.
- To discuss and pass the program structure of B. Sc. Physics (Main) curriculum and the Title of the courses in B. Sc. Physics (Main) curriculum, Non Major Elective Courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

Resolution:

1. Considered the program structure and the syllabi of courses in B. Sc. Physics (Main) curriculum, Non Major Elective Courses and the Allied Physics courses under choice based credit system for the students admitted during 2017-'18 and thereafter.

After due deliberations and detailed discussion, it was resolved to adopt the existing program structure and the syllabi of courses in B. Sc. Physics(Main) curriculum, Non Major Elective Courses and the Allied Physics courses under choice based credit system for the students admitted during 2017-'18 and thereafter.

2. Considered the programme structure of B. Sc. Physics (Main) curriculum and the Title of the courses in B. Sc. Physics (Main) curriculum, Non Major Elective Courses and the Allied Physics courses under choice based credit system for the students to be admitted during 2021-'22 and thereafter.

After due deliberations and detailed discussion, it was decided to adopt the following programme structure and the following courses/subjects in B.Sc. Physics curriculum under choice based credit system for the students to be admitted during the academic year 2021-'22 and thereafter.

Programme structure of B.Sc. Physics under CBCS

to be followed from 2021-'22 onwards

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| I | Main Core | Mechanics | 3 | 3 | 50 | 50 |
| | Main Core | Properties of matter | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – I | 4 | 4 | 50 | 50 |
| | Allied | Allied Mathematics - I | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | | Communicative English | - | 1 | 50 | 50 |
| | Life Education | Personal Skills | 2 | 1 | 50 | 50 |
| | | Christian Religion–1 / Value Education-1 | 2 | 1 | 50 | 50 |
| TOTAL | | | 30 | 23 | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| II | Main Core | Heat and Thermodynamics | 3 | 3 | 50 | 50 |
| | Main Core | Waves and Oscillations | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – I | 4 | 4 | 50 | 50 |
| | Allied | Allied Mathematics – II | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | | Communicative English | | 1 | 50 | 50 |
| | Life Education | Social Skills | 2 | 1 | 50 | 50 |
| | | Christian Religion-2/Value Education-2 | 2 | 1 | 50 | 50 |
| TOTAL | | | 30 | 23 | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------------|--|----------------|-------------------|-------|-----|
| | | | | | CA | Sem |
| III | Main Core | Electricity and Magnetism | 3 | 3 | 50 | 50 |
| | Main Core | Optics | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – II | 4 | 4 | 50 | 50 |
| | Allied | Allied Chemistry –I | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | Life Education | Employability Skills –1 | 2 | 1 | 50 | 50 |
| | | Environmental Science | 2 | 1 | 50 | 50 |
| | Extra credit Course | 1. Special Project- I 2. NPTEL online courses | - | 2 [#] | - | 100 |
| TOTAL | | | 30 | 22+2 [#] | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|----------|-------------------------|--|----------------|-------------------|-------|-----|
| | | | | | CA | Sem |
| IV | Main Core | Modern Physics | 3 | 3 | 50 | 50 |
| | Main Core | Electromagnetism | 3 | 3 | 50 | 50 |
| | Main Core Practicals | Physics Main Practicals – II | 4 | 4 | 50 | 50 |
| | Allied | Allied Chemistry –II | 6 | 4 | 50 | 50 |
| | Language | Tamil | 5 | 3 | 50 | 50 |
| | Language | General English | 5 | 3 | 50 | 50 |
| | Life Education | Employability Skills –2 | 2 | 1 | 50 | 50 |
| | | Human Rights | 2 | 1 | 50 | 50 |
| | Extra Credit Course | 1. Special Project II (Repair and Maintenance of Lab Equipments) 2. Internship | - | 2 [#] | | 100 |
| | Extension | Outreach program | - | 2 | | |
| SHELTERS | | - | 2 | | | |
| TOTAL | | | 30 | 26+2 [#] | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-----------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| V | Main Core | Classical mechanics and Statistical Physics | 4 | 4 | 50 | 50 |
| | Main Core | Semiconductor devices and their Applications | 4 | 4 | 50 | 50 |
| | Main Core | Solid State Physics | 4 | 4 | 50 | 50 |
| | Main Core | Mathematical Physics | 4 | 4 | 50 | 50 |
| | Main Core | Physics Main Practicals – III(General experiments) | 3 | 3 | 50 | 50 |
| | Main Core | Physics Main Practicals – IV(Electronic experiments) | 3 | 3 | 50 | 50 |
| | Subject Elective | 1. Nanomaterials and their applications 2. Electronic communication systems 3. Renewable Energy and Energy Harvesting | 3 | 2 | 50 | 50 |
| | Subject Elective | 1. Programming in C 2. 8085 Microprocessor and its applications 3. Medical Physics | 3 | 2 | 50 | 50 |
| | Self-Study Paper | 1. Astrophysics 2. Laser Physics and Fiber Optics | – | 1* | - | 100 |
| | Non-Major Elective | Offered by other departments | 2 | 1 | 50 | 50 |
| TOTAL | | | 30 | 27+1* | | |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|--------------------|---|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| VI | Main Core | Applied Electronics | 5 | 5 | 50 | 50 |
| | Main Core | Nuclear and Particle Physics | 5 | 5 | 50 | 50 |
| | Main Core | Quantum Mechanics and Relativity | 4 | 4 | 50 | 50 |
| | Main Core | Physics Main Practicals – III (General experiments) | 2 | 2 | 50 | 50 |
| | Main Core | Physics Main Practicals – IV (Electronic experiments) | 2 | 2 | 50 | 50 |
| | Subject skill | Electrical circuits and Networks | 5 | 4 | 50 | 50 |
| | Subject skill | Basic Instrumentation | 5 | 4 | 50 | 50 |
| | Self-Study Paper | Physics Revisited | – | 1* | - | 100 |
| | Non-Major Elective | Offered by other departments | 2 | 1 | 50 | 50 |
| Total | | | 30 | 27+1* | | |

| Semester | I | II | III | IV | V | VI | TOTAL |
|----------|----|----|-------------------|-------------------|-------|-------|------------------------|
| Hours | 30 | 30 | 30 | 30 | 30 | 30 | 180 |
| Credits | 23 | 23 | 22+2 [#] | 26+2 [#] | 27+1* | 27+1* | 148+4 [#] +2* |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-----|--------------------|---|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| V | Non-Major Elective | Repair and Maintenance of Household Appliances (offered by Physics department to other department students) | 2 | 1 | 50 | 50 |
| VI | Non-Major Elective | Physics in Everyday Life (offered by Physics department to other department students) | 2 | 1 | 50 | 50 |

| Sem | Paper | Title of the Paper | Hours/ Week | Credits | Marks | |
|-------|-------------------|--|----------------|---------|-------|-----|
| | | | | | CA | Sem |
| I | Allied -I | Allied Physics for Mathematics I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Mathematics | 2 | 1 | 50 | 50 |
| II | Allied -II | Allied Physics for Mathematics II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Mathematics | 2 | 1 | 50 | 50 |
| III | Allied -I | Allied Physics for Chemistry I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Chemistry | 2 | 1 | 50 | 50 |
| IV | Allied -II | Allied Physics for Chemistry II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Chemistry | 2 | 1 | 50 | 50 |
| III | Allied -I | Allied Physics for Computer Science I | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Computer Science | 2 | 1 | 50 | 50 |
| IV | Allied -II | Allied Physics for Computer Science II | 4 | 3 | 50 | 50 |
| | Allied practicals | Allied Physics practicals for Computer Science | 2 | 1 | 50 | 50 |
| Total | | | 36 | 24 | | |

Following suggestions were given by the members and they will be considered during next syllabus revision in 2021-'22.

1. Dr. J. Suresh (subject expert) said that the program structure and syllabi of courses given by TANCHE should be considered and the concept of outcome based education should be kept in mind while designing the curriculum.
2. Dr. D. Jaikumar (University nominee) suggested that the Credits allotted for each course should be such that it does not exceed the the number of hours of class/week.

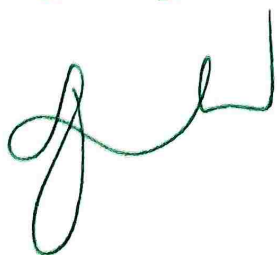
Dr. A. Albert Irudayaraj
Chairman



Dr. D. Jaikumar
University Nominee

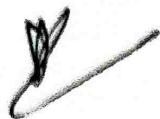


Dr. J. Suresh
Subject Expert



PRINCIPAL
THE MADURA COLLEGE (Autonomous)
MADURAI - 625 011

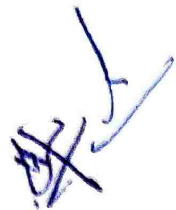
Mr. C. Tirupathi



Mr. D. Daniel Lawrence



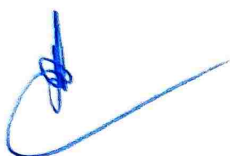
Mr. M. Aravinthraj



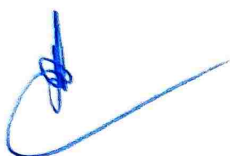
Dr. S. Kalaiarasi



Mr. R. Ramesh



Mr. D. Rajkumar



Dr. A. Dhayal Raj




Mr. N. Madhavan



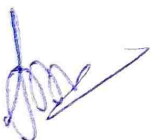
Dr. M. Jose



Dr. S. A. Martin Britto Dhas



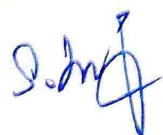
Mr. G. Jayakumar



Mr. L. Anandaraj



Dr. S. John Sundaram



J. Deepan (Students representative)

J. Deepan

J. Kamali (Students representative)

J. Kamali

S. Deepika (Students representative)

S. Deepika

S. Shasi Kumar (Students representative)

S. Shashi Kumar