



# **SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE**

(An Autonomous Institution)

(Approved by AICTE, New Delhi and Affiliated to Pondicherry University)  
(Accredited by NAAC with 'A' Grade and Accredited by NBA-AICTE, New Delhi)  
Madagadipet, Puducherry



*Sixth Meeting of the Board of Studies*

*Department of Physics*

for the Programme

**B.Sc. Physics**

*Venue*

Physics lab, SAS Block

Sri Manakula Vinayagar Engineering College

Madagadipet, Puducherry – 605 107

*Date & Time*

*26.05.2023 & 10.00 A.M*



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## Minutes of Board of Studies

The Sixth Meeting of the Board of Studies of the Department of Physics was held on Friday, the **26<sup>th</sup> May 2023 at 10.00 am** in the Physics Lab, SAS Block, Sri Manakula Vinayagar Engineering College with the Head of the Department in the chair.

The following members were present for the BoS meeting

Sl.No	Name of the Member with Designation and official Address	Responsibility in the BoS
1	<b>Dr. T. Jayavarthanam</b> , M.Sc., M.Phil., Ph.D. Professor Department of Physics, SMVEC	Chairman
<b>External Members</b>		
2	<b>Dr. B. J. Kalaiselvi</b> , M.Sc., M.Tech., Ph.D Professor, Department of Physics, Pondicherry Engineering College, Puducherry-605014	Pondicherry University Nominee
3	<b>Dr. S. Senthilnathan</b> , M.Sc., M.Phil., Ph.D. Professor, Department of Physics University college of Engineering, Pattukottai	Academic Council Nominee
4	<b>Dr. D. Manikandan</b> , M.Sc., M.Phil., Ph.D. Assistant Professor, Arignar Anna Govt Arts College, Villupuram	Academic Council Nominee
5	<b>Mr. J. Bagairathan</b> , M.Sc., M.Tech Manager, L.G. balakrishnan & brothers Ltd	Industrial Nominee
<b>Internal Members</b>		
1	Mr. K. Oudayakumar. M.Sc., M.Tech., (Ph.D)	Member
2	Ms. S. Geetha M.Sc., M.Phil., B.Ed.	Member
3	Dr. K. Samuvel M.Sc., M.Phil., Ph.D	Member
<b>Co-opted Members</b>		
1	Dr.M.A. Ishrath Jahan M.A., M.Phil., Ph.D	Member
2	Dr. S. Savithri M.Sc., M.Phil., Ph.D	Member
3	Mr.M. Krishnamoorthy ,M.Sc.,M.Phil	Member

## AGENDA OF THE MEETING

<b>BOS/2023/SAS/PH U.G/P.G / 6.1</b>	Welcome Address, Introduction about the Institution, Department and BoS Members
<b>6.2</b>	Confirmation of Minutes of the Fifth Meeting of the Board of Studies.
<b>6.3</b>	To discuss and approve B.Sc. Physics Curriculum (I-VI Semester) and Syllabi (I – Semester) under R-2023 regulation
<b>6.4</b>	To discuss and recommend <ul style="list-style-type: none"> <li>❖ Project area of the third year students</li> <li>❖ Placement Training for the Final Year Students</li> </ul>
<b>6.5</b>	To discuss and approve M.Sc. Physics Curriculum (I-IV Semester) and Syllabi (I – Semester) under R-2023 regulation
<b>6.6</b>	Discussion of the following as in the Regulation - 2023 of School of Arts and Science <ul style="list-style-type: none"> <li>❖ Admission eligibility criteria / norms to enroll as student in the specific programme as prescribed by UGC</li> <li>❖ Conduct of Internal assessment test, model practical exams, award of internal assessment /Re Earn / Improvement / Evaluation Procedures.</li> <li>❖ Value added Courses</li> <li>❖ Department research activities</li> </ul> Professional Bodies activities and its outcome
<b>6.7</b>	Any other item with the permission of the Chair

The Chairman proceeded with the presentation to deliberate on agenda items.

<b>BOS /2023/ SAS /PH/ UG /6.1</b>	<b>Welcome Address, Introduction about the Institution, Department and BOS Members</b>
	<ul style="list-style-type: none"> <li>❖ The Chairman of the meeting formally welcomed the hon'ble members of the Board and introduced them the credentials of the Institution and of the Department.</li> <li>❖ The attainments and awards of the Institution have been briefed for the benefit of the members of the Board.</li> <li>❖ The members have expressed their appreciations for the achievements of the Institution, the Department and students who placed in the Campus.</li> </ul>

6.2

**Confirmation of Minutes of the BoS-5<sup>th</sup> Meeting held on 01.09.2022**

The BoS- 5<sup>th</sup> Meeting for B.Sc. Physics under regulation 2020 held on 01-09-2022 confirmed the following points.

The BOS members discussed elaborately and reviewed the Syllabi of Semesters V to VI and suggested the following points,

- BoS members was satisfied with the Changes made in V & VI semesters as per discussion carried in the Fifth BoS
- The Board suggested to take the students for industrial visit as per the theory papers they are studying in that semesters
- The Board suggested to pair the students in a group and to give separate field for each group like electronics, basis of nano-materials, optical and electrical properties etc. to come out with recent advancement in each fields.
- Suggested to make the students to write a project article based on their project work and make them to publish in the journal

Further BOS members suggested signing MOUs with industries in order to ensure practical understanding of theory learning.

**Minutes were Reviewed and Confirmed**

6.3

**To discuss and approve B.Sc. Physics Curriculum (I-VI Semester) and Syllabi (I – Semester) under R-2023 regulation**

The BOS members discussed elaborately B.Sc Physics Curriculum (I-VI) and Syllabi of I Semester and they suggested the following points,

- Boards of Study members were satisfied with the uniqueness of the R-2023 Curriculum structure and I Semester Syllabi.
- The Board members appreciated the Internship procedures and parameters for IV Semester Students.
- They suggested few modifications in the revised curriculum and syllabi (I – Semester) as per Autonomous Regulation –2023 and the same had been approved by the board members.






**Suggestion given below**

Sl. No	Regulation	Semester	Course Title with Course code	Suggested
1	2023	III	Open Elective I	Board Members suggested to add the below syllabi for Open Elective I - 1. Everyday Physics 2. Basic of Electrical Circuits 3. Historical Physics
2	2023	IV	Open Elective II	Board Members suggested to add the below syllabi for Open Elective II - 1. Instrumentation Physics 2. Electrical Wiring 3. Basic of Nanomaterials

6.4	<p><b>To discuss and recommend</b></p> <ul style="list-style-type: none"> <li>❖ <b>Project area of the third-year students</b></li> <li>❖ <b>Placement Training for the Final Year Students</b></li> </ul> <ul style="list-style-type: none"> <li>➤ The Board suggested to take the students for Industrial Visit based on the core papers that are studying on that semester</li> <li>➤ The Board recommended providing distinctive fields in Physics like Electronics, Basis of Nano-Materials, Optical and Electrical properties to identify and bring out the recent trends and advancement in each field either as a group activity or individual activity.</li> <li>➤ Members stressed to equip and develop research skills and project skills by inculcating themselves in Article writing, Research writing, and Journal writing.</li> <li>➤ Further BOS members suggested signing MOUs with industries in order to ensure practical understanding of theory learning.</li> </ul>
6.5	<p><b>To discuss and approve M.Sc. Physics Curriculum (I-IV Semester) and Syllabi (I – Semester) under R-2023 regulation</b></p> <p>Board Chairman presented M.Sc. Physics Curriculum (I-IV Semester) and Syllabi (I – Semester) as per Autonomous Regulation – 2023</p> <ul style="list-style-type: none"> <li>➤ The BoS members appreciated M.Sc. Physics Curriculum (I-IV Semester) and Syllabi (I – Semester).</li> <li>➤ Members suggested few modifications in the M.Sc. Physics Curriculum and I Semester Syllabi, and the same had been approved by the board members.</li> <li>➤ Board Members suggested to include non-major courses as Inter discipline syllabi</li> </ul> <p><b>The details are given in Annexure - II</b></p>
6.6	<p><b>Discussion of the following as in the Regulation 2023 of School of Arts and Science</b></p> <ul style="list-style-type: none"> <li>❖ Admission eligibility criteria / norms to enroll as student in the specific programme as prescribed by UGC</li> <li>❖ Conduct of Internal assessment test, model practical exams, award of internal assessment /Re Earn / Improvement / Evaluation Procedures.</li> <li>❖ Value added Courses</li> <li>❖ Department research activities</li> <li>❖ Professional Bodies activities and its outcome</li> </ul> <p>The Board members appreciated and approved the above mentioned</p>
6.7	<p><b>Any other Item with the permission of chair</b></p> <ul style="list-style-type: none"> <li>➤ Members of the BOS proposed offering online courses like NPTEL and MOOCs.</li> <li>➤ Members of BOS advised that honor's degree for students majoring in B.Sc., and M.Sc., should be prioritized.</li> </ul>

The Board of Studies approved the above suggestions for B.Sc. Physics and M.Sc. Physics. The meeting was concluded at 11:45 am with vote of thanks by Dr.T.Jayavarthanan, Professor Department of Physics.

Minutes of the sixth Meeting of the Board of studies held on 26.05.2023 is signed by the members who attended the meeting.

Sl.No	Name of the Member with Designation and official Address	Responsibility in the BoS	Signature
1	<b>Dr. T. Jayavarthanam</b> , M.Sc., M.Phil., Ph.D. Professor Department of Physics, SMVEC	Chairman	
<b>External Members</b>			
2	<b>Dr. B. J. Kalaiselvi</b> , M.Sc., M.Tech., Ph.D Professor, Department of Physics, Pondicherry Engineering College, Puducherry-605014	Pondicherry University Nominee	
3	<b>Dr. S. Senthilnathan</b> , M.Sc., M.Phil., Ph.D. Professor, Department of Physics University college of Engineering, Pattukottai	Academic Council Nominee	
4	<b>Dr. D. Manikandan</b> , M.Sc., M.Phil., Ph.D. Assistant Professor, Arignar Anna Govt Arts College, Villupuram	Academic Council Nominee	
5	<b>Mr. J. Bagairathan</b> , M.Sc., M.Tech Manager, L.G. balakrishnan & brothers Ltd	Industrial Nominee	
<b>Internal Members</b>			
1	Mr. K. Oudayakumar. M.Sc., M.Tech	Member	
2	Dr. K. Samuvel M.Sc., M.Phil., Ph.D	Member	
3	Ms. S. Geetha M.Sc., M.Phil., B.Ed.	Member	
<b>Co-opted Members</b>			
1	Dr.M.A.Ishrath Jahan M.A., M.Phil., Ph.D	Member	
2	Dr. S. Savithri, M.Sc., M.Phil., Ph.D	Member	
3	Mr.Krishnamoorthy, M.Sc.,M.Phil	Member	

**DEAN SAS**  
(Dr.S.Muthulakshmi)

**Dr.T.Jayavarthanam**  
Professor / Physics  
Chairman –BOS



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## **SCHOOL OF ARTS AND SCIENCE**

### **Department of Physics**

#### **Curriculum (I – VI Semesters)**

#### **Syllabi (I - Semester)**

#### **Annexure – I**

SEMESTER – I										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23XXT101C	Language - I*	<b>MIL</b>	3	0	0	3	25	75	100
2	A23GET101C	General English I	<b>English</b>	3	0	0	3	25	75	100
3	A23PHT101D	Mechanics and Properties of Matter	<b>DSC</b>	4	0	0	4	25	75	100
4	A23PHT102D	Thermal Physics	<b>DSC</b>	4	0	0	4	25	75	100
5	A23MAD101C	Allied Mathematics – I	<b>IDC</b>	3	1	0	4	25	75	100
<b>Practical</b>										
6	A23PHL101D	Physics Practical – I	<b>DSC</b>	0	0	4	2	50	50	100
<b>Skilled Enhancement Courses</b>										
7	A23ENSA02C	Soft Skills	<b>SEC</b>	0	0	4	2	100	0	100
<b>Ability Enhancement Course</b>										
8	A23AETA01C	Public administration	<b>AEC</b>	2	0	0	1	100	0	100
<b>Employability Enhancement Course</b>										
9	A23PHC101D	Certification Course - I	<b>EEC</b>	2	0	0	0	100	0	100
<b>First Semester Total</b>							23	475	425	900

*\*Modern Indian Languages are to be selected from the list given in Annexure I*



SEMESTER – II										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23XXT202C	Language -II*	<b>MIL</b>	3	0	0	3	25	75	100
2	A23GET202C	General English II	<b>English</b>	3	0	0	3	25	75	100
3	A23PHT203D	Electricity and Magnetism	<b>DSC</b>	4	0	0	4	25	75	100
4	A23PHT204D	Optics	<b>DSC</b>	4	0	0	4	25	75	100
5	A23MAD202C	Allied Mathematics II	<b>IDC</b>	3	1	0	4	25	75	100
<b>Practical</b>										
6	A23PHL202D	Physics Practical II	<b>DSC</b>	0	0	4	2	50	50	100
<b>Skilled Enhancement Courses</b>										
7	A23ENSA01C	Communication Skills lab	<b>SEC</b>	0	0	4	2	100	0	100
<b>Ability Enhancement Course</b>										
8	A23AETA02C	Environmental Studies	<b>AEC</b>	2	0	0	1	100	0	100
<b>Employability Enhancement Course</b>										
9	A23PHC202D	Certification Course - II	<b>EEC</b>	2	0	2	0	100	0	100
<b>Extension Activity</b>										
10	A23EAS201C	National Service Scheme	<b>EA</b>	0	0	2	0	100	0	100
<b>Semester Total</b>							23	575	425	1000

*\*Modern Indian Languages are to be selected from the list given in Annexure I*

SEMESTER – III										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23PHT305D	Waves, Oscillations and Acoustics	<b>DSC</b>	3	1	0	4	25	75	100
2	A23PHT306D	Basic Electronics	<b>DSC</b>	3	1	0	4	25	75	100
3	A23PHEXXXD	Discipline Specific Elective- I*	<b>DSE</b>	3	1	0	4	25	75	100
4	A23CHD304C	Allied Chemistry – I	<b>IDC</b>	3	1	0	4	25	75	100
5	A23XO30XC	Open Elective – I**	<b>OE</b>	2	0	0	2	25	75	100
<b>Practical</b>										
6	A23PHL303D	Physics Practical III	<b>DSC</b>	0	0	4	2	50	50	100
7	A23CHI304C	Allied Chemistry Practical I	<b>IDC</b>	0	0	4	2	50	50	100
<b>Skilled Enhancement Courses</b>										
8	A23MASA01C	Quantitative Aptitude and Logical Reasoning	<b>SEC</b>	2	0	0	2	100	0	100
<b>Ability Enhancement Course</b>										
9	A23AETA03C	Indian Constitution	<b>AEC</b>	2	0	0	1	100	0	100
<b>Employability Enhancement Course</b>										
10	A23PHC303D	Certification Course - III	<b>EEC</b>	2	0	2	0	100	0	100
<b>Third Semester Total</b>							25	525	475	1000

**\*\*Discipline Specific Electives are to be selected from the list given in Annexure II**

**\*\*\*Open electives are to be selected from the list given in Annexure III**

SEMESTER – IV										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23PHT407D	Applied Electronics	<b>DSC</b>	3	1	0	4	25	75	100
2	A23PHT408D	Laser and Fiber Optics Communication	<b>DSC</b>	3	1	0	4	25	75	100
3	A23PHEXXXD	Discipline Specific Elective-II*	<b>DSE</b>	3	1	0	4	25	75	100
4	A23CHD405C	Allied Chemistry – II	<b>IDC</b>	3	1	0	4	25	75	100
5	A23XXO40XC	Open Elective – II**	<b>OE</b>	2	0	0	2	25	75	100
<b>Practical</b>										
6	A23PHL404D	Physics Practical IV	<b>DSC</b>	0	0	4	2	50	50	100
7	A23CHI405C	Allied Chemistry Practical II	<b>IDC</b>	0	0	4	2	50	50	100
<b>Internship</b>										
8	A23PHN401D	Internship / In-plant training	<b>DSC</b>	0	0	6	3	40	60	100
<b>Skilled Enhancement Courses</b>										
9	A23PHS401D	Essentials of Electricity	<b>SEC</b>	2	0	0	2	100	0	100
<b>Ability Enhancement Course</b>										
10	A23AETA04C	Value Education	<b>AEC</b>	2	0	0	1	100		100
<b>Employability Enhancement Course</b>										
11	A23PHC404D	Certification Course - IV	<b>EEC</b>	2	0	2	0	100	0	100
<b>Fourth Semester Total</b>							28	565	535	1100

**\*\*Discipline Specific Electives are to be selected from the list given in Annexure II**

**\*\*\*Open electives are to be selected from the list given in Annexure III**

SEMESTER – V										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23PHT509D	Atomic and Molecular Spectroscopy	<b>DSC</b>	3	1	0	4	25	75	100
2	A23PHT510D	Solid state Physics	<b>DSC</b>	3	1	0	4	25	75	100
3	A23PHT511D	Relativity and Quantum Mechanics	<b>DSC</b>	3	1	0	4	25	75	100
4	A23PHEXXXD	Discipline Specific Elective-III**	<b>DSE</b>	3	1	0	4	25	75	100
<b>Practical</b>										
5	A23PHL505D	Physics Practical V	<b>DSC</b>	0	0	4	2	50	50	100
6	A23PHL506D	Physics Practical VI	<b>DSC</b>	0	0	4	2	50	50	100
<b>Skilled Enhancement Course</b>										
7	A23PHS502D	Research Methodology for Physics	<b>SEC</b>	2	0	0	2	100	0	100
<b>Online Certificate Course</b>										
8	A23PHM501D	MOOC – Certificate Course	<b>OCC</b>	0	0	2	0	100	0	100
<b>Fifth Semester Total</b>							22	400	400	800

**\*\*Discipline Specific Electives are to be selected from the list given in Annexure II**

SEMESTER – VI										
Sl. No.	Course Code	Course Title	Category	Periods			Credits	Max. Marks		
				L	T	P		CAM	ESM	Total
<b>Theory</b>										
1	A23PHT612D	Nuclear& Radiation Physics	<b>DSC</b>	3	1	0	4	25	75	100
2	A23PHT613D	Semiconductor Device	<b>DSC</b>	3	1	0	4	25	75	100
3	A23PHEXXXD	Discipline Specific Elective – IV**	<b>DSE</b>	3	1	0	4	25	75	100
<b>Practical</b>										
4	A23PHL607D	Physics Practical VII	<b>DSC</b>	0	0	4	2	50	50	100
5	A23PHL608D	Physics Practical VIII	<b>DSC</b>	0	0	4	2	50	50	100
<b>Project</b>										
6	A23PHP601D	Project	<b>DSC</b>	0	0	10	5	40	60	100
<b>Skilled Enhancement Course</b>										
7	A23PHS603D	Weather Forecasting	<b>SEC</b>	2	0	0	2	100	0	100
<b>Sixth Semester Total</b>							23	315	385	700

**\*\*Discipline Specific Electives are to be selected from the list given in Annexure II**

**Annexure – I**  
**Modern Indian Languages\***  
**(For those who are admitted from ay 2021-22)**

<b>Language - I Offered in First Semester</b>		
<b>Sl.No</b>	<b>Course Code</b>	<b>Course Title</b>
1	A23TAT101C	Tamil - I
2	A23FRT101C	French - I
<b>Language - II Offered in Second Semester</b>		
<b>Sl.No</b>	<b>Course Code</b>	<b>Course Title</b>
1	A23TAT202C	Tamil - II
2	A23FRT202C	French - II

**Annexure – II**  
**DISCIPLINE SPECIFIC ELECTIVE COURSES\*\***

<b>Discipline Specific Elective – I (Offered in Semester III)</b>		
<b>Sl. No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A23PHE301D	Materials Science
2	A23PHE302D	Physics for electronic devices
3	A23PHE303D	Microprocessor
<b>Discipline Specific Elective – II (Offered in Semester IV)</b>		
1	A23PHE404D	Medical Physics
2	A23PHE405D	Energy Physics
3	A23PHE406D	Agricultural Physics
<b>Discipline Specific Elective – III (Offered in Semester V)</b>		
1	A23PHE507D	Digital Electronics
2	A23PHE508D	Mathematical Physics
3	A23PHE509D	Nanomaterial
<b>Discipline Specific Elective – IV (Offered in Semester VI)</b>		
<b>Sl. No.</b>	<b>Course Code</b>	<b>Course Title</b>
1	A23PHE610D	Astronomy and Astrophysics
2	A23PHE611D	Geo Physics
3	A23PHE612D	Numerical Methods & Basic Computer Programming

**Annexure – III**  
**OPEN ELECTIVE COURSES\*\*\***

<b>Open Elective – I (Offered in Semester III)</b>			
<b>Sl. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Permitted Departments</b>
1	A23PHO301C	Everyday Physics	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology
2	A23PHO302C	Basics of Electrical Circuit	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology
3	A23PHO303C	Historical Physics	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology
<b>Open Elective – II (Offered in Semester IV)</b>			
1	A23PHO404C	Instrumentation Physics	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology
2	A23PHO405C	Electrical Wiring	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology
3	A23PHO406C	Basic of nanomaterials	Chemistry, Computational studies, Mathematics, Media studies, Bio-Technology