



**DEPARTMENT OF PHYSICS**  
**HOLY CROSS COLLEGE (Autonomous), NAGERCOIL.**  
(Affiliated to Manonmaniam Sundaranar University, Tirunelveli.)  
Kanyakumari District, Tamil Nadu, India.



Minutes of the Board of Studies meeting of the Department of Physics held on 04-02-2019, 10 am

Ref. No. PHY / BOS / 2018 – 2019 / XIII

Minutes of the meeting of the Board of Studies in the Department of physics held on 04-02-2019, 10 am at Holy Cross College (Autonomous), Nagercoil – 629 004.

The following are the members:

1. **Dr. S. Mary Delphine,**  
Head of the Department,  
Holy Cross College (Autonomous),  
Nagercoil.

**University Nominee**

2. **Dr. Paulraj,**  
Associate Professor,  
Department of Physics,  
St. Xavier's College,  
Palayamkottai  
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**Subject Experts:**

3. **S.Arulmozhi Packia Seeli,**  
Associate Professor,  
Fatima College,  
Madurai.  
Ph:9443475489

4. **Dr. C. James,**  
Assistant Professor,  
Department of Physics,  
Scott Christian College,  
Nagercoil.  
Ph: 9443746555

**Alumnus:**

5. **Ms. S. Virgin Jeba,**  
941, Rajakkamangalam Road,

Punnai nagar,  
Nagerecoil - 4,  
Ph: 9489324913

**Members:**

1. Dr. S. Mary Delphine
2. Dr. M. Mary Freeda
3. Dr. Fernando Loretta
4. Dr. Thresiamma Chacko
5. Dr. C. Nirmala Louis
6. Dr. V. Shally
7. Dr. M. Priyadharshini
8. Dr. A. Lesly Fathima
9. Dr. R. Krishna Priya
10. Ms. Abila Jeba Queen
11. Dr. S. Sonia
12. Ms. P. Aji Udhaya

**Student Representatives**

- P. Abisha  
S. Anne Kavitha

**Agenda**

1. Prayer
2. Welcome by the Chair Person
3. Reading of the minutes of the previous meeting
4. Restructuring / Revision of curriculum of UG
5. Changes / Modification of Curriculum
6. Classification of New courses
7. Classification of courses as Employability/ Entrepreneurship / Skill Development
8. Classification of the courses as Local / National / Regional / Global.
9. Classification of the courses as Cross cutting Issues Gender Equity / Environment  
and Sustainability / Human Values / Professional Ethics

10. List of Value Added course
11. Online Course (offer online course like MOOC as a Self-learning course)
12. New measures to be undertaken by the department
13. Feedback and action Taken
14. Next Meeting of BOS
15. Vote of thanks
16. Any other

The meeting commenced with a prayer song after which the HOD introduced the Board members with warm words of welcome. The following items in the Agenda were discussed by the members of the Board.

**Item 1/BoS 04.02/3: Approval of the minutes of the previous meeting**

Dr. C.Nirmala Louis read the minutes and was approved by the members

**Item 2/BoS 04.02/4: Restructuring /Revision of curriculum for V and VI semesters UG Programme**

The curriculum was framed after analyzed the feedback from the stakeholders.

The overall structure of the curriculum framed in 2017 was accepted by the board with the following modifications.

1. For the 2017 – 2020 batch, according to UGC guidelines a new paper titled “Elements of modern Physics” (PC1751) is introduced in Semester V as a Core Paper. This is approved by the board.
2. Change the title of the paper “Optics” of Semester V to “Waves and Optics” (PC1752). Also the content should be modified according to the number of hours allotted.
  - (i) Exclude the topic Direct Vision Spectroscope form the first unit.
  - (ii) Exclude the portion from Transverse nature of plane waves in unit – II
  - (iii) In unit – IV, remove the portions from zone plate.
3. In semester V, the paper titled “Programming with C++” (PC1754), a new chapter should be framed from the same reference book as unit – I.
  - (i) In unit V, few protions in the file stream operations are excluded.
4. In the paper “Digital Systems and Applications” (PC1762) in Semester VI, the topics Binary ladder, R-2R ladder have to be included in unit V from the book Digital Principles and Applications by Malvino and Leach.
  - (i) Exclude the portion from Differential Instrumentation Amplifier
5. In the M.Phil Paper “Research Trends in Nanoscience and Technology (Indepth), unit V should replaced by reprints.
6. The feedback of the stake Holders were analysed Resolved that the syllabus of V and VI semester and M.Phil Physics is approved by the members of Board of Studies.



### Courses offered

Semester	Course	Subject code	Paper	Hours/ week	Credits	
I	Part I	TL1711/ FL1711	Language: Tamil / French	6	3	
	Part II	GE1711	General English	6	3	
	Part III	PC1711	Major Core I - Mechanics and Properties of Matter	4	4	
		PC17P1	Major Practical I - Physics Lab I	2	-	
		AP1711	Allied I – Allied Physics – I (for I B.Sc Maths)	4	4	
		AP17P1	Allied Practical – General Physics Lab	2	-	
	Part IV	AEC171	AECC – Ability Enhancement Compulsory Course: English Communication	2	2	
		PNM171	NMEC – Everyday Physics I	4	3	
		VEC172	Foundation Course I – Values for Life	-	-	
	Part V	SDP172	Skill Development Programme (SDP) – Certificate course	-	-	
		STP174	Student Training Programme (STP) – Clubs and Committees/NSS	-	-	
	II	Part I	TL1721/ FL1721	Language: Tamil / French	6	3
		Part II	GE1721	General English	6	3
Part III		PC1721	Major Core II –Thermal Physics Sound	4	4	
		PC17P1	Major Practical I - Physics Lab I	-	2	
		PC17P2	Major Practical II - Physics Lab II	2	2	
		AP1721	Allied I – Allied Physics - II (for I B.Sc Maths)	4	4	
		AP17P1	Allied Practical – General Physics Lab	2	2	
Part IV		AEC172	AECC – Ability Enhancement Compulsory Course: Environmental Studies	2	2	
		PNM172	NMEC – Every Day Physics II	4	3	
		VEC172	Foundation Course I – Values for Life	-	1	
Part V		SDP172	Skill Development Programme (SDP) – Certificate	-	1	

			course		
		STP174	Student Training Programme (STP) – Clubs and Committees / NSS	-	-
III	Part I	TL1731/ FL1731	Language: Tamil / French	6	3
	Part II	GE1731	General English	6	3
	Part III	PC1731	Major Core III – Electricity and Magnetism	4	4
		PC1732	Major – Elective - I	4	4
		PC1733	(a) Non conventional Energy sources		
		PC1734	(b) Medical Physics		
			(c) Physics of the earth		
		PC17P3	Major Practical III - Physics Lab III	2	-
		AP1731	Allied II – Allied Physics - I (for II B.Sc Chemistry)	4	4
		AP17P1	Allied Practical – General Physics Lab	2	-
	Part IV	SBC173/ SBC174	SBC – Yoga / Computer Education	2	2
		VEC174	Foundation Course II – Personality Development	-	-
	Part V	STP174	Student Training Programme (STP) – Clubs and Committees / NSS	-	-
		SLP173	Service Learning Programme (SLP) Extension Activities (RUN)	-	1
IV	Part I	TC1741/ FL1741	Language: Tamil / French	6	3
	Part II	GE1742	General English	6	3
	Part III	PC1741	Major Core IV – Analog System and Application	4	4
		PC1742	Major – Elective - II	4	4
		PC1743	(a) Fibre Optics		
		PC1744	(b) Microprocessor		
			(c) Communication System		
		PC17P3	Major Practical III - Physics Lab III	-	2
		PC17P4	Major Practical IV - Physics Lab IV	2	2
AP1741	Allied II – Allied Physics - II (for II B.Sc	4	4		

		Chemistry)			
		API7P1	Allied Practical – General Physics Lab	2	2
	Part IV	SBC173/ SBC174	SBC – Yoga / Computer Literacy	2	2
		VEC174	Foundation Course II – Personality Development	-	1
	Part V	STP174	Student Training Programme (STP) - Clubs and Committees/NSS	-	1
V	Part III	PC1751	Major Core V - Element of Modern Physics	6	6
		PC1752	Major Core VI - Optics	6	6
		PC1753	Major Core VII - Solid State Physics	5	5
		PC1754	Major – Elective - III	5	5
		PC1755	(a) Programming with C++		
		PC1756	(b) Applied Physics		
			(c) Bio Physics		
		PC17P5	Major Practical V - Physics Lab V	4	-
	PC17P6	Major Practical VI - Physics Lab VI	2	-	
	Part IV	PSK175	*SBC – Preparation for Competitive Examinations	2	2
		HRE175	Foundation Course III - Human Rights Education (HRE)	-	1
VI	Part III	PC1761	Major Core VIII - Mathematical Methods of Physics	6	6
		PC1762	Major Core IX - Digital System and Application	6	6
		PC1763	Major Core X - Nuclear Physics	5	5
		PC1764	Major – Elective - IV	5	4
		PC1765	(a) Nanomaterial and its application		
		PC1766	(b) Basic Astrophysics		
			(c) Digital Signal Processing		
			PC17P5	Major Practical V - Physics Lab V	-
		PC17P6	Major Practical VI - Physics Lab VI	2	2
		PC17P7	Major Practical VII - Physics Lab VII	4	2
	Part IV	PSK176	*SBC – Project	2	2
	Part V	WSC176	Foundation Course IV - Women's Studies (WS)	-	1



			<b>TOTAL</b>	<b>180</b>	<b>150</b>
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### Self Learning – Extra Credit Course

Semester	Subject code	Title of the paper	Hours/week	Credits
III / V	PC17S1	Physics for Competitive Examination – I	-	2
IV/ VI	PC17S2	Physics for Competitive Examination – II	-	2

#### Item 3/BoS 04.02/5:Changes / Modification of Curriculum

The members of the Board of studies approved the following modification and Revision.

Sl.No.	Seme ster	Paper Code	Paper Title	Changes	
				Revised	Modified
1.	V	PC1751	Element of Modern Physics	-	Modified
2.	V	PC1752	Waves and Optics	-	Modified
3.	V	PC1753	Solid State Physics	-	Modified
4.	V	PC1754	Programming with C++	-	Modified
5.	V	PC1755	Applied Physics	-	Modified
6.	V	PC1756	Bio Physics	-	Modified
7.	VI	PC1761	Mathematical Methods of Physics	-	Modified
8.	VI	PC1762	Digital System and Application	-	Modified
9.	VI	PC1763	Nuclear Physics	-	Modified
10.	VI	PC1764	Nanomaterial and its application	-	Modified
11.	VI	PC1765	Basic Astrophysics	-	Modified
12.	VI	PC1766	Digital Signal Processing	-	Modified

**Item 4/BoS 04.02/6: Classification of New Courses**

The Board has approved the following matters related to the viability of the Core and elective papers in the V and VI Semesters.

S.No.	Semester	Paper Code	Paper Title
1.	V	PC1751	Major Core V - Element of Modern Physics
2.	V	PC1752	Major Core VI - Waves and Optics
3.	V	PC1753	Major Core VII - Solid State Physics
4.	V	PC1754	Major – Elective – III Programming with C++
5.	V	PC1755	Applied Physics
6.	V	PC1756	Bio Physics
7.	VI	PC1761	Major Core VIII - Mathematical Methods of Physics
8.	VI	PC1762	Major Core IX - Digital System and Application
9.	VI	PC1763	Major Core X - Nuclear Physics
10.	VI	PC1764	Major – Elective - IV Nanomaterial and its application
11.	VI	PC1765	Basic Astrophysics
12.	VI	PC1766	Digital Signal Processing

**Item 5/BoS 04.02/7: Classification of the courses as Skill development/ Employability/ Entrepreneurship**

The Board has approved the following matters related to the viability of the Core and elective papers in the V and VI Semesters. There are 10 Courses relevant to employability, 4 Courses for Skill development.

Course Code	Course Title	Skill development	Entrepreneurship
PC1751	Major Core V - Element of Modern Physics	✓	
PC1752	Major Core VI - Waves and Optics	✓	✓
PC1753	Major Core VII - Solid State Physics	✓	
PC1754	Major – Elective - III (a) Programming with C++	✓	✓
PC1755	(b) Applied Physics		



PC1756	(c) Bio Physics		
PSK175	Basic Electric circuits and applications	✓	✓
PC1761	Major Core VIII - Mathematical Methods of Physics	✓	✓
PC1762	Major Core IX - Digital System and Application	✓	
PC1763	Major Core X - Nuclear Physics	✓	
PC1764	Major – Elective - IV	✓	✓
PC1765	(a) Nanomaterial and its application		
PC1766	(b) Basic Astrophysics (c) Digital Signal Processing		
PC17P5	Physics Lab V	✓	✓
PC17P6	Physics Lab VI	✓	✓
PC17P7	Physics Lab VII	✓	✓
PC17S1	Physics for competitive examination I	✓	✓
PC17S2	Physics for competitive examination II	✓	✓

There are 6 courses Catering to the global needs, 7 Courses to national needs and One Course to local need.

**Item 6/BoS 04.02/8: Classification of the courses as local/ Regional/ national/ global relevance**

The members of the Board classified the UG courses in the new structure based on as local / regional / national / global relevance.

Sl.No	Course Code	Course Title	Local	National	Regional	Global
1.	PC1756	Bio-Physics			✓	
2.	PC1762	Digital System and Application				✓
3.	PC1763	Nuclear Physics				✓

4.	PC1754	Nanomaterial and its Application				✓
5.	PC1755	Basic Astrophysics			✓	
6.	PC1756	Digital Signal Processing			✓	
7.	PC1751	Elements of Modern Physics				✓
8.	PC1752	Waves and Optics				✓
9.	PC1753	Solid State Physics				✓
10.	PC1754	Programming with C++				✓
11.	PC1755	Applied Physics				✓
12.	PC1761	Mathematical methods of Physics				✓
13.	PSK175	Preparation for Competitive Examination		✓		
14.	PSK176	SBC Project	✓			

**Item 7/BoS 04.02/9: Classification of the courses as Cross cutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics**

The members of the Board classified the UG courses in the new structure based on Cross cutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics.

Paper Code	Paper Title	Gender Equity	Human Values
HRE175	Human Rights Education (HRE)		✓
WSC176	Women's Studies (WS)	✓	

**Item 8/BoS 04.02/10: List of Value Added Course**

The members of the Board of studies approved the following value added Courses for the students of the department of physics

- (i) Multimedia Training
- (ii) Video Editing and Animation

(iii) Mobile phone service

**Item 9/BoS 04.02/11:Online Course**

The students are given an opportunity to pursue an online Course by MOOC/SWAYAM as a Self-Learning Course. This proposal was approved by the members of the BOS.

**Item 10/BoS 04.02/12: New measures to be undertaken by the department**

The following Suggestions have been given by the external Board members

- (i) All the Skill Based Courses Should be Physics Oriented.
- (ii) The Skill Based Courses (SBC) should be changed to Skill Enhancement Courses (SEC)
- (iii) For each Course "Reference books" should be mentioned instead of "Books for Study" and the Chapter Wise division need not mentioned.

The external Board of Studies members were appreciated for their Contribution to the student community and the meeting came to an end.

**Item 11/BoS 04.02/13:Feedback Action taken**

Department	Stake holders	Feedback received	Action Taken
B.Sc.	Students	Modify the Optics course and include waves topic in the syllabus	Syllabus was revised.
	Parents	More value added courses can include.	Value added courses were offered.
	Teachers	Include more skill related course.	The changes were executed.
	Alumni	Self learning course can be given as a SET/NET syllabus	The changes were executed.
M.Sc.	Students	Condensed matter physics syllabus was heavy.	Reduced
	Parents	Summer Internship can include.	Summer internship was offered.
	Teachers	Modify C++ and microprocessor practical's.	The same was modified.
	Alumni	Include more experiments.	Included in the syllabus

**Item 12/BoS 04.02/14:Next Meeting of BoS**

The members of the board suggested to have the next meeting of BoS in the month of January, 2020. The meeting ended with vote of thanks by the HoD, the Chairperson of the BoS at 2.15 pm.



The following suggestions were given by the student representatives

- Change the topics of the paper Optics of Semester V and include Waves and Optics .
- Modify Programming with C++ syllabus.
- More practical's can added

P. Abisha  
S. Anne Kavitha



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S. MARY DELPHINE  
M. Mary Freeda  
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