

S. P. Mandali's
RAMNARAIN RUIA AUTONOMOUS COLLEGE
DEPARTMENT OF PHYSICS

23/06/2023

BOS MEETING (On ZOOM Online Platform)

Minutes of Meeting

(06:30pm – 08.20pm)

Members Present:

Sr. No.	Name	Designation
1.	Prof. Vijay Mayekar	Professor and Head of the Department
2.	Dr. Rajendra Rathi	Assistant Professor
3.	Prof. Nana Pradhan	Professor
4.	Dr. Bhupesh Mude	Associate Professor
5.	Mr. Onkar Ramdasi	Assistant Professor
6.	Mr. Devendra Chavan	Assistant Professor
7.	Dr. Vinita Dhulia	Principal NES Ratnam College, Mumbai and Head, Department of Physics.
8.	Dr. Neetu Jha	UGC-Assistant Professor, ICT Mumbai
9.	Dr. Vinita Navalkar	Reviewer, Journal of Visualized Experiments (JoVE)

➤ Introduction & Welcome of BOS Members by Prof. Vijay Mayekar, HOD.

Agenda Item No. 1 – To present the board, the proposed credit system for the Four-Year Undergraduate Program (B.A., B.Sc., BACM) and the Post Graduate Program (M.A., M.Sc.), aligning with the guidelines outlined in NEP2020, commencing from the Academic Year 2023-24.

DISCUSSED THAT:

The Credit Structure for FYBSc Semester I and II

Semester I

- Two subjects- subject _1 and Subject_2 at FYBSc for UG programs –



- Subject 1 (3 Theory + 1 Practical = 4 Credits) + Subject 2 (3 Theory + 1 Practical = 4 Credits))



- Total Number of GE/OE Courses – 2 GE/OE in Each Semester. (2 Credits for each Paper)
- Vocational and Skill Enhancement course (VSC and SEC) –
VSC-1: (1Theory +1Practical = 2 Credits) of Subject_1 and
SEC-1: (1Theory +1Practical = 2 Credits) of Subject_2
- Ability Enhancement Course (AEC)/VEC/IKS:
AEC-CSK (2 Theory Credits), VEC -Understanding India (2 Theory Credits),
And IKS-Indian Knowledge System (2 Theory Credits).
- **Total Credits for Semester I – 22 Credits**

Semester II

- Two subjects- subject _1 and Subject_2
- Subject 1 (3 Theory + 1 Practical = 4 Credits) + Subject 2 (3 Theory + 1 Practical = 4 Credits))
- Total Number of GE/OE Courses – 2 GE/OE in Each Semester. (2 Credits for each Paper)
- Vocational and Skill Enhancement course (VSC and SEC) –
VSC-2: (1 Theory + 1 Practical = 2 Credits) of Subject_2 and
SEC-2: (1 Theory + 1 Practical = 2 Credits) of Subject_1
- Ability Enhancement Course (AEC)/VEC/IKS:
AEC-CSK (2 Theory Credits), VEC-ENV Sc (2 Theory Credits).
- CC: (2 Theory Credits)
- **Total Credits for Semester II – 22 Credits**

RESOLVED THAT:

BOS Members approved the Credit Structure for FYBSc Semester I and II



Agenda Item No. 2 – To seek approval for the syllabus of the first-year of undergraduate program (Semester I and II) courses, and Postgraduate Program (Semester I) courses including the courses offered for the subject, Generic Elective or Open Elective Courses, Ability Enhancement Courses, Skill Enhancement Courses, and Vocational Skill Enhancement Courses, Discipline specific Core Courses and Discipline specific elective Courses (whichever is applicable) for the Academic Year 2023-24.

2.1: Changes in the Syllabus of UG Course in the New Curriculum.

Semester - I

YEAR	SEM	COURSE CODE Core Course	COURSE TITLE	CREDITS
2023-24	I	DSC /Subject 1	Mechanics, Thermodynamics & Quantum Mechanics	3
			Unit-I: Mechanics	
			Unit II-Thermodynamics	
			Unit-III: Introduction to Quantum Mechanics	
		SEC-1	Optics	1
			Unit-I: Optics	
		Subject 1	Physics Laboratory Course (Group-A)	1
		SEC 1	Physics Laboratory Course (Group-B)	1
			Total	6

1. DSC 1/Subject 1: Mechanics, Thermodynamics & Quantum Mechanics

- Accepted with the prescribed changes in the syllabus.

2. SEC 1: Optics

- Accepted with the prescribed changes in the Syllabus

3.DSC 1/Subject 1: Physics Laboratory Course (Group-A)

- Accepted with the prescribed changes in the Practical Syllabus

4. SEC 1: Physics Laboratory Course (Group-B)

- Accepted with the prescribed changes in the Practical Syllabus.



Semester - II

YEAR	SEM	COURSE CODE Core Course	COURSE TITLE	CREDITS
2023-24	II	DSC/ Subject 1	Mathematical Physics and Electricity	3
			UNIT-I Vector algebra and Vector calculus	
			UNIT-II Differential equations and Transient response of circuits	
			UNIT-III Circuit theorems, Rectifier, Alternating Current theory	
		VSC-2	Electronics	1
			UNIT -Electronics	
		Subject 1	Physics Laboratory Course (Group-A)	1
		VSC-2	Physics Laboratory Course (Group-B)	1
			Total	6

1. DSC 2 / Subject 1: Mathematical Physics and Electricity

- **Approved with prescribed changes in the syllabus.**

2. VSC 2: Electronics

- Accepted with the prescribed changes in the syllabus.

3. DSC 2/Subject 1: Physics Laboratory Course (Group-A) (+ Demonstration Experiments)

- Accepted with the prescribed changes in the Practical Syllabus

4. VSEC: Physics Laboratory Course (Group-B)

- Accepted with the prescribed changes in the Practical Syllabus.

Semester III, IV, V, VI

- No changes w.r.t old curriculum

RESOLVED THAT:

- BOS Members Approved the Changes





2.2: Changes in the Structure of the PG Course as per NEP 2020.

The following Structure of the MSc Course was presented to BoS Members.

Illustrative Credit Distribution Structure for Two Years/ One Year PG (M.A. /M.Sc. /M.Com.) and Ph. D. Programme

Year (2 Yr PG)	Level	Sem. (2 Yr)	Major		RM	OJT/ FP	RP	Cum. Cr.	Degree
			Mandatory	Electives					
I	6.0	Sem I	12-14 (2*4 +2*2 or 3*4+2)	4	4			20-22	PG Diploma (after 3 Year Degree)
		Sem II	12-14 (2*4 +2*2 or 3*4+2)	4		4		20-22	
		Cum. Cr. For PG Diploma		24-28	8	4	4	-	
Exit option: PG Diploma (40-44 Credits) after Three Year UG Degree									
II	6.5	Sem III	12-14 (2*4 +2*2 or 3*4+2)	4			4	20-22	PG Degree After 3-Yr UG Or PG Degree after 4-Yr UG
		Sem IV	10-12 (2*4 +2 or 3*4)	4			6	20-22	
		Cum. Cr. for 1 Yr PG Degree		22-26	8			10	
Cum. Cr. for 2 Yr PG Degree		46-54	16	4	4	10	80-88		
2 Years-4 Sem. PG Degree (80-88 credits) after Three Year UG Degree or 1 Year-2 Sem PG Degree (40-44 credits) after Four Year UG Degree									
	8.0		Course Work Min. 12 (3*4)		Training in Teaching / Education/ Pedagogy: 4		Min. 16 + Ph. D. Work		Ph.D. in Subject

Structure Presented for MSc Part – I Sem – I and Sem – II.

SEM	PAPER	COURSE CODE	TITLE	CREDITS
I	Core	RPSPHY101	Mathematical Methods in Physics	3
	Core	RPSPHY102	Classical Mechanics	3
	Core	RPSPHY103	Solid State Physics	3
	Core	RPSPHY104	Python Programming	2
	Elective	RPSPHY105	Microprocessor 8085 and 8086	3
		RPSPHY106	Research Methodology	4
	Practical	RPSPHY101	Practical Lab Course 1	1
	Practical	RPSPHY102	Practical Lab Course 2	1
	Practical	RPSPHY103	Practical Lab Course 3	1
	Practical	RPSPHY104	Practical Lab Course 4	1
			Total Credits	22
SEM	PAPER	COURSE CODE	TITLE	CREDITS
II	Core	RPSPHY201	Electrodynamics	3
	Core	RPSPHY202	Quantum Mechanics – I	3
	Core	RPSPHY203	Solid State Devices	3
	Core	RPSPHY204	Electronics	2
	Elective	RPSPHY205	Microcontroller 8051	3
		RPSPHY206	OJT/FP	4
	Practical	RPSPHY201	Practical Lab Course 1	1
	Practical	RPSPHY202	Practical Lab Course 2	1
	Practical	RPSPHY203	Practical Lab Course 3	1
	Practical	RPSPHY204	Practical Lab Course 4	1



			Total Credits	22
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RESOLVED THAT:

- BOS Members Approved the new PG Structure for Semester – I and Semester II as per the NEP 2020.

2.3 GE offered by the department of Physics to the students of Humanity faculty.

GE-1—STAR GAZING/ Observational Astronomy

Introduction to Astronomy (2 Hr) • Overview of the Field • History of Astronomy • Basic Terminologies 2) The Night Sky (3 Hr) • Constellations, Asterisms and their Mythological Stories • Celestial Co-ordinates and their Navigation • Introduction to Galaxies – Milky Way, Andromeda 3) Observing the Solar System (3 Hr) • The Sun: sunspots, solar flares, and eclipses • The Moon: phases, features, and observing tips • Planets: characteristics, oppositions, and conjunctions 4) Astronomy Software and Mobile Apps (2 Hr) • Stellarium software. • Observing planning and logging tools. • Mobile apps for astronomy. 5) Telescopes and Observing Equipment (3 Hr with Hands on Training) • Types of telescopes (refractor, reflector, catadioptric) • Telescope mounts (altazimuth, equatorial) • Eyepieces, filters, and other accessories 6) Astrophotography (2 Hr. Can be taken as a Workshop) • Basic techniques and equipment • Imaging the Moon, planets, and deep-sky objects • Image processing and stacking.

GE-2- Physics in Daily Life

Physics- Some Natural phenomena: Blue Sky, Formation of Rainbow, Twinkling of Star, Mirage, Image reflection in mirror, Shadow formation, Human eye & working of its lens, Eco sound, Understanding lighting – thunder, Cyclone, How does rainfall occurs Basic units & measurement in daily life: Length, Mass, Time, Volume, Area, Density, Power, Symbol for components of an electric circuit and their uses -Electric cell, Key, Connecting wires, Light bulb, Resistance, Variable resistance, Ammeter, Voltmeter, Capacitor The Application of Physics in Everyday Life: Physics behind gaming, Travelling, Cooking, Swimming, Singing, Shooting, Walking Some basic experiments/Examples based on the above topics, Home Appliances like refrigerator.

RESOLVED THAT:

- BOS Members approved GE papers for Semester – I and II as per the NEP 2020.
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Agenda Item No. 3 – To seek approval for the modifications in the assessment methods, including changes to the question paper pattern for internal and semester-end examinations, as well as the evaluation process for Semester End examinations (Theory/Practical, as applicable).

Modalities for the paper- DSC /Subject 1 in sem-I and II will remain same as it was there earlier for 3 unit paper.

Agenda Item No. 4-Matter with the permission of the Chair-

Changes in the Practicals of M.Sc. - Semester - III w.e.f A.Y. 2023-24.

- Practical Lab Course RPSPHYP301 - Digital Electronics was replaced by Microcontroller PIC Lab.
- Justification: The syllabus included the theory of the Microcontroller PIC, and the practical component was a vital element of it that had to be included.
- Practical Lab Course RPSPHYP302 - Interfacing Real World was replaced by 8051 Microcontroller Lab.
- Justification: The syllabus included the theory of the Microcontroller 8051, and the practical component was a vital element of it that had to be included.
- VHDL Interfacing Practical are added in addition to the VHDL programming in the RPSPHYP303 - ARM 7 and VHDL Programming Lab Course.

RESOLVED THAT:

- BOS Members Approved the changes in the MSc - II, Semester - III Practical Syllabus w.e.f Academic Year 2023-24.

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- The meeting ended with Concluding Remarks and
 - Vote of Thanks by Prof. (Dr.) Vijay Mayekar, Head of the Department.
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V Mayekar

23-06-2023

Prof.(Dr.) Vijay Mayekar
Professor and Head,
Department of Physics,
Ramnarain Ruia Autonomous College

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S. P. Mandali's
RAMNARAIN RUIA AUTONOMOUS COLLEGE
DEPARTMENT OF PHYSICS

24/02/2024

BOS MEETING (On ZOOM Online Platform)

Minutes of Meeting

(06:30pm – 08.20pm)

Members Present:

Sr. No.	Name	Designation
1.	Prof. Vijay Mayekar	Professor and Head of the Department
2.	Dr. Rajendra Rathi	Assistant Professor
3.	Prof. Nana Pradhan	Professor
4.	Dr. Bhupesh Mude	Associate Professor
5.	Mr. Onkar Ramdasi	Assistant Professor
6.	Mr. Devendra Chavan	Assistant Professor
7.	Dr. Nilesh Waghlikar	Head, Department of Physics, S.P College, Pune.
8.	Dr. Neetu Jha	UGC-Assistant Professor, ICT Mumbai
09.	Dr. Vinita Navalkar	Reviewer, Journal of Visualized Experiments (JoVE)

Introduction & Welcome of BOS Members by Prof. Vijay Mayekar, HOD.

Agenda Item No. 1 – Read and finalize the MOM of BOS meeting held on 23 June 2023.

Resolved that : MOM read and accepted

Agenda item No. 2- To present the board, the proposed credit system for the Four-Year Undergraduate Program (B.A., B.Sc., BACM) and the Post Graduate Program (M.A., M.Sc.), aligning with the guidelines outlined in NEP2020, commencing from the Academic Year 2023-24.

DISCUSSED THAT:



The Credit Structure for SYBSC Semester III and IV



Semester III

- Two subjects- DSC _1 and DSC_2 at SYBSc for UG programs –
- DSC-1 (3 Theory + 1 Practical = 4 Credits) + DSC- 2 (3 Theory + 1 Practical = 4 Credits))
- Total Number of GE/OE Courses – 2 GE/OE in Each Semester. (2 Credits for each Paper)
- Vocational and Skill Enhancement course (VSC and SEC) –
VSC-1: (1Theory +1Practical = 2 Credits) of Subject_1 and
SEC-1: (1Theory +1Practical = 2 Credits) of Subject_2
- Ability Enhancement Course (AEC)/VEC/IKS:
AEC-CSK (2 Theory Credits), VEC -Understanding India (2 Theory Credits),
And IKS-Indian Knowledge System (2 Theory Credits).
- **Total Credits for Semester III – 22 Credits**

Semester IV

- Two subjects- DSC_1 and DSC_2
- Subject DSC 1 (3 Theory + 1 Practical = 4 Credits) + Subject DSC 2 (3 Theory + 1 Practical = 4Credits))
- Total Number of GE/OE Courses – 2 GE/OE in Each Semester. (2 Credits for each Paper)
- Vocational and Skill Enhancement course (VSC and SEC) –
VSC-2: (1 Theory + 1 Practical = 2 Credits) of Subject_2 and
SEC-2: (1 Theory + 1 Practical = 2 Credits) of Subject_1
- Ability Enhancement Course (AEC)/VEC/IKS:
AEC-CSK (2 Theory Credits), VEC-ENV Sc (2 Theory Credits).
- CC: (2 Theory Credits)
- **Total Credits for Semester IV – 22 Credits**

RESOLVED THAT:

BOS Members approved the Credit Structure for SYBSc Semester III and IV



Agenda Item No. 2 – To seek approval for the syllabus of the first-year of undergraduate program (Semester I and II) courses, and Postgraduate Program (Semester I) courses including the courses offered for the subject, Generic Elective or Open Elective Courses, Ability Enhancement Courses, Skill Enhancement Courses, and Vocational Skill Enhancement Courses, Discipline specific Core Courses and Discipline specific elective Courses (whichever is applicable) for the Academic Year 2023-24.

2.1: Changes in the Syllabus of UG Course in the New Curriculum.

Semester – III

YEAR	SEM	COURSE CODE Core Course	COURSE TITLE	CREDITS
2024-25	III	DSC -1 (Major)	Vector Calculus, Mechanics and Thermodynamics Unit-I: Vector Calculus Unit II-Mechanics Unit-III: Thermodynamics.	3
		DSC – 1 Practical	Practical Based on DSC – 1	1
		DSC – 2 (Major)	Laser, Nuclear Physics, Material Properties Unit-I: Laser and Optical Fiber Unit II-Nuclear Physics Unit-III: Material Properties and their Applications	3
		DSC – 2 Practical	Practical Based on DSC – 2	1
		DSC (Minor)	Laser, Nuclear Physics, Material Properties Unit-I: Laser and Optical Fiber Unit II-Nuclear Physics Unit-III: Material Properties and their Applications	3
		DSC (Minor)	Practical Based on DSC (Minor)	1
		VSC	Study of Electronic circuits and Magnetism Group A: Practical Based on Electronic Circuits Group B: Practical Based on Magnetism	2

1. DSC- 1/Subject 1 (Major) : Vector Calculus, Mechanics and Thermodynamics.

- Accepted with the prescribed changes in the syllabus.

2. DSC-1 : List of Practicals

- Accepted with the prescribed changes in the syllabus.

3. DSC-2 Subject 2 (Major): Laser, Nuclear Physics, Material Properties.

- Accepted with the prescribed changes in the syllabus.

4. DSC-2 (Major) : List of Practicals

- Accepted with the prescribed changes in the syllabus.

5. DSC (Minor): Laser, Nuclear Physics, Material Properties.

- Accepted with the prescribed changes in the syllabus.

6. DSC (Minor): List of Practicals.



- Accepted with the prescribed changes in the syllabus.

7. VSC : Study of electronic circuit and magnetism.

- Accepted with the prescribed changes in the Syllabus

Semester – III

YEAR	SEM	COURSE CODE Core Course	COURSE TITLE	CREDITS
2024-25	IV	DSC -1 (Major)	Optics, Applied Optics	3
			Unit-I: Diffraction- Fraunhofer and Resolving Power	
			Unit II-Polarization	
			Unit-III:Applied Optics	
		DSC – 1 Practical	Practical Based on DSC – 1	1
		DSC – 2 (Major)	Introduction to Quantum Mechanics	3
			Unit-I: Quantum Mechanics	
			Unit II-Applications of Schrodinger’s Steady State Equation:	
			Unit-III: Schrödinger’s equation and Hydrogen Atom	
		DSC – 2 Practical	Practical Based on DSC – 2	1
		DSC (Minor)	Introduction to Quantum Mechanics	3
			Unit-I: Quantum Mechanics	
			Unit II-Applications of Schrodinger’s Steady State Equation:	
			Unit-III: Schrödinger’s equation and Hydrogen Atom	
		DSC (Minor)	Practical Based on DSC (Minor)	1
		SEC	Microprocessor 8085 and Electronics	2
			Group A: Practical Based on Microprocessor 8085	
			Group B: Practical Based on Electronics	

1. DSC- 1/Subject 1 (Major) : Optics and Applied Optics

- Accepted with the prescribed changes in the syllabus.

2. DSC-1 : List of Practicals

- Accepted with the prescribed changes in the syllabus.

3. DSC-2 Subject 2 (Major): Introduction to quantum mechanics.

- Accepted with the prescribed changes in the syllabus.

4. DSC-2 (Major): List of Practicals

- Accepted with the prescribed changes in the syllabus.

5. DSC (Minor): Introduction to quantum mechanics.

- Accepted with the prescribed changes in the syllabus.



6. DSC (Minor): List of Practicals.

- Accepted with the prescribed changes in the syllabus.

7. SEC: Microprocessor and Electronics.

- Accepted with the prescribed changes in the Syllabus

RESOLVED THAT:

- BOS Members Approved the syllabi framed.
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Agenda Item No. 3 – To seek approval for the outcomes of the Field project offered at the Semester II of Postgraduate Course.

The following field project outcomes were presented in front of BoS members:

1. Students will demonstrate the ability to apply theoretical concepts learned in the classroom to real-world situations encountered during the field project.
2. Students will develop and implement appropriate research methodologies to investigate specific phenomena or address research questions relevant to the field project.
3. Students will collect relevant data using appropriate techniques and instruments, and analyze the data using statistical methods or other analytical tools to derive meaningful insights.
4. Students will identify and address challenges encountered during the field project, employing critical thinking and problem-solving skills to make informed decisions.
5. Students will communicate project objectives, methodologies, findings, and conclusions effectively through written reports, oral presentations, and visual aids to diverse audiences.
6. Students will work collaboratively within a team environment, demonstrating effective communication, cooperation, and leadership skills to achieve common project goals.
7. Students will plan and manage project activities, including setting objectives, allocating resources, scheduling tasks, and monitoring progress to ensure timely completion of the project.
8. Students will adhere to ethical guidelines and professional standards in all aspects of the field project.

RESOLVED THAT:

The BoS Members accepted the outcomes presented for the field project for Postgraduate course.

Agenda Item No. 4- To discuss and finalise the syllabus changes in the undergraduate and post graduate courses

• **TYBSC : Semester-V:**

RUSPH501: Mathematical Physics: Changes required in Unit-I, II and III, No change in Unit -IV

RUSPHY502: Solid State Physics: Change in Unit-I, No change in Unit -II, III and IV.

RUSPHY503: Atomic and Molecular Physics: No change in Unit – I, II and III, Change in Unit-IV.

RUSPHY504: Electrodynamics: No change in Unit- I and IV, change in unit- II and III

RUS AC EI501: Applied components: changes in Unit- I and II, No change in Unit- III and IV.

• **TYBSC: Semester-VI:**

RUSPHY601: Classical Mechanics: Change in Unit-I, No change in Unit-II, III, and IV

RUSPHY602: Electronics: Change in Unit-II , III and IV, no change in Unit-I

RUPHY603: Nuclear Physics: Change in Unit-I, III and IV, No change in Unit-II



RUSPHY604: Theory of Relativity: No change.

RUSACEI601: Applied Components: Change in Unit-II, No change in Unit-I, III and IV.

- **MSC-I: Semester -I:**

RPSPHY.O501: Mathematical Physics: No change

RPSPHY.O502: Classical mechanics Change in Unit- I, II and III

RPSPHY.O503: Solid State Physics: No change

RPSPHY.O504: Python Programming: No change

RPSRMPHY.O505: Research methodology: Change in Unit-III, No change in Unit-I, II and IV.

RPSRMPHY.O506: Microprocessor: No change

- **MSC-I : Semester – II:**

RPSPHY.E511: Electrodynamics: Change in Unit-III, No change in Unit- I, II

RPSPHY.E512: Quantum Mechanics- I: No change

RPSPHY.E513: Solid State Physics: No change

RPSPHY.E514: Advanced Electronics: Change in Unit- I, II , No change in Unit-III

RPSPHY.E515: Field Project: No change

RPSPHY.E516: Microcontroller 8051: No change

RESOLVED THAT:

The BoS Members accepted the changes.

Agenda Item No.5 - Matter with the permission of the Chair-

- **Agenda Item No. 5.1: Discussed and elaborated the changes in the MSc - II, Semester - III Practical Syllabus w.e.f Academic Year 2023-24.**

RESOLVED THAT:

- BOS Members Approved the changes in the MSc - II, Semester - III Practical Syllabus w.e.f Academic Year 2023-24.

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- The meeting ended with Concluding Remarks and
 - Vote of Thanks by Prof. (Dr.) Nana Pradhan, Department of Physics



V Mayekar

24-02-2024

Prof. (Dr.) Vijay Mayekar

Professor and Head,
Department of Physics,
Ramnarain Ruia Autonomous College

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