

Kanya Maha Vidyalaya, Jalandhar City

(An Autonomous College)



Minutes of 11th Meeting of Board of Studies PG Department of Physics

Date: 31-05-2025

Time: 11:30 AM

Via Zoom video conferencing

Kanya Maha Vidyalaya, Jalandhar
PG Department of Physics

Proceedings of the Meeting of Board of Studies held on 31-05-2025

KANYA MAHA VIDYALAYA, JALANDHAR
(UGC Autonomous College)

Proceedings of the Eleventh Meeting of Board of Studies
P.G. Department of Physics

The eleventh meeting of the board of studies of the Department of Physics was held on May 31, 2025 at 11.30 am in online mode via Zoom.

Date: Saturday, 31-05-2025

Time: 11:30 am

Venue: Online meeting via Zoom

The following members have attended meeting and detailed minutes are listed below:

Members of BOS:

1.	Dr. Neetu Verma, Head, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Chairperson	Present
2.	Dr. Atul Khanna, Professor, Dept. of Physics, Guru Nanak Dev University, Amritsar (University Nominee)	Member	Present
3.	Dr. Rohit Mehra, Professor, Dept. of Physics, NIT, Jalandhar (Outside Parent University Nominee)	Member	Present
4.	Dr. Hitesh, Professor, Dept. of Physics, IKGPTU, Kapurthalla (Outside Parent University Nominee)	Member	Present
5.	Dr. Sachin Tyagi, Principal Scientist, Manufacturing Science and Instrumentation (MSI), CSIR-CSIO, Chandigarh (Industry Expert)	Member	Present
6.	Dr. Shivani Singla, Assistant Professor, Chandigarh University (Alumni)	Member	Present
7.	Dr. Sonik Bhatia, Assistant Professor, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Member	Present
8.	Dr. Sangeeta Prasher, Assistant Professor, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Member	Present
9.	Dr. Gopi Shrama, Associate Professor, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Member	Present
10.	Dr. Harleen Singh, Assistant Professor, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Member	Present
11.	Dr. Surbhi, Assistant Professor, Department of Physics, Kanya Maha Vidyalaya, Jalandhar	Member	Present

The Chairperson Dr. Neetu Verma welcomed the members of Board of Studies. She apprised the members about the major reforms like implementation of NEP, under which all the classes will be taken into Credit Based Continuous Evaluation System. Current session includes Credits based assessment for B.Sc sem I - IV under 30% internal assessment whereas Credits based assessment for under 20% internal assessment for B.Sc sem V & VI.

After brief overview, she took up the agenda items for deliberation one by one with the permission of committee members.

Item: Phy 11: 2025: 1 To confirm the Proceedings of tenth Board of Studies meeting held on April 20, 2024 (**Annexure A**)

The chairperson sent the proceedings of the previous Board of Studies meeting held on April 20, 2024 through email to all the members and proceedings were approved by all the members. The Chairperson however again put up the summary of the proceedings for approval of the house and they approved it through the online meeting.

(Attached herewith as Annexure A).

The house approved the Item: Phy 11: 2025: 1

Item: Phy 11: 2025: 2 To discuss Action Taken Report of Tenth Board of Studies meeting held on 20th April 2024

Sr.No.	Agenda Item	Decision taken in Meeting	Action Taken
<u>Item: Phy 10: 2024: 3</u>	To discuss the syllabus and course outcomes of Physics in B.Sc. Non-Medical and Computer Science, Semester I and II under Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment Semester III and IV under Credit Based Continuous Evaluation Grading system (CBCEGS) with 20% internal assessment for the session 2024-25.	The proposed syllabus and course outcomes of Physics in B.Sc. Non-Medical and Computer Science, Semester I to IV under Credit Based Continuous Evaluation Grading system (CBCEGS) for the session 2024-25 was discussed by Board members and they approved the syllabus with some changes.	The approved syllabus along with changes was implemented

<u>Item: Phy 10: 2024: 4</u>	To discuss the syllabus and course outcomes of Physics in B.Sc. Non-Medical and Computer Science , Semester V and VI under continuous evaluation system with 20% internal assessment for the session 2024-25.	The proposed syllabus and course outcomes of Physics in B.Sc. Non-Medical and Computer Science, Semester 5 to 6 under continuous evaluation system for the session 2024-25 was discussed by Board members and they approved the Syllabus with some changes.	The approved syllabus along with suggested changes is implemented
<u>Item: Phy 10: 2024: 5</u>	To discuss programme specific outcomes, course outcomes and syllabus of Physics in M.Sc. (FYIP) Physics , Semester I and II under Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment for the session 2024-25.	The Board of Study members discussed the syllabus and course outcomes of M.Sc. (FYIP) Physics , Semester I and II under Credit Based Continuous Evaluation Grading system (CBCEGS) for the session 2024-25 and they approved it during the Zoom meeting.	The approved syllabus along with suggested changes is implemented for the semester 1 and II.
<u>Item: Phy 10: 2024: 6</u>	To discuss the programme specific outcomes, course outcomes and syllabus of M.Sc. Physics , under Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment for Semester I and II and 20% Internal Assessment for Semester III and IV for the session 2024-25.	The syllabus Programme and course outcomes of M.Sc. Physics, Semester I to IV under Credit Based Continuous Evaluation Grading system (CBCEGS) for the session 2024-25, was discussed by the members and they approved it with the recommended changes.	The approved syllabus is implemented
<u>Item: Phy 10:2024:7</u>	To discuss the syllabus and course outcomes of course of Physics for B.Sc. (Home Science) Semester III and IV under Credit Based Continuous Evaluation Grading system (CBCEGS) with 20% internal assessment for the session 2024-25.	The syllabus and course outcomes of B.Sc. Home Science Semester III and IV under continuous evaluation system for the session 2024-25, was discussed by the members and they approved it without any change.	The approved syllabus is implemented

<u>Item: Phy 10: 2024:8</u>	To discuss the syllabus and course outcomes of course of Physics for M.Sc. (FYIP) Mathematics, Semester 1 and 2 under Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment for the session 2024-25.	The syllabus and course outcomes of M.Sc. (FYIP) Mathematics, Semester 1 and 2 under Credit Based Continuous Evaluation Grading system (CBCEGS) for the session 2024-25, was discussed by the members and they approved it without recommended changes.	The approved syllabus is implemented.
<u>Item: Phy 10: 2024: 9</u>	To discuss course outcomes and syllabus of One Year Certificate Course in Household Physics for the session 2024-25.	The syllabus and course outcomes of One Year Certificate Course in Household Physics for the session 2024-25 was discussed by the members and they approved it without any change.	No student turned up in the session 2024-25, hence the course was not started.
<u>Item: Phy 10: 2024: 10</u>	To approve the Examiners and Evaluators for Physics papers in B.Sc. Non-Medical and Computer Science, Semester 1st to 6th.	The chairperson discussed the Examiners and Evaluators for Physics papers in B.Sc. Non-Medical and Computer Science, Semester 1 to 6 with the members and they approved it.	List of approved Examiners was sent to the COE Office.
<u>Item: Phy 10: 2024: 11</u>	To approve the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Physics, Semester 1 and 2.	The chairperson discussed the Examiners and Evaluators for Physics papers in B M.Sc. (FYIP) Physics, Semester 1 and 2 with the members and they approved it.	List of approved Examiners was sent to the COE Office.

<u>Item: Phy 10:2024:12</u>	To approve the Examiners and Evaluators for Physics papers in M.Sc. Physics , Semester I to IV	The chairperson discussed the Examiners and Evaluators for Physics papers in M.Sc. Physics , Semester I to IV with the members and they approved it.	List of approved Examiners was sent to the COE Office.
<u>Item: Phy 10:2024:13</u>	To approve the Examiners and Evaluators for Physics papers in B.Sc. Home Science Semester III and IV.	The chairperson discussed the Examiners and Evaluators for Physics papers in B.Sc. Home Science , Semester III and IV with the members and they approved it.	List of approved Examiners was sent to the COE Office.
<u>Item: Phy 10: 2024: 14</u>	To approve the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Mathematics , Semester I and II	The chairperson discussed the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Mathematics , Semester I and II with the members and they approved it.	List of approved Examiners was sent to the COE Office.
<u>Item: Phy 10: 2024: 15</u>	To discuss the inputs to upgrade the teaching methodologies during session 2024-25.	The house appreciated the activities held and approved the teaching methodologies and various activities held in the department to enhance the teaching learning process.	The teaching methodologies adopted are attached herewith as Annexure TM.

<u>Item: Phy 10: 2024: 16</u>	To discuss research inputs and plans of the department for session 2024-25.	The research inputs and plans were appreciated by the house. The house highly appreciated the research work of the department including CURIE grant and ongoing major research project procured by the department from Department of Science and Technology (DST) Govt. of India.	Progress report comprising research made by staff and students is attached herewith Annexure RI .
<u>Item: Phy 10: 2024: 17</u>	To discuss the syllabus and course outcomes of Physics (Vibration and Waves) as Skill enhancement course in B.Sc Non Med and C.Sc Sem II under Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment for the session 2024-25.	The syllabus and course outcomes of Skill enhancement course in B.Sc Non Med and C.Sc Sem II under Credit Based Continuous Evaluation Grading system (CBCEGS) for the session 2024-25, was discussed by the members and they approved it without any change.	As per university syllabus updates, the course was merged with Mechanics paper and title was updated as Mechanics, Vibrations and Waves. Therefore no SEC in Physics was included in sem 2
<u>Item: Phy 10: 2024: 18</u>	To analyse the results of the department for the even semester of 2022-23 and odd semester of 2023-24.	CO attainment of each course taught in the department was discussed with the members of the board of studies. The mapping results of CO to PO were also discussed and the low CO mappings were reasoned by mail to the members of the Board.	POs were modified and the teaching methodologies were improved for the subjects where the CO mapping was low to get better CO attainment results in future.

The house approved the Item: Phy 11: 2025: 2

Item: Phy 11: 2025: 3 To discuss the syllabus and course outcomes of Physics in **B.Sc. Non-Medical and Computer Science**, Semester I to IV under **Credit Based Continuous Evaluation Grading system (CBCEGS)** as per NEP -2020 with **30% internal assessment** for the session 2025-26. (**Annexure B**) .

The syllabus of B.Sc. Non-Medical and Computer Science, Semester 1 & 2 under **Credit Based Continuous Evaluation Grading system (CBCEGS)** for session 2025-26 would remain the same as that approved in session 2024-25. Credit-based curriculum was proposed for B.Sc. Non-Medical (NM)/Computer Science (CS) semesters 3 & 4 and detailed. Syllabus, program outcomes and course outcomes of content were approved by Board members.

Bachelor of Science (Non-Medical/ Computer Science)/ Honours
Session-2025-26

<u>Bachelor of Science (Non-Medical/ Computer Science)/ Honours</u> Semester-I								
Course Code	Course Name	Course Type	Credits	Total Marks	Ext.		CA	Examination time (in Hours)
					L	P		
BSNL/BCSL-1395	Physics (Electricity and Magnetism)	DSC	4-0-0	100	70		30	3
BSNP/BCSP-1395	Electricity and Magnetism Lab		0-0-2	50		35	15	3

<u>Bachelor of Science (Non-Medical/ Computer Science)/ Honours</u> Semester-II								
Course Code	Course Name	Course Type	Credits	Total Marks	Ext.		CA	Examination time (in Hours)
					L	P		
BSNL/BCSL-2395	Physics (Mechanics, Vibrations and Waves)	DSC	4-0-0	100	70		30	3
BSNP/BCSP-2395	Mechanics Lab		0-0-2	50		35	15	3

<u>Bachelor of Science (Non-Medical/ Computer Science)/ Honours</u> Semester-III								
Course Code	Course Name	Course Type	Credits	Total Marks	ESE		CA	Examination time (in Hours)
					L	P		
BSNL/BCSL-3395	Physics (Statistical Physics and Thermodynamics)	DSC	4-0-0	100	70		30	3
BSNP/BCSP-3395	Optics Lab		0-0-2	50		35	15	3

<u>Bachelor of Science (Non-Medical/ Computer Science)/ Honours</u> Semester-IV								
Course Code	Course Name		Credits	Total	ESE	CA	Examination	

		Course Type		Marks	L	P		time (in Hours)
BSNL/BCSL-4 395	Physics (Quantum Physics)	DSC	4-0-0	100	70		30	3
BSNP/BCSP-4 395	THERMAL & MODERN PHYSICS LAB		0-0-2	50		35	15	3
**BSNM/BCS M-4390	Applied Optics	SEC	3-0-0	100	70		30	3

****Applied Optics as Skill Enhancement course SEC 1** has been introduced with Max Marks: 100 Credits: 3-0-0

The changes in course code/ Course Title/ Syllabus in **B.Sc. Non-Medical and Computer Science**, Semester I to IV are as follows **(Annexure B1)**

Syllabus Changes in B.Sc Non Medical and Computer Science Semester-III

Sem	Name of the course and course code	Unit	2024-25 Max Marks: 75 Credits: 3-0-0	2025-26 Max Marks: 100 Credits: 4-0-0
III	Course code: BSNL-3395 for Bachelor of Science (Non Medical) BCSL-3395 for Bachelor of Science (Computer Science) (STATISTICAL PHYSICS AND THERMODYNAMICS)	UNIT III	Absolute thermodynamics or Kelvin Scale of Temperature Peltier Effect, Thomson Effect	Deleted as per GNDU Syllabus
III	Course code: BSNP-3395 for Bachelor of Science (Non Medical) BCSP-3395 for Bachelor of Science (Computer Science) (OPTICS LAB)			ADDED To determine resolving power of a grating. (As Per GNDU) Verify laws of probability distribution by throwing similar coins. (Not Included in GNDU Syllabus) To determine the wavelength of given laser source using

				Young's double slit experiment (Not Included in GNDU Syllabus)
IV	Course Title QUANTUM MECHANICS Course code: BSNL-4395 for Bachelor of Science (Non Medical) BCSL-4395 for Bachelor of Science (Computer Science) Course title changed to Quantum Physics	UNIT I	Wave packet, Group velocity, Fundamental postulates of wave mechanics, Time dependent and time independent Schrodinger wave equation for a free particle and equation of a particle subject to forces. Stationary states	Deleted as per GNDU Syllabus and Shifted to Unit III as per GNDU Syllabus ADDED as per GNDU Syllabus Gaussian wave packet, Operator correspondence, Normalization and probability interpretation of wave function
IV		UNIT II	Gaussian wave packet, commutator formalism	DELETED as per GNDU Syllabus and Shifted to Unit I DELETED as per GNDU Syllabus ADDED as per GNDU Syllabus expansion in eigen functions, simultaneous

				eigen function, equation of motion.
IV		UNIT–III	Particle in a box, one dimensional square well of finite depth	DELETED as per GNDU Syllabus ADDED as per GNDU Syllabus Application of Schrodinger Equation for solving one dimensional problems: Fundamental postulates of wave mechanics, Schrodinger's wave equation for a free particle and equation of a particle subject to forces. particle in one dimensional box with infinitely hard walls, one dimensional square well of finite depth
IV	Course code: BSNP-4395 for Bachelor of Science (Non Medical) BCSP-4395 for Bachelor of Science (Computer Science) (THERMAL & MODERN PHYSICS LAB)		To plot a calibration curve of a given thermocouple (copper constantan)	To plot a calibration curve of a given thermocouple (copper constantan) using a potentiometer

The house approved the Item: Phy 11: 2025: 3

(Approved syllabus attached herewith as Annexure B) and (Changes in syllabus attached herewith as Annexure B1)

Item: Phy 11: 2025: 4 To discuss the syllabus and course outcomes of Physics in **B.Sc. Non-Medical and Computer Science**, Semester V and VI under **Credit Based Continuous Evaluation Grading system (CBCEGS)** with 20% internal assessment for the session 2025-26. (Annexure C)

The syllabus and course outcomes of B.Sc. Non-Medical and Computer Science, Semester V and VI under Credit Based Continuous Evaluation Grading system (CBCEGS) with 20% internal assessment for the session 2025-26, was discussed by the members and they approved it .

Bachelor of Science (Semester System) (12+3 System of Education)
Session-2025-26

Bachelor of Science (Non. Medical/Computer Science)									
Semester-V									
Course Code		Course Name	Course Type	Credits	Total	Ext.		CA	Examination time (in Hours)
						L	P		
BSNL/BCSL-542 1 BSNL/BCSL-503 1BSNL/BCSL-54 31		Punjabi(Compulsory) ¹Basic Punjabi ²Punjab History and Culture	C	4-0-0	100	80	-	20	3
BSNL/BCSL-521 2		English (Compulsory)	C	4-0-0	100	80	-	20	3
BSNM/BCS M-5333	(I)	Mathematics (Dynamics)	C	4-0-0	100	80	-	20	3+3
	(II)	Mathematics (Number Theory)		3-0-0	75	60	-	15	
BSNM-5084	(I)	Chemistry (Inorganic Chemistry)	C	2-0-0	50	40	-	10	3+3+3.5
	(II)	Chemistry (Physical Chemistry)		3-0-0	75	60	-	15	
	(P)	Chemistry(Practical)		0-0-2	50	-	40	10	
BCSM-5134		Computer Science (Database Management System)	C	3-0-1	100	50	30	20	3+3
	(P)	Computer Science (Database Management System) (Practical)							
BSNM/BCS M-5395	(I)	Physics (Condensed Matter Physics)	C	3-0-0	75	60	-	15	3+3+3
	(II)	Physics(Electronics)		2-0-0	50	40	-	10	
	(P)	Physics (Practical)		0-0-2	50	-	40	10	
*SECI-5541/ SECJ-5551		Innovation, Entrepreneurship and Creative Thinking/ Job readiness	SEC		25	20	-	5	-

C-Compulsory

SEC- Skill Enhancement Course

¹ Special paper in lieu of Punjabi (Compulsory).

² Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.

*Marks of these papers will not be added in total marks and only grades will be provided.

Kanya Maha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATIONS OF THREE YEAR DEGREE PROGRAMME
Bachelor of Science (Semester System) (12+3 System of Education)
Session-2025-26

Bachelor of Science (Non. Medical/Computer Science)								
Semester-V								
Course Code	Course Name	Course Type	Credits	Total	Ext.		CA	Examination time (in Hours)
					L	P		
BSNL/BCSL-6421	Punjabi (Compulsory) ¹Basic Punjabi ²Punjab History and Culture	C	4-0-0	100	80	-	20	3
BSNL/BCSL-6031								
BSNL/BCSL-6431								
BSNL/BCSL-6212	English (Compulsory)	C	4-0-0	100	80	-	20	3
BSNM/B CSM-6333	(I) Mathematics (Dynamics)	C	4-0-0	100	80	-	20	3+3
	(II) Mathematics (Number Theory)		3-0-0	75	60		15	
BSNM-6084	(I) Chemistry (Physical Chemistry)	C	2-0-0	50	40	-	10	3+3+3.5
	(II) Chemistry (Molecular spectroscopy)		3-0-0	75	60	-	15	
	(P) Chemistry (Practical)		0-0-2	50	-	40	10	
BCSM-6134	Computer Science (Database Management System)	C	3-0-1	100	50	30	20	3+3
	(P) Computer Science (Database Management System) (Practical)							
BSNM/B CSM-6395	(I) Physics (Nuclear Physics)	C	3-0-0	75	60	-	15	3+3+3
	(II) Physics (Radiation and Particle Physics)		2-0-0	50	40	-	10	
	(P) Physics (Practical)		0-0-2	50	-	40	10	

C-Compulsory

¹ Special paper in lieu of Punjabi (Compulsory).

² Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.

*Marks of these papers will not be added in total marks and only grades will be provided.

The house approved the Item: Phy 11: 2025: 4

(Approved syllabus attached herewith as Annexure C)

Item: Phy 11: 2025: 5 To discuss programme specific outcomes, course outcomes and syllabus of Physics in M.Sc. (FYIP) Physics, Semester I to IV under **Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment** for the session 2025-26. (Annexure D)

The syllabus and course outcomes of M.Sc. (FYIP) Physics, Semester I to IV under Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment for the session 2025-26, was discussed by the members.

Chairperson apprised the board members regarding a significant change that has been made to the curriculum, offering students the option to choose between a subject in Chemistry or Computer Science. Board of members appreciated this effort and recommended the option between Chemistry and Computer Science.

A new three-credit course titled *Introduction to Glass Science* has been introduced in Semester III as part of the MSc FYIP Program, starting from the 2025–26 academic session. Based on recommendations from the board members, the course title has been revised to *Introduction to Glass Science and Glass Ceramics*. Additionally, to enhance the practical relevance of the course, Unit 1 has been updated to include application-oriented content focusing on real-world uses of glasses.

These revisions were well received by all board members, who commended the improvements and highlighted that the updated course will provide students with valuable, industry-relevant knowledge. The revised scheme and syllabus of Physics in M.Sc. (FYIP) Physics, Semester I to IV under Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment for the session 2025-26 is attached herewith as **(Annexure D)**.

SCHEME AND CURRICULUM OF EXAMINATIONS OF FIVE YEAR INTEGRATED PROGRAMME

Master of Science (FYIP) Physics

Session-2025-26

Semester-I

S r. N o.	Course Code	Cour se Type	Course Title	Credit s	Max Marks				Exam time in Hours)
					Total	Ext		CA	
				L-T-P		L	P		
1.	FPHL-1421 FPHL-1031 FPHL-1431	C	Punjabi(Compulsory) ¹ Basic Punjabi ² Punjab History and Culture	2-0-0	50	35		15	3
2.	FPHL-1102	AEC	Communicative English-I	2-0-0	50	35		15	3
3.	FPHL-1393	DSC	Mechanics	4-0-0	100	70	-	30	3
4.	FPHL-1394	DSC	Thermal Physics	4-0-0	100	70	-	30	3
5.	FPHL-1335	C	Mathematical Physics-I	4 -0-0	100	70	-	30	3
6.	FPHM-1086	E**	Organic Chemistry	3-0-1	100	40	30	30	3+3
7.	FPHM-1126	E**	Computer Fundamentals and PC Software	3-0-1	100	40	30	30	3+3
8.	FPHP-1397	DSC	Physics Lab-I	0-0-3	100	-	70	30	3
10.	VACF-1491	VAC	*Foundation Course	2-0-0	50	35		15	1
Total credits				25	650				

Semester II

Sr. No.	Course Code	Course Type	Course Title	Credits	Max Marks				Exam ination time in Hours)
					Total	Ext		CA	
				L-T-P		L	P		
1	FPHL-2421 FPHL-2031 FPHL-2431	C	Punjabi(Compulsor y) ¹ Basic Punjabi ² Punjab History and Culture	2-0-0	50	35	-	15	3

2	FPHL-2102	AEC	Communicative English-II	2-0-0	50	35	-	15	3
3	FPHL-2393	DSC	Electricity and Magnetism	4-0-0	100	70	-	30	3
4	FPHL-2394	DSC	Waves and Oscillations	4-0-0	100	70	-	30	3
5.	FPHL- 2335	C	Mathematical Physics-II	4-0-0	100	70	-	30	3
6	FPHM-2086	E**	Inorganic Chemistry	3-0-1	100	40	30	30	3+3
7.	FPHM-2126	E**	Introduction to Programming in C	3-0-1	100	40	30	30	3+3
8	FPHP-2397	DSC	Physics Lab-II	0-0-3	100	-	70	30	3
9.	VACD-2161	VAC	*Moral Education with focus on Drug Abuse and Human Rights (Compulsory)	2-0-0	50	35	-	15	3
Total Credits				25	650				

Semester-III									
Sr. No.	Course Code	Course Type	Course Title	Credits	Max Marks				Exam time in Hours)
					Total	Ext		CA	
						L	P		
1.	FPHL-3391	C	Electromagnetic Theory	4-0-0	100	70	-	30	3
2.	FPHL-3392	C	Optics	4-0-0	100	70	-	30	3
3.	FPHL-3173	C	Statistics	4-0-0	100	70	-	30	3
4.	FPHL-3394	MDC	Introduction to Glass Science and Glass Ceramics	3-0-0	100	70	-	30	3
5.	FPHM-3125	E**	Python Programming	3-0-1	100	40	30	30	3+3
6.	FPHM-3085	E**	Physical Chemistry	3-0-1	100	40	30	30	3+3
7.	FPHP-3396	C	Physics Lab-III	0-0-3	100	-	70	30	3
8.	*VACG-3531	VAC	Gender Sensitization	2	50	35		15	1

Total Credits	24	650				
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Semester IV

Sr. No.	Course Code	Course Type	Course Title	Credits	Max Marks				Examination time in Hours)
					Total	Ext L	P	CA	
1.	FPHL-4391	C	Analog Systems & Applications	4	100	70	-	30	3
2.	FPHL-4392	C	Elements of Modern Physics	4	100	70	-	30	3
3.	FPHL- 4393	DSC	Special Theory of Relativity	4	100	70	-	30	3
4.	FPHM-4085	E**	Introduction to Molecular Spectroscopy & Quantitative estimation methods	3-0-1	100	40	30	30	3+3
5.	FPHM-4125	E**	R PROGRAMMING	3-0-1	100	40	30	30	3+3
6.	FPHP-4396	C	Physics Lab-IV	3	100	-	70	30	3
7.	FPHL-4390	SEC	Medical Physics	3	100	70		30	3
8..	*VACE-4221	VAC	Environment studies	2	50	20	15	15	3
Total Credits				24					

¹ Special paper in lieu of Punjabi (Compulsory) for those who have not studied Punjabi upto 8th/ 10th Class. .

² Special paper in lieu of Punjabi (Compulsory) for those students who are not domicile of Punjab.

*credits/ grade points of these courses will not be added in SGPA/ CGPA of the semester/ Programme and only grades will be provided.

** Students will opt any one course.

The house approved the Item: Phy 11: 2025:5 after incorporation of suggested changes.

(Approved syllabus attached herewith as Annexure D)

Item: Phy 11: 2025:6 To discuss the programme specific outcomes, course outcomes and syllabus of M.Sc. Physics, Semester I to IV under **Credit Based Continuous Evaluation**

Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment for the batch 2025-27. (Annexure E).

The syllabus and course outcomes of M.Sc. Physics, Semester I to IV under Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment for the batch 2025-27, was discussed with the members .

Chairperson apprised the board members that a new three-credit course titled *Introduction to Glass Science* has been introduced in Semester I for the MSc Physics program. During the board meeting, discussions were held regarding whether this course should be placed in Semester I or Semester III. Prof. Rohit Mehra and Prof. Hitesh suggested offering the course as an elective, while Prof. Atul Khanna, Prof. Sachin Tyagi, and other board members recommended including it as a core course in Semester I. Given its strong industry and job-oriented focus, the course was recognized as essential for enhancing students' placement prospects.

After thorough discussion, all board members agreed to include the course in Semester I as a core component, with a revised title: *Introduction to Glass Science and Glass Ceramics*. The board members appreciated these changes and emphasized that the updated course would equip students with valuable industry-relevant knowledge.

The revised syllabus with credit scheme is attached herewith as **Annexure E**.

Changes in syllabus is attached herewith in **Annexure E1**

SEMESTER-I										
Course Code	Course Title	Course Type	Hours Per Week	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext. L P		CA	
MPHL-1391	Analog and Digital Electronics	C	4	4-0-0	4	100	70	-	30	3
MPHL-1392	Mathematical Physics	C	4	4-0-0	4	100	70	-	30	3
MPHL-1393	Classical Mechanics	C	4	4-0-0	4	100	70	-	30	3
MPHL-1394	Computational Techniques	C	4	4-0-0	4	100	70	-	30	3
MPHL-1395	Introduction to Glass Science and Glass Ceramics	C	3	3-0-0	3	100	70	-	30	3
MPHP-1396	Electronics Lab	C	6	0-0-3	3	100	-	70	30	3
MPHP-1397	Computer Lab	C	6	0-0-3	3	100	-	70	30	3
Student may opt any one of the following Interdisciplinary courses		IDE			4	100	70		30	3
Total				25		600				
IDEC-1101	Communication Skills									
IDEM-1362	Basics of Music (Vocal)									
IDEH-1313	Human Rights and Constitutional Duties									
IDEI-1124	Basics of Computer Applications									
IDEW-1275	Indian Heritage: Contribution to the world									
(Credits of these courses will not be added to SGPA)										
Master of Science (Physics) SEMESTER-II										
Course Code	Course Title	Course Type	Hours Per Week	Hours Per Week L-T-P	Total Credits	Total	Ext.		CA	Examination time (in Hours)
							L	P		
MPHL-2391	Quantum Mechanics-I	C	4	4-0-0	4	100	70	-	30	3
MPHL-2392	Electrodynamics-I	C	4	4-0-0	4	100	70	-	30	3
MPHL-2393	Condensed Matter Physics-I	C	4	4-0-0	4	100	70	-	30	3
MPHL-2394	Atomic and Molecular Spectroscopy	C	4	4-0-0	4	100	70	-	30	3
MPHP-2395	Condensed Matter Physics Lab -I	C	6	0-0-3	3	100	-	70	30	3
MPHP-2396	Spectroscopy Lab	C	6	0-0-3	3	100	-	70	30	3
Total				22		600				

	Master of Science (Physics) SEMESTER-III									
Course Code	Course Name	Course Type	Hours Per Week	Credits L-T-P	Total Credits	Marks			Examination time (in Hours)	
						Total	Ext. L	P		C A
MPHL-3391	Quantum Mechanics-II	C	4	4-0-0	4	100	70	-	30	3
MPHL-3392	Electrodynamics-II	C	4	4-0-0	4	100	70	-	30	3
MPHL-3393	Condensed Matter Physics-II	C	4	4-0-0	4	100	70	-	30	3
MPHL-3394	Nuclear Physics	C	4	4-0-0	4	100	70	-	30	3
MPHP-3395	Condensed Matter Physics Lab-II	C	6	0-0-3	3	100	-	70	30	3
MPHP-3396	Nuclear Physics Lab	C	6	0-0-3	3	100	-	70	30	3
Student may opt any one of the following Interdisciplinary courses		IDE			4	100	70		30	3
Total				22	22	600				
IDEC-3101	Communication Skills									
IDEM-3362	Basics of Music (Vocal)									
IDEH-3313	Human Rights and Constitutional Duties									
IDEI-3124	Basics of Computer Applications									
IDEW-3275	Indian Heritage: Contribution to the world									
(Credits of these courses will not be added to SGPA)										
Master of Science (Physics) SEMESTER-IV										
Course Code	Course Name	Course Type	Hours Per Week	Credits L-T-P	Total Credits	Total	Ext.		C A	Examination time (in Hours)
							L	P		
MPHL-4391	Particle Physics	C	4	4-0-0	4	100	70	-	30	3
MPHL-4392	Statistical Mechanics	C	4	4-0-0	4	100	70	-	30	3
MPHL-4393 (OPT-_)	Student may choose any two subjects from	C	4	4	4	100	70	-	30	3
MPHL-4394 (OPT-_)	the following list of options	C	4	4	4	100	70	-	30	3
MPHD-4395	Project Work	C	12	0-0-6	6	100	-	70	30	3
Total credits				22	22	500				

OPT-I Photonics
 OPT-II Radiation Physics
 OPT-III Reactor Physics
 OPT-IV Nanotechnology
 OPT-V Material Science
 OPT-VI Space Science

Syllabus Changes in Master of Science (Physics)

Sem	Name of the course and course Code	Unit	2024-25 Max Marks: 80 Credits: 4-0-0	2025-26 Max Marks: 70 Credits: 4-0-0
I	Course Code: MPHL-1395: Introduction to Glass Science		-	New Course added due to Darshana and Arun Varshneya Stipends for Excellence in Glass Science
I V	Course code: MPHL-4394 (OPT-V): Material Science	UNIT II	Glasses and refractories	Deleted Added in Glass Science course
		UNIT III	UV-VIS Characterization	Deleted X-ray diffraction, data manipulation of diffracted X-rays for structure determination; X-ray fluorescence spectrometry for element detection with concentration Added in Unit III from Unit IV of 2024-25
		Unit IV	X-ray diffraction, data manipulation of diffracted X-rays for structure determination; X-ray fluorescence spectrometry for element detection with concentration	Shifted to Unit III of 2025-26 Added Carbon nanomaterials: Carbon Nanotubes and other Carbon based materials: Preparation of

				Carbon nanotubes, CVD and other methods of preparation of CNT, Properties of CNT; Electrical, Optical, Mechanical, Vibrational properties etc. Application of CNT, Graphene preparation, characterization and properties
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The house approved the Item: Phy 11: 2025:6 after incorporation of suggested changes.

(Approved syllabus attached herewith as Annexure E) and (Changes in syllabus attached herewith as Annexure E1)

Item: Phy 11: 2025:7 To discuss the syllabus and course outcomes of course of Physics for M.Sc. (FYIP) Mathematics, Semester I and II under **Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment** for the session 2025-26. (Annexure F).

The syllabus and course outcomes of M.Sc. (FYIP) Mathematics, Semester I and II under **Credit Based Continuous Evaluation Grading system (CBCEGS) as per NEP-2020 with 30% internal assessment** for the session 2025-26, was discussed with the members and they approved it

Master of Science (FYIP) Mathematics Semester-I&II
(Session 2025-26)

Semester-I							
Course Code	Course Name	Course Type	Credits L-T-P	Marks			Examination time (in Hours)
				Total	Ext.	CA	

					L	P		
FMAM-1395	Mechanics-I	C	3-0-1	100	40	30	30	3
Semester-II								
FMAM- 2395	Mechanics-II	C	3-0-1	100	40	30	30	3

The house approved the Item: Phy 11: 2025:7

(Approved syllabus attached herewith as Annexure F)

Item: Phy 11: 2025: 8 To discuss course outcomes and syllabus of Add on Course in Household Physics for the session 2025-26. **(Annexure G)**

The syllabus and course outcomes of Add on Course in Household Physics for the session 2025-26, was discussed with the members and they approved it

SCHEME AND CURRICULUM OF EXAMINATION OF ADD ON COURSE

Three months Add on Course in Household Physics

Session 2025-26

Course Code	Course Title	Credit	Course Type	Max Marks			Examination Time (In Hours)
				Total	Ext.		
					L	P	
CPHM-1391	Household Physics	2	C	50	35	15	3 Hours

The house approved the Item: Phy 11: 2025:8

(Approved syllabus attached herewith as Annexure G)

Item: Phy 11: 2025:9 To approve the Examiners and Evaluators for Physics papers in B.Sc. Non-Medical and Computer Science, Semester I to VI **(Annexure H)**

The chairperson discussed the Examiners and Evaluators for Physics papers in B.Sc. Non-Medical and Computer Science, Semester I to VI with the members and they approved it.

(Lists attached herewith as Annexure H)

The house approved the Item: Phy 11: 2025:9

Item: Phy 11: 2025:10 To approve the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Physics, Semester I to IV. (Annexure I)

The chairperson discussed the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Physics, Semester I to IV with the members and they approved it.

(Lists attached herewith as Annexure I)

The house approved the Item: Phy 11: 2025:10

Item: Phy 11: 2025:11 To approve the Examiners and Evaluators for Physics papers in M.Sc. Physics, Semester I to IV (Annexure J)

The chairperson discussed the Examiners and Evaluators for Physics papers in M.Sc. Physics, Semester I to IV with the members and they approved it.

(Lists attached herewith as Annexure J)

The house approved the Item: Phy 11: 2025:11

Item: Phy 11: 2025:12 To approve the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Mathematics, Semester I and II (Annexure K)

The chairperson discussed the Examiners and Evaluators for Physics papers in M.Sc. (FYIP) Mathematics, Semester I and II with the members and they approved it.

(Lists attached herewith as Annexure K)

The house approved the Item: Phy 11: 2025:12

Item: Phy 11: 2025: 13 To discuss the inputs to upgrade the teaching methodologies during session 2024-25. (Annexure L)

The Chairperson spoke to the assembly about the students' accomplishments, departmental initiatives, workshops, seminars, mentoring sessions, and other key activities. The BOS experts commended the vibrant teaching culture at KMV and encouraged its continued excellence.

The house approved the Item: Phy 11: 2025:13

(Departmental achievements and teaching methodologies attached herewith as Annexure L)

Item: Phy 11: 2025: 14 To discuss research inputs and plans of the department for session 2024-25. (Annexure M)

The Chairperson briefed the assembly on the research achievements of the departmental faculty during the current session, including publications, granted patents, invited talks, published books, awards, and other accomplishments. The BOS experts acknowledged and praised the faculty's dedicated research efforts.

The house approved the Item: Phy 11: 2025:14

(Research Data attached herewith as Annexure M)

Item: Phy 11:2025: 15 To discuss the syllabus and course outcomes of Physics (Applied Optics) as Skill enhancement course in B.Sc Non Med and C.Sc Sem IV under **Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment** for the session 2025-26 (Annexure N).

The syllabus and course outcomes of Physics (Applied Optics) as Skill enhancement course in B.Sc Non Med and C.Sc Sem IV under **Credit Based Continuous Evaluation Grading system (CBCEGS) with 30% internal assessment** for the session 2025-26, was discussed with the members and they approved it

The house approved the Item: Phy 11: 2025:15

(Approved syllabus attached herewith as Annexure N)

Item: Phy 11:2025: 16 To analyse the results of the department for the even semester of 2023-24 and odd semester of 2024-25. (Annexure O)

Chairperson discussed the results and attainment of Programme Specific and Course outcomes of all programs of department (Lists attached herewith as Annexure O)

The house approved the Item: Phy 11: 2025:16

(Approved PSO and CO attainments attached herewith as Annexure O)

Dr. Sachin Tyagi suggested that students undertake visits and training at various glass industries to improve their placement opportunities. In response, the Chairperson highlighted that students are already involved in paid summer training programs at Gujarat Borosil and Asahi. Moreover, students are actively participating in glass sample preparation at CGCRI, Kolkata. The department has also submitted both national and international projects aimed at supporting

student growth. Overall, the meeting was a valuable learning experience, marked by insightful exchanges with esteemed members of the Board of Studies. The perspectives shared are expected to make a meaningful contribution to the department's continued progress.

(Chairperson)

Dr. Neetu Verma

Head

Department of Physics