

**KUNTHAVAI NAACCHIYAAR GOVT. ARTS COLLEGE FOR WOMEN (AUTONOMOUS),
THANJAVUR – 7.
DEPARTMENT OF PHYSICS**

INTERNAL BOARD OF STUDIES MINUTES

Thanjavur,
15.07.2025

The internal board of studies meeting for UG Physics was held on 15.07.2025.
The following resolutions were recorded.

- 1) In second year, third semester syllabus of B.Sc., Physics (Batch 2024), the Nan Mudhalvan paper – Foundation of Digital Marketing is introduced with 2 instruction hours and 2 credits instead of Home Electrical Installation paper (23K3PSEC5). Ultrasonics (23K3NMOP) is introduced as optional paper of Naan Mudhavan paper.
- 2) In the third year sixth semester syllabus of B.Sc., Physics (2023 Batch), one hour is taken from Electricity, Magnetism and Electromagnetism (23K5P09) and one hour is taken from Analog and Communication Electronics (23K5P11), total 2 hours is given to Naan Mudhalvan paper. Career Skill Enhancement and Employability Readiness (22K5NM) is introduced as NM paper. Radiation Physics (23K5NMOP) is the optional paper of NM paper.

The following are the members of the Board of studies in Physics, Kunthavai Naacchiyaar Govt. Arts College for Women (Autonomous), Thanjavur-613007.

- 1) Mrs.G.Anuradha
Head and Assistant Professor of Physics


15/7/25

- 2) Dr.K.Nithyadevi
Assistant Professor of Physics


15-7-25

- 3) Dr. K. Subha
Assistant Professor of Physics


15/7/25

- 4) Dr. P. Kavitha
Assistant Professor of Physics


15/7/25

- 5) Dr.M.Kayalvizhi
Guest Lecturer in Physics


15/7/25

- 6) Dr.V.P.Akila
Guest Lecturer in Physics


15/7/25

7) Dr.N.Nisha Banu

Guest Lecturer in Physics

N. Nisha Banu
15/7/25

8) Dr.A.Velumani

Guest Lecturer in Physics

A. Velumani
15/7/25

9) Mrs.M.Suganthi

Guest Lecturer in Physics

M. Suganthi
15/7/25

10) Mrs. A.Shalini Krubha

Guest Lecturer in Physics

11) Dr.K.Saritha

Guest Lecturer in Physics

K. Saritha
15/7/25

12) Dr.D.S.Vasanthi

Guest Lecturer in Physics

D. S. Vasanthi
15/7/25

13) Dr.N.Geetha

Guest Lecturer in Physics

N. Geetha
15/7/25

14) Dr.A.Jansi Santhosam

Guest Lecturer in Physics

A. Jansi Santhosam
15/7/25

15) Dr.S.Snega

Guest Lecturer in Physics

S. Snega
15/7/25

16) Dr.R.Tamil Thiruvalluvar

Guest Lecturer in Physics

R. Tamil Thiruvalluvar
15/7/25

17) Dr.A.Amalarani

Guest Lecturer in Physics

A. Amalarani
15/7/25

COE

Dr. G. G. G. G.
15/7/25
PRINCIPAL ITC

Dr. Beella
15/7/25
HOD

**KUNTHAVAI NAACCHIYAAR GOVT. ARTS COLLEGE FOR WOMEN (AUTONOMOUS),
THANJAVUR – 7.
DEPARTMENT OF PHYSICS**

INTERNAL BOARD OF STUDIES MINUTES

Thanjavur,
15.07.2025

The internal board of studies meeting for PG Physics was held on 15.07.2025. The board members resolved that the content of the syllabi can be followed without any correction / revision for the year 2025 – 2026.

The following are the members of the Board of studies in Physics, Kunthavai Naacchiyaar Govt. Arts College for Women(Autonomous), Thanjavur - 613007.

1. Mrs.G.Anuradha

Head and Assistant Professor of Physics

G. Anuradha
15/7/25

2. ~~Mrs.~~ Dr. K.Nithyadevi

Assistant Professor of Physics

K. Nithyadevi
15-7-25

3. Dr. K. Subha

Assistant Professor of Physics

K. Subha
15/7/25

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15/7/25

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14. Dr. A. Jansi Santhosam

Guest Lecturer in Physics

15. Dr. S. Snega

Guest Lecturer in Physics

16. Dr. R. Tamil Thiruvalluvar

Guest Lecturer in Physics

17. Dr. A. Amalarani

Guest Lecturer in Physics

J. Suresh
15/07/25

D. S. Vasanthi
15/7/25
Geetha
15/7/25

A. Jansi Santhosam
15/7/25

Snega
15/7/25

R. Tamil
15/7/25

A. Amalarani
15/07/25

Dr. D. S. Vasanthi
15/07/2025
PRINCIPAL i/c

A. R. Sella
15/7/25

COE

HOD



K. N. Govt. Arts College (W) Autonomous, Thaniavur - 7.
M.Sc., Physics Course Structure - TANSCH REGULATION
(For the candidates admitted from the academic year 2023 - 2024 onwards)

Sem ester	Course	Subject Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total
							Int.	Ext.	
I	CC 1	23KP1P01	Mathematical Physics	7	5	3	25	75	100
	CC 2	23KP1P02	Classical Mechanics and Relativity	7	5	3	25	75	100
	CC3 (P)	23KP1P03P	Practical I	6	4	3	25	75	100
	EL - I	23KP1PECP1:1	Linear and Digital ICs and Applications	5	3	3	25	75	100
		23KP1PECP1:2	Materials Science						
	EL - II	23KP1PECP2:1	Physics of Nanoscience and Technology	5	3	3	25	75	100
		23KP1PECP2:2	Astrophysics						
				30	20	-	125	375	500
II	CC 4	23KP2P04	Statistical Mechanics	6	5	3	25	75	100
	CC 5	23KP2P05	Quantum Mechanics - I	6	5	3	25	75	100
	CC6 (P)	23KP2P06P	Practical II	6	4	3	25	75	100
	EL - III	23KP2PECP3:1	Advanced Optics	4	3	3	25	75	100
		23KP2PECP3:2	Biophysics						
	EL - IV	23KP2PECP4:1	Microprocessor 8085 and Microcontroller 8051	4	3	3	25	75	100
		23KP2PECP4:2	Characterization of Materials						
	SEC - I	23KP2PSEC1	Crystal Growth and Thin Films	4	2	3	25	75	100
	ECC1	23KP2PECC1:1	Self Study- Solar Energy	-	3	3	-	100	100
		23KP2PECC1:2	MOOC	-	3	-	-	-	-
	ECC2	23KP2PECC2	Add on Course	-	4	-	-	-	-
				30	22	-	150	450	600
III	CC 7	23KP3P07	Quantum Mechanics - II	6	5	3	25	75	100
	CC 8	23KP3P08	Condensed Matter Physics	6	5	3	25	75	100
	CC 9	23KP3P09	Electromagnetic Theory	6	5	3	25	75	100
	CC10(P)	23KP3P10P	Numerical Methods and Computer Programming (FORTRAN / C) -Practical --	6	4	3	25	75	100
	EC - V	23KP3PECP5:1	Communication Electronics	3	3	3	25	75	100
		23KP3PECP5:2	Digital Communication						
	SEC - II	23KP3PSEC2	Energy Physics	3	2	3	25	75	100
	IT/IA	23KP3I	Internship / Industrial Activity	-	2	-	-	-	-
	ECC3	23KP3PECC3:1	Self Study - Laser Physics	-	3	-	-	100	100
		23KP3PECC3:2	MOOC	-	3	-	-	-	-
				30	26	-	150	450	600
IV	CC 11	23KP4P11	Nuclear and Particle Physics	6	5	3	25	75	100
	CC 12	23KP4P12	Spectroscopy	6	5	3	25	75	100
	Project	23KP4PPW	Project with Viva voce	10	7	-	-	100	100
	EL- VI (P)	23KP4PECP6P	Practical - IV	4	3	3	25	75	100
	SEC -III	23KP4PSEC3	Numerical Methods and Computer Programming	4	2	3	25	75	100
	EA	23KP4EA	Extension Activities	-	1	-	-	-	-
				30	23	-	100	400	500
				120	91	-	525	1675	2200

G. Radha
15/7/25



Kunthavai Naacchiyaar Govt. Arts College for Women (Autonomous), Thanjavur - 7.

B.Sc., PHYSICS Course Structure TANSCH REGULATION

(For the candidates admitted from the academic year 2023 - 2024 onwards)

Semester	Part	Course	Subject Code	Title of the Paper	Inst. Hrs.	Credit	Exam. Hrs.	Marks		Total
								Int.	Ext.	
I	I	LC 1	23K1T1	Tamil-I	6	3	3	25	75	100
	II	ELC 1	23K1E1	English-I	6	3	3	25	75	100
	III	CC 1	23K1P01	Properties of Matter and Acoustics	5	5	3	25	75	100
		CC 2 (P)	23K1P02P	Physics Practical 1	3	3	3	25	75	100
		EC 1	23K1CH/P/CSECM1:1	Algebra and Calculus	4	4	3	25	75	100
			23K1CH/P/CSECM1:2	Numerical Methods with Applications						
		EC 2		Differential Equations and Laplace Transforms	2	-	-	-	-	-
				Number Theory						
	IV	SEC 1	23K1PSEC1	Physics For Everyday Life	2	2	3	25	75	100
		FC	23K1PFC	Introductory Physics	2	2	3	25	75	100
Total					30	22	-	175	525	700
II	I	LC 2	23K2T2	Tamil-II	6	3	3	25	75	100
	II	ELC 2	23K2E2	English-II	6	3	3	25	75	100
	III	CC 3	23K2P03	Heat, Thermodynamics and Statistical Physics	5	5	3	25	75	100
		CC 4 (P)	23K2P04P	Physics Practical 2	3	3	3	25	75	100
		EC 2	23K2CH/P/CSECM2:1	Differential Equations and Laplace Transforms	2	2	3	25	75	100
			23K2CH/P/CSECM2:2	Number Theory						
		EC 3	23K2CH/P/CSECM3:1	Discrete Mathematics	4	3	3	25	75	100
			23K2CH/P/CSECM3:2	Mathematical Statistics						
	IV	SEC 2	23K2PSEC2	Astrophysics	2	2	3	25	75	100
		SEC 3	23K2PSEC3	Medical Physics	2	2	3	25	75	100
Total					30	23	-	200	600	800
III	I	LC 3	23K3T3	Tamil-III	6	3	3	25	75	100
	II	ELC 3	23K3E3	English-III	6	3	3	25	75	100
	III	CC 5	23K3P05	Mechanics	5	5	3	25	75	100
		CC 6 (P)	23K3P06P	Physics Practical 3	3	3	3	25	75	100
		EC 4	23K3B/P/ZECCH4:1	Elective Chemistry - I	4	4	3	25	75	100
			23K3B/P/ZECCH4:2	Chemistry for Biological and Physical Sciences - I						
		EC 5		Volumetric and Organic Analysis Practical	2	-	-	-	-	-
		IV	SEC 4	23K3PSEC4	Entrepreneurial Skill - Electrical Appliances and Safety	1	1	3	25	75
	SEC 5		23K3PSEC5	Home Electrical Installation	2	2	3	25	75	100
	EVS			Environmental Science	1	-	-	-	-	-
	ECC1		23K3PECC1:1	Self Study	-	3	3	-	100	100
			23K3PECC1:2	MOOC	-	3	-	-	-	-
	ECC2		23K3PECC2	Add on Course	-	4	-	-	-	-
Total					30	21	-	175	525	700

G. R. Reddy
15/7/23

IV	I	LC 4	23K4T4	Tamil-IV	6	3	3	25	75	100
	II	ELC 4	23K4E4	English-IV	6	3	3	25	75	100
	III	CC 7	23K4P07	Optics and Laser Physics	4	4	3	25	75	100
		CC 8 (P)	23K4P08P	Physics Practical 4	3	3	3	25	75	100
		EC5	23K4B/P/ZECCH5P	Volumetric and Organic Analysis Practical	2	2	3	25	75	100
		EC 6	23K4B/P/ZECCH6:1	Elective Chemistry - II	4	3	3	25	75	100
			23K4B/P/ZECCH6:2	Chemistry for Biological and Physical Sciences - II						
	IV	SEC 6	23K4PSEC6	Energy Physics	2	2	3	25	75	100
		SEC 7	23K4PSEC7	Physics Of Music	2	2	3	25	75	100
		EVS	23K4EVS	Environmental Science	1	2	3	25	75	100
		ECC3	23K4PECC3:1	Self Study	-	3	3	-	100	100
			23K4PECC3:2	MOOC	-	3	-	-	-	-
	Total				30	24	-	225	675	900
V	III	CC 9	23K5P09	Electricity, Magnetism and Electromagnetism	7	6	3	25	75	100
		CC 10	23K5P10	Atomic and Nuclear Physics	6	5	3	25	75	100
		CC 11	23K5P11	Analog and Communication Electronics	7	5	3	25	75	100
		CC 12 (P)	23K5P12P	Physics Practical 5	3	3	3	25	75	100
		EC7	23K5PECP7:1	Nanoscience and Nanotechnology	5	3	3	25	75	100
			23K5PECP7:2	Communication Systems						
	IV	VE	23K5VE	Value Education	2	2	3	25	75	100
		IT	23K5I	Internship / Industrial Training	-	2	-	-	-	-
	Total				30	26	-	150	450	600
	VI	III	CC 13	23K6P13	Quantum Mechanics and Relativity	7	5	3	25	75
CC 14			23K6P14	Solid State Physics	6	5	3	25	75	100
CC 15			23K6P15	Digital Electronics and Microprocessor 8085	7	5	3	25	75	100
CC 16 (P)			23K6P16P	Physics Practical 6	3	3	3	25	75	100
EC8			23K6PECP8:1	Mathematical Physics	4	3	3	25	75	100
		23K6PECP8:2	Digital Photography							
IV		SEC 8	23K6PSEC8	Professional Competency Skill	2	2	3	25	75	100
V		GS	23K6GS	பாலினக்கல்வி (Gender Studies)	1	1	3	25	75	100
		EA	23K6EA	Extention Activity	-	1	-	-	-	-
Total				30	25	-	175	525	700	
Grand Total				180	141	-	1100	3300	4400	

(Signature)
15/7/25



Semester	Part	Course	Subject Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total
								Int.	Ext.	
I	I	LC 1	23K1T1	Tamil-I	6	3	3	25	75	100
	II	ELC 1	23K1E1	English-I	6	3	3	25	75	100
	III	CC 1	23K1P01	Properties of Matter and Acoustics	5	5	3	25	75	100
		CC 2 (P)	23K1P02P	Physics Practical 1	3	3	3	25	75	100
		EC 1	23K1CH/P/CSECM1:1	Algebra and Calculus	4	4	3	25	75	100
			23K1CH/P/CSECM1:2	Numerical Methods with Applications						
		EC 2		Differential Equations and Laplace Transforms	2	-	-	-	-	-
				Number Theory						
	IV	SEC 1	23K1PSEC1	Physics For Everyday Life	2	2	3	25	75	100
		FC	23K1PFC	Introductory Physics	2	2	3	25	75	100
Total					30	22	-	175	525	700
II	I	LC 2	23K2T2	Tamil-II	6	3	3	25	75	100
	II	ELC 2	23K2E2	English-II	4	3	3	25	75	100
	III	CC 3	23K2P03	Heat, Thermodynamics and Statistical Physics	5	5	3	25	75	100
		CC 4 (P)	23K2P04P	Physics Practical 2	3	3	3	25	75	100
		EC 2	23K2CH/P/CSECM2:1	Differential Equations and Laplace Transforms	2	2	3	25	75	100
			23K2CH/P/CSECM2:2	Number Theory						
		EC 3	23K2CH/P/CSECM3:1	Discrete Mathematics	4	3	3	25	75	100
			23K2CH/P/CSECM3:2	Mathematical Statistics						
	IV	SEC 2	23K2PSEC2	Astrophysics	2	2	3	25	75	100
		SEC 3	23K2PSEC3	Physics of Medical Instruments	2	2	3	25	75	100
		NM	23K2NM	English Language Communication	2	2	-	25	75	100
		NMO	23K2NMOP	Geophysics						
	Total					30	25	-	225	675
III	I	LC 3	23K3T3	Tamil-III	6	3	3	25	75	100
	II	ELC 3	23K3E3	English-III	6	3	3	25	75	100
	III	CC 5	23K3P05	Mechanics	5	5	3	25	75	100
		CC 6 (P)	23K3P06P	Physics Practical 3	3	3	3	25	75	100
		EC 4	23K3B/P/ZECCH4:1	Elective Chemistry - I	4	4	3	25	75	100
			23K3B/P/ZECCH4:2	Chemistry for Biological and Physical Sciences - I						
		EC 5		Volumetric and Organic Analysis Practical	2	-	-	-	-	-
	IV	SEC 4	23K3PSEC4	Entrepreneurial Skill- Electrical Appliances and Safety	1	1	3	25	75	100
		NM	23K3NM	Foundation of Digital Marketing	2	2	3	25	75	100
		NMO	23K3NMOP	Ultrasonics						
		EVS		Environmental Science	1	-	-	-	-	-
		ECC1	23K3PECC1:1	Self Study - Electrical Installation	-	3	3	-	100	100
			23K3PECC1:2	MOOC	-	3	-	-	-	-
		ECC2	23K3PECC2	Add on Course	-	4	-	-	-	-
	Total					30	21	-	175	525

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IV	I	LC 4	23K4T4	Tamil-IV	6	3	3	25	75	100	
	II	ELC 4	23K4E4	English-IV	6	3	3	25	75	100	
	III	CC 7	23K4P07	Optics and Laser Physics	4	4	3	25	75	100	
		CC 8 (P)	23K4P08P	Physics Practical 4	3	3	3	25	75	100	
		EC5	23K4B/P/ZECCH5P	Volumetric and Organic Analysis Practical	2	2	3	25	75	100	
		EC 6	23K4B/P/ZECCH6:1	Elective Chemistry - II	4	3	3	25	75	100	
			23K4B/P/ZECCH6:2	Chemistry for Biological and Physical Sciences - II							
	IV	SEC 5	23K4PSEC5	Energy Physics	2	2	3	25	75	100	
		SEC 6	23K4PSEC6	Physics Of Music	2	2	3	25	75	100	
		EVS	23K4EVS	Environmental Science	1	2	3	25	75	100	
		ECC3	23K4PECC3:1	Self Study-Electrical Circuit Theory	-	3	3	-	100	100	
			23K4PECC3:2	MOOC	-	3	-	-	-	-	
	Total					30	24	-	225	675	900
V	III	CC 9	23K5P09	Electricity, Magnetism and Electromagnetism	7	6	3	25	75	100	
		CC 10	23K5P10	Atomic and Nuclear Physics	6	5	3	25	75	100	
		CC 11	23K5P11	Analog and Communication Electronics	7	5	3	25	75	100	
		CC 12 (P)	23K5P12P	Physics Practical 5	3	3	3	25	75	100	
		EC7	23K5PECP7:1	Nanoscience and Nanotechnology	5	3	3	25	75	100	
			23K5PECP7:2	Communication Physics							
	IV	VE	23K5VE	Value Education	2	2	3	25	75	100	
		IT	23K5I	Internship / Industrial Training	-	2	-	-	-	-	
	Total					30	26	-	150	450	600
	VI	III	CC 13	23K6P13	Quantum Mechanics and Relativity	7	5	3	25	75	100
CC 14			23K6P14	Solid State Physics	6	5	3	25	75	100	
CC 15			23K6P15	Digital Electronics and Microprocessor 8085	7	5	3	25	75	100	
CC 16 (P)			23K6P16P	Physics Practical 6	3	3	3	25	75	100	
EC8			23K6PECP8:1	Numerical Methods and C Programming	4	3	3	25	75	100	
		23K6PECP8:2	Digital Photography								
IV		SEC 7	23K6PSEC7	Professional Competency Skill	2	2	3	25	75	100	
V		GS	23K6GS	பாலினக்கல்வி (Gender Studies)	1	1	3	25	75	100	
		EA	23K6EA	Extention Activity	-	1	-	-	-	-	
Total					30	25	-	175	525	700	
Grand Total					180	143	-	1125	3375	4500	

Handwritten signature and date:
 15/7/23



Kunthavai Naacchiyaar Govt. Arts College for Women (Autonomous), Thanjavur - 7.

B.Sc., PHYSICS Course Structure TANSCH REGULATION

(For the candidates admitted from the academic year 2023 - 2024 onwards)

Semester	Part	Course	Subject Code	Title of the Paper	Inst. Hrs.	Credit	Exam Hrs.	Marks		Total	
								Int.	Ext.		
I	I	LC 1	23K1T1	Tamil-I	6	3	3	25	75	100	
	II	ELC 1	23K1E1	English-I	6	3	3	25	75	100	
	III	CC 1	23K1P01	Properties of Matter and Acoustics	5	5	3	25	75	100	
		CC 2 (P)	23K1P02P	Physics Practical 1	3	3	3	25	75	100	
		EC 1	23K1CH/P/CSECM1:1	Algebra and Calculus	4	4	3	25	75	100	
			23K1CH/P/CSECM1:2	Numerical Methods with Applications							
		EC 2		Differential Equations and Laplace Transforms	2	-	-	-	-	-	
				Number Theory							
	IV	SEC 1	23K1PSEC1	Physics For Everyday Life	2	2	3	25	75	100	
		FC	23K1PFC	Introductory Physics	2	2	3	25	75	100	
Total					30	22	-	175	525	700	
II	I	LC 2	23K2T2	Tamil-II	6	3	3	25	75	100	
	II	ELC 2	23K2E2	English-II	4	3	3	25	75	100	
	III	CC 3	23K2P03	Heat, Thermodynamics and Statistical Physics	5	5	3	25	75	100	
		CC 4 (P)	23K2P04P	Physics Practical 2	3	3	3	25	75	100	
		EC 2	23K2CH/P/CSECM2:1	Differential Equations and Laplace Transforms	2	2	3	25	75	100	
			23K2CH/P/CSECM2:2	Number Theory							
		EC 3	23K2CH/P/CSECM3:1	Discrete Mathematics	4	3	3	25	75	100	
			23K2CH/P/CSECM3:2	Mathematical Statistics							
	IV	SEC 2	23K2PSEC2	Astrophysics	2	2	3	25	75	100	
		SEC 3	23K2PSEC3	Physics of Medical Instruments	2	2	3	25	75	100	
		NM	23K2NM	English Language Communication	2	2	-	25	75	100	
		NMO	23K2NMOP	Environmental Physics							
	Total					30	25	-	225	675	900
	III	I	LC 3	23K3T3	Tamil-III	6	3	3	25	75	100
II		ELC 3	23K3E3	English-III	6	3	3	25	75	100	
III		CC 5	23K3P05	Mechanics	5	5	3	25	75	100	
		CC 6 (P)	23K3P06P	Physics Practical 3	3	3	3	25	75	100	
		EC 4	23K3B/P/ZECCH4:1	Elective Chemistry - I	4	4	3	25	75	100	
			23K3B/P/ZECCH4:2	Chemistry for Biological and Physical Sciences - I							
		EC 5		Volumetric and Organic Analysis Practical	2	-	-	-	-	-	
IV		SEC 4	23K3PSEC4	Entrepreneurial Skill- Electrical Appliances and Safety	1	1	3	25	75	100	
		NM	23K3NM	Digital Skills for Employability	2	2	3	25	75	100	
			NMO	23K3NMOP							Ultrasonics
		EVS		Environmental Science	1	-	-	-	-	-	
		ECC1	23K3PECC1:1	Self Study - Electrical Installation	-	3	3	-	100	100	
			23K3PECC1:2	MOOC	-	3	-	-	-	-	
		ECC2	23K3PECC2	Add on Course	-	4	-	-	-	-	
		Total					30	21	-	175	525

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IV	I	LC 4	23K4T4	Tamil-IV	6	3	3	25	75	100	
	II	ELC 4	23K4E4	English-IV	6	3	3	25	75	100	
	III	CC 7	23K4P07	Optics and Laser Physics	4	4	3	25	75	100	
		CC 8 (P)	23K4P08P	Physics Practical 4	3	3	3	25	75	100	
		EC5	23K4B/P/ZECCH5P	Volumetric and Organic Analysis Practical	2	2	3	25	75	100	
		EC 6	23K4B/P/ZECCH6:1	Elective Chemistry - II	4	3	3	25	75	100	
			23K4B/P/ZECCH6:2	Chemistry for Biological and Physical Sciences - II							
	IV	SEC 5	23K4PSEC5	Energy Physics	2	2	3	25	75	100	
		NM	23K4NMM/P/S	Power BI	2	2	3	25	75	100	
		NMO	23K4NMOP	Physics of Music							
		EVS	23K4EVS	Environmental Science	1	2	3	25	75	100	
		ECC3	23K4PECC3:1	Self Study-Electrical Circuit Theory	-	3	3	-	100	100	
			23K4PECC3:2	MOOC	-	3	-	-	-	-	
	Total					30	24	-	225	675	900
V	III	CC 9	23K5P09	Electricity, Magnetism and Electromagnetism	6	6	3	25	75	100	
		CC 10	23K5P10	Atomic and Nuclear Physics	6	5	3	25	75	100	
		CC 11	23K5P11	Analog and Communication Electronics	6	5	3	25	75	100	
		CC 12 (P)	23K5P12P	Physics Practical 5	3	3	3	25	75	100	
		EC7	23K5PECP7:1	Nanoscience and Nanotechnology	5	3	3	25	75	100	
			23K5PECP7:2	Communication Physics							
	IV	NM	23K5NM	Career Skill Enhancement and Employability Readiness	2	2	3	25	75	100	
		NMO	23K5NMOP	Radiation Physics							
		VE	23K5VE	Value Education	2	2	3	25	75	100	
		IT	23K5I	Internship / Industrial Training	-	2	-	-	-	-	
	Total					30	28	-	175	525	700
	VI	III	CC 13	23K6P13	Quantum Mechanics and Relativity	7	5	3	25	75	100
			CC 14	23K6P14	Solid State Physics	6	5	3	25	75	100
			CC 15	23K6P15	Digital Electronics and Microprocessor 8085	7	5	3	25	75	100
CC 16 (P)			23K6P16P	Physics Practical 6	3	3	3	25	75	100	
EC8			23K6PECP8:1	Numerical Methods and C Programming	4	3	3	25	75	100	
			23K6PECP8:2	Digital Photography							
IV		SEC 6	23K6PSEC6	Professional Competency Skill	2	2	3	25	75	100	
V		GS	23K6GS	பாலினக்கல்வி (Gender Studies)	1	1	3	25	75	100	
		EA	23K6EA	Extention Activity	-	1	-	-	-	-	
Total					30	25	-	175	525	700	
Grand Total					180	145	-	1150	3450	4600	

செப்டம்பர் 15/12/25

Radiation Physics	
Subject Code : 23K5NMOP	
Learning Objective: The objective of radiation physics are to understand the nature of radiation, how it interacts with matter and how to measure and utilize it safely and effectively.	
UNITS	COURSE DETAILS
UNIT-I	Introduction to the Nucleus : Introduction - Classification of Nuclei - General properties of the nucleus – Binding energy – Mass of the nucleus - Nuclear stability – Nuclear forces – Nuclear Models – Liquid drop model.
UNIT-II	Detectors of Nuclear Radiations : Introduction – Interaction between energetic particles and matter – Ionization chamber – Proportional counter – Geiger-Muller counter – Wilson cloud chamber – Bubble chamber.
UNIT-III	Particle Accelerators : Introduction – Van de Graff generator – Linear accelerator – Cyclotron – Synchrocyclotron - Betatron – Synchrotrons – Proton Synchrotron.
UNIT-IV	Radioactivity: Discovery of Radioactivity – Natural Radioactivity - Alpha, Beta and Gamma rays - Nuclear decay - Alpha decay – Gamow's theory of Alpha decay - Beta decay – Biological effects of Nuclear radiations.
UNIT-V	Radiation Hazards and Safety : Radiation Hazards – Radiation levels of safety – Radiation production methods – Nuclear Disasters – Nuclear waste disposal.
TEXT BOOKS	1. Nuclear Physics, S.N. Ghoshal, S Chand & Company, 1994. 2. Nuclear Physics - An Introduction, S. B. Patel S B, New Age International (P) Limited, Publishers. 3. Nuclear Physics - Theory and Experiment, R.K.Roy and P.P.Nigam.John Wiley & Sons. 4. Modern Physics, R.Murugesan, KiruthigaSivaprasath. S. Chand & Company LTD.

G. R. Sella
15/7/25

COURSE	SELF STUDY
COURSE TITLE	ELECTRICAL INSTALLATION
COURSE CODE	23K3PECC1:1
CREDITS	3
COURSE OBJECTIVES	The students will get knowledge on electrical instruments, installations and domestic wiring techniques with safety precautions and servicing.

ELECTRICAL INSTALLATION	
UNITS	COURSE DETAILS
UNIT-I	SIMPLE ELECTRICAL CIRCUITS: Charge, Current, Potential difference, Resistance – Ohm's law – Difference between DC and AC – Electromagnetic induction – Transformers – Capacitors / Condensers – AC ammeter, Voltmeter – Symbols and Nomenclature
UNIT-II	TRANSMISSION OF ELECTRICITY: Series and parallel connections – Transmission losses (qualitative) – Step-up and Step-down transformers – Quality of connecting wires – Characteristics of single and multicore wires
UNIT-III	ELECTRICAL WIRING: Different types of switches – Installation of two way switch – Role of Sockets, Plugs – Basic switch board – Electrical bell – Indicator – Fixing of tube lights and fans – Provisions for inverter
UNIT-IV	POWER RATING AND POWER DELIVERED: Conversion of electrical energy in to different forms – Work done by electrical energy – Power rating of electrical appliances – Energy consumption – Calculation of EB bill – Joule's heating – Single and Three phase connections – Measures to save electrical energy
UNIT-V	SAFETY MEASURES: Insulation for wires – Colour specification for mains, return and earth – Purpose of earth line – Lighting arrestors – Short circuiting and over loading – Electrical safety – Tips to avoid electrical shock – First aid for electrical shock – Fire safety for electric current
TEXT BOOKS	1. Wiring a House: 5th Edition by Rex Cauldwell, (2014). 2. Black & Decker Advanced Home Wiring, 5th Edition: Backup Power - Panel Upgrades - AFCI Protection - "Smart" Thermostats, by Editors of Cool Springs Press, (2018). 3. Complete Beginners Guide to Rough in Electrical Wiring: by Kevin Ryan (2022).

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester Examination	Total	Grade
25	75	100	

G. R. Sella
15/7/25

COURSE	NMOP
COURSETITLE	ULTRASONICS
COURSE CODE	23K3NMOP
CREDITS	2
COURSE OBJECTIVES	To learn the basic concepts of ultrasonic waves and to study the applications of ultrasonic waves in various fields.

Unit I: Fundamentals of Ultrasound

Introduction – Classification of sound waves – Different modes of ultrasonic waves – Characteristic properties of ultrasonic waves – Velocity – Specific acoustic impedance – acoustic intensity and pressure – Reflection and Transmission at normal incidence.

Unit II: Ultrasonic Transducers

Different types of sources of ultrasound –Magnetostrictive method Piezoelectric method – Laser method – Piezoelectric Crystals – Advantages and Limitations of Quartz .

Unit III: Measurement Techniques of Ultrasound

Detection of Ultrasonic waves – Optical method – Electrical method – Pulse echo overlap method – Resonance ultrasound spectroscopy.

Unit IV: Applications of Ultrasound – General and Advanced

Classification of Ultrasonic Applications – Welding – Cleaning – Food industry – Sensor for temperature and pressure measurements – Echo sounder – Thickness measurements – Ultrasonic Microscopy – Acoustic Holography.

Unit V: Ultrasonic Non-Destructive Testing

Advantages of NDT – Classification of Non-Destructive Testing – ultrasonic testing – Flaw Detector – Functions of a flaw detector – Different types of scan – A-scan, B-scan, C-scan.

Book for study

1. Baldev Raj, Rajendran V, Palanichamy P, *Science and Technology of Ultrasonics*, Second edition, Narosa Publishing House Pvt Ltd, New Delhi, 2009.

Book for Reference

1. Dale Ensminger and Leonard J. Bond, *Ultrasonics: Fundamentals, Technologies and Applications*, Third Edition, CRC Press, 1988.

METHOD OF EVALUATION:

Continuous Internal Assessment	End Semester Examination	Total	Grade
25	75	100	

G. Reddy
15/7/25