Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-I (Effect from June, 2024)										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Mechanics and Properties of Matter	UT01MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Applied Physics Practicals –I	UT01MAAPC02	Core (Disciplinary Major)	P	4	8	3	50	50	100
3	Basic Chemistry –I	UT01MIAPC01	Interdisciplinary Minor	T	2	2	1.30	25	25	50
4	Chemistry Practicals –I	UT01MIAPC02	Interdisciplinary Minor	P	2	4	2	25	25	50
5	Basic Instrumentation	UT01MDAPC01	MDC	T	2	2	1.30	25	25	50
6	Basic Instrumentation Practicals	UT01MDAPC02	MDC	P	2	4	2	25	25	50
7	English - 1	UT01AEAPC01	AEC	T	2	2	1.30	25	25	50
8	Basic IT Tools	UT01SEAPC01	SEC	T	2	2	1.30	25	25	50
9	IKS-I	UT01IKAPC01	IKS	T	2	2	1.30	25	25	50
					22					550

Credits for semester-I

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
8	4	4	2	2	2		22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-II										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Optics and Basic Electronics	UT02MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Applied Physics Practical-II	UT02MAAPC02	Core (Disciplinary Major)	P	4	8	3	50	50	100
3	Basic Chemistry –II	UT02MIAPC01	Interdisciplinary Minor	T	2	2	1.30	25	25	50
4	Titrimetric Analysis Practicals	UT02MIAPC02	Inter Disciplinary Minor	P	2	4	2	25	25	50
5	Biophysics	UT02MDAPC01	MDC	T	2	2	1.30	25	25	50
6	Biophysics Practical	UT02MDAPC02	MDC	P	2	4	2	25	25	50
7	Personality Development	UT02AEAPC02	AEC (Compulsory)	T	2	2	1.30	25	25	50
8	Accounting and Tally	UT02SEAPC01	SEC	T	2	2	1.30	25	25	50
9	IKS-II (Introduction to Indian Knowledge System)	UT02IKAPC01	VAC	T	2	2	1.30	25	25	50
					22					550

Credits for semester-II

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
8	4	4	2	2	2		22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-III										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Optics and Telescope	UT03MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Digital Electronics & Optoelectronic Devices	UT03MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
3	Applied Physics Practicals-III	UT03MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100
4	Bioinorganic Compounds	UT03MDAPC01	MDC	T	2	2	1.30	25	25	50
5	Bioinorganic Compounds Practicals	UT03MDAPC02	MDC	P	2	4	2	25	25	50
6	Functional Grammar and Composition	UT03AEAPC01	AEC (Compulsory)	T	2	2	1.30	25	25	50
7	Finance for Everyone	UT03SEAPC01	SEC	T	2	2	1.30	25	25	50
8	Intellectual property rights (IPR)	UT03VAAPC01	VAC	T	2	2	1.30	25	25	50
					22					550

Credits for semester-III

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	0	4	2	2	2		22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-IV										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Spectroscopy	UT04MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Electricity, Magnetism and Solid State Electronics	UT04MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
3	Applied Physics Practicals-IV	UT04MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100
4	Applied Chemistry (Polymer Chemistry)	UT04MIAPC01	(Interdisciplinary Minor)	T	2	2	1.30	25	25	50
5	Applied Chemistry Practical (Polymer Chemistry)	UT04MIAPC02	(Inter Disciplinary Minor)	P	2	4	2	25	25	50
6	Marketing and Mass communication	UT04AEAPC01	AEC (Compulsory)	T	2	2	1.30	25	25	50
7	Maintenance and Testing of Home Appliances	UT04SEAPC01	SEC	T	2	2	1.30	25	25	50
8	Environmental Safety	UT04VAAPC01	VAC	T	2	2	1.30	25	25	50
					22					550

Credits for semester-IV

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	4	0	2	2	2		22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-V										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Quantum and Statistical Mechanics	UT05MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Mathematical Methods	UT05MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
3	Applied Physics Practicals-V	UT05MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100
4	Solid State Physics	UT05MIAPC01	(Disciplinary Minor)	T	4	4	2.30	50	50	100
5	Applied Physics Practicals-VI	UT05MIAPC01	(Disciplinary Minor)	P	4	8	3	50	50	100
6	Quality Assurance and Regulatory Affairs	UT05SEAPC01	SEC	T	2	2	1.30	25	25	50
					22					550

Credits for semester-V

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	8	0	0	2	0		22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-VI										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Advanced Quantum Mechanics	UT06MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Instrumentation and Sensors	UT06MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
3	Applied Physics Practicals-VII	UT06MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100
4	Thermal and Nuclear Physics	UT06MIAPC01	(Disciplinary Minor)	T	2	2	1.30	25	25	50
5	Applied Physics Practicals-VIII	UT06MIAPC02	(Disciplinary Minor)	P	2	4	2	25	25	50
6	Life Skills/ Electronic Communication	UT06AEAPC01	AEC	T	2	4	1.30	25	25	50
7	Internship	UT06SEAPC01	SEC		4	120 total		0	100	100
					22					550

Credits for semester-VI

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	4	0	2	0		4	22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure
(Credit Framework for 3-Year B.Sc. Applied Physics Programme)

Semester	Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
I	8	4	4	2	2	2		22
II	8	4	4	2	2	2		22
III	12	0	4	2	2	2		22
IV	12	4	0	2	2	2	0	22
V	12	8	0	0	2	0	0	22
VI	16 (12+4)	4	0	2	0	0	4	22
Total	68 (64+4)	24 (12+12)	12	10	10	8	4	132

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-VII										
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks		
								Internal	External	Total
1	Basic of Mathematical Tools & Quantum Statistics	UT07MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
2	Applied Electronics (Semiconductor Device, FET, MOSFET, Microprocessor)	UT07MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100
3	Practical	UT07MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100
3	Nanotechnology	UT07MIAPC01	(Disciplinary Minor)	T	2	2	1.30	25	25	50
4	Practical	UT07MIAPC02	(Disciplinary Minor)	P	2	4	2	25	25	50
5	Internship/OJT	UT07ISAPC01 or UT07OJAPC01			6	180 total			150	150
					22					550

Credit for semester -VII

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	4	0	0	0		6	22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure

Semester-VIII											
Sr. No	Subject	Course Code	Course Type	T/P	Credit	Number of hours per week	Exam Duration In Hrs	Component of Marks			
								Internal	External	Total	
1	Classical Mechanics & Atom-Molecular spectroscopy	UT08MAAPC01	Core (Disciplinary Major)	T	4	4	2.30	50	50	100	
2	Electrodynamics and Plasma	UT08MAAPC02	Core (Disciplinary Major)	T	4	4	2.30	50	50	100	
3	Practical	UT08MAAPC03	Core (Disciplinary Major)	P	4	8	3	50	50	100	
3	Elements of Applied Physics (Vacuum Science, X-ray, TGA, UV-Vis, XPS, XRF, AES)	UT08MIAPC01	(Disciplinary Minor)	T	2	2	1.30	25	25	50	
4	Practical	UT08MIAPC02	(Disciplinary Minor)	P	2	4	2	25	25	50	
5	Internship/OJT	UT08ISAPC01 or UT08OJAPC01			6	120 total			150	150	
					22						

Credits for Semester -VIII

Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
12	4	0	0	0		6	22

Department of Applied and Interdisciplinary Sciences
Sardar Patel University
Vallabh Vidyanagar-388120
B.Sc. Applied Physics Course Structure
(Credit Framework for 4-Year B.Sc. Applied Physics Programme)

Semester	Major Course	Minor Course	MDC	AEC	SEC	VAC/IKS	Internship	Total
I	8	4	4	2	2	2		22
II	8	4	4	2	2	2		22
III	12	0	4	2	2	2		22
IV	12	4	0	2	2	2	0	22
V	12	8	0		2		0	22
VI	16 (12+4)	4	0	2	0		4	22
VII	12	4	0	0	0		6	22
VIII	12	4	0	0	0		6	22
Total	92 (88+4)	32	12	10	10	8	12	176