

**SARDAR PATEL UNIVERSITY**  
**B.Sc. Semester: V**  
**(Under Choice Based Credit Scheme)**  
**Syllabus with Effect from: 2023-24**

Course Type	Course Code	Name Of Course	T / P	Credit	Contact Hours Per Week	Exam Duration in hrs	Component of Marks		
							Internal	External	Total
<b>Core Course (Any One Group)</b>									
<b>Chemistry</b>	US05CCHE51	Organic Chemistry	T	4	4	3	30	70	100
	US05CCHE52	Inorganic Chemistry	T	4	4	3	30	70	100
	US05CCHE53	Physical Chemistry	T	4	4	3	30	70	100
	US05CCHE54	Analytical Chemistry	T	4	4	3	30	70	100
	US05CCHE55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Electronics</b>	US05CELE51	Instrumentation	T	4	4	3	30	70	100
	US05CELE52	Digital System	T	4	4	3	30	70	100
	US05CELE53	8-Bit Microprocessor Programming & Applications	T	4	4	3	30	70	100
	US05CELE54	Analog Communication	T	4	4	3	30	70	100
	US05CELE55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Physics</b>	US05CPHY51	Classical Mechanics	T	4	4	3	30	70	100
	US05CPHY52	Mathematical Methods	T	4	4	3	30	70	100
	US05CPHY53	Thermodynamics and Statistical Mechanics	T	4	4	3	30	70	100
	US05CPHY54	Analog and Digital Circuits	T	4	4	3	30	70	100
	US05CPHY55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Mathematics</b>	US05CMTH51	Real Analysis-I	T	4	4	3	30	70	100
	US05CMTH52	Real Analysis-II	T	4	4	3	30	70	100
	US05CMTH53	Group Theory	T	4	4	3	30	70	100
	US05CMTH54	Metric Spaces and Topological Spaces	T	4	4	3	30	70	100
	US05CMTH55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200

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<b>Biochemistry</b>	US05CBCH51	Molecular Biochemistry	T	4	4	3	30	70	100
	US05CBCH52	Enzymology	T	4	4	3	30	70	100
	US05CBCH53	Human Metabolism	T	4	4	3	30	70	100
	US05CBCH54	Human Physiology	T	4	4	3	30	70	100
	US05CBCH55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Biotechnology</b>	US05CBIT51	Cell biology and Genetics	T	4	4	3	30	70	100
	US05CBIT52	Enzymology & Metabolism	T	4	4	3	30	70	100
	US05CBIT53	R-DNA Technology	T	4	4	3	30	70	100
	US05CBIT54	Fundamentals of Immunology	T	4	4	3	30	70	100
	US05CBIT55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Botany</b>	US05CBOT51	Microbiology and Phycology	T	4	4	3	30	70	100
	US05CBOT52	Genetics and Molecular Biology	T	4	4	3	30	70	100
	US05CBOT53	Plant Ecology and Phytogeography	T	4	4	3	30	70	100
	US05CBOT54	Plant Systematic	T	4	4	3	30	70	100
	US05CBOT55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Microbiology</b>	US05CMIC51	Bacterial Genetics	T	4	4	3	30	70	100
	US05CMIC52	Microbial Metabolism	T	4	4	3	30	70	100
	US05CMIC53	Virology and Mycology	T	4	4	3	30	70	100
	US05CMIC54	Fermentation Technology-I	T	4	4	3	30	70	100
	US05CMIC55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Zoology</b>	US05CZOO51	Invertebrate	T	4	4	3	30	70	100
	US05CZOO52	Physiology	T	4	4	3	30	70	100
	US05CZOO53	Genetics & Biotechnology	T	4	4	3	30	70	100
	US05CZOO54	Ecology & Animal Behaviour	T	4	4	3	30	70	100
	US05CZOO55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200

Course Type	Course Code	Name Of Course	T /P	Credit	Contact Hours Per Week	Exam Duration in hrs	Component of Marks		
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<b>Industrial Chemistry (Voc.)</b>	US05CICV51	Organic Chemistry	T	4	4	3	30	70	100
	US05CICV52	Technology of Petroleum & Petroleum Products	T	4	4	3	30	70	100
	US05CICV53	Heavy & Fine Chemicals	T	4	4	3	30	70	100
	US05CICV54	Mass Transfer	T	4	4	3	30	70	100
	US05CICV55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Industrial Chemistry</b>	US05CICH51	Advance Organic Chemistry	T	4	4	3	30	70	100
	US05CICH52	Petroleum and Petroleum Products	T	4	4	3	30	70	100
	US05CICH53	Chemical Process Industries	T	4	4	3	30	70	100
	US05CICH54	Fluid Mechanics & Mechanical Operations	T	4	4	3	30	70	100
	US05CICH55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Computer Science</b>	US05CCSC51	Object Oriented Programming Using C++	T	4	4	3	30	70	100
	US05CCSC52	Visual Programming Through VB .NET	T	4	4	3	30	70	100
	US05CCSC53	Relational Database Management System	T	4	4	3	30	70	100
	US05CCSC54	Computer Networks	T	4	4	3	30	70	100
	US05CCSC55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200

Course Type	Course Code	Name Of Course	T /P	Credit	Contact Hours Per Week	Exam Duration in hrs	Component of Marks		
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<b>Electronics &amp; Communication</b>	US05CELC51	Analog Circuits and Measuring Instruments	T	4	4	3	30	70	100
	US05CELC52	Introduction to 8-bit 8085 Microprocessor	T	4	4	3	30	70	100
	US05CELC53	Digital Communication System and Antenna	T	4	4	3	30	70	100
	US05CELC54	Data Communication and Network	T	4	4	3	30	70	100
	US05CELC55	Practicals (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200
<b>Statistics</b>	US05CSTA51	Mathematical Statistics	T	4	4	3	30	70	100
	US05CSTA52	Theory of Estimation	T	4	4	3	30	70	100
	US05CSTA53	Survey Sampling	T	4	4	3	30	70	100
	US05CSTA54	Statistical Quality Control	T	4	4	3	30	70	100
	US05CSTA55	Practical : Statistical Data Analysis Manually and using Software Packages (Prac. I, Prac. II Prac. III & IV)	P	8	16	12	60	140	200