

SARDAR PATEL UNIVERSITY
NEP Structure B.Sc. Semester: II
(Under Choice Based Credit Scheme)
Syllabus with Effect from: 2023

| Course Type | Course Code | Name of Course | T / P | Credit | Contact Hours Per Week | Exam Duration in hrs | Component of Marks | | |
|---------------------------------------|-------------|--|-------|--------|------------------------|----------------------|--------------------|----------|-------|
| | | | | | | | Internal | External | Total |
| Ability Enhancement Course | | | | | | | | | |
| | US02AEENG01 | Functional English | P | 2 | 2 | 2 | 25 | 25 | 50 |
| Major Course (Any One Subject) | | | | | | | | | |
| Chemistry | US02MACHE01 | General Chemistry-II | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MACHE02 | Chemistry Practical-II | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Physics | US02MAPHY01 | Vector Algebra, Relativity, Network Analysis and Basic Electronics | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAPHY02 | Physics Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Zoology | US02MAZOO01 | Animal Diversity and Physiology-2 | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAZOO02 | Zoology Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Bio Chemistry | US02MABIC01 | Molecules of Life | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MABIC02 | Biochemistry Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Botany | US02MABOT01 | Biodiversity (Microbes, Algae, Fungi and Archegoniate) | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MABOT02 | Botany Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Biotechnology | US02MABTE01 | Biomolecules and Classical Genetics | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MABTE02 | Biotechnology Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Microbiology | US02MAMIC01 | Fundamentals of Microbiology | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAMIC01 | Microbiology Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Industrial Chemistry | US02MAICH01 | Process Calculation and Engineering Equipment | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAICH02 | Industrial Chemistry Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |



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|--|-------------|--|-------|--------|------------------------|----------------------|--------------------|----------|-------|
| | | | | | | | Internal | External | Total |
| Industrial Chemistry Vocational | US02MAICV01 | Industrial Chemistry | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAICV02 | Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Mathematics | US02MAMTH01 | Algebra | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAMTH02 | Problems and Exercises in Algebra (Practical) | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Electronics and Communication | US02MAELC01 | Electronics Devices and Circuits | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAELC02 | Electronics and Communication Practical | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Computer Science | US02MACSC01 | Computer Fundamentals - II | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MACSC02 | Practical Based on US02MACSC01 | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Electronics | US02MAELE01 | AC Fundamentals | T | 4 | 4 | 2:30 | 50 | 50 | 100 |
| | US02MAELE02 | Electronics Practicals. | P | 4 | 8 | 3 | 50 | 50 | 100 |
| Minor Course (Any One Subject) | | | | | | | | | |
| Chemistry | US02MICHE01 | Basic Chemistry - II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MICHE02 | Chemistry Practical-I | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Physics | US02MIPHY01 | Network Theory, AC Bridges and Basic Electronics | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIPHY02 | Physics Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Zoology | US02MIZOO01 | Chordate Diversity | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIZOO02 | Zoology Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Biochemistry | US02MIBIC01 | Fundamentals of Biochemistry-II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIBIC02 | Biochemistry Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Botany | US02MIBOT01 | Introduction to Archegoniate | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIBOT02 | Botany Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |



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|--|-------------|--|-------|--------|------------------------|----------------------|--------------------|----------|-------|
| | | | | | | | Internal | External | Total |
| Biotechnology | US02MIBTE01 | Biomolecules | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIBTE02 | Biotechnology Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Microbiology | US02MIMIC01 | Fundamentals of Microbiology | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIMIC02 | Practicals: Based on US02MIMIC01 | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Industrial Chemistry | US02MIICH01 | Introduction to Industrial Chemistry -II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIICH02 | Industrial Chemistry Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Industrial Chemistry Vocational | US02MIICV01 | Introduction to Chemical Plant Utilities | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIICV02 | Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Mathematics | US02MIMTH01 | Matrices and Complex Numbers | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIMTH02 | Problems and Exercises in Matrices and Complex Numbers (Practical) | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Electronics and Communication | US02MIELC01 | Electronics Devices and Circuits | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIELC02 | Electronics and Communication Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Statistics | US02MISTA01 | Descriptive Statistics for Bivariate data | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MISTA01 | Statistics Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Computer Science | US02MICSC01 | Computer Basics and Logic Gates | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MICSC02 | Practical Based on US02MICSC01 | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Electronics | US02MIELE01 | AC Circuits. | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MIELE02 | Electronics Practicals. | P | 2 | 4 | 2 | 25 | 25 | 50 |



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| | | | | | | | Internal | External | Total |
| Multi / Inter Disciplinary (Any One Subject) | | | | | | | | | |
| Chemistry | US02IDCHE01 | Fundamentals of Chemistry-II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDCHE02 | Chemistry Practical-II | P | 2 | 4 | 2 | 25 | 25 | 50 |
| | US02MDCHE01 | Environmental Pollution - II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02MDCHE02 | Chemistry Practical-II | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Physics | US02IDPHY01 | Introductory electronics, network circuits and a.c. bridges | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDPHY02 | Physics Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Zoology | US02IDZOO01 | Chordates | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDZOO02 | Zoology Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Biochemistry | US02IDBIC01 | Basic concepts of Biochemistry-II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDBIC02 | Biochemistry Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Botany | US02IDBOT01 | Plants and Human Welfare -II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDBOT02 | Botany Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Biotechnology | US02IDBTE01 | Introduction to genetics & chromosomes | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDBTE02 | Biotechnology Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Microbiology | US02IDMIC01 | Fundamentals of Microbiology | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDMIC02 | Microbiology Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Industrial Chemistry | US02IDICH01 | Introduction to Instrumentation and Process | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDICH02 | Industrial Chemistry Practical | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Mathematics | US02IDMTH01 | Basics of Matrices | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDMTH02 | Problems and Exercises in Basics of Matrices (Practical) | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Computer Science | US02IDCSC01 | Basics of Computers - II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDCSC02 | Practical Based on US02IDCSC01 | P | 2 | 4 | 2 | 25 | 25 | 50 |
| Electronics | US02IDELE01 | Impedance Circuits. | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02IDELE02 | Electronics Practicals. | P | 2 | 4 | 2 | 25 | 25 | 50 |



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| | | | | | | | Internal | External | Total |
| Skill Enhancement Course (Any One Subject) | | | | | | | | | |
| Chemistry | US02SECHE01 | Fundamentals of Soil Chemistry | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Physics | US02SEPHY01 | Electrical and Electronic components and measurement-II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Biochemistry | US02SEBIC01 | Tools and Techniques in Biochemistry-II | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Botany | US02SEBOT01 | Floriculture | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Zoology | US02SEZOO01 | Economic Zoology | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Industrial Chemistry | US02SEICH01 | Industrial Safety & Hygiene - 1 | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Statistics | US02SESTA01 | Biostatistics for Data Handling | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Computer Science | US02SECSC01 | Information Technology Fundamentals – II (ITF-II) | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| Electronics | US02SEELE01 | Fundamentals of Computer Hardware-2 | T | 2 | 2 | 1:30 | 25 | 25 | 50 |

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| | | | | | | | Internal | External | Total |
| Value Added Course (Any One) | US02VAIPD01 | Integrated Personality Development | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02VABSC01 | NCC Army-1 | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02VABSC02 | Environmental Studies | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02VABSC03 | National Service Scheme - I | T | 2 | 2 | 1:30 | 25 | 25 | 50 |
| | US02VABSC04 | Yoga Mediation & Happiness | T | 2 | 2 | 1:30 | 25 | 25 | 50 |

