



Yashwantrao Chavan Maharashtra Open University
School of Sciences
(Formerly School of Architecture, Science and Technology)



Counselling Schedule for A.Y. 2024-25

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**SCHOOL OF SCIENCES, YCMOU, NASHIK STUDY CENTERS COUNSELING
SCHEDULES FOR A.Y. 2024-25**

LIST OF PROGRAMME

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Diploma in Statistics	V137	Diploma	1. Face to face counseling sessions	1. Face-to-face Counseling Sessions for interaction, problem solving and 2. Conduction of practical activities at Study Center	First	1 & 2
2	Bachelor of Science (Physics, Chemistry, Mathematics)	V92	UG	1. Face to face counseling sessions	1. Face to face counseling sessions and 6. Laboratory based counseling	First, Second & Third	1,2,3,4,5 & 6
3	Bachelor of Science (Botany, Chemistry, Zoology)	V100	UG	1. Face to face counseling sessions	1. Face to face counseling sessions and 6. Laboratory based counseling	First, second	1, 2,3 & 4
4	Master of Science. (Mathematics)(2023 Pattern)	V151	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling 3. Seminar 4. OJT /Field Project	First, Second	1,2,3,4
5	Master of Science. (EVS)(2023 Pattern)	V152	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First, Second	1,2,3,4

					3. Seminar 4. OJT /Field Project		
6	Master of Science. (Physics)(2023 Pattern)	V153	PG	1.Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling 3. Seminar 4. OJT /Field Project	First, Second	1,2,3,4
7	Master of Science. (Chemistry)(2023 Pattern)	V154	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling 3. Seminar 4. OJT /Field Project	First, Second	1,2,3,4
8	Master of Science. (Zoology)(2023 Pattern)	V155	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling 3. Seminar 4. OJT /Field Project	First, Second	1,2,3,4
9	Master of Science. (Botany)(2023 Pattern)	V156	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling 3. Seminar 4. OJT /Field Project	First, Second	1,2,3,4

V137: DIPLOMA IN STATISTICS {2021 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Diploma in Statistics	V137	Diploma	1.Face to face counseling sessions	2.Face-to-face Counseling Sessions for interaction, problem solving and 3.Conduction of practical activities at Study Center	First	1 & 2

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: DSS011:Basic Mathematics 01	September	01/09/2024	10.30am- 11.30am	Theory	Logic
2.		September	8/09/2024			Quantifiers
3.		September	15/09/2024			Sets Preliminaries
4.		September	22/09/2024			Properties of set operations, Venn Diagrams, Function or Mapping
5.		September	29/9/2024			The Real Number System
6.		October	06/10/2024			Extended Real Number System, Intervals in R, Bounded Sets.
7.		October	13/10/2024			Completeness Axiom, Archimedean property of R, Open, Closed and Countable sets in R.
8.		October	20/10/2024			Algorithm
9.		November	10/11/2024			Basics of Sequences
10.		November	17/11/2024			Convergence of Sequences, Important theorems of Convergence of sequences
11.		November	24/11/2024			Preliminaries of Convergent Series
12.		December	08/12/2024			Series of Non negative terms
13.		September	01/09/2024			Limit of function, Theorems on Limit.

14.	Sem01: DSS012:Basic Mathematics 02	September	8/09/2024	11.30am- 12.30pm	Theory	Continuity, Types of discontinuity.
15.		September	15/09/2024			Theorems on Continuity, Some special types of functions.
16.		September	22/09/2024			Derivative of function, Differentiation Rules, Successive Differentiation.
17.		September	29/9/2024			Leibnitz's Theorem, Partial Differentiation, Euler's Theorem, Mean Value Theorem.
18.		October	06/10/2024			Indeterminate Forms and L' Hospital Rule, Maximum and Minimum Values.
19.		October	13/10/2024			Definite Integrals.
20.		October	20/10/2024			Properties of Definite Integrals.
21.		November	10/11/2024			Integrals of Irrational function
22.		November	17/11/2024			Matrix, Various types of Matrices, Arithmetic Operations On Matrices, Multiplication of Matrices, Determinant of Square Matrices, Inverse of Matrix.
23.		November	24/11/2024			Elementary Transformation of Matrix, Rank of matrix, System of simultaneous Linear Equations.
24.		December	08/12/2024			Linear Independence of Vectors, Eigen Value Problems, Cayley-Hamilton Theorem.
25.	Sem01: DSS013:Fundamentals of Statistics	September	01/09/2024	12.30pm- 1.30pm	Theory	Basic Definitions and Concepts, Variables, Levels of Measurement, Distributions
26.		September	8/09/2024			Graphing Distributions: Frequency Tables, Pie Charts, Bar Charts
27.		September	15/09/2024			Graphing Quantitative Distributions: Stem and Leaf Displays, Histogram, Frequency Polygon, Box Plots, Line Graphs, DotPlots.
28.		September	22/09/2024			Measure of Central Location- Arithmetic Mean, Median, Mode, Geometric Mean. Measure of Variability- Range, Coefficient of Range
29.		September	29/9/2024			Variance, Standard Deviation, Percentiles, Quartiles, z-Score, Empirical Rule, Chebyshev's Theorem Moments, Skewness and Kurtosis.
30.		October	06/10/2024			Basic Concepts of Probability
31.		October	13/10/2024			Permutation and Combination, Sample Space

32.		October	20/10/2024			Events and their Probabilities, Complements, Intersections, Unions, Conditional Probability and Independent Events.
33.		November	10/11/2024			Discrete Probability Distributions
34.		November	17/11/2024			Discrete Random Variables, Probability Distributions for Discrete Random Variables, Mean, Standard Deviation
35.		November	24/11/2024			Binomial Distribution, Cumulative Probability Distribution Function for Binomial
36.		December	08/12/2024			Standard Discrete Distributions – Uniform, Poisson, Multinomial, Hypergeometric, Geometric, Negative Binomial.
37.		September	01/09/2024			To start MS Excel, Enter Data, Edit and Manage Data.
38.	Sem01:DSS014:Excel Applications in Statistics	September	8/09/2024	2.30pm – 4.30pm	Practical	To apply simple arithmetic operations on data.
39.		September	15/09/2024			To represent raw data using graphs and diagrams: line plot, Bar plot, subdivided bar plot, pie diagram, and histogram.
40.		September	22/09/2024			To draw frequency table for given data (raw, grouped), draw Frequency curve, less than and more than cumulative frequency curve, frequency polygon.
41.		September	29/9/2024			To draw Stem and Leaf diagram, box plot.
42.		October	06/10/2024			To calculate Mean (AM, GM, HM), Median, Mode for Raw Data.
43.		October	13/10/2024			To calculate Mean (AM, GM, HM), Median, Mode for Grouped Data.
44.		October	20/10/2024			To calculate Range, Variance Standard Deviation, Coefficient of Variation.
45.		November	10/11/2024			To calculate Mean Deviation about Mean, Median, Mode.
46.		November	17/11/2024			To find Covariance and Correlation.
47.		November	24/11/2024			To find probabilities for Bernoulli, Binomial, Poisson Distribution.
48.		December	08/12/2024			Fitting of Binomial Distribution, Fitting of Poisson Distribution, Fitting of Normal Distribution.
49.		February	02/02/2025			The Mean and Standard Deviation of the Sample Mean
50.		February	9/02/2025			The Sampling Distribution of Sampling Mean, The Sample Proportion.

51.	Sem02: DSS021:Inferential Statistics	February	16/02/2025	10.30am- 11.30am	Theory	Large Sample Estimation of Population Mean, Small Sample Estimation of Population Mean
52.		February	23/02/2025			Large Sample Estimation of Population Proportion, Sample Size Determination.
53.		March	02/03/2025			The Elements of hypotheses Testing, Large Sample Tests for Population Mean, Observed Significance of Test
54.		March	9/03/2025			Small Sample Tests for Population Proportion
55.		March	16/03/2025			Large Sample Tests for Population Proportion, Examples
56.		March	23/03/2025			Comparison of Two Population Mean: Large, Independent Samples.
57.		April	06/04/2025			Comparison of Two Population Mean: Small, Independent Samples
58.		April	13/04/2025			Comparison of Two Population Mean: Paired Samples, Comparison of Two Population Proportions, Sample Size Determination.
59.		May	04/05/2025			Chi-Square Tests and F- Tests: Chi-Square Test for Independence
60.		May	11/05/2025			Chi-Square One Sample Goodness of Fit Test, F-test for Equality of Two Variances, F- Test in One Way ANOVA, Examples.
61.	Sem02: DSS022:Sampling Theory and Regression	February	02/02/2025	11.30am- 12.30pm	Theory	Fundamentals of sampling, Simple Random Sampling
62.		February	9/02/2025			Stratified Sampling, Ratio Method of Estimation
63.		February	16/02/2025			Regression Method of Estimation
64.		February	23/02/2025			Varying Probability Sampling, Double Sampling, Two Stage Sampling
65.		March	02/03/2025			Systematic Sampling, Cluster Sampling
66.		March	9/03/2025			Sampling in Successive Occasion, Non Sampling Errors.
67.		March	16/03/2025			Types of Correlation–Positive, Negative, Simple, Multiple, Linear, Nonlinear
68.		March	23/03/2025			Methods of studying Correlation-Scatter Diagram Method, „ Graphic Method
69.		April	06/04/2025			Karl Pearson’s Coefficient of Correlation Method, Method of Least Squares, Linear Relationships Between Variables, Linear Correlation Coefficient
70.		April	13/04/2025			Simple Linear Regression Model, Goodness of fit of Straight Line to Data

71.		May	04/05/2025			The Least Square Regression Line, The Sum of Standard Errors
72.		May	11/05/2025			Confidence Interval for β_1 , Testing Hypotheses about β_1 , The Coefficient of Determination, Estimation and Prediction.
73.		February	02/02/2025			One way classification, Two way classification under Fixed Effect Model
74.		February	9/02/2025			Two way classification without interaction, Two way
						classification with interaction,
75.	Sem02: DSS023:Design of Experiment	February	16/02/2025	12.30pm- 1.30pm	Theory	Tukey's Test for nonadditivity, Comparison of Variances, Fixed Effects Models, Random Effects Models, Mixed Effects Models.
76.		February	23/02/2025			Basic terms, Principles of Experimental Design: Randomization, Replication, and Local Control
77.		March	02/03/2025			Complete and Incomplete Block designs, Completely Randomize Designs (CRD): Layout of CRD, Procedure, Analysis, Expectations, Distributions, Decision Rules.
78.		March	9/03/2025			Randomized Block Design (RBD): Layout and Analysis. Latin Square Design (LSD): Latin Square, Standard form, Orthogonal Latin Square, Greco- Latin Square, Analysis of LSD. Missing Plot Technique
79.		March	16/03/2025			Factorial Experiments with Factors at 2 levels (22 Factorial Experiments) 23 Factorial Experiments
80.		March	23/03/2025			2n Factorial Experiments, Standard Order for Treatment Combinations
81.		April	06/04/2025			Confounding Arrangement, Orthogonal Treatment Combinations
82.		April	13/04/2025			Analysis of Variance in case of Confounded effects
83.		May	04/05/2025			Introduction to Analysis of Covariance Model, One way classification
84.		May	11/05/2025			Two way classification (with one observation per cell).
85.		February	02/02/2025			Introduction to R, R-commands (creating Vectors, Replication of Numbers, Sequence Generation), Arithmetic Operations on Vectors, Matrix Operations.
86.		February	9/02/2025			To Draw Bar Plot, Multiple Bar Diagram, Sub-divided BarDiagram, Pie Chart, Stem and Leaf Diagram, Box Plot.

87.	Sem02: DSS024:R Programming for Statistics	February	16/02/2025	2.30pm – 4.30pm	Practical	To Draw Frequency Distribution Table, Histogram, Frequency Polygon, Ogive Curve.
88.		February	23/02/2025			To Calculate Mean (A.M., G.M., H.M.) Median, Mode, Quartiles, Percentile.
89.		March	02/03/2025			To Calculate Range, Mean Deviation about (Mean, Median, Mode), Variance, Coefficient Of Variation,
						Standard Deviation, Skewness, Kurtosis.
90.		March	9/03/2025			To Find Probabilities Based On Real Life Examples, To Find Probabilities for Binomial, Poisson, Geometric, Negative-Binomial Distributions
91.		March	16/03/2025			To Find Probabilities for Uniform, Exponential, Normal, Standard-Normal, Chi-Square, t, F Distributions.
92.		March	23/03/2025			To Find Correlation Using Scattered Plot, Karl – Pearson's Coefficient Of Correlation.
93.		April	06/04/2025			To Draw Sample From-Simple Random Sampling With Replacement and Without Replacement, Stratified Sampling, Systematic Sampling.
94.		April	13/04/2025			One Sample Z-Test, One Sample t-Test, Two Sample t-Test, Paired t-Test.
95.		May	04/05/2025			Chi-Square Goodness Of Fit Test, Chi-Square Test Of Independence.
96.		May	11/05/2025			One-Way ANOVA, Two-Way ANOVA.

V92: BACHELOR OF SCIENCE (PHYSICS, CHEMISTRY, MATHEMATICS) {2015 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Bachelor of Science (Physics, Chemistry, Mathematics)	V92	UG	1.Face to face counseling sessions	2. Face to face counseling sessions and 3. Laboratory based counseling	First, Second & Third	1,2,3,4,5 & 6

C.S. No.	Course Code And Name	Month	Date	Time	Theory/Practical course	Topic
1.	AEC111 : English Communication	September	01/09/2024	9:30am -10:30am	Theory	Introduction, Language of Communication, Speaking Skills
2.		September	08/09/2024			Understanding the Basis of Verbal Communication, Working with Customers
3.		September	15/09/2024			Developing Professional Telephone Skills, Improving Informal Communication
4.		September	22/09/2024			Reading and Understanding, Writing Skills,
5.		September	29/9/2024			Uncovering the Secrets of Clear writing, Communicating with E-Mail and Memos
6.		October	06/10/2024			Developing Reports and Proposals, Writing for Employment
7.		October	13/10/2024			Identifying and Defining Problems
8.		October	20/10/2024			Solving the Problem, Thinking Critically
9.		November	10/11/2024			Group Decision Making and Problem Solving
10.		November	17/11/2024			Working in Groups and Teams
11.		November	24/11/2024			Exploring Team Roles and Processes, Building and Developing Teams

12.		December	08/12/2024			Presenting yourself Professionally, Developing Your Interpersonal Skills
13.	S34121: Physics- 01	September	01/09/2024	10:30am -11:30am	Theory	Ordinary Differential Equations
14.		September	8/09/2024			Laws of Motion
15.		September	15/09/2024			Dynamics of a system of particles, Centre of Mass.
16.		September	22/09/2024			Vectors
17.		September	29/9/2024			Momentum and Energy
18.		October	06/10/2024			Rotational Motion
19.		October	13/10/2024			Gravitation
20.		October	20/10/2024			Oscillations
21.		November	10/11/2024			Kinetic and Potential Energy, Total Energy and their time averages
22.		November	17/11/2024			Elasticity
23.		November	24/11/2024			Special Theory of Relativity
24.		December	08/12/2024			Relativistic addition of velocities
25.	S37131: Chemistry- 01	September	01/09/2024	11:30am -12:30pm	Theory	Atomic Structure
26.		September	8/09/2024			Quantum mechanics
27.		September	15/09/2024			Electronic configurations of the atoms
28.		September	22/09/2024			Ionic Bonding
29.		September	29/9/2024			Covalent bonding
30.		October	06/10/2024			Resonance and resonating structures, MO Approach
31.		October	13/10/2024			Physical Effects, Electronic Displacements
32.		October	20/10/2024			Structure, shape and reactivity of organic molecules, Reactive Intermediates
33.		November	10/11/2024			Strength of organic acids and bases, Stereochemistry
34.		November	17/11/2024			Aliphatic Hydrocarbons
35.		November	24/11/2024			Alkanes, Alkenes, Alkynes
36.		December	08/12/2024			Reactions
37.		September	01/09/2024			Limit and Continuity
38.		September	8/09/2024			Types of discontinuities
39.		September	15/09/2024			Differentiability of functions

40.	S41141 : Mathematics- 01	September	22/09/2024	12:30pm -1:30pm	Theory	Successive differentiation, Leibnitz's theorem
41.		September	29/9/2024			Partial differentiation, Euler's theorem on homogeneous functions
42.		October	06/10/2024			Tangents and normal, Curvature, Asymptotes, Singular points,
43.		October	13/10/2024			Parametric representation of curves and tracing of parametric curves
44.		October	20/10/2024			Rolle's theorem, Mean Value theorems
45.		November	10/11/2024			Taylor's theorem with Lagrange's and Cauchy's forms of remainder
46.		November	17/11/2024			Maxima and Minima, Indeterminate forms.
47.		November	24/11/2024			Taylor's series
48.		December	08/12/2024			Maclaurin's series
49.	S34122 : Physics- 01	September	01/09/2024	2:30pm - 4:30pm	Practical	Measurements of length (or diameter) using Vernier calliper
50.		September	8/09/2024			Measurements of length (or diameter) using screw gauge
51.		September	15/09/2024			Measurements of length (or diameter) using travelling microscope
52.		September	22/09/2024			To determine the Height of a Building using a Sextant
53.		September	29/9/2024			To determine the Moment of Inertia of a Flywheel.
54.		October	06/10/2024			To determine the Young's Modulus of a Wire by Optical Lever Method
55.		October	13/10/2024			To determine the Modulus of Rigidity of a Wire by Maxwell's needle
56.		October	20/10/2024			To determine the Elastic Constants of a Wire by Searle's method.
57.		November	10/11/2024			To determine g by Bar Pendulum
58.		November	17/11/2024			To determine g by Kater's Pendulum.
59.		November	24/11/2024			To determine g and velocity for a freely falling body using Digital Timing Technique
60.		December	08/12/2024			To study the Motion of a Spring and calculate (a) Spring Constant (b) Value of g
61.		September	01/09/2024			Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture

62.		September	8/09/2024			Estimation of oxalic acid by titrating it with KMnO_4 .
63.	S37132: Chemistry- 01	September	15/09/2024	4:30pm - 6:30pm	Practical	Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .
64.		September	22/09/2024			Estimation of Fe (II) ions by titrating it with $\text{K}_2\text{Cr}_2\text{O}_7$ using internal indicator
65.		September	29/9/2024			Estimation of Cu (II) ions eudiometrically using $\text{Na}_2\text{S}_2\text{O}_3$.
66.		October	06/10/2024			Detection of extra elements (N, S, Cl, Br, I) in organic compounds
67.		October	13/10/2024			Separation of mixtures by Chromatography
68.		October	20/10/2024			Measure the R_f value in each case (combination of two compounds to be given)
69.		November	10/11/2024			Identify and separate the components of a given mixture of two amino acids (glycine) by paper chromatography
70.		November	17/11/2024			Identify and separate the components of a given mixture of two amino acids (aspartic acid) by paper chromatography
71.		November	24/11/2024			Identify and separate the components of a given mixture of two amino acids (glutamic acid) by paper chromatography
72.		December	08/12/2024			Identify and separate the sugars present in the given mixture by paper chromatography.
73.	S41142 : Mathematics- 01	December	15/12/2024	9:30am 11:30am	Practical	Assignment 01 on Limit
74.		December	15/12/2024	11:30am 1:30pm		Assignment 02 on Differentiation
75.		December	15/12/2024	2:30pm 4:30pm		Assignment 03 on Tangents
76.		December	15/12/2024	4:30pm 6:30pm		Assignment 04 on Normal
77.		December	22/12/2024	9:30am 11:30am		Assignment 05 on Curves
78.		December	22/12/2024	11:30am 1:30pm		Assignment 06 on Rolle's, and
79.		December	22/12/2024	2:30pm 4:30pm		Assignment 07 on Mean Value
80.		December	22/12/2024	4:30pm 6:30pm		Assignment 08 on Taylor's theorem
81.		December	29/12/2024	9:30am 11:30am		Assignment 09 on Maclaurin's series
82.		December	29/12/2024	11:30am 1:30pm		Assignment 10 on Maxima
83.		December	29/12/2024	2:30pm 4:30pm		Assignment 11 on Minima
84.		December	29/12/2024	4:30pm 6:30pm		Assignment 12 on Indeterminate forms

85.	SEC311: IT and E Learning Skills	September	01/09/2024	9:30am -10:30am	Theory	Block Diagram of a Computer
86.		September	8/09/2024			Input & Output Devices
87.		September	15/09/2024			Memory
88.		September	22/09/2024			Functions of Operating System
89.		September	29/9/2024			Utility Programs: Antivirus, CD/DVD burner, VLC media player, Adobe Reader
90.		October	06/10/2024			Word-processing, Presentation, Spread sheets
91.		October	13/10/2024			E-Learning definition, scope, trends, attributes & opportunities
92.		October	20/10/2024			Pedagogical designs for e-learning
93.		November	10/11/2024			Online learning management systems
94.		November	17/11/2024			Online learning course development models
95.		November	24/11/2024			Evaluating the impacts of e-learning
96.		December	08/12/2024			Management and implementation of e-learning
97.	S34321: Physics-03	September	01/09/2024	10:30am -11:30am	Theory	Zeroth Law of thermodynamics
98.		September	8/09/2024			First Law of thermodynamics and its Application
99.		September	15/09/2024			Various Thermodynamical Processes
100.		September	22/09/2024			Second Law of thermodynamics
101.		September	29/9/2024			Third Law of thermodynamics
102.		October	06/10/2024			Joule-Thompson Effect
103.		October	13/10/2024			Kinetic Theory of Gases
104.		October	20/10/2024			Transport Phenomena: Viscosity, Conduction and Diffusion
105.		November	10/11/2024			Theory of Radiation
106.		November	17/11/2024			Maxwell-Boltzmann law
107.		November	24/11/2024			Fermi-Dirac distribution law
108.		December	08/12/2024			Bose-Einstein distribution law

109	S37331: Chemistry-03	September	01/09/2024	11:30am -12:30pm	Theory	Thermodynamics of ideal solutions
110		September	8/09/2024			Partial miscibility of liquids
111		September	15/09/2024			Phase Equilibrium
112		September	22/09/2024			Conductance
113		September	29/9/2024			Electrochemistry
114		October	06/10/2024			Thermodynamics of a reversible cell, calculation of thermodynamic properties
115		October	13/10/2024			Organic Chemistry
116		October	20/10/2024			Amines and Diazonium Salts. Amines (Aliphatic and Aromatic)
117		November	10/11/2024			Diazonium salts: Preparation: from aromatic amines. Reactions
118		November	17/11/2024			Amino Acids, Peptides and Proteins
119		November	24/11/2024			Carbohydrates
120		December	08/12/2024			Determination of configuration of monosaccharaides
121	S41341: Mathematics- 03	September	01/09/2024	12:30pm -1:30pm	Theory	Finite and infinite sets
122		September	8/09/2024			completeness property of R, Archimedean property of R, intervals
123		September	15/09/2024			Concept of cluster points and statement of Bolzano-Weierstrass theorem.
124		September	22/09/2024			Real Sequence, Bounded sequence, Cauchy convergence criterion for sequences
125		September	29/9/2024			Cauchy's theorem on limits, order preservation and squeeze theorem
126		October	06/10/2024			Monotone sequences and their convergence (monotone convergence theorem without proof)
127		October	13/10/2024			Infinite series, Cauchy convergence criterion for series
128		October	20/10/2024			positive term series, geometric series, alternating series
129		November	10/11/2024			Leibnitz's test, Root test, Ratio test

130		November	17/11/2024			Sequences and series of functions
131		November	24/11/2024			Mn-test, M-test
132		December	08/12/2024			differentiability of functions, Power series and radius of convergence
133	S34322: Physics- 03	September	01/09/2024	2:30pm - 4:30pm	Practical	To determine Mechanical Equivalent of Heat, J, by Callender and Barne's constant flow method
134		September	8/09/2024			Measurement of Planck's constant using black body radiation
135		September	15/09/2024			To determine Stefan's Constant
136		September	22/09/2024			To determine the coefficient of thermal conductivity of copper by Searle's Apparatus
137		September	29/9/2024			To determine the Coefficient of Thermal Conductivity of Cu by Angstrom's Method.
138		October	06/10/2024			To determine the coefficient of thermal conductivity of a bad conductor by Lee
139		October	13/10/2024			To determine the coefficient of thermal conductivity of a bad conductor by Charlton's disc method
140		October	20/10/2024			To determine the temperature co-efficient of resistance by Platinum resistance thermometer
141		November	10/11/2024			To study the variation of thermo emf across two junctions of a thermocouple with temperature
142		November	17/11/2024			To record and analyse the cooling temperature of an hot object as a function of time using a thermocouple and suitable data acquisition system
143		November	24/11/2024			To calibrate Resistance Temperature Device (RTD) using Null Method
144		December	08/12/2024			To calibrate Resistance Temperature Device (RTD) using Off- Balance Bridge
145		September	01/09/2024			Study of the equilibrium of one of the given reactions by the distribution method
146		September	8/09/2024			Construction of the phase diagram of a binary system (simple eutectic) using cooling curves.

147	S37332: Chemistry-03	September	15/09/2024	4:30pm - 6:30pm	Practical	Determination of the critical solution temperature and composition of the Phenol water system and study of the effect of impurities on it.
148		September	22/09/2024			Study of the variation of mutual solubility temperature with concentration for the phenol water system and determination of the critical solubility temperature
149		September	29/9/2024			Determination of cell constant
150		October	06/10/2024			Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid.
151		October	13/10/2024			Perform the following conductometric titrations: Strong acid vs. strong base
152		October	20/10/2024			Separation of amino acids by paper chromatography
153		November	10/11/2024			Determination of the concentration of glycine solution by formulation method.
154		November	17/11/2024			Titration curve of glycine
155		November	24/11/2024			Action of salivary amylase on starch
156		December	08/12/2024			Effect of temperature on the action of salivary amylase on starch.
157	S41342: Mathematics- 03	December	15/12/2024	9:30am 11:30am	Practical	Assignment 01
158		December	15/12/2024	11:30am 1:30pm		Assignment 02
159		December	15/12/2024	2:30pm 4:30pm		Assignment 03
160		December	15/12/2024	4:30pm 6:30pm		Assignment 04
161		December	22/12/2024	9:30am 11:30am		Assignment 05
162		December	22/12/2024	11:30am 1:30pm		Assignment 06
163		December	22/12/2024	2:30pm 4:30pm		Assignment 07
164		December	22/12/2024	4:30pm 6:30pm		Assignment 08

165		December	29/12/2024	9:30am 11:30am		Assignment 09
166		December	29/12/2024	11:30am 1:30pm		Assignment 10
167		December	29/12/2024	2:30pm 4:30pm		Assignment 11
168		December	29/12/2024	4:30pm 6:30pm		Assignment 12
169	SEC511: Financial and Investment skills	September	01/09/2024	9:30am -10:30am	Theory	Introduction to Stock Markets - 01
170		September	8/09/2024			Introduction to Stock Markets - 02
171		September	15/09/2024			Introduction to Stock Markets - 03
172		September	22/09/2024			Fundamental Analysis - 01
173		September	29/9/2024			Fundamental Analysis - 02
174		October	06/10/2024			Fundamental Analysis – 03
175		October	13/10/2024			Technical Analysis - 01
176		October	20/10/2024			Technical Analysis - 02
177		November	10/11/2024			Technical Analysis – 03
178		November	17/11/2024			Markets and Taxation
179		November	24/11/2024			Trading Psychology and Risk Management
180		December	08/12/2024			Mutual Funds And Financial Planning
181	S34521: Physics-05	September	01/09/2024	10:30am -11:30am	Theory	Digital Circuits
182		September	8/09/2024			Boolean Algebra
183		September	15/09/2024			Binary Addition and Subtraction
184		September	22/09/2024			Semiconductor Devices
185		September	29/9/2024			Amplifiers
186		October	06/10/2024			Bipolar Junction transistors
187		October	13/10/2024			Operational Amplifiers (Black Box approach)
188		October	20/10/2024			Applications of Op-Amps
189		November	10/11/2024			Sinusoidal Oscillators

190		November	17/11/2024			Introduction to CRO
191		November	24/11/2024			Power Supply
192		December	08/12/2024			Timer IC
193	S37531: Chemistry 05	September	01/09/2024	11:30am -12:30pm	Theory	Introduction to Molecular Modelling
194		September	8/09/2024			Potential Energy Surfaces and Molecular Graphics
195		September	15/09/2024			Force Fields 01
196		September	22/09/2024			Force Fields 02
197		September	29/9/2024			Energy Minimization and Computer Simulation
198		October	06/10/2024			Simple thermodynamic properties and Phase Space
199		October	13/10/2024			Molecular Dynamics & Monte Carlo Simulation
200		October	20/10/2024			Molecular Dynamics at constant temperature and pressure
201		November	10/11/2024			Models used in Monte Carlo simulations of polymers.
202		November	17/11/2024			Structure Prediction and Drug Design
203		November	24/11/2024			Predicting protein structures by 'Threading', Molecular docking
204		December	08/12/2024			Structure based de novo ligand design, Drug Discovery – Chemo informatics – QSAR.
205	S41541: Mathematics 05	September	01/09/2024	12:30pm -1:30pm	Theory	R, R^2, R^3 as vector spaces over R
206		September	8/09/2024			Standard basis for R
207		September	15/09/2024			Concept of Linear Independence and examples of different bases. Subspaces of R^2, R^3
208		September	22/09/2024			Translation, Dilation, Rotation, Reflection in a point, line and plane
209		September	29/9/2024			Matrix form of basic geometric transformations
210		October	06/10/2024			Interpretation of eigen values and eigen vectors for such transformations and eigen spaces as invariant subspaces
211		October	13/10/2024			Types of matrices
212		October	20/10/2024			Rank of a matrix

213		November	10/11/2024			Invariance of rank under elementary transformations
214		November	17/11/2024			Matrices in diagonal form
215		November	24/11/2024			Computation of matrix inverses using elementary row operations
216		December	08/12/2024			Illustrative examples of above concepts from Geometry, Physics, Chemistry, Combinatorics and Statistics
217	S34522: Physics 05	September	01/09/2024	2:30pm - 4:30pm	Practical	To measure (a) Voltage, and (b) Frequency of a periodic waveform using a CRO
218		September	8/09/2024			To verify and design AND, OR, NOT and XOR gates using NAND gates
219		September	15/09/2024			Half adder, Full adder and 4-bit Binary Adder.
220		September	22/09/2024			To design an astable multivibrator of given specifications using 555 Timer.
221		September	29/9/2024			To design a monostable multivibrator of given specifications using 555 Timer.
222		October	06/10/2024			To study IV characteristics of PN diode, Zener and Light emitting diode
223		October	13/10/2024			To study the characteristics of a Transistor in CE configuration
224		October	20/10/2024			To design a CE amplifier of a given gain (mid-gain) using voltage divider bias.
225		November	10/11/2024			To design an inverting amplifier of given gain using Op-amp 741 and study its frequency response.
226		November	17/11/2024			To design a non-inverting amplifier of given gain using Op-amp 741 and study its Frequency Response
227		November	24/11/2024			To study a precision Differential Amplifier of given I/O specification using Opamp.
228		December	08/12/2024			To investigate the use of an op-amp as a Differentiator
229		September	01/09/2024			Compare the optimized C-C bond lengths in ethane, ethene, ethyne and benzene.
230		September	8/09/2024			Perform a conformational analysis of butane

231	S375332: Chemistry 05	September	15/09/2024	4:30pm - 6:30pm	Practical	Determine the enthalpy of isomerization of cis and trans 2-butene.
232		September	22/09/2024			Visualize the electron density and electrostatic potential Maps for LiH, HF, N ₂ , NO and CO and comment.
233		September	29/9/2024			Relate the charge on the hydrogen atom in hydrogen halides with their acid character
234		October	06/10/2024			Compare the basicities of the nitrogen atoms in ammonia, Methylamine, dimethylamine and trimethylamine.
235		October	13/10/2024			Compare the shapes of the molecules: 1-butanol, 2-butanol, 2-methyl-1-propanol, and 2-methyl-2-propanol. Note the dipole moment of each molecule
236		October	20/10/2024			Build and minimize organic compounds of your choice Containing the following functional groups. Note the dipole moment of each compound
237		November	10/11/2024			Determine the heat of hydration of ethylene
238		November	17/11/2024			Compare the optimized bond angles H ₂ O, H ₂ S, H ₂ Se
239		November	24/11/2024			Compare the HAH bond angles for the second row dihydrides and compare with the results from qualitative MO theory.
240		December	08/12/2024			Arrange 1-hexene, 2-methyl-2-pentene, (E)-3-methyl-2-pentene, (Z)-3-methyl-2-pentene, and 2,3-dimethyl-2-butene in order of increasing stability
241	S41542: Mathematics 05	December	15/12/2024	9:30am 11:30am	Practical	Assignment 01
242		December	15/12/2024	11:30am 1:30pm		Assignment 02
243		December	15/12/2024	2:30pm 4:30pm		Assignment 03
244		December	15/12/2024	4:30pm 6:30pm		Assignment 04
245		December	22/12/2024	9:30am 11:30am		Assignment 05
246		December	22/12/2024	11:30am 1:30pm		Assignment 06

247		December	22/12/2024	2:30pm 4:30pm		Assignment 07
248		December	22/12/2024	4:30pm 6:30pm		Assignment 08
249		December	29/12/2024	9:30am 11:30am		Assignment 09
250		December	29/12/2024	11:30am 1:30pm		Assignment 10
251		December	29/12/2024	2:30pm 4:30pm		Assignment 11
252		December	29/12/2024	4:30pm 6:30pm		Assignment 12
253	AEC211: Environmental Science	February	02/02/2025	9:30am -10:30am	Theory	The Multidisciplinary Nature Of Environmental Studies
254		February	09/02/2025			Natural Resources
255		February	16/02/2025			Ecosystems
256		February	23/02/2025			Biodiversity And Its Conservation
257		March	02/03/2025			Environmental Pollution
258		March	09/03/2025			Disaster Management
259		March	16/03/2025			Social Issues And The Environment
260		March	23/03/2025			Environmental Ethics
261		April	06/04/2025			Environment Protection Act
262		April	13/04/2025			Human Population And The Environment
263		May	04/05/2025			Nutrition, health and human rights
264		May	11/05/2025			Field Work
265	S34221: Physics 02	February	02/02/2025	10:30am -11:30am	Theory	Vector Analysis
266		February	09/02/2025			Gauss-divergence theorem and Stoke's theorem of vectors
267		February	16/02/2025			Electrostatics - 01
268		February	23/02/2025			Electrostatics - 02
269		March	02/03/2025			Polarization, Displacement vector
270		March	09/03/2025			Parallel plate, spherical and cylindrical condenser

271		March	16/03/2025			Magneto-statics
272		March	23/03/2025			Divergence and curl of magnetic field
273		April	06/04/2025			Magnetic properties of materials
274		April	13/04/2025			Electromagnetic Induction
275		May	04/05/2025			Maxwell's equations
276		May	11/05/2025			Electromagnetic wave propagation
277	S37231: Chemistry 02	February	02/02/2025	11:30am -12:30pm	Theory	Chemical Energetics
278		February	09/02/2025			Chemical Equilibrium
279		February	16/02/2025			Variation of enthalpy of a reaction with temperature – Kirchhoff's equation
280		February	23/02/2025			Ionic Equilibria
281		March	02/03/2025			Ionization of weak acids and bases
282		March	09/03/2025			Buffer solutions
283		March	16/03/2025			Aromatic hydrocarbons
284		March	23/03/2025			Alkyl and Aryl Halides
285		April	06/04/2025			Aryl Halides Preparation
286		April	13/04/2025			Alcohols
287		May	04/05/2025			Phenols:
288		May	11/05/2025			Ethers (aliphatic and aromatic)
289	S41241: Mathematics 02	February	02/02/2025	12:30pm -1:30pm	Theory	First order exact differential equations
290		February	09/02/2025			Integrating factors, rules to find an integrating factor
291		February	16/02/2025			First order higher degree equations solvable for x, y, p
292		February	23/02/2025			Methods for solving higher-order differential equations
293		March	02/03/2025			Basic theory of linear differential equations, Wronskian, and its properties
294		March	09/03/2025			Solving a differential equation by reducing its order
295		March	16/03/2025			Solving a differential equation by reducing its order
296		March	23/03/2025			Linear non-homogenous equations

297		April	06/04/2025			The Cauchy-Euler equation
298		April	13/04/2025			Order and degree of partial differential equations
299		May	04/05/2025			Formation of first order partial differential equations
300		May	11/05/2025			Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustrations only
301	S34222: Physics 02	February	02/02/2025	2:30pm - 4:30pm	Practical	To use a Multimeter for measuring (a) Resistances, (b) AC and DC Voltages, (c) DC Current, and (d) checking electrical fuses.
302		February	09/02/2025			Ballistic Galvanometer: (i) Measurement of charge and current sensitivity (ii) Measurement of CDR
303		February	16/02/2025			Ballistic Galvanometer : (i) Determine a high resistance by Leakage Method (iii) To determine Self Inductance of a Coil by Rayleigh's Method.
304		February	23/02/2025			To compare capacitances using De'Sauty's bridge.
305		March	02/03/2025			Measurement of field strength B and its variation in a Solenoid (Determine dB/dx)
306		March	09/03/2025			To study the Characteristics of a Series RC Circuit
307		March	16/03/2025			To study the a series LCR circuit and determine its (a) Resonant Frequency
308		March	23/03/2025			To study a parallel LCR circuit and determine its Anti-resonant frequency
309		April	06/04/2025			To study a parallel LCR circuit and determine its Quality factor Q
310		April	13/04/2025			To determine a Low Resistance by Carey Foster's Bridge
311		May	04/05/2025			To verify the Thevenin and Norton theorem
312		May	11/05/2025			To verify the Superposition, and Maximum Power Transfer Theorem
313		February	02/02/2025			Determination of heat capacity of calorimeter for different volumes
314		February	09/02/2025			Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide

315	S37232: Chemistry 02	February	16/02/2025	4:30pm - 6:30pm	Practical	Determination of enthalpy of ionization of acetic acid
316		February	23/02/2025			Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl).
317		March	02/03/2025			Determination of enthalpy of hydration of copper sulphate
318		March	09/03/2025			Study of the solubility of benzoic acid in water and determination of ΔH .
319		March	16/03/2025			Ionic equilibria - pH measurements
320		March	23/03/2025			Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter
321		April	06/04/2025			Preparation of buffer solutions: (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide
322		April	13/04/2025			Purification of organic compounds by crystallization (from water and alcohol) and distillation.
323		May	04/05/2025			Criteria of Purity: Determination of melting and boiling points
324		May	11/05/2025			Preparations: Mechanism of various reactions involved to be discussed.
325	S41242: Mathematics 02	May	18/05/2025	9:30am 11:30am	Practical	Assignment 01 on First order exact differential equations
326		May	18/05/2025	11:30am 1:30pm		Assignment 02 on First order exact differential equations
327		May	18/05/2025	2:30pm 4:30pm		Assignment 03 on First order exact differential equations
328		May	18/05/2025	4:30pm 6:30pm		Assignment 04 on Higher-order differential equations
329		May	25/05/2025	9:30am 11:30am		Assignment 05 on Higher-order differential equations
330		May	25/05/2025	11:30am 1:30pm		Assignment 06 on Higher-order differential equations
331		May	25/05/2025	2:30pm 4:30pm		Assignment 07 on Linear equations
332		May	25/05/2025	4:30pm 6:30pm		Assignment 08 on Linear equations

333		May	31/05/2025	9:30am 11:30am		Assignment 09 on Linear equations
334		May	31/05/2025	11:30am 1:30pm		Assignment 10 on Partial differential equations
335		May	31/05/2025	2:30pm 4:30pm		Assignment 11 on Partial differential equations
336		May	31/05/2025	4:30pm 6:30pm		Assignment 12 on Partial differential equations
337	SEC411: Research methodology	February	02/02/2025	9:30am -10:30am	Theory	Meaning of Research, Scientific Inquiry
338		February	09/02/2025			Research Interdisciplinary Approach
339		February	16/02/2025			Ethics in Research, Survey Research
340		February	23/02/2025			Experiment, Case Study, Framing Aim, Objectives and Hypothesis
341		March	02/03/2025			Population and Sample Part I
342		March	09/03/2025			Population and Sample Part II
343		March	16/03/2025			Tools of Data Collection
344		March	23/03/2025			Analysis of Qualitative Data
345		April	06/04/2025			Hypothesis Testing Chi Square Test
346		April	13/04/2025			Measures of Central Tendency, Normal Probability Curve (NPS)
347		May	04/05/2025			Independent and Dependent Variables, Selection of Statistical Techniques: How to Select different statistical technique for Research design depending
348		May	11/05/2025			Interpretation of Results and Discussion
349	S34421: Physics 04	February	02/02/2025	10:30am -11:30am	Theory	Superposition of Two Collinear Harmonic oscillations
350		February	09/02/2025			Superposition of Two Perpendicular Harmonic Oscillations
351		February	16/02/2025			Waves Motion- General
352		February	23/02/2025			Fluids
353		March	02/03/2025			Viscosity
354		March	09/03/2025			Sound
355		March	16/03/2025			Wave Optics

356		March	23/03/2025			Interference
357		April	06/04/2025			Michelson's Interferometer
358		April	13/04/2025			Diffraction
359		May	04/05/2025			Half-period zones
360		May	11/05/2025			Polarization
361	S37431: Chemistry 04	February	02/02/2025	11:30am -12:30pm	Theory	Transition Elements (3d series)
362		February	09/02/2025			ability to form complexes and stability of various oxidation states
363		February	16/02/2025			Lanthanoids and actinoids
364		February	23/02/2025			Coordination Chemistry
365		March	02/03/2025			Crystal Field Theory
366		March	09/03/2025			Spectrochemical series
367		March	16/03/2025			Kinetic Theory of Gases
368		March	23/03/2025			Maxwell Boltzmann distribution laws of molecular velocities and molecular energies and their importance
369		April	06/04/2025			Liquids
370		April	13/04/2025			Solids
371		May	04/05/2025			Chemical Kinetics
372		May	11/05/2025			Theories of Reaction Rates
373	S41441: Mathematics 04	February	02/02/2025	12:30pm -1:30pm	Theory	Definition and examples of groups
374		February	09/02/2025			Cyclic groups from number systems
375		February	16/02/2025			Complex roots of unity, circle group
376		February	23/02/2025			The general linear group $GL_n(n, R)$
377		March	02/03/2025			Group of quaternions
378		March	09/03/2025			concept of a subgroup generated by a subset
379		March	16/03/2025			Examples of subgroups including the centre of a group
380		March	23/03/2025			Normal subgroups
381		April	06/04/2025			Definition and examples of rings, examples of

						commutative and non-commutative rings
382		April	13/04/2025			Zn the ring of integers modulo n
383		May	04/05/2025			Subrings and ideals, Integral domains and fields
384		May	11/05/2025			Field of rational functions
385	S34422: Physics 04	February	02/02/2025	2:30pm - 4:30pm	Practical	To investigate the motion of coupled oscillators
386		February	09/02/2025			To determine the Frequency of an Electrically Maintained Tuning Fork by Melde's Experiment and to verify $\lambda^2 \propto T$ Law.
387		February	16/02/2025			To study Lissajous Figures
388		February	23/02/2025			Familiarization with Schuster's focussing; determination of angle of prism
389		March	02/03/2025			To determine the Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
390		March	09/03/2025			To determine the Refractive Index of the Material of a given Prism using Sodium Light
391		March	16/03/2025			To determine the value of Cauchy Constants of a material of a prism.
392		March	23/03/2025			To determine the Resolving Power of a Prism.
393		April	06/04/2025			To determine wavelength of sodium light using Fresnel Biprism
394		April	13/04/2025			To determine wavelength of sodium light using Newton's Rings
395		May	04/05/2025			To determine the wavelength of Laser light using Diffraction of Single Slit
396		May	11/05/2025			To determine the Resolving Power of a Plane Diffraction Grating
397	S37432: Chemistry 04	February	02/02/2025	4:30pm - 6:30pm	Practical	Semi-micro qualitative analysis (using H ₂ S or other methods) of mixtures
398		February	09/02/2025			Estimate the amount of nickel present in a given solution as bis (dimethylglyoximate) nickel(II) as oximate in a given solution gravimetrically.
399		February	16/02/2025			Estimate the amount of nickel present in a given solution

						as bis (dimethylglyoximate) aluminium as oximate in a given solution gravimetrically.
400		February	23/02/2025			Estimation of Mg^{2+} by complexometric titrations using EDTA.
401		March	02/03/2025			Estimation of Zn^{2+} by complexometric titrations using EDTA.
402		March	09/03/2025			Estimation of total hardness of a given sample of water by complexometric titration
403		March	16/03/2025			Surface tension measurement (use of organic solvents excluded): Determination of the surface tension of a liquid or a dilute solution using a stalagmometer.
404		March	23/03/2025			Surface tension measurement (use of organic solvents excluded): Study of the variation of surface tension of a detergent solution with concentration
405		April	06/04/2025			Viscosity measurement (use of organic solvents excluded)
406		April	13/04/2025			Viscosity measurement (use of organic solvents excluded)
407		May	04/05/2025			Chemical Kinetics: Study the kinetics of the following reactions: 1.Initial rate method: Iodide-per sulphate reaction 2. Integrated rate method
408		May	11/05/2025			Chemical Kinetics: Study the kinetics of the following reactions: a. Acid hydrolysis of methyl acetate with hydrochloric acid. b. Saponification of ethyl acetate. c. Compare the strengths of HCl and H_2SO_4 by studying kinetics of hydrolysis of methyl acetate
409	S41442: Mathematics 04	May	18/05/2025	9:30am 11:30am	Practical	Assignment 01
410		May	18/05/2025	11:30am 1:30pm		Assignment 02
411		May	18/05/2025	2:30pm 4:30pm		Assignment 03
412		May	18/05/2025	4:30pm 6:30pm		Assignment 04
413		May	25/05/2025	9:30am 11:30am		Assignment 05
414		May	25/05/2025	11:30am 1:30pm		Assignment 06
415		May	25/05/2025	2:30pm 4:30pm		Assignment 07

416		May	25/05/2025	4:30pm 6:30pm		Assignment 08
417		May	31/05/2025	9:30am 11:30am		Assignment 09
418		May	31/05/2025	11:30am 1:30pm		Assignment 10
419		May	31/05/2025	2:30pm 4:30pm		Assignment 11
420		May	31/05/2025	4:30pm 6:30pm		Assignment 12
421	SEC611: Personality and Career skills	February	02/02/2025	9:30am -10:30am	Theory	Soft Skills
422		February	09/02/2025			Self-Discovery, Forming Values
423		February	16/02/2025			Developing Positive Attitude
424		February	23/02/2025			Improving Perception
425		March	02/03/2025			Career Planning
426		March	09/03/2025			The Art of Writing E-mail
427		March	16/03/2025			Team Building and Teamwork:
428		March	23/03/2025			Group Discussion
429		April	06/04/2025			Etiquette and Manners
430		April	13/04/2025			Preparing Resume
431		May	04/05/2025			Interview Skills
432		May	11/05/2025			Time Management and Stress Management
433	S34621: Physics 06	February	02/02/2025	10:30am -11:30am	Theory	Embedded system introduction
434		February	09/02/2025			Elemental description of embedded processors and Microcontrollers.
435		February	16/02/2025			Review of microprocessors
436		February	23/02/2025			8051 microcontroller
437		March	02/03/2025			Program Counter and ROM memory map
438		March	09/03/2025			8051 I/O port programming
439		March	16/03/2025			Programming of 8051
440		March	23/03/2025			Timer and counter programming
441		April	06/04/2025			Interfacing 8051 microcontroller to peripherals
442		April	13/04/2025			Serial port programming with and without interrupt:

						Introduction to 8051 interrupts, programming timer interrupts, programming
443		May	04/05/2025			Programming Embedded Systems: Structure of embedded program, infinite loop, compiling, linking and locating
444		May	11/05/2025			Embedded system design and development
445	Sec37631: Chemistry 06	February	02/02/2025	11:30am -12:30pm	Theory	Principles of Green Chemistry
446		February	09/02/2025			Designing of Green Chemistry
447		February	16/02/2025			Chemical synthesis of Green Chemistry
448		February	23/02/2025			Energy requirements for reactions – alternative sources of energy: use of microwaves and ultrasonic energy
449		March	02/03/2025			Selection of starting materials
450		March	09/03/2025			Use of catalytic reagents
451		March	16/03/2025			Green Synthesis of the following compounds
452		March	23/03/2025			Microwave assisted reactions in water
453		April	06/04/2025			Ultrasound assisted reactions
454		April	13/04/2025			Healthier fats and oil by Green Chemistry
455		May	04/05/2025			Development of Fully Recyclable Carpet
456		May	11/05/2025			Future Trends in Green Chemistry
457	S41641: Mathematics 06	February	02/02/2025	12:30pm -1:30pm	Theory	Algorithms, Convergence, Bisection method
458		February	09/02/2025			False position method
459		February	16/02/2025			Fixed point iteration method
460		February	23/02/2025			Newton's method, Secant method
461		March	02/03/2025			LU decomposition, Gauss-Jacobi
462		March	09/03/2025			Gauss-Siedel and SOR iterative methods.
463		March	16/03/2025			Lagrange interpolation
464		March	23/03/2025			Newton interpolation
465		April	06/04/2025			Linear and higher order, finite difference operators.
466		April	13/04/2025			Numerical differentiation

467		May	04/05/2025			Integration: trapezoidal rule, Simpson's rule
468		May	11/05/2025			Euler's method.
469	S34622: Physics 06	February	02/02/2025	2:30pm - 4:30pm	Practical	To find that the given numbers is prime or not
470		February	09/02/2025			To find the factorial of a number
471		February	16/02/2025			Write a program to make the two numbers equal by increasing the smallest number and decreasing the largest number
472		February	23/02/2025			Use one of the four ports of 8051 for O/P interfaced to Eight LED's. Simulate binary counter (8 bit) on LED's
473		March	02/03/2025			Program to glow first four LED then next four using TIMER application
474		March	09/03/2025			Program to rotate the contents of the accumulator first right and then left
475		March	16/03/2025			Program to run a countdown from 9-0 in the seven segment LED display
476		March	23/03/2025			To interface seven segment LED display with 8051 microcontroller and display 'HELP' in the seven segment LED display
477		April	06/04/2025			To toggle '1234' as '1324' in the seven segment LED.
478		April	13/04/2025			Interface stepper motor with 8051 and write a program to move the motor through a given angle in clock wise or counter clockwise direction
479		May	04/05/2025			Application of embedded systems: Temperature measurement
480		May	11/05/2025			Application of embedded systems: Some information on LCD display, interfacing a keyboard.
481	S37632: Chemistry 06	February	02/02/2025	4:30pm - 6:30pm	Practical	Safer starting materials: Preparation of nanoparticles of gold using tea leaves
482		February	09/02/2025			Safer starting materials: characterization of nanoparticles of gold using tea leaves
483		February	16/02/2025			Using renewable resources: Preparation of biodiesel from vegetable/ waste cooking oil
484		February	23/02/2025			Avoiding waste: Principle of atom economy

485		March	02/03/2025			Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper
486		March	09/03/2025			Photoreduction of benzophenone to benzopinacol in the Presence of sunlight.
487		March	16/03/2025			Use of enzymes as catalysts
488		March	23/03/2025			Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide
489		April	06/04/2025			Alternative Green solvents
490		April	13/04/2025			Extraction of D-limonene from orange peel using liquid CO2 prepared from dry ice
491		May	04/05/2025			Mechanochemical solvent free synthesis of azomethines
492		May	11/05/2025			Alternative sources of energy
493	S41642: Mathematics 06	May	18/05/2025	9:30am 11:30am	Practical	Assignment 01
494		May	18/05/2025	11:30am 1:30pm		Assignment 02
495		May	18/05/2025	2:30pm 4:30pm		Assignment 03
496		May	18/05/2025	4:30pm 6:30pm		Assignment 04
497		May	25/05/2025	9:30am 11:30am		Assignment 05
498		May	25/05/2025	11:30am 1:30pm		Assignment 06
499		May	25/05/2025	2:30pm 4:30pm		Assignment 07
500		May	25/05/2025	4:30pm 6:30pm		Assignment 08
501		May	31/05/2025	9:30am 11:30am		Assignment 09
502		May	31/05/2025	11:30am 1:30pm		Assignment 10
503		May	31/05/2025	2:30pm 4:30pm		Assignment 11
504		May	31/05/2025	4:30pm 6:30pm		Assignment 12

V100: BACHELOR OF SCIENCE (BOTANY, CHEMISTRY, ZOOLOGY){2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Bachelor of Science (Botany, Chemistry, Zoology)	V100	UG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First, second	1, 2,3 & 4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	SEM-1 AEC111 : English Communication	September	01/09/2024	9:30am - 10:30am	Theory	Introduction, Language of Communication, Speaking Skills
2.		September	8/09/2024			Understanding the Basis of Verbal Communication, Working with Customers
3.		September	15/09/2024			Developing Professional Telephone Skills, Improving Informal Communication
4.		September	22/09/2024			Reading and Understanding, Writing Skills,
5.		September	29/9/2024			Uncovering the Secrets of Clear writing, Communicating with E-Mail and Memos
6.		October	06/10/2024			Developing Reports and Proposals, Writing for Employment
7.		October	13/10/2024			Identifying and Defining Problems
8.		October	20/10/2024			Solving the Problem, Thinking Critically
9.		November	10/11/2024			Group Decision Making and Problem Solving
10.		November	17/11/2024			Working in Groups and Teams
11.		November	24/11/2024			Exploring Team Roles and Processes, Building and Developing Teams
12.		December	08/12/2024			Presenting yourself Professionally, Developing Your Interpersonal Skills
13.	BNY101: Plant Diversity	September	01/09/2024	10:30am - 11:30am	Theory	Viruses & Bacteria, Algae & Life-Cycles of Algae
14.		September	8/09/2024			Fungi, True Fungi
15.		September	15/09/2024			Lichens-Symbiotic Associations,
16.		September	22/09/2024			Mycorrhiza
17.		September	29/9/2024			Bryophytes, Morphology

18.		October	06/10/2024			Anatomy And Reproduction of Bryophytes
19.		October	13/10/2024			Pteridophytes, Morphology,
20.		October	20/10/2024			Anatomy And Reproduction of Pteridophytes
21.		November	10/11/2024			Gymnosperms & Morphology,
22.		November	17/11/2024			Anatomy And Reproduction of Gymnosperms
23.	CHE104:Basic Inorganic & Organic Chemistry	November	24/11/2024	11:30am - 12:30pm	Theory	Morphology of Angiosperms
24.		December	08/12/2024			Anatomy of Angiosperms
25.		September	01/09/2024			Atomic Structure
26.		September	8/09/2024			Quantum mechanics
27.		September	15/09/2024			Electronic configurations of the atoms
28.		September	22/09/2024			Ionic Bonding
29.		September	29/9/2024			Covalent bonding
30.		October	06/10/2024			Resonance and resonating structures, MO Approach
31.		October	13/10/2024			Physical Effects, Electronic Displacements
32.		October	20/10/2024			Structure, shape and reactivity of organic molecules, Reactive Intermediates
33.		November	10/11/2024			Strength of organic acids and bases, Stereochemistry
34.		November	17/11/2024			Aliphatic Hydrocarbons
35.		November	24/11/2024			Alkanes, Alkenes, Alkynes
36.		December	08/12/2024			Reactions
37.	ZGY101: Animal Diversity	September	01/09/2024	12:30pm -1:30pm	Theory	Principles of Animal Classification & General Features of kingdom Animalia
38.		September	8/09/2024			Subkingdom-Protista& Subkingdom Parazoa
39.		September	15/09/2024			Subkingdom-Metazoa & Phylum-Platyhelminthes
40.		September	22/09/2024			Phylum-Aschelminthes & Phylum-Annelida
41.		September	29/9/2024			Phylum-Arthropoda
42.		October	06/10/2024			Phylum Mollusca
43.		October	13/10/2024			Phylum Echinodermata
44.		October	20/10/2024			Phylum-Chordata
45.		November	10/11/2024			Introduction to subphylum – Vertebrata

46.		November	17/11/2024			Introduction to Superclass
47.		November	24/11/2024			Class Reptiles
48.		December	08/12/2024			Class Aves
49.		September	01/09/2024			EMs/Models of viruses – T-Phage and TMV, Line drawing/Photograph of Lytic and
	BNY102: Plant Diversity Practical					Lysogenic Cycle. Types of Bacteria from temporary/permanent slides/photographs; EM bacterium; Binary Fission; Conjugation; Structure of root nodule.
50.		September	8/09/2024	2:30pm - 4:30pm	Practical	Gram staining & Study of vegetative and reproductive structures of Nostoc, Chlamydomonas (electron micrographs), Oedogonium, Vaucheria, Sargassum and Polysiphonia through temporary preparations and permanent slides.(*Sargassum-Specimen and permanent slides)
51.		September	15/09/2024			Rhizopus and Penicillium: Asexual stage from temporary mounts and sexual structures through permanent slides. Alternaria: Specimens, Photographs and tease mounts.
52.		September	22/09/2024			Puccinia: Herbarium specimens of Black Stem Rust of Wheat and infected Barberry leaves; section/tease mounts of spores on Wheat and permanent slides of both the hosts.
53.		September	29/9/2024			Agaricus: Specimens of button stage and full grown mushroom; Sectioning of gills of Agaricus.
54.		October	06/10/2024			Lichens: Study of growth forms of lichens (Crustose, Foliose and Fruticose) ,Mycorrhiza: Ecto Mycorrhiza and Endo Mycorrhiza (Photographs) Marchantia- Morphology of thallus, w.m. rhizoids and scales, v.s. thallus through gemmacup, w.m. gemmae (all temporary slides), v.s. antheridiophore, archegoniophore, l.s. sporophyte (all permanent slides).
55.		October	13/10/2024			Funaria-Morphology, w.m.leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, l.s. capsule and protonema.
56.		October	20/10/2024			Selaginella- Morphology, w.m. leaf with ligule, t.s. stem, w.m. strobilus, w.m. microsporophyll and megasporophyll (temporary slides), l.s. strobilus (permanent slide).
57.		November	10/11/2024			Equisetum-Morphology,t.s.internode,l.s.strobilus,t.s.strobilus,w.m.sporangiophore, w.m. spores (wet and dry), (temporary slides); t.s rhizome (permanent slide).

58.		November	17/11/2024			Pteris-Morphology, t.s.rachis, v.s.sporophyll, w.m.sporangium, w.m.spores (temporary slides), t.s.rhizome, w.m.prothallus with sex organs and young sporophyte (permanent slide).
59.		November	24/11/2024			Cycas-Morphology (coralloid roots, bulbil, leaf), t.s. coralloid root, t.s. rachis, v.s. leaflet, v.s. microsporophyll, w. m. spores (temporary slides), l.s. ovule, t.s. root (permanent slide).
60.		December	08/12/2024			Pinus-Morphology (long and dwarf shoots, w.m. dwarf shoot, male and female), w.m. dwarf shoot, t.s. needle, t.s. stem, l.s./t.s. male cone, w.m. microsporophyll, w.m. microspores (temporary slides), l.s. female cone, t.l.s. & r.l.s. stem (permanent slide). Study of Vegetative Morphology of Angiosperms:- root (type & modification), stem (branching pattern & modification), leaves (type, phyllotaxy, venation, modification), study of reproductive morphology of angiosperms:- inflorescence (cymose, racemose, special), flower (types, parts of flower), fruit (types), study of anatomy of primary structure in:- dicot: root, stem & leaf eg. Sunflower, monocot: root, stem & leaf eg. Maize), study of anatomy of secondary structure in dicot stem e.g. Moringa
61.	CHE105: Basic Inorganic & Organic Chemistry Practical	September	01/09/2024	4:30pm - 6:30pm	Practical	Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture
62.		September	8/09/2024			Estimation of oxalic acid by titrating it with KMnO_4 .
63.		September	15/09/2024			Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .
64.		September	22/09/2024			Estimation of Fe (II) ions by titrating it with $\text{K}_2\text{Cr}_2\text{O}_7$ using internal indicator
65.		September	29/9/2024			Estimation of Cu (II) ions iodometrically using $\text{Na}_2\text{S}_2\text{O}_3$.
66.		October	06/10/2024			Detection of extra elements (N, S, Cl, Br, I) in organic compounds
67.		October	13/10/2024			Separation of mixtures by Chromatography
68.		October	20/10/2024			Measure the R_f value in each case (combination of two compounds to be given)
69.		November	10/11/2024			Identify and separate the components of a given mixture of two amino acids (glycine) by paper chromatography
70.		November	17/11/2024			Identify and separate the components of a given mixture of two amino acids (aspartic acid) by paper chromatography
71.		November	24/11/2024			Identify and separate the components of a given mixture of two amino acids (glutamic acid) by paper chromatography
72.		December	08/12/2024			Identify and separate the sugars present in the given mixture by paper chromatography.

73.		December	15/12/2024	9:30am 11:30am		Study of whole mount of <i>Amoeba</i> , <i>Euglena</i> , <i>Plasmodium</i> , <i>Paramecium</i> Study of museum specimen from Phylum Porifera <i>Sycon</i> , <i>Hyalonema</i> , and <i>Euplectella</i>
74.		December	15/12/2024	11:30am 1:30pm		Study of museum specimen from Phylum Cnidaria <i>Obelia</i> , <i>Physalia</i> , <i>Aurelia</i> , <i>Tubipora</i> , <i>Metridium</i> Study of museum specimen from Phylum Platyhelminthes <i>Planaria</i> , <i>Taeniasolium</i> ,
						<i>Fasciola hepatica</i>
75.		December	15/12/2024	2:30pm 4:30pm	Practical	Study of museum specimen from Phylum Nematoda-Male and female <i>Ascaris lumbricoides</i> Study of museum specimen from Phylum Annelida, <i>Aphrodite</i> , <i>Nereis</i> , <i>Pheretima</i> , <i>Hirudinaria</i>
76.		December	15/12/2024	4:30pm 6:30pm		Study of museum specimen from Phylum Arthropoda <i>Palaemon</i> , <i>Cancer</i> , <i>Limulus</i> , <i>Palamnaeus</i> , <i>Scolopendra</i> , <i>Julus</i> , <i>Periplaneta</i> , <i>Apis</i> Study of museum specimen from Phylum Mollusca, <i>Chiton</i> , <i>Dentalium</i> , <i>Pila</i> , <i>Unio</i> , <i>Loligo</i> , <i>Sepia</i> , <i>Octopus</i>
77.		December	22/12/2024	9:30am 11:30am		Study of museum specimen from Phylum Echinodermata <i>Ophiura</i> , <i>Echinus</i> , <i>Cucumaria</i> , and <i>Antedon</i>
78.		December	22/12/2024	11:30am 1:30pm		Study of museum specimen/slides from phylum Protochordate <i>Balanoglossus</i> , <i>Herdmania</i> and <i>Amphioxius</i> Study of museum specimen from phylum Agnatha, <i>Petromyzon</i> , <i>Myxine</i>
79.	ZGY102: Animal Diversity- Practical	December	22/12/2024	2:30pm 4:30pm		Study of museum specimen from Superclass Pisces <i>Scoliodon</i> , <i>Sphyrna</i> , <i>Pristis</i> , <i>Torpedo</i> , <i>Labeo</i> , <i>Exocoetus</i> , <i>Anguilla</i> , <i>Hippocampus</i> , <i>Tetradon</i> Study of museum specimen from phylum Amphibia <i>Ichthyophis/Ureotyphlus</i> , <i>Salamandra</i> , <i>Bufo</i> , <i>Hyla</i>
80.		December	22/12/2024	4:30pm 6:30pm		Study of museum specimen from phylum Reptiles <i>Naja</i> , <i>Draco</i> , <i>Chelone</i> , <i>Hemidactylus</i> , <i>Chamaeleon</i> , <i>Vipera</i> , <i>Gavialis</i>
81.		December	29/12/2024	9:30am 11:30am		Study of museum specimen from phylum Aves-six common birds from different orders
82.		December	29/12/2024	11:30am 1:30pm		Study of museum specimen from phylum Mammals-Bat, <i>Funambulus</i> , <i>Loris</i> , <i>Sorex</i>
83.		December	29/12/2024	2:30pm 4:30pm		Study of the following permanent slides: T.S. and L.S. of <i>Sycon</i> , Study of life history stages of <i>Taenia</i> , T.S. of Male and female <i>Ascaris</i>

84.		December	29/12/2024	4:30pm 6:30pm		Key for Identification of poisonous and non-poisonous snakes, An “animal album” containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to different sets of students for this purpose.
85.	AEC211: EVS	February	02/02/2025			The Multidisciplinary Nature Of Environmental Studies
86.	SEM-2	February	09/02/2025	9:30am - 10:30am	Theory	Natural Resources
87.		February	16/02/2025			Ecosystems
88.		February	23/02/2025			Biodiversity And Its Conservation
89.		March	02/03/2025			Environmental Pollution
90.		March	09/03/2025			Disaster Management
91.		March	16/03/2025			Social Issues And The Environment
92.		March	23/03/2025			Environmental Ethics
93.		April	06/04/2025			Environment Protection Act
94.		April	13/04/2025			Human Population And The Environment
95.		May	04/05/2025			Nutrition, health and human rights
96.		May	11/05/2025			Field Work
97.	BNY106: Plant Ecology and Taxonomy	February	02/02/2025	10:30am - 11:30am	Theory	Plant Ecology, Ecological Adaptations
98.		February	09/02/2025			Ecosystem, Ecological Succession
99.		February	16/02/2025			Plant Taxonomy
100.		February	23/02/2025			Herbarium, Documentation
101.		March	02/03/2025			Taxonomic Hierarchy
102.		March	09/03/2025			Angiosperm Systematics
103.		March	16/03/2025			Botanical Nomenclature
104.		March	23/03/2025			Systems of Classification I , Systems Of Classification II

105		April	06/04/2025			Systematic Studies & Economic Importance Of Following Families
106		April	13/04/2025			Dicotyledons (Gamopetalae) , Dicotyledons (Monoclamydeae), Monocotyledons
107	CHE106: Physical & Organic Chemistry - 1 (Sem 2)	February	02/02/2025	11:30am - 12:30pm	Theory	Chemical Energetics
108		February	09/02/2025			Chemical Equilibrium
109		February	16/02/2025			Variation of enthalpy of a reaction with temperature – Kirchhoff's equation
110		February	23/02/2025			Ionic Equilibria
111		March	02/03/2025			Ionization of weak acids and bases
112		March	09/03/2025			Buffer solutions
113		March	16/03/2025			Aromatic hydrocarbons
114		March	23/03/2025			Alkyl and Aryl Halides
115		April	06/04/2025			Aryl Halides Preparation
116		April	13/04/2025			Alcohols
117		May	04/05/2025			Phenols:
118		May	11/05/2025			Ethers (aliphatic and aromatic)
119	Semester 02: ZGY106: Anatomy and Developmental Biology of Vertebrates	February	02/02/2025	12:30pm -1:30pm	Theory	Integumentary System Skeletal System
120		February	09/02/2025			Digestive System Respiratory System
121		February	16/02/2025			Circulatory System Urinogenital System
122		February	23/02/2025			Nervous System Endocrine system
123		March	02/03/2025			Early Embryonic Development
124		March	09/03/2025			Fertilization
125		March	16/03/2025			Early development of frog and humans
126		March	23/03/2025			Types of morphogenetic movements
127		April	06/04/2025			Late Embryonic Development

128		April	13/04/2025			Metamorphic events in frog life cycle and its hormonal regulation
129		May	04/05/2025			Control of Development
130		May	11/05/2025			Fundamental processes in development (brief idea):
131	BNY107: Plant Ecology & Taxonomy	February	02/02/2025	2:30pm - 4:30pm	Practical	Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter of any wild plant with herbarium label (to be submitted in the record book).
132		February	09/02/2025			Determination of pH, and analysis of two soil samples for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency by rapid field test.
133		February	16/02/2025			Comparison of bulk density, porosity and rate of infiltration of water in soil of three habitats. a) Study of morphological adaptations of hydrophytes and xerophytes (four each). b) Study of biotic interactions of the following: Stem parasite (<i>Cuscuta</i>), Root parasite (<i>Orobancha</i>), Epiphytes, Predation (Insectivorous plants)
134		February	23/02/2025			Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter of any wild plant with herbarium label (to be submitted in the Record book).
135		February	02/03/2025			Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus by species area curve method. (species to be listed) Quantitative analysis of herbaceous vegetation in the college campus for frequency and comparison with Raunkiaer's frequency distribution law
136		March	09/03/2025			Study of vegetative and floral characters of the following families (Description, V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification): Brassicaceae -Brassica, Alyssum / Iberis;
137		March	16/03/2025			Asteraceae -Sonchus/Launaea, Vernonia/Ageratum, Eclipta/Tridax; Solanaceae - Solanumnigrum, Withania; Lamiaceae -Salvia, Oscimum; Liliaceae - Asphodelus / Liliium / Allium.
138		March	02/02/2025			Mounting of a properly dried and pressed specimen

139	Semester 02: CHE107: Physical & Organic Chemistry - 1 (Sem 2)	May	04/05/2025	4:30pm - 6:30pm	Practical	To verify the Superposition, and Maximum Power Transfer Theorem
140		February	02/02/2025			Determination of heat capacity of calorimeter for different volumes
141		February	09/02/2025			Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide
142		February	16/02/2025			Determination of enthalpy of ionization of acetic acid
143		February	23/02/2025			Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl).
144		March	02/03/2025			Determination of enthalpy of hydration of copper sulphate
145		March	09/03/2025			Study of the solubility of benzoic acid in water and determination of ΔH .
146		March	16/03/2025			Ionic equilibria - pH measurements
147		March	23/03/2025			Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter
148		April	06/04/2025			Preparation of buffer solutions: (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide
149	Semester 02: ZGY107: Anatomy & Developmental Biology of Vertebrates	April	13/04/2025	9:30am 11:30am 11:30am 1:30pm 2:30pm 4:30pm 4:30pm 6:30pm 9:30am 11:30am 11:30am 1:30pm 2:30pm 4:30pm	Practical	Purification of organic compounds by crystallization (from water and alcohol) and distillation.
150		May	04/05/2025			Criteria of Purity: Determination of melting and boiling points
151		May	11/05/2025			Preparations: Mechanism of various reactions involved to be discussed.
152		May	18/05/2025			Study of Disarticulated skeleton of fowl and rabbit
153		May	18/05/2025			Study of Carapace and plastron of Reptiles
154		May	18/05/2025			Study of Mammalian skulls: One herbivorous and one carnivorous animal, Study of Integumentary derivatives of Aves and Mammals
155		May	18/05/2025			Study of Scales and Fins in Fishes, Comparative study of Brain in Vertebrates
156		May	25/05/2025			Comparative study of Heart in Vertebrates, Comparative study of Skin in Vertebrates
157		May	25/05/2025			Study of developmental stages of Frog
158		May	25/05/2025			Study of different types of eggs in Vertebrates
						Study of different types of Cleavage in Vertebrates

159		May	25/05/2025	4:30pm 6:30pm		Study of the different types of placenta in Mammals
160		May	31/05/2025	9:30am 11:30am		Study of different types of embryos in Amphibia, Reptilia, Aves and Mammalia
161		May	31/05/2025	11:30am 1:30pm		Study of extra embryonic membranes in Mammals
162		May	31/05/2025	2:30pm 4:30pm		Study of Chick embryo (Whole Mounts)
163		May	31/05/2025	4:30pm 6:30pm		Study of Chick embryo (Transverse Section)
164	SEM-3 Semester 03: SEC311: IT and Elearning Skills	September	01/09/2024	9:30am - 10:30am	Theory	Block Diagram of a Computer, Functions of the Different Units: Input unit, Output unit, Memory unit, CPU (ALU+CU)
165		September	8/09/2024			Input & Output Devices. Input Devices: a) Keyboard, b)Point and draw devices Mouse ,trackball, light pen, c) Data scanning devices Image scanner, OCR, OMR, Barcode reader, card reader d)Voice Recognition Devices Output Devices: Monitor, Projectors, Printers
166		September	15/09/2024			Memory: Cache Memory, Primary Memory: I) RAM a) How data is stored in a RAM b) DRAM and S RAM II) ROM a)ROMBIOS/Firmware b) Types of ROM, Secondary Memories: I) Hard disk- a) Structure of a hard disk, how data is stored in a hard disk, concept of Tracks, sectors, clusters, cylinders b) Formatting of hard disk. II) CD/DVD [data storage mechanism].
167		September	22/09/2024			Functions of Operating System. Types of Operating System - MS Windows, Linux, and Macintosh.
168		September	29/9/2024			Utility Programs: Antivirus, CD/DVD burner, VLC media player, Adobe Reader Web browser, Mozilla Firefox, Google Chrome, Internet Explorer / Edge
169		October	06/10/2024			Word-processing
170		October	13/10/2024			Presentation,Spreadsheet
171		October	20/10/2024			E-Learning definition, scope, trends, attributes & opportunities, Pedagogical designs for e-learning

172		November	10/11/2024			Assessment, feedback, and e-moderation,Online learning management systems
173		November	17/11/2024			Digital learning objects
174		November	24/11/2024			Online learning course development models
175		December	08/12/2024			Management and implementation of e-learning,Evaluating the impacts of e-learning.
176	Semester 03: BNY201: Diversity & Morphology of Angiosperm	September	01/09/2024	10.30am- 11.30am	Theory	Introduction of Diversity of Angiosperm, Evolutionary status of Angiosperms
177		September	8/09/2024			Taxonomy, Functions of Taxonomy
178		September	15/09/2024			Classification of Angiosperms, Systems of Classification
179		September	22/09/2024			Bentham & Hooker's system of classification upto series
180		September	29/9/2024			Herbarium
181		October	06/10/2024			Morphology of Angiosperms
182		October	13/10/2024			Root
183		October	20/10/2024			Stem
184		November	10/11/2024			Leaf
185		November	17/11/2024			Inflorescence
186		November	24/11/2024			Flower, Calyx,
187		December	08/12/2024			Fruit
188	Semester 03 CHE201: Physical & Organic Chemistry-2	September	01/09/2024	11.30am- 12.30pm	Theory	Thermodynamics of ideal solutions
189		September	8/09/2024			Partial miscibility of liquids
190		September	15/09/2024			Phase Equilibrium
191		September	22/09/2024			Conductance
192		September	29/9/2024			Applications of conductance measurements
193		October	06/10/2024			Electrochemistry
194		October	13/10/2024			Calculation of thermodynamic properties
195		October	20/10/2024			Organic Chemistry
196		November	10/11/2024			Carboxylic acids and their derivatives
197		November	17/11/2024			Amines and Diazonium Salts

198		November	24/11/2024			Amino Acids, Peptides and Proteins
199		December	08/12/2024			Carbohydrates
200	Semester 03 ZGY201: Animal Physiology and Ecology	September	01/09/2024	12:30pm -1:30pm	Theory	Nerve
201		September	8/09/2024			Muscle, Digestion
202		September	15/09/2024			Respiration
203		September	22/09/2024			Excretion
204		September	29/9/2024			Cardiovascular System, Physiology of Osmoregulation in Vertebrates
205		October	06/10/2024			Physiology of Reproduction, Introduction to Ecology
206		October	13/10/2024			Ecosystem
207		October	20/10/2024			Food chain, Community characteristics
208		November	10/11/2024			Population
209		November	17/11/2024			Population regulation
210		November	24/11/2024			Animal interactions
211		December	08/12/2024			Antagonistic associations
212	Semester 03 BNY202: -Practical	December	15/12/2024	9:30am 11:30a m	Practical	Study of Root and stem modifications as per syllabus, Study of leaf morphology i) Parts of typical leaf ii) Types of leaf: Simple and compound iii) Phyllotaxy : A) Alternate B) Opposite: a) Superposed b) Decussate C) Whorled
213		December	15/12/2024	11:30a m 1:30pm		Study of inflorescence: i) Racemose types ii) Cymose types iii) Special types, Study of flower morphology: i) Calyx: Modifications and aestivation ii) Corolla: Forms of corolla and aestivation iii) Androecium: Adhesion and cohesion iv) Gynoecium: Types of placentation (Permanent Slides)
214		December	15/12/2024	2:30pm 4:30pm		Study of fruit morphology: i) Simple ii) Aggregate iii) Composite, To find concentration of isotonic solution by plasmolysis method
215		December	15/12/2024	4:30pm 6:30pm		To find rate of photosynthesis under a) Light intensity b) Light quality, To find rate of transpiration under a) Wind b) Light
216		December	22/12/2024	9:30am 11:30am		Demonstration: a) Imbibition pressure b) Osmosis- Thistle funnel c) Osmosis- Curling experiment d) Ringing experiment
217		December	22/12/2024	11:30am 1:30pm		Demonstration: a) Relative transpiration b) Ganong's potometer c) Kuhne's tube d) CO ₂ necessary for photosynthesis
218		December	22/12/2024	2:30pm 4:30pm		To identify following chemicals from plant material: a) Amino acids from legumes. b) Phenols in tea leaves and Supari (Areca-nut) c) Alkaloids in Tobacco/ Datura

219		December	22/12/2024	4:30pm 6:30pm		To construct floral diagram and to write floral formula selecting different flower types , Study of garden tools and equipments
220		December	29/12/2024	9:30am 11:30am		Study of propagation- i) Media ii) Containers iii) Potting iv) Repotting, Study of Propagation method by a) Cutting b) Layering
221		December	29/12/2024	11:30am 1:30pm		Study of Propagation method by a) Budding b) Grafting
222		December	29/12/2024	2:30pm 4:30pm		Preparation of preserved food products a) Mix fruit jam b) wood apple or guava jelly c) Lemon/Orange squash d) Tomato ketchup e) Ready to serve-R.T.S./juices.
223		December	29/12/2024	4:30pm 6:30pm		Study of ANY SIX families as per theory syllabus w.r.t. morphological characters, floral formula, floral diagram and systematic position (Sensu Bentham and Hooker) giving reasons, (Selecting families possibly from all plant groups viz., Polypetalae, Gamopetalae, Monochlamydae and Monocotyledons).
224		December	15/12/2024	9:30am 11:30a m		Conductance I. Determination of cell constant
225		December	15/12/2024	11:30a m 1:30pm		Potentiometry: Perform the following potentiometric titrations: i. Strong acid vs. strong base
226		December	15/12/2024	2:30pm 4:30pm		Phase equilibria: Study of the variation of mutual solubility temperaturewithconcentrationforthe phenol water system and determination of the critical solubility temperature.
227	Semester 03 CHE202: Physical & Organic Chemistry – 2	December	15/12/2024	4:30pm 6:30pm	Practical	Distribution:
228		December	22/12/2024	9:30am 11:30a m		Phase equilibria: a) Construction of the phase diagram of a binary system (simple eutectic) using cooling curves.
229		December	22/12/2024	11:30a m 1:30pm		b) Determination of the critical solution temperature and composition of the phenol water system and study of the effect of impurities on it. c) Studyofthevariationofmutualsolubilitytemperaturewithconcentrationforthe phenol water system and determination of the critical solubility temperature.
230		December	22/12/2024	2:30pm 4:30pm		Conductance II. Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid.

231		December	22/12/2024	4:30pm 6:30pm		Potentiometry: Perform the following potentiometric titrations: ii. Weak acid vs. strong base iii. Potassium dichromate vs. Mohr's salt
232		December	29/12/2024	9:30am 11:30am		I Systematic Qualitative Organic Analysis of Organic Compounds possessing mono functional groups (-COOH, phenolic, aldehydes, ketonic, amide, nitro, amines) and preparation of one derivative.
233		December	29/12/2024	11:30am 1:30pm		1. Separation of amino acids by paper chromatography 2. Determination of the concentration of glycine solution by formylation method.
234		December	29/12/2024	2:30pm 4:30pm		3. Titration curve of glycine 4. Action of salivary amylase on starch
235		December	29/12/2024	4:30pm 6:30pm		5. Effect of temperature on the action of salivary amylase on starch. 6. Differentiation between a reducing and a non-reducing sugar.
236	Semester 03 ZGY202: Animal Physiology and Ecology-Practical	December	15/12/2024	9:30am 11:30am	Practical	Preparation of haemin and hemochromogen crystals
237		December	15/12/2024	11:30am 1:30pm		Study of different types of blood cells using suitable stain/s.
238		December	15/12/2024	2:30pm 4:30pm		Study of permanent slides of T S of duodenum, liver, lung, kidney
239		December	15/12/2024	4:30pm 6:30pm		Study of permanent slides of spinal cord, bone, cartilage
240		December	22/12/2024	9:30am 11:30am		Estimation of bleeding and clotting time, Study of nervous & muscular tissue.
241		December	22/12/2024	11:30am 1:30pm		Study of structure of heart and cardiac cycle, Study of spermatogenesis.
242		December	22/12/2024	2:30pm 4:30pm		Study of life tables and plotting of survivorship curves from the hypothetical/real data provided.
243		December	22/12/2024	4:30pm 6:30pm		Determination of population density in a natural/hypothetical community by quadrat method
244		December	29/12/2024	9:30am 11:30am		Study of microscopic fauna of freshwater ecosystem, Estimation of hardness from given water samples
245		December	29/12/2024	11:30am 1:30pm		Estimation of dissolved Oxygen (Winkler's method) from water sample, Construction of food chain/food web using given information/data.

246		December	29/12/2024	2:30pm 4:30pm		Study of Eutrophication in lake/river.
247		December	29/12/2024	4:30pm 6:30pm		Estimation of Water Alkalinity from given water sample.
248		February	02/02/2025	9:30am - 10:30am	Theory	Meaning of Research
249	Semester- 04 SEC411: Research Methodology	February	09/02/2025			Scientific Inquiry, Research Interdisciplinary Approach
250		February	16/02/2025			Ethics in Research, Survey Research
251		February	23/02/2025			Experiment, Case Study
252		March	02/03/2025			Framing Aim, Objectives and Hypothesis, Population and Sample Part I
253		March	09/03/2025			Population and Sample Part II
254		March	16/03/2025			Tools of Data Collection Part I, Tools of Data Collection Part II
255		March	23/03/2025			Analysis of Qualitative Data, Analysis of Quantitative Data
256		April	06/04/2025			Hypothesis Testing Chi Square Test, Measures of Central Tendency
255		April	13/04/2025			Normal Probability Curve (NPS)
256		May	04/05/2025			Independent and Dependent Variables
257		May	11/05/2025			Selection of Statistical Techniques, Interpretation of Results and Discussion.
258	Semester 04 BNY206: Plant Systematic – Algae, Fungi & Bryophytes	February	02/02/2025	10:30am -11:30am	Theory	Introduction to Algae,
259		February	09/02/2025			Classification of algae,
260		February	16/02/2025			Cyanophyceae, Chlorophyceae,
261		February	23/02/2025			Phaeophyceae, Rhodophyceae
262		March	02/03/2025			Phaeophyceae, Rhodophyceae
263		March	09/03/2025			Fungi, Myxomycota
264		March	16/03/2025			Mastigomycotina, Zygomycotina
265		March	23/03/2025			Ascomycotina, Basidiomycotina,
266		April	06/04/2025			Deuteromycotina
267		April	13/04/2025			Introduction to Bryophytes
268		May	04/05/2025			Economic importance of Bryophytes
269		May	11/05/2025			Hepaticae
270		February	02/02/2025	11:30am		Transition Elements (3d series)

271	Semester 04 CHE206: Physical & Inorganic Chemistry	February	09/02/2025	-12:30pm	Theory	Lanthanoids and actinoids
272		February	16/02/2025			Coordination Chemistry
273		February	23/02/2025			Crystal Field Theory
274		March	02/03/2025			Kinetic Theory of Gases
275		March	09/03/2025			Critical phenomena, critical constants and their calculation from van der Waals equation
276		March	16/03/2025			Temperature dependence of these distributions. Most probable, average and root mean square velocities (no derivation)
277		March	23/03/2025			Liquids
278		April	06/04/2025			Solids
279		April	13/04/2025			Chemical Kinetics
280		May	04/05/2025			Derivation of integrated rate equations for zero, first and second order reactions
281		May	11/05/2025			Theories of Reaction Rates
282	Semester 04 ZGY206: Genetics and Evolutionary Biology	February	02/02/2025	12:30pm -1:30pm	Theory	Introduction to Genetics,Mendelian Genetics and its Extension I
283		February	09/02/2025			Mendelian Genetics and its Extension II,Sex Determination
284		February	16/02/2025			Linkage, Crossing Over and Chromosomal Mapping
285		February	23/02/2025			Linkage, Crossing Over and Chromosomal Mapping-I,Linkage, Crossing Over and Chromosomal Mapping-II
286		March	02/03/2025			Chromosomal Aberrations
287		March	09/03/2025			Gene mutations
288		March	16/03/2025			History of Life,Introduction to Evolutionary Theories
289		March	23/03/2025			Direct Evidences of Evolution, Macro-evolution
290		April	06/04/2025			Micro-evolution
291		April	13/04/2025			Processes of Evolutionary Change I
292		May	04/05/2025			Processes of Evolutionary Change II
293		May	11/05/2025			Extinction

294	Semester 04 BNY207: Plant Systematics- Algae,Fungi & Bryophytes	May	18/05/2025	9:30am 11:30am	Practical	Cyanophyta: Any two members from Each Order, Chlorophyta: Any two members from Each Order
295		May	18/05/2025	11:30am 1:30pm		Charophyceae: Chara, Nitella, Phaeophyta: Any five members from All Orders
296		May	18/05/2025	2:30pm 4:30pm		Rhodophyta: Any five members from All Orders, Class: i. Xanthophyceae – Vaucheria, Botrydium ii. Bacillariophyceae- Any Five members iii. Euglenophyceae- Any two members
297		May	18/05/2025	4:30pm 6:30pm		Myxomycota -Any four forms, Mastigomycotina - Any four forms
298		May	25/05/2025	9:30am 11:30am		Zygomycotina - Any three forms, Ascomycotina - Any eight forms
299		May	25/05/2025	11:30am 1:30pm		Basidiomycotina- Any eight forms, Deuteromycotina - Any four form
300		May	25/05/2025	2:30pm 4:30pm		Marchantiales: Plagiochasma, Targionia, Asterella, Dumortiera,
301		May	25/05/2025	4:30pm 6:30pm		Jungermanniales: Peltia, Fossombronia, Pallavicinia, Porella, Frullania
302		May	31/05/2025	9:30am 11:30am		Anthocerotales : Anthoceros, Notothylus, Musci : Polytrichum, Pogonatum
303	Semester 04 CHE207: Physical &	May	18/05/2025	9:30am 11:30am		Semi-micro qualitative analysis (using H ₂ S or other methods) of mixtures-not more than four ionic species (two anions and two cations, excluding in soluble salts) out of the following: Cations : NH ₄ ⁺ , Pb ²⁺ , Bi ³⁺ , Cu ²⁺ , Cd ²⁺ , Fe ³⁺ , Al ³⁺ , CO ₂ ⁺ , Ni ²⁺ , Mn ²⁺ , Zn ²⁺ , Ba ²⁺ , Sr ²⁺ , Ca ²⁺ , K ⁺
304		May	18/05/2025	11:30am 1:30pm		Semi-micro qualitative analysis (using H ₂ S or other methods) of mixtures-not more than four ionic species (two anions and two cations, excluding in soluble salts) out of the following: Anions: CO ₃ ²⁻ , S ²⁻ , SO ₂ ⁻ , SO ₃ ²⁻ , NO ₃ ⁻ , CH ₃ COO ⁻ , Cl ⁻ , Br ⁻ , I ⁻ , NO ₂ ⁻ , SO ₄ ²⁻ , PO ₄ ³⁻ , BO ₃ ³⁻ , C ₂ O ₄ ²⁻ , F ⁻ (Spot tests should be carried out wherever feasible)

305	Inorganic Chemistry	May	18/05/2025	2:30pm 4:30pm	Practical	1. Estimate the amount of nickel present in a given solution as bis (dimethyl glyoximate) nickel(II) or aluminiumasoximate in a given solution gravimetrically.
306		May	18/05/2025	4:30pm 6:30pm		2. Estimation of (i)Mg ²⁺ or(ii)Zn ²⁺ by complexo metric titrations using EDTA.
307		May	25/05/2025	9:30am 11:30am		3. Estimation of total hardness of a given sample of water by complexometric titration.
308		May	25/05/2025	11:30am 1:30pm		(I) Surface tension measurement (use of organic solvents excluded).
309		May	25/05/2025	2:30pm 4:30pm		a) Determination of the surface tension of a liquid or a dilute solution using a stalagmo meter.
310		May	25/05/2025	4:30pm 6:30pm		b) Study of the variation of surface tension of a detergent solution with concentration.
311		May	31/05/2025	9:30am 11:30am		(II) Viscosity measurement (use of organic solvents excluded).
312		May	31/05/2025	11:30am 1:30pm		a) Determination of the relative and absolute viscosity of a liquid or dilute solution Using an Ostwald's viscometer.
313		May	31/05/2025	2:30pm 4:30pm		b) Study of the variation of viscosity of an aqueous solution with concentration of solute.
314		May	31/05/2025	4:30pm 6:30pm		(III) Chemical Kinetics: Study the kinetics of the following reactions.
315		May	18/05/2025	9:30am 11:30am		1. Initial rate method :Iodide-per sulphate reaction
316		May	18/05/2025	11:30am 1:30pm		2. Integrated rate method:
317		May	18/05/2025	2:30pm 4:30pm		a. Acid hydrolysis of methyl acetate with hydrochloric acid.
						b. Saponification of ethyl acetate.
						c. Compare the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of methylacetate
						(III) Chemical Kinetics: Study the kinetics of the following reactions.
						1. Initial rate method :Iodide-per sulphate reaction
						2. Integrated rate method:
						a. Acid hydrolysis of methyl acetate with hydrochloric acid.
						b. Saponification of ethyl acetate.
						c. Compare the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of methylacetate
						Study of monohybrid ratio by providing hypothetical data & deducing applicability of mendelian laws
						Study of Mendelian Inheritance and Gene interactions (Non Mendelian Inheritance) using suitable examples. Verify the results using Chi-square test.,
						Study of Linkage, Recombination, Gene Mapping using the data.Study of Human Karyo types (normal and abnormal).

318	Semester 04 ZGY207: Genetics and Evolutionary Biology-Practical	May	18/05/2025	4:30pm 6:30pm	Practical	Study of Hardy- Weinberg law with suitable recording of genetic traits
319		May	25/05/2025	9:30am 11:30am		Study of morphological similarities and differences between man and ape, study of fossil evidences from plaster cast models and pictures
320		May	25/05/2025	11:30am 1:30pm		Study of homology and analogy from suitable specimens/pictures
321		May	25/05/2025	2:30pm 4:30pm		Study of animal adaptations in: turtle, draco, exocoetus, bat and parrot
322		May	25/05/2025	4:30pm 6:30pm		Study of evidences of evolution- embryological, paleontological, connecting links, morphology and comparative anatomy
323		May	31/05/2025	9:30am 11:30am		A) phylogeny of horse with diagrams/ Cut outs of limbs and teeth of horse ancestors. B) Darwin's (galapagos) finches with diagrams/ cut outs of beaks of different species
324		May	31/05/2025	11:30am 1:30pm		Study of successive stages of evolution of man: a) australopithecus b) homo erectus c) homo neanderthalis d) cro-magnon man e) homo sapiens
325		May	31/05/2025	2:30pm 4:30pm		Record zoogeographical distribution of animals to respective zoogeographical realms on the world map (lung fishes, marsupials, flightless birds, camel, elephant, ostrich etc.)
326		May	31/05/2025	4:30pm 6:30pm		Visit to national park/zoological park and submission of report.

V151: MASTER IN SCIENCE (MATHEMATICS) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Master of Science. (Mathematics)(2023 Pattern)	V151	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	MAT501: Real Analysis	September	01/09/2024	10.00am- 11.00am	Theory	Metric Spaces
2.		September	8/09/2024			Open and Closed Sets
3.		September	15/09/2024			Sequences in Metric Spaces, Continuity
4.		September	22/09/2024			Connected Metric Spaces
5.		September	29/9/2024			Totally Bounded Subsets of Metric Spaces
6.		October	06/10/2024			Compact Metric Spaces
7.		October	13/10/2024			Riemann Integral
8.		October	20/10/2024			Necessary and Sufficient Conditions for Riemann Integrability
9.		November	10/11/2024			Mean Value Theorems and Fundamental Theorems of Calculus
10.		November	17/11/2024			Convergence and Uniform Convergence of Sequence of Functions
11.		November	24/11/2024			Properties of functions preserved under uniform convergence
12.		December	08/12/2024			Power series
13.		September	01/09/2024			Direct product of groups

14.	MAT502: Abstract Algebra	September	8/09/2024	11.00am- 12.00pm	Theory	Finitely generated abelian groups
15.		September	15/09/2024			Normal Subgroups
16.		September	22/09/2024			Series of Groups
17.		September	29/9/2024			Solvable groups
18.		October	06/10/2024			Group action on a set
19.		October	13/10/2024			Maximal and Prime ideals
20.		October	20/10/2024			Ring of Polynomials
21.		November	10/11/2024			Factorization of a polynomials over a field
22.		November	17/11/2024			Unique factorization Domains
23.		November	24/11/2024			Principal ideal domains, Euclidean Domains
24.		December	08/12/2024			Ring of Gaussian Integers
25.	MAT503: Ordinary Differential	September	01/09/2024			Linear Equations with constant coefficients
26.		September	8/09/2024			Dependence and independence of solutions
27.	Equations	September	8/09/2024	12.00pm- 1.00pm	Theory	Applications of Second Order Linear Equations
28.		September	15/09/2024			The non-homogeneous equation of higher order
29.		October	22/09/2024			Linear Equations with variable Coefficients
30.		October	29/9/2024			Homogeneous equations with analytic coefficients
31.	MAT504: Programming in C and Scilab	September	01/09/2024	02.00pm- 04.00pm	Practical	Getting Started with C & The First C Program
32.		September	8/09/2024			Preparing, running a complete C Program and Control Statements
33.		September	15/09/2024			Functions and Arrays
34.		September	22/09/2024			Simple C Programs & C Programs on Numbers
35.		September	29/9/2024			C Programming on Math Functions & C Programming on Progression Series
36.		October	06/10/2024			Sorting of (1) Numerical data (2) Character type data-ascending, descending. & C Programs on Matrix operations
37.		October	13/10/2024			Introduction to Scilab & Basic Elements of the Language
38.		October	20/10/2024			Matrices & Common Functions for Linear Algebra
39.		November	10/11/2024			Looping and branching & Creation of Script Files & Functions files
40.		November	17/11/2024			Plotting graphs of Functions & Solution of System of Linear Equations
41.		November	24/11/2024			Numerical Methods
42.		December	08/12/2024			Numerical Methods

43.	RES505: Research Methodology	September	01/09/2024	04.00pm – 05.00pm	Theory	Research, Methods in research
44.		September	8/09/2024			Experimental design
45.		September	15/09/2024			Sampling method
46.		September	22/09/2024			Data collections, Representation of data
47.		September	29/9/2024			Graphical representation
48.		October	06/10/2024			Analysis of data
49.		October	13/10/2024			Use of inferential statistical tools in research
50.		October	20/10/2024			Biostatistical Test, Use of ANOVA
51.		November	10/11/2024			Application of correlation of data
52.		November	17/11/2024			Literature collection, Intellectual Property Rights
53.		November	24/11/2024			Research Databases
54.		December	08/12/2024			Research Metrics
55.	MAT506: Operations Research	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Operations Research and its scope
56.		September	8/09/2024			Linear Programming Problems
57.		September	15/09/2024			Simplex Method, Duality Theory and Dual Simplex Method
58.		September	22/09/2024			Game Models and Related Theory
59.		September	29/9/2024			Two Person Zero Sum Game, Dominance in Games
60.		October	06/10/2024			Mixed Strategies (2×n and m×2 games)
61.		October	13/10/2024			Network Analysis
62.		October	20/10/2024			Fulkerson's Rule
63.		November	10/11/2024			Critical Path Method (CPM), Programme Evaluation and Review Technique (PERT)
64.		November	17/11/2024			MONTE CARLO Method
65.		November	24/11/2024			Generation of Random Numbers
66.		December	08/12/2024			Simulation Languages
67.	MAT507: Numerical Analysis	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Errors in Numerical Calculations
68.		September	8/09/2024			Solutions of algebraic and transcendental equations
69.		September	15/09/2024			Newton Raphson method, Interpolation
70.		September	22/09/2024			Matrix Theory
71.		September	29/9/2024			Systems of Linear Algebraic equations
72.		October	06/10/2024			Direct methods, Iteration methods
73.		October	13/10/2024			Numerical solutions of ordinary differential equations
74.		October	20/10/2024			Successive approximation
75.		November	10/11/2024			Euler's method, Runge - Kutta method
76.		November	17/11/2024			Numerical Differentiation and integration

77.		November	24/11/2024			Methods based on Finite Differences
78.		December	08/12/2024			Interpolation and approximation
79.	MAT509: Topology	February	02/02/2025	10.00am – 11.00am	Theory	Topological spaces
80.		February	09/02/2025			Basis and Subbasis for a topology
81.		February	16/02/2025			Limit points
82.		February	23/02/2025			Continuous functions
83.		March	02/03/2025			Quotient spaces
84.		March	09/03/2025			Locally connected spaces
85.		March	16/03/2025			Compact spaces
86.		March	23/03/2025			Forms of compact spaces
87.		April	06/04/2025			Countability axioms
88.		April	13/04/2025			Separation axioms
89.		April	04/05/2025			Regular and normal spaces
90.		May	11/05/2025			Compactification
91.	MAT510: Linear Algebra	February	02/02/2025	11.00am- 12.00pm	Theory	Vector Spaces, Dual spaces
92.		February	09/02/2025			Inner product spaces
93.		February	16/02/2025			Modules
94.		February	23/02/2025			Linear transformations
95.		March	02/03/2025			Matrices
96.		March	09/03/2025			Triangular forms
97.		March	16/03/2025			Nilpotent forms, Jordan form
98.		March	23/03/2025			Rational Canonical form
99.		April	06/04/2025			Trace and transpose of a matrix
100.		April	13/04/2025			Determinants, Operators
101.		May	04/05/2025			Normal operator
102.		May	11/05/2025			Real Quadratic forms
103.	MAT511: Partial Differential Equation	February	02/02/2025	12.00pm- 1.00pm	Theory	Ordinary Differential Equations
104.		February	09/02/2025			Orthogonal Trajectories
105.		February	16/02/2025			Partial Differential Equations of the First Order
106.		February	23/02/2025			Nonlinear Partial Differential Equations of the First Order
107.		March	02/03/2025			Jacobi's Method
108.		March	09/03/2025			Partial differential equations of the second order
109.		February	02/02/2025			Introduction to LaTeX & Syntax and Keyboard Characters, Fonts in LaTeX

110.	MAT512: LaTeX and Programming in SageMath	February	09/02/2025	02.00pm- 04.00pm	Practical	Sections, Labelling and Text Alignment, New Lines, Paragraphs, Blank Space and Dashes in LaTeX & Listing Texts –I, Listing Texts –II, Tabbing Texts in LaTeX
111.		February	16/02/2025			Table Through the tabular Environment, tabular Environment in LaTeX & Positioning and Texts in Tables, Customizing Tables in LaTeX
112.		February	23/02/2025			Commands and Environment for Inserting Figures in LaTeX
113.		March	02/03/2025			Simple Equations, Array of Equations, Alignment and numbering a Set of Equations in LaTeX
114.		March	09/03/2025			Texts, Blank Space and Conditional Expression in Math
						mode in LaTeX
115.		March	16/03/2025			Introduction & Installation of SageMath
116.		March	23/03/2025			Analysis and Algebra in SageMath
117.		April	13/04/2025			Basic Linear Algebra in SageMath
118.		April	20/04/2025			Programming and Data Structures in SageMath
119.		May	04/05/2024			Graphics & Polynomials in SageMath
120.		May	11/05/2024			Differential Equations and Recurrences & Numerical Linear Algebra in SageMath
121.	MAT515: Number Theory	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	The Fundamental Theorem of Arithmetic
122.		February	09/02/2025			The Euclidean Algorithm
123.		February	16/02/2025			Arithmetic Functions and Dirichlet Product
124.		February	23/02/2025			Formal power series
125.		March	02/03/2025			Congruences
126.		March	09/03/2025			Polynomial Congruences
127.		March	16/03/2025			The Chinese Remainder Theorem
128.		March	23/03/2025			Diophantine Equations
129.		April	06/04/2025			Quadratic Residues, Quadratic Reciprocity law
130.		April	13/04/2025			Jacobi Symbol
131.		April	20/04/2025			Primitive roots
132.		May	04/05/2025			Indices
133.	MAT516:	February	02/02/2025	04.00pm- 05.00pm	Theory	Irreducible Polynomials
134.		February	09/02/2025			Adjunction of Roots
135.		February	16/02/2025			Algebraic Extensions, Algebraically Closed Fields
136.		February	23/02/2025			Splitting Fields
137.		March	02/03/2025			Normal Extensions, Finite Fields

138.	Field Theory	March	09/03/2025		(Elective)	Separable Extensions
139.		March	16/03/2025			Automorphism Groups, Fixed Fields
140.		March	23/03/2025			Fundamental Theorem of Galois Theory
141.		April	06/04/2025			Different Galois Groups
142.		April	13/04/2025			Cyclotomic Polynomials, Cyclic Extensions
143.		April	20/04/2025			Polynomials Solvable by Radicals
144.		May	04/05/2025			Ruler and Compass Constructions
145.	MAT513: OJT	February	02/02/2025			
146.	OR MAT514: FP	February	09/02/2025	12.00pm – 1.00pm	Term Wok	
147.		February	16/02/2025			
148.		February	23/02/2025			
149.		March	02/03/2025			
150.		March	09/03/2025			
151.		March	16/03/2025			
152.		March	23/03/2025			
153.		April	06/04/2025			
154.		April	13/04/2025			
155.		April	20/04/2025			
156.		May	04/05/2025			
157.	MAT601:Complex Analysis	September	01/09/2024	10.00am- 11.00am	Theory	Power Series, Analytic Functions
158.		September	8/09/2024			Harmonic Functions, Mobius Transformations
159.		September	15/09/2024			Power Series Analytic of Analytic Functions, Zeros of Analytic Functions
160.		September	22/09/2024			The Index of a Closed Curve Morera's
161.		September	29/9/2024			Theorem and Counting Zeros
162.		October	06/10/2024			Goursat's Theorem
163.		October	13/10/2024			Classification of Singularities, Residues
164.		October	20/10/2024			The Argument Principle
165.		November	10/11/2024			Branches
166.		November	17/11/2024			Hadamard Theorem
167.		November	24/11/2024			Spaces
168.		December	08/12/2024			Analytic Continuation
169.		September	01/09/2024			Lebesgue Measure, The Algebra of Lebesgue Measure
170.		September	8/09/2024			The Approximate Measurable sets
171.		September	15/09/2024			Additivity of Measurable sets

172.	MAT602: Measure and Integration Theory	September	22/09/2024	11.00am- 12.00pm	Theory	Measurable Functions, Algebra of Measurable functions
173.		September	29/9/2024			Sequential Point wise Limits and Simple Approximation
174.		October	06/10/2024			Littlewood's Three Principles
175.		October	13/10/2024			Integration of Bounded Measurable Functions, General Lebesgue Integration
176.		October	20/10/2024			Countable Additivity and Continuity of Integration
177.		November	10/11/2024			Lebesgue Integration Further Topics
178.		November	17/11/2024			Differentiation and Integration, Functions of Bounded Variations
179.		November	24/11/2024			The $\square\square$ Spaces
180.		December	08/12/2024			The Riesz Theorem
181.	MAT603: Integral Equations	September	01/09/2024	12.00pm- 1.00pm	Theory	Introduction, Integral Equation with Separable Kernel
182.		September	8/09/2024			Method of Successive Approximation
183.		September	15/09/2024			Resolvent Kernel
184.		October	22/09/2024			Application to Ordinary Differential Equations, Dirac Delta function
185.		October	29/9/2024			Green's function
186.		October	06/10/2024			Modified Green's function
187.	MAT604: Mathematical Statistics & Combinatorics	September	01/09/2024	02.00pm- 04.00pm	Practical	To Represent Given Data Diagrammatically: Simple and Subdivided Bar Charts, Diagram, Pie Chart Also by using Excel To Represent Given Data Graphically: Histogram, Frequency Curve and Ogive Curves also by using Excel
188.		September	8/09/2024			To Compute Measures of Central Tendency for Ungrouped Data also by using Excel To Calculate Measures of Central Tendency (Mean, Median, Mode) for Grouped Data.
189.		September	15/09/2024			To Compute Measures of Dispersion (for Ungrouped & Grouped Data) also by using Excel To Calculate Mean Deviation about Mean, Median, Mode
190.		September	22/09/2024			To Calculate Moments, Coefficient of Skewness, Kurtosis To Calculate Covariance and Correlation Coefficient
191.		September	29/9/2024			To Fit Regression Line for Bivariate Data To Apply Basic Counting Principles: Addition Principle and Multiplication

192.		October	06/10/2024			To Calculate Number of Possible Ways of Arrangements With and Without Repetition (Permutation)
193.		October	13/10/2024			To Calculate Number of Possible Ways of Selections With Repetition
194.		October	20/10/2024			Probability, Conditional Probability & Bayes' Theorem
195.		November	10/11/2024			Random Variable and Probability Distribution, Discrete Probability Distributions
196.		November	17/11/2024			Continuous Probability Distributions I, Continuous Probability Distributions II
197.		November	24/11/2024			To Find Probabilities for Bernoulli, Binomial, Poisson Distributions using MS Excel
198.		December	08/12/2024			To Find Probabilities for Normal, Exponential, Chi Square, T Distribution, F Distribution Using MS Excel
199.	MAT606: Discrete Mathematics	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	To Calculate Number of Possible Ways of Arrangements With and Without Repetition (Permutation), Fitting of Binomial Distribution
200.		September	8/09/2024			Fitting of Poisson Distribution, Fitting of Normal Distribution, Introduction to Data Analysis ToolPak in Excel
201.		September	15/09/2024			Permutations, Combinations
202.		September	22/09/2024			Generalized Permutations and Combinations, Discrete Probability
203.		September	29/9/2024			Graphs, Paths and Circuits
204.		October	06/10/2024			Eulerian and Hamiltonian Paths and Circuits, Planar Graphs
205.		October	13/10/2024			Trees
206.		October	20/10/2024			Rooted and Binary Trees
207.		November	10/11/2024			Spanning Trees
208.		November	17/11/2024			Cut Sets
209.		November	24/11/2024			Lattices and Algebraic Systems
210.		December	08/12/2024			Basic Properties of Algebraic Systems Defined by Lattices
211.	MAT607: Differential Geometry	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Boolean Lattices and Boolean Algebras
212.		September	8/09/2024			Boolean Functions and Boolean Expressions
213.		September	15/09/2024			Euclidean Space, Curves
214.		September	22/09/2024			Frenet Apparatus and Frenet Formulae, Isometries of R^3
215.		September	29/9/2024			Covariant Derivative, Surfaces in R^3
						Patch computation of a Surface, Shape Operator
						Gaussian and Mean Curvatures

216.		October	06/10/2024			Gauss Map
217.		October	13/10/2024			Fundamental Forms
218.		October	20/10/2024			Geodesic Curvature
219.		November	10/11/2024			Some Special Curves on a Surface
220.		November	17/11/2024			Geodesic Differential Equations
221.		November	24/11/2024			Isometry of Surfaces
222.		December	08/12/2024			Surfaces of Constant Curvature
223.	MAT608: Integral Transforms	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Fourier Integral, Fourier Transforms
234.		September	8/09/2024			Inverse Fourier Transforms, Applications of Fourier Transforms
235.		September	15/09/2024			Laplace Transform, Properties of Laplace Transform
236.		September	22/09/2024			The inverse Laplace Transform, Applications of Laplace Transform
237.		September	29/9/2024			The Mellin Transform
238.		October	06/10/2024			Inverse Mellin Transform
239.		October	13/10/2024			Applications of Mellin transform
240.		October	20/10/2024			The Henkel Transform
241.		November	10/11/2024			Applications of Hankel transform
242.		November	17/11/2024			Finite transforms
243.		November	24/11/2024			Z Transforms
244.		December	08/12/2024			Inverse $\square$ transform
245.	MAT609: Classical Mechanics	February	02/02/2025	10.00am – 11.00am	Theory	Mechanics of System of Particles, D'Alembert's Principle and Lagrange's Equations
246.		February	09/02/2025			Central Force Motion, Kepler's Laws and Virial Theorem
247.		February	16/02/2025			Calculus of Variation, Euler's Equation and its Applications
248.		February	23/02/2025			Hamilton's Principle, Hamilton's Equation of Motion
249.		March	02/03/2025			Routh Procedure and the Least Action
250.		March	09/03/2025			Principle Canonical Transformations
251.		March	16/03/2025			Invariance under Canonical Transformations
252.		March	23/03/2025			Lagrange and Poisson Brackets
253.		April	06/04/2025			Rigid Body Motion Rotations in Plane and Space
254.		April	13/04/2025			Eulerian Angles
255.		April	04/05/2025			A Moving Coordinate Frame
256.		May	11/05/2025			Rotational Dynamics of a Rigid Body
257.		February	02/02/2025			Banach Spaces, Continuous Linear Transformation

258.	MAT610: Functional Analysis	February	09/02/2025	11.00am- 12.00pm	Theory	Hahn Banach Theorem, Natural Embedding
259.		February	16/02/2025			Open Mapping Theorem, Conjugate of an Operator
260.		February	23/02/2025			Hilbert Spaces, Orthogonal Complements
261.		March	02/03/2025			Conjugate Spaces
262.		March	09/03/2025			Adjoint of an Operator
263.		March	16/03/2025			Different Types of Operators
264.		March	23/03/2025			Projections
265.		April	06/04/2025			Spectral Resolution
266.		April	13/04/2025			Matrices
267.		May	04/05/2025			Spectrum of an Operator
268.		May	11/05/2025			The Spectral Theorem
269.	MAT613: Cryptography	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction to Cryptography, Classical Ciphers
270.		February	09/02/2025			Cryptanalysis of Classical Ciphers, Finite Fields
271.		February	16/02/2025			Block Ciphers, Pseudo Random Bit Generator
272.		February	23/02/2025			Linear Feedback Shift Register, Stream Ciphers
273.		March	02/03/2025			Cryptographic Hash Functions
274.		March	09/03/2025			SHA 1, SHA 2
275.		March	16/03/2025			Family SHA 3 and Applications
276.		March	23/03/2025			Number Theoretic Algorithms
277.		April	06/04/2025			Introduction to Public Key Cryptography
278.		April	13/04/2025			Discrete Logarithm Problem and El Gamal Cryptosystem
279.		April	20/04/2025			Diffie Hellman Key Exchange and RSA
280.		May	04/05/2025			Elliptic curve Cryptography
281.	MAT614: Topics in Fuzzy Mathematics	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Fuzzy Sets and Crisp Sets
282.		February	09/02/2025			Convex Fuzzy Sets
283.		February	16/02/2025			Extension Principle
284.		February	23/02/2025			Fuzzy Complementation
285.		March	02/03/2025			Fuzzy Intersections and Unions
286.		March	09/03/2025			Dual triplets and Aggregation operations
287.		March	16/03/2025			Fuzzy Arithmetic
288.		March	23/03/2025			Lattice of Fuzzy Numbers and Fuzzy Equations

289.		April	06/04/2025			More on Fuzzy Relations Equations and Approximate Solutions
290.		April	13/04/2025			Fuzzy Propositions
291.		April	20/04/2025			Fuzzy Quantifiers
292.		May	04/05/2025			Approximate Reasoning
293.	MAT615: Algebraic Topology	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction of vector spaces
294.		February	09/02/2025			Geometric complexes and polyhedra
295.		February	16/02/2025			Orientation of Geometric complexes
296.		February	23/02/2025			Chains, Cycles, Boundaries, Homology groups
297.		March	02/03/2025			The structure of homology groups
298.		March	09/03/2025			The Euler Poincare theorem
299.		March	16/03/2025			Pseudo manifolds, Fundamental group of S^n
300.		March	23/03/2025			Simplicial approximation theorem
301.		April	06/04/2025			Introduction to topological spaces
302.		April	13/04/2025			Homotopy between continuous functions and Homotopy equivalence
303.		April	20/04/2025			Homotopic paths and Fundamental groups
304.		May	04/05/2025			Covering spaces
305.	MAT611: Programming in Python	February	02/02/2025	02.00pm- 04.00pm	Practical	Covering homotopy property of S^1
306.		February	09/02/2025			Examples of Fundamental groups
307.		February	16/02/2025			Relation between first homology group and fundamental group
308.		February	23/02/2025			The Brouwer's fixed point theorem
309.		March	02/03/2025			Introduction to Python, Python Data Types I, Python Data Types II
310.		March	09/03/2025			Control Statements in Python I, Control Statements in Python II
311.		March	16/03/2025			Matrices with Python, Determinants and System of Linear Equations
312.		March	23/03/2025			System of Equations with SymPy, Eigenvalues and Eigenvector
313.		April	06/04/2025			Roots of Equations, Numerical Integrations

						Introduction to Tkinter
314.		April	13/04/2025			Exploring Finite Sets with SymPy, Calculus Using Sympy
315.		April	20/04/2025			Application to Number Theory, Introduction to Classes
316.		May	04/05/2025			Sequence and Difference Equations, Discrete Calculus

V152: MASTER IN SCIENCE (ENVIRONMENTAL SCIENCE) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Master of Science. (Environmental Science)(2023 Pattern)	V152	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.		September	01/09/2024			Background and scope of environmental science:
2.		September	8/09/2024			Use of technology, media and people in environmental science, decision making and applications of Environmental science

3.	Sem01: EVS501: Environmental Science and Biology	September	15/09/2024	10.00am- 11.00am	Theory	Human impact on environment and its consequences
4.		September	22/09/2024			Definition of Ecology and sub divisions
5.		September	29/9/2024			Community Ecology
6.		October	06/10/2024			Biomes
7.		October	13/10/2024			Principal and Scope of Biology
8.		October	20/10/2024			Classification of ecosystem
9.		November	10/11/2024			Succession
10.		November	17/11/2024			Forest ecology
11.		November	24/11/2024			Effect of fire on forest ecosystem
12.		December	08/12/2024			Marine environment
13.	Sem01: EVS502: Natural Resources and Their Conservation	September	01/09/2024	11.00am- 12.00pm	Theory	Definition of resources, biotic and abiotic resources
14.		September	8/09/2024			Biodiversity: Conservation, Global and National Concerns
15.		September	15/09/2024			Biodiversity National Concerns
16.		September	22/09/2024			Wildlife management and conservation
17.		September	29/9/2024			Concept of sustainable use of wildlife
18.		October	06/10/2024			Indian ethos of wildlife conservation
19.		October	13/10/2024			Conservation of Wetlands, Watersheds, Ground water, Surface water
20.		October	20/10/2024			Land use, land cover and soil conservation
21.		November	10/11/2024			Methods of soil conservation and practices
22.		November	17/11/2024			Forest resources, plantations, social forestry
23.		November	24/11/2024			Human population growth and increasing demand for resources
24.		December	08/12/2024			Natural resource -conservation and Natural resource
	Sem01: EVS503: : Biodiversity & Conservation			12.00pm- 1.00pm	Theory	Accounting
25.		September	01/09/2024			Special Conservation Projects In India
26.		September	8/09/2024			Climate And Climate Change & Environmental Stress
27.		September	15/09/2024			Conservation Planning Of Biodiversity And Climate Change
28.		September	22/09/2024			Global Biological Impacts Of Climate Change
29.		September	29/9/2024			Threats To Biodiversity & Conservation Challenges In The Twenty First
30.		October	06/10/2024			Field Techniques In Wildlife Studies
31.		September	01/09/2024			Study of ecological pyramids (at least four)

32.	Sem01: EVS504: Lab Activities on EVS501, EVS502 & EVS503	September	8/09/2024	02.00pm- 04.00pm	Practical	Study of food chain – Any one example of fresh water, marine water and terrestrial food chain.
33.		September	15/09/2024			Estimation of Biomass of a given area
34.		September	22/09/2024			Study of pond ecosystem
35.		September	29/9/2024			Estimation of Dissolve oxygen(DO) of water sample
36.		October	06/10/2024			Estimation of CO ₂ of given water sample
37.		October	13/10/2024			Estimation of hardness of water
38.		October	20/10/2024			Preparation of bio-fertilizer and study of its applications
39.		November	10/11/2024			Determination of SAR (sodium absorption ratio) of soil
40.		November	17/11/2024			Study of land degradation
41.		November	24/11/2024			Estimation of Ni & Co elements from soil sample
42.		December	08/12/2024			Measurement of intensity of solar radiations by Lux meter
43.	RES505: Research Methodology	September	01/09/2024	04.00pm – 05.00pm	Theory	Research, Methods in research
44.		September	8/09/2024			Experimental design
45.		September	15/09/2024			Sampling method
46.		September	22/09/2024			Data collections, Representation of data
47.		September	29/9/2024			Graphical representation
48.		October	06/10/2024			Analysis of data
49.		October	13/10/2024			Use of inferential statistical tools in research
50.		October	20/10/2024			Biostatistical Test, Use of ANOVA
51.		November	10/11/2024			Application of correlation of data
52.		November	17/11/2024			Literature collection, Intellectual Property Rights
53.	Sem01: EVS506: Environmental Education, Policies and Legislation	November	24/11/2024	05.00pm – 06.00pm	Theory (Elective)	Research Databases
54.		December	08/12/2024			Research Metrics
55.		September	01/09/2024			Environmental Education
56.		September	8/09/2024			Environmental Policy
57.		September	15/09/2024			State of India's Environment(with respect to)
58.		September	22/09/2024			Emerging environmental concerns in India
59.		September	29/9/2024			Awareness of Society with respect to global terminology
60.		October	06/10/2024			Environmental Awareness
61.		October	13/10/2024			Global Environment Conservation Strategy -1
62.		October	20/10/2024			Global Environment Conservation Strategy - 2
63.		November	10/11/2024			Environmental Conventions and Agreements

64.		November	17/11/2024			Environmental Acts-1
65.		November	24/11/2024			Environmental Acts-2
66.		December	08/12/2024			The National Green Tribunal Act, 2010
67.	Sem01: EVS507: Management of Water Resources	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Water Resources of India, Water Quality and its Management
68.		September	8/09/2024			Physical, Chemical and Biological Characteristics of Water
69.		September	15/09/2024			Water Pollution-I (Surface and Groundwater Pollution)
70.		September	22/09/2024			Water Pollution-II (Marine Pollution)
71.		September	29/9/2024			Water Pollution-III (Thermal Pollution)
72.		October	06/10/2024			Drinking Water Standards, Water Related Hazards
73.		October	13/10/2024			Water Conservation and Management Strategies
74.		October	20/10/2024			Rain water harvesting, Wetlands Conservation
75.		November	10/11/2024			Integrated water resources management-I
76.		November	17/11/2024			Integrated Water Resources Management-II (Implementation and Capacity Development)
77.		November	24/11/2024			Socio-economic aspects of Water, Water Governance
78.		December	08/12/2024			Challenges in Water Management
79.		February	02/02/2025			Fundamentals of Environmental Chemistry
80.		February	09/02/2025			Soil Chemistry
81.		February	16/02/2025			Properties of water, water pollutants
82.	Sem02: EVS509: Environmental Chemistry	February	23/02/2025	10.00am – 11.00am	Theory	Chemical composition of Air and Water
83.		March	02/03/2025			Radioactivity, it's Types, Sources and Hazards
84.		March	09/03/2025			Biological effects of radiation exposure
85.		March	16/03/2025			Water treatment and environmental chemistry1
86.		March	23/03/2025			Water treatment and environmental chemistry 2
87.		April	06/04/2025			Tertiary treatment and Advanced waste water treatments
88.		April	13/04/2025			Classical Methods
89.		April	20/04/2025			Toxic chemicals
90.		May	04/05/2025			Biochemical aspects
91.	Sem02: EVS510: Environmental Geosciences and Computer Applications	February	02/02/2025	11.00am- 12.00pm	Theory	Principles
92.		February	09/02/2025			Interior of the Earth, earth's materials
93.		February	16/02/2025			The earth systems and biosphere
94.		February	23/02/2025			Elements
95.		March	02/03/2025			Biochemical factors

96.		March	09/03/2025			The Ocean Environment
97.		March	16/03/2025			Climate
98.		March	23/03/2025			Remote Sensing in Environmental Monitoring
99.		April	06/04/2025			Geographical Information System (GIS)
100.		April	13/04/2025			Information and communication technology in Environmental Science
101.		April	20/04/2025			Introduction to web browsing
102.		May	04/05/2025			Computer applications in environmental modelling
103.		February	02/02/2025			Conservation, Conservation organizations
104.		February	09/02/2025			Cultivation
105.		February	16/02/2025			Adaptive planning and management for sustainable harvesting
106.	Sem02: EVS511: Herbal Wealth	February	23/02/2025	12.00pm- 1.00pm	Theory	Food flavors and natural colours
107.		March	02/03/2025			Natural colours, Production Technology
108.		March	09/03/2025			Plant sweeteners (natural sweeteners)
109.		February	02/02/2025			Analysis of Soil and Water: Physical properties, chemical properties, nutrients, bacterial parameters
110.	Sem02: EVS512: Lab Activities on EVS509, EVS510, EVS511	February	09/02/2025			Analysis of Total hardness of water
111.		February	16/02/2025			Estimation of halides in water samples
112.		February	23/02/2025	02.00pm- 04.00pm	Practical	Estimation of sulphate in water samples
113.		March	02/03/2025			Estimation of carbon di-oxide in water samples
114.		March	09/03/2025			Estimation of non-respirable dust in air using dust samples
115.		March	16/03/2025			Studies of models of various rock types
116.		March	23/03/2025			Study of various ground water sources and its quality
117.		April	06/04/2025			Study of various meteorological parameters and climate
118.		April	13/04/2025			Student Tests
119.		April	20/04/2025			Sample manuscript writing
120.		May	04/05/2025			Study and use of various computer, applications/ models for environmental use
121.	EVS513: OJT OR EVS514: FP	February	02/02/2025			
122.		February	09/02/2025			
123.		February	16/02/2025			
124.		February	23/02/2025			

125.		March	02/03/2025	04.00pm- 06.00pm	Term Work	
126.		March	09/03/2025			
127.		March	16/03/2025			
128.		March	23/03/2025			
129.		April	06/04/2025			
130.		April	13/04/2025			
131.		April	20/04/2025			
132.		May	04/05/2025			
133.	Sem02: EVS515: Environmental Sustainability	February	02/02/2025	05.00pm – 06.00pm	Theory (Elective)	Introduction to environment and society
134.		February	09/02/2025			Introduction to Terms of Significance
135.		February	16/02/2025			Trade & Environment- Concepts, issues and recent developments
136.		February	23/02/2025			The Case of Western Ghats- The Gadgil Report
137.		March	02/03/2025			The Forest Conservation Act, 1980
138.		March	09/03/2025			Managing our environment for sustainability- Solar Energy
139.		March	16/03/2025			Live Examples of Environment Friendly Technologies
140.		March	23/03/2025			Sensitivity towards environment and environmental issues
141.		April	06/04/2025			Awareness through knowledge
142.		April	13/04/2025			Local strategies and innovations in Environmental Protection
143.		April	20/04/2025			Active Participation in the resolution of Environmental Challenges
144.		May	04/05/2025			Motivational Sustainability Environmental Sustainability – the conclusion
145.	Sem02: EVS516: Solid & Hazardous	February	02/02/2025	05.00pm – 06.00pm	Theory (Elective)	Waste Types, Source & Generation rates, Effect of waste generation and disposal
146.		February	09/02/2025			Waste collection
147.		February	16/02/2025			Transfer Station & Waste Characterization
148.		February	23/02/2025			Waste Processing, Recycling
149.		March	02/03/2025			Waste minimization, waste hierarchy, waste audit
150.		March	09/03/2025			Hazardous waste
151.		March	16/03/2025			Sustainable Municipal Solid Waste Management

152.	Waste management	March	23/03/2025			Incineration and Combustion, Composting & Vermicomposting
153.		April	06/04/2025			Solid waste disposal, open dumping and landfills
154.		April	13/04/2025			Municipal waste (management and handling) rules
155.		April	20/04/2025			Hazardous waste (management and handling) rules
156.		May	04/05/2025			Biomedical Waste (management and handling) Rules, Plastic waste management rules (2016)
157	Sem03:EVS601: Environmental Monitoring and Energy Studies	September	01/09/2024	10.00am- 11.00am	Theory	Environmental Quality Assessment and Monitoring
158		September	8/09/2024			Methods of Assessment of Environmental Quality
159		September	15/09/2024			Environmental Impact Assessment, Environmental Impact Assessment Techniques:
160		September	22/09/2024			About Energy
161		September	29/9/2024			Energy Profile of Oil and Natural Gas, Energy Resources and Their Exploitation
162		October	06/10/2024			Energy Use Pattern
163		October	13/10/2024			Bio Catalysis and Nonconventional Energy and Biofuel Production (Bio-Ethanol and Biodiesel)
164		October	20/10/2024			Production of Biodegradable Materials
165		November	10/11/2024			Energy Use kara
166		November	17/11/2024			Energy Conservation and Energy Economics
167		November	24/11/2024			Solid Wastes and Solid Waste Processing Technologies
166		December	08/12/2024			Disposal in Landfills
167	Sem03:EVS602: Instrumentation and Lab Techniques	September	01/09/2024	11.00am- 12.00pm	Theory	Instrumentation
168		September	8/09/2024			Study of machinery, electric motors, Drilling equipment, pumping equipment
169		September	15/09/2024			Calorimetry and Spectrophotometry
170		September	22/09/2024			Microscopy, Properties of Light
171		September	29/9/2024			Introduction to Scanning electron microscopy
172		October	06/10/2024			Various imaging techniques
173		October	13/10/2024			Nanotechnology and Nanomaterials
174		October	20/10/2024			Environmental Nano Remediation Technology
175		November	10/11/2024			Nano Filtration
176		November	17/11/2024			Laboratory safety
177		November	24/11/2024			Personal Protective Equipment [PPE]
178		December	08/12/2024			Administrative controls and Response to specific incidents/

						accidents
179	Sem03:EVS603: Green Chemistry	September	01/09/2024	12.00pm- 1.00pm	Theory	Introduction to Green Chemistry
180		September	8/09/2024			Need for Green Chemistry and Goals of Green Chemistry
181		September	15/09/2024			Principles of Green Chemistry
182		October	22/09/2024			Energy requirements for reactions
183		October	29/9/2024			Real world cases and Chemical industry
184		October	06/10/2024			Combinatorial green chemistry
185	Sem03:EVS604: Lab Activities on EVS601 & EVS602	September	01/09/2024	02.00pm- 04.00pm	Practical	Interpretation of Aerial photographs and preparing weather report based on it. Determination of relative humidity from the atmosphere. Determination of particulate matter from the industrial area by High Volume Sampler/Settling method.
186		September	8/09/2024			Determination of Salinity of water by volhard's method. Determination of Cation-exchange capacity, moisture content, alkalinity/acidity of soil sample To prepare the station based wind rose for an area.
187		September	15/09/2024			Determination of Residual Chlorine from drinking water using colorimetric method. Determination of hydrocarbon from fuel gas using Orsat's apparatus. Study of solar cells
188		September	22/09/2024			Case studies on energy efficiency analysis. Study of various agro wastes as substrates for biofuel production.
189		September	29/9/2024			Biological degradation of recalcitrant biomass. Case studies on energy use patterns across the globe. Separation of a mixture of two amino acids by ascending and horizontal paper chromatography
190		October	06/10/2024			Separation of a mixture of two sugars by ascending paper chromatography Separation of a mixture of o-and p-nitrophenol or o-and p-aminophenol by thin layer chromatography (TLC) Separation of a mixture of two sugars by ascending paper chromatography
191		October	13/10/2024			Separation of a mixture of o-and p-nitrophenol or o-and p-aminophenol by thin layer chromatography (TLC) Study the 200-500 nm absorbance spectra of KMnO4 and

						K ₂ Cr ₂ O ₇ (in 0.1 M H ₂ SO ₄) and determine the λ_{max} values. Calculate the energies of the two transitions in different units (J molecule ⁻¹ , kJ mol ⁻¹ , cm ⁻¹ , eV). Study the pH-dependence of the UV-Vis spectrum (200-500 nm) of K ₂ Cr ₂ O ₇ .
192		October	20/10/2024			Record the 200-350 nm UV spectra of the given compounds (acetone, acetaldehyde, 2-propanol, acetic acid) in water. Comment on the effect of structure on the UV spectra of organic compounds. Verify Lambert-Beer's law and determine the concentration of CuSO ₄ / KMnO ₄ / K ₂ Cr ₂ O ₇ in a solution of unknown concentration
193		November	10/11/2024			Determine the concentrations of KMnO ₄ and K ₂ Cr ₂ O ₇ in a mixture. Study the kinetics of iodination of propanone in acidic medium. Determine the amount of iron present in a sample using 1, 10-phenanthroline.
194		November	17/11/2024			Study the kinetics of interaction of crystal violet/ phenolphthalein with sodium hydroxide. Analysis of the given vibration-rotation spectrum of HCl(g)
195		November	24/11/2024			Preparation of media for microbial culture, Isolation and culturing of microbes from soil / water samples,
196		December	08/12/2024			Gram Staining.
197	Sem03:EVS606: Sustainable Management of Biodiversity	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Prelude to biodiversity and Ecosystem
198		September	8/09/2024			Introduction to Forest Biodiversity
199		September	15/09/2024			Introduction to Wetland Biodiversity
200		September	22/09/2024			Genetic resources
201		September	29/9/2024			Agro biodiversity and Animal Genetic Resources
202		October	06/10/2024			Germplasm
203		October	13/10/2024			Drivers of biodiversity loss
204		October	20/10/2024			Biodiversity Hotspots and Impact of Climate Change
205		November	10/11/2024			Invasive Species
206		November	17/11/2024			Biodiversity conservation and sustainable management
207		November	24/11/2024			Sustainable Management of Biodiversity
208		December	08/12/2024			International Instruments to Conserve Biological Diversity and National Instruments to Conserve Biological Diversity

209	Sem03:EVS607: Environmental Management	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Importance of Environmental Management
210		September	8/09/2024			Current status of Environment in India (Air and Water)-I and Current status of Environment in India (Waste Management and Energy)-II
211		September	15/09/2024			Current status of Environment in India (Biodiversity and Climate Change) -III
212		September	22/09/2024			Introduction to Environmental Impact Assessment (EIA) and EIA Notification 1994
213		September	29/9/2024			EIA Notification 2006 and Unified EIA Notification 2006 inclusive of Amendments
214		October	06/10/2024			Environment Clearance Process in India
215		October	13/10/2024			Procedure of Environment clearance of Category B (Building and Construction) and B1 Projects in India
216		October	20/10/2024			Environmental Clearance for category B2 and mining of minor mineral Projects
217		November	10/11/2024			Environmental Auditing and Green Buildings
218		November	17/11/2024			GRIHA Rating of Green Buildings
219		November	24/11/2024			Concept of Smart Cities in India
220		December	08/12/2024			Green Belt Development
221	Sem03:EVS608: Renewable Energy Studies	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Indian Energy Scenario and Various types of energy sources.
222		September	8/09/2024			Energy Security
223		September	15/09/2024			Non Renewable Energy sources & Renewable Energy sources
224		September	22/09/2024			Importance of Solar Energy
225		September	29/9/2024			Basics of Heat transfer
226		October	06/10/2024			Solar Radiation and Its Measurements and Selective coatings
227		October	13/10/2024			Solar Photovoltaics (SPV) and Application of SPV
228		October	20/10/2024			Solar Thermal Devices and Systems
229		November	10/11/2024			Solar Devices and Bio Energy, Biogas, Biofuel
230		November	17/11/2024			Hydrogen Energy
231		November	24/11/2024			Wind Energy
232		December	08/12/2024			Energy Storage
233		February	02/02/2025			Environmental Microbiology
234		February	09/02/2025			Microbial activities, Microbial diversity and Metabolism

235	Sem04:EVS609: Environmental Microbiology and Toxicology	February	16/02/2025	10.00am – 11.00am	Theory	Microbial population and community dynamics and Effects and measurement of environmental determinants
236		February	23/02/2025			Bio-indicators and Determination of microbiological quality
237		March	02/03/2025			Biosensor
238		March	09/03/2025			Bio-transformation, bio-accumulation and biomagnification
239		March	16/03/2025			Toxicology and Environmental Toxicology - 1
240		March	23/03/2025			Nontoxicity
241		April	06/04/2025			Carcinogenesis
242		April	13/04/2025			Environmental Toxicology - 2
243		April	04/05/2025			Safety regulations and Pollution of the ecosphere
244		May	11/05/2025			Degradable and Non- degradable
245	Sem04:EVS610: Environmental Issues and Human Health	February	02/02/2025	11.00am- 12.00pm	Theory	Environmental pollution
246		February	09/02/2025			Air sampling and monitoring techniques
247		February	16/02/2025			Noise Pollution and Noise control and abatement measures
248		February	23/02/2025			Aquatic Pollution and Soil Pollution
249		March	02/03/2025			Radioactive Pollution
250		March	09/03/2025			Biological effects of radiation and ecosystem
251		March	16/03/2025			Contemporary and emerging environmental issues of local, regional and global significance I and Contemporary and emerging environmental issues of local, regional and global significance II
252		March	23/03/2025			Basic principle of environmental health
253		April	06/04/2025			Industrial Toxicology and Health maintenance
254		April	13/04/2025			Treatment of variation
255	Sem04:EVS613: Statistical Approaches and Modelling in Environmental Sciences	May	04/05/2025	12.00pm- 01.00pm	Theory (Elective)	Hazard evaluation
256		May	11/05/2025			Environmental and occupational risk assessment
257		February	02/02/2025			Basics of Statistics and Statistical methods
258		February	09/02/2025			Dispersion and Probability
259		February	16/02/2025			Correlation and Regression
260		February	23/02/2025			Testing of hypothesis and Bioassay
261		March	02/03/2025			Introduction-Environmental modelling and Models in environmental science emphasizing – Linear model

262		March	09/03/2025			Models in environmental science emphasizing – Chemical transport model
263		March	16/03/2025			Models in environmental science emphasizing – Chemical transport model
264		March	23/03/2025			Models in environmental science emphasizing – Inverse model
265		April	06/04/2025			Elementary concepts
266		April	13/04/2025			The building blocks & transformation processes
267		April	04/05/2025			Environmental modelling
268		May	11/05/2025			Air quality modelling
269	Sem04:EVS614: Disaster Management	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Disasters and Disaster Management
270		February	09/02/2025			Paradigm Shift in Disaster Management and Hazard, Vulnerability and Risks
271		February	16/02/2025			Policy Planning Issues and Institutional Framework in Disaster Management
272		February	23/02/2025			Disaster Management of Radiological, Nuclear and Biological Disasters
273		March	02/03/2025			Disaster Management for Landslides and Avalanches, Disaster Management for Earthquakes
274		March	09/03/2025			Disaster Management for Floods
275		March	16/03/2025			Prevention and Management of Heat Waves and School Safety and Disaster Resilience
276		March	23/03/2025			Disaster Relief and Rehabilitation and Post Disaster Needs Assessment
277		April	06/04/2025			Post Disaster Relief and Health Care Management
278		April	13/04/2025			Dead Bodies and Animal Carcass Management
279		April	04/05/2025			Mainstreaming Disaster Risk Reduction in Developmental Planning
280		May	11/05/2025			Role of National and International NGOs/Civil Societies in Disaster Management
281	Sem04:EVS615:	February	02/02/2025			History Of Medicinal And Aromatic Plants
282		February	09/02/2025			Herbal Industry and Importance Of Medicinal Plants
283		February	16/02/2025			Indigenous systems of medicine
284		February	23/02/2025			Poisonous And Allergic Plants
285		March	02/03/2025			Plant Allergens and Remedial Plants
286		March	09/03/2025			Psychoactive Plants

287	Medicinal Plants & Their Applications	March	16/03/2025	12.00pm- 01.00pm	Theory (Elective)	Marine Drugs, Natural Pesticides And Antibiotics
288		March	23/03/2025			Natural pesticides and Antibiotics
289		April	06/04/2025			Trade and commerce of medicinal plants of India
290		April	13/04/2025			Herbal medicine and Study of few commercial /raw drugs/ medicinal plants
291		April	20/04/2025			Traditional Agriculture Practices in Ancient India
292		May	04/05/2025			Aspects of Biodiversity
293	Sem04:EVS611: Lab Activities on EVS609 & EVS610	February	02/02/2025	02.00pm- 04.00pm	Practical	Isolation and enumeration of microbes from environmental samples and Cultural characteristics of isolated microbes
294		February	09/02/2025			Evaluation of anti-microbial chemical agents and Effect of environment on microbes
295		February	16/02/2025			Determination of Bi-phasic growth curve and Enrichment of purple non-sulphur bacteria
296		February	23/02/2025			Estimation of reducing sugars in toxic waste and Estimation of protein from toxic waste
297		March	02/03/2025			Case studies on environmental effects of pesticides and Modeling of pollutant dispersion
298		March	09/03/2025			Toxico-genomic and pharmaco-genomic evaluation of pollutants and Case study on the health effects of pesticide exposure on farm workers, considering both acute and chronic effects and discussing potential mitigation strategies
299		March	16/03/2025			Explore the aftermath of the Bhopal gas leak in India, write a report on the immediate health impacts and the ongoing health challenges faced by survivors and Investigate the correlation between air pollution levels in urban areas and the write a report on prevalence of respiratory diseases like asthma, focusing on both short-term and long-term effects.
300		March	23/03/2025			Examine the health consequences of the Chernobyl nuclear disaster, write a report on considering the impacts of radiation exposure on local populations and the environment and Case Study on the effects of plastic pollution on marine ecosystems
301		April	06/04/2025			Case Study on the potential transfer of toxins up the food chain, with a focus on its impacts on human health through seafood consumption. and Explore how deforestation alters ecosystems, write a report on affecting disease vectors' habitat and subsequently leading to increased transmission

						of diseases like malaria or Lyme disease.
302		April	13/04/2025			Investigate the health risks associated with heatwaves, particularly for vulnerable populations such as the elderly, low-income individuals, and those without access to air conditioning. and Analyze the effects of mercury contamination in fish on Indigenous communities that rely on traditional fish-based diets, highlighting the health risks and cultural implications.
303		April	20/04/2025			Explore and write a report on the health risks faced by informal workers in developing countries who are involved in e-waste recycling, often without proper safety measures. and Case study on the health and socioeconomic impacts of oil spills on coastal communities, addressing both immediate consequences and long-term recovery efforts.
304		May	04/05/2025			Case Study of Delhi's Air Quality Crisis

V153: MASTER IN SCIENCE (PHYSICS) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester

1	Master of Science. (Physics)(2023 Pattern)	V153	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4
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C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	PHY501: CLASSICAL MECHANICS	September	01/09/2024	10.00am- 11.00am	Theory	Mechanics of a System of Particles, D'Alembert's Principle and Lagrange's Equations
2.		September	8/09/2024			Central Force Motion
3.		September	15/09/2024			Kepler's Laws and Virial Theorem
4.		September	22/09/2024			Calculus of Variation, Euler's Equation and its Applications
5.		September	29/9/2024			Hamilton's Principle, Hamilton's Equation of Motion
6.		October	06/10/2024			Routh Procedure and the Least Action Principle
7.		October	13/10/2024			Canonical Transformations
8.		October	20/10/2024			Invariance under Canonical Transformations
9.		October	20/10/2024			Lagrange and Poisson Brackets
10.		November	10/11/2024			Rigid Body Motion-Rotations in Plane and Space
11.		November	17/11/2024			The Euler Angles
12.		November	24/11/2024			A Moving Coordinate Frame
13.	PHY502: ELECTRONIC DEVICES	December	08/12/2024	11.00am- 12.00pm	Theory	Rotational Dynamics of a Rigid Body
14.		September	01/09/2024			Study of Timer IC 555
15.		September	8/09/2024			Study of VCO IC 566
16.		September	15/09/2024			Study of PLL IC 565
17.		September	22/09/2024			Function generator using two OPAMPs with variable controls
18.		September	29/9/2024			Voltage Regulator, Three pin regulators
19.		October	06/10/2024			IC 723, DC - DC converter
20.		October	13/10/2024			Boolean Algebra and Logic Families, Digital Logic circuits: Sequential Logic
21.		October	20/10/2024			Counter
22.		November	10/11/2024			Shift registers using IC 7495
		November	17/11/2024			

23.		November	24/11/2024			Digital to analog converters, Study of IC 0808
24.		December	08/12/2024			Analog to digital converters, Study of ICL 7106
25.		September	01/09/2024		Theory	Linear Equations with Constant Coefficients
26.	PHY503:MATHEMATICAL METHODS IN PHYSICS	September	8/09/2024	12.00pm- 1.00pm		Dependence and independence of solutions
27.		September	15/09/2024			Applications of Second Order Linear Equations
28.		September	22/09/2024			The homogeneous equation of higher order
29.		September	29/9/2024			Fourier Integrals
30.		October	06/10/2024			Fourier Integrals
31.		October	13/10/2024			Fourier Transforms
32.		October	20/10/2024			Fourier Transforms
33.		November	10/11/2024			Inverse Fourier Transforms
34.		November	17/11/2024			Inverse Fourier Transforms
35.		November	24/11/2024			Applications of Fourier Transforms
36.		December	08/12/2024			Applications of Fourier Transforms
37.	PHY504: PHYSICS I– PRACTICAL	September	01/09/2024	02.00pm- 04.00pm	Practical	To design, build and test Astable /Monostable multivibrator using IC 741/IC 555. To design a Frequency Modulator Circuit based on IC 741/IC 555.
38.		September	8/09/2024			To Design, build & test square, triangular and sine wave generator using IC 741/IC 555, To Study of Linear voltage control oscillator using IC 566.
39.		September	15/09/2024			To design a Frequency Modulator Circuit based on IC 566, To Design of a Voltage-to-Frequency Converter using VCO IC 566
40.		September	22/09/2024			To Design of a Phase Modulator and Demodulator using PLL IC 565, To design and setup a Frequency Multiplier circuit using PLL IC565 to multiply the input frequency
41.		September	29/9/2024			To Build and test SMPS power supply. To simplify the given SOP expression and to realize it using Basic gates and Universal gates
42.		October	06/10/2024			To Design, built and test oscillator – Wien Bridge oscillator / phase shift oscillator using OP-AMP. To Design, build and test Voltage to Frequency / Frequency to voltage converter using OP-AMP

43.		October	13/10/2024			To Build and test Function generator using IC 8038 To Design, build and test the DC to DC converter
44.		October	20/10/2024			circuit To design and Implementation of Current Limiting Protection Circuitry using IC 78XX/IC 79XX. To Design and Implementation of Low Dropout (LDO) Voltage Regulators using IC 78XX/IC 79XX.
45.		November	10/11/2024			To Design and Implementation of a Voltage Measurement Circuit using ICL 7106
46.		November	17/11/2024			To Design and Construction of a Temperature Measurement Circuit using ICL 7106
47.		November	24/11/2024			To Design and Implementation of a Simple Decade Counter Circuit using IC 7490.
48.		December	08/12/2024			To Design and Analysis of Binary to BCD Conversion Circuit using IC 7490.
49.	RES505: Research Methodology	September	01/09/2024	04.00pm – 05.00pm	Theory	Research, Methods in research
50.		September	8/09/2024			Experimental design
51.		September	15/09/2024			Sampling method
52.		September	22/09/2024			Data collections, Representation of data
53.		September	29/9/2024			Graphical representation
54.		October	06/10/2024			Analysis of data
55.		October	13/10/2024			Use of inferential statistical tools in research
56.		October	20/10/2024			Biostatistical Test, Use of ANOVA
57.		November	10/11/2024			Application of correlation of data
58.		November	17/11/2024			Literature collection, Intellectual Property Rights
59.		November	24/11/2024			Research Databases
60.		December	08/12/2024			Research Metrics
61.	PHY506: EXPERIMENTAL TECHNIQUES IN PHYSICS	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Vacuum Physics
62.		September	8/09/2024			Gas transport properties
63.		September	15/09/2024			Vacuum Technology and Surface PhysicsVacuum System
64.		September	22/09/2024			Pumps for High Vacuum (HV) and Ultra High Vacuum (UHV)
65.		September	29/9/2024			Vacuum Gauges

66.		October	06/10/2024			Low temperatures techniques, low temperature production techniques
67.		October	13/10/2024			Structural Characterization and Thermal Analysis Techniques used for XRD
68.		October	20/10/2024			Characterization Techniques
69.		November	10/11/2024			Morphological and Magnetic Characterization
70.		November	17/11/2024			Electron Microscopy- Principle, Instrumentation and Working
71.		November	24/11/2024			Probe Microscopy- Principle, Instrumentation and Working
72.		December	08/12/2024			Magnetic Characterization- Principle, Instrumentation and Working
73.	PHY507: PHYSICS OF LASERS	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	General Introduction, Emission
74.		September	8/09/2024			Line Broadening Mechanisms
75.		September	15/09/2024			Laser Rate Equations
76.		September	22/09/2024			Laser Amplifiers
77.		September	29/9/2024			Resonance Frequency, Resonators
78.		October	06/10/2024			Spherical Mirror Resonators
79.		October	13/10/2024			Mirror Resonator
80.		October	20/10/2024			The Threshold Condition
81.		November	10/11/2024			Characteristics, LASER Properties
82.		November	17/11/2024			LASER Characteristics, Types of LASER
83.		November	24/11/2024			LASER Amplifiers
84.		December	08/12/2024			LASER Safety
85.	PHY509: ATOMIC AND MOLECULAR PHYSICS	February	02/02/2025	10.00am – 11.00am	Theory	Atomic structure and atomic spectra
86.		February	09/02/2025			Exclusion principle
87.		February	16/02/2025			Electron spectra
88.		February	23/02/2025			Zeeman effect
89.		March	02/03/2025			Molecular Spectra , Electronics spectra
90.		March	09/03/2025			Frank – Condon principle
91.		March	16/03/2025			Rotational Spectra
92.		March	23/03/2025			ESR, Hamiltonian
93.		April	06/04/2025			NMR, Applications of NMR
94.		April	13/04/2025			Laue theory of X-ray diffraction, Brillouin zone
95.		April	20/04/2025			Modes of Vibration

96.		May	04/05/2025			Lattice heat capacity
97.	PHY510: ELECTRODYNAMICS	February	02/02/2025	11.00am- 12.00pm	Theory	Multi-pole expansions
98.		February	09/02/2025			linear quadra-pole potential and field
99.		February	16/02/2025			Faraday's law
100.		February	23/02/2025			Maxwell's equations
101.		March	02/03/2025			Energy relations in quasi-stationary current systems, Poynting's theorem
102.		March	09/03/2025			Electromagnetic wave equations, Electromagnetic waves
103.		March	16/03/2025			Inhomogeneous wave equations
104.		March	23/03/2025			Gauge transformations
105.		April	06/04/2025			Wave equations, Hertz potential
106.		April	13/04/2025			Special theory of relativity, Lorentz transformations
107.		April	20/04/2025			Minkowski's space-time diagram
108.		May	04/05/2025			Four vector potential
109.	PHY511: QUANTUM MECHANICS- I	February	02/02/2025	12.00pm- 1.00pm	Theory	Introduction to Quantum Mechanics
110.		February	09/02/2025			Bound States
111.		February	16/02/2025			Bound States
112.		February	23/02/2025			Linear Vector Space (LVS)
113.		March	02/03/2025			Linear Vector Space (LVS)
114.		March	09/03/2025			Function Spaces
115.		March	16/03/2025			Function Spaces
116.		March	23/03/2025			Classical vs Quantum Mechanics
117.		April	06/04/2025			Schrodinger and Heisenberg Pictures
118.		April	13/04/2025			Hydrogen Atom & Wave Functions
119.		April	20/04/2025			Hydrogen Atom & Wave Functions
120.		May	04/05/2025			Harmonic Oscillator
121.	PHY512: PHYSICS II –	February	02/02/2025	02.00pm- 04.00pm	Practical	Sum of digits of an integer, To find factorial of a number
122.		February	09/02/2025			Checking and printing of prime numbers To find $\sin(x)$, $\cos(x)$ using series method
123.		February	16/02/2025			Sorting of (1) Numerical data (2) Character type data-ascending, descending, Use of pointers – sorting (any one method of sorting)

124.	PRACTICAL	February	23/02/2025			Matrix operations – addition, subtraction, multiplication Root of equation-Bisection method, Newton Raphson method
125.		March	02/03/2025			Numerical integration- Trapezoidal, Simpson's 1/3rd rule, Roots of an algebraic equation (Bisection)
126.		March	09/03/2025			Roots of polynomial (Newton Raphson) Legendre polynomials using the standard recurrence relation. Confirm that the method works well for Legendre functions by comparing with standard tables for special functions. (Use forward recursion.)
127.		March	16/03/2025			Bessel functions of the first kind using the standard recurrence relation.
128.		March	23/03/2025			Rotation of matrix: Rotate the elements of a $n \times n$ matrix in clockwise/ anticlockwise direction and display the matrices ($n \geq 5$).
129.		April	06/04/2025			Inverse of a matrix: Find the inverse of $n \times n$ matrix and display both matrices.
130.		April	13/04/2025			Trapezoidal/ Simpson rule: Evaluate a given function $f(x)$ using Trapezoidal/ Simpson rule correct up to given accuracy by successively halving the step size.
131.		April	20/04/2025			Graphics: Write a program and display the Miller planes in the cubic lattice. Display the FCC, Bcc, and simple cubic lattice on the computer screen.
132.		May	04/05/2025			Graphics: Write a program and display the Miller planes in the cubic lattice. Display the FCC, Bcc, and simple cubic lattice on the computer screen.
133.	PHY515: FUNDAMENTALS OF MATERIALS SCIENCE	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Crystallography
134.		February	09/02/2025			Miller indices
135.		February	16/02/2025			Solids
136.		February	23/02/2025			Close-Packed Spheres
137.		March	02/03/2025			Structure of Solids, Defects
138.		March	09/03/2025			Dislocations, Defects in Crystalline Solids
139.		March	16/03/2025			Phase Diagrams, Diffusion
140.		March	23/03/2025			Time-temperature-transformation (TTT) diagram
141.		April	06/04/2025			Phase Transformations
142.		April	13/04/2025			Mechanical Behaviour of Materials

143.		April	20/04/2025			Dislocation interaction leading to strain hardening
144.		May	04/05/2025			Fracture
145.	PHY516: MEDICAL PHYSICS	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Biomechanics
146.		February	09/02/2025			Bioelectricity and Biomagnetism
147.		February	16/02/2025			Physics of Hearing , Physics of Vision
148.		February	23/02/2025			Radiation physics, Radiotherapy and Brachytherapy
149.		March	02/03/2025			X-ray and Digital Radiography, Nuclear Medicine
150.		March	09/03/2025			Biomaterials, New trends in Medical Physics
151.		March	16/03/2025			Fundamentals to Biomedical Instrumentation, Patient Safety, Electrodes and Transducer
152.		March	23/03/2025			Recording Systems, Cardiovascular System and Measurements
153.		April	06/04/2025			Heart and Cardiovascular system
154.		April	13/04/2025			The Computer in Biomedical Instrumentation and Biomedical Recorders
155.		April	20/04/2025			nervous system and neural signals
156.		May	04/05/2025			Respiratory system, special care instruments and ultrasonic imaging system
157.	PHY513: Ojt Or PHY514: Fp	February	02/02/2025	12.00pm – 1.00pm	Term Work	
158.		February	09/02/2025			
159.		February	16/02/2025			
160.		February	23/02/2025			
161.		March	02/03/2025			
162.		March	09/03/2025			
163.		March	16/03/2025			
164.		March	23/03/2025			
165.		April	06/04/2025			
166.		April	13/04/2025			
167.		April	20/04/2025			
168.		May	04/05/2025			
		February	02/02/2025	12.00pm – 1.00pm	Term Work	
146.	OR PHY514: FP	February	09/02/2025	12.00pm – 1.00pm	Term	
147.		February	16/02/2025			
148.		February	23/02/2025			

149.		March	02/03/2025		Wok	
150.		March	09/03/2025			
151.		March	16/03/2025			
152.		March	23/03/2025			
153.		April	06/04/2025			
154.		April	13/04/2025			
155.		April	20/04/2025			
156.		May	04/05/2025			
157.	PHY601:Statistical Mechanics	September	01/09/2024	10.00am- 11.00am	Theory	Introduction to Thermodynamics Thermodynamic Processes and Systems
158		September	8/09/2024			Maxwell's relations,Thermodynamic Potentials
159		September	15/09/2024			Conditions of Equilibrium,crocanonicalEnsemble
160		September	22/09/2024			Examples of Microcanonical Ensemble
161		September	29/9/2024			Canonical Ensemble
162		October	06/10/2024			Grand Canonical Ensemble
163		October	13/10/2024			Quantum Statistical Mechanics Density Matrix
164		October	20/10/2024			Single Particle Quantum Partition Function Harmonic Oscillator
165		November	10/11/2024			Wigner Transformation
166		November	17/11/2024			Grand Canonical Formulation of Ideal Gas
167		November	24/11/2024			Bose-Einstein Statistics
168		December	08/12/2024			General Treatment of a Bose gas,Bose Gas
169	PHY602:Condensed Matter Physics	September	01/09/2024	11.00am- 12.00pm	Theory	Solid State Physics, Laue equations
170		September	8/09/2024			Brillouin zone, Covalent crystals
171		September	15/09/2024			Bonds Structure, Sommerfeld theory
172		September	22/09/2024			Fermi-Dirac distribution
173		September	29/9/2024			Thermal conductivity
174		October	06/10/2024			Reflection and transmission amplitudes and coefficients
175		October	13/10/2024			Nearly Free Electrons Model
176		October	20/10/2024			Fermienergy and carrier concentration
177		November	10/11/2024			Phonons
178		November	17/11/2024			Diamagnetism
179		November	24/11/2024			Paramagnetism
180		December	08/12/2024			Superconductivity, Josephson Effect
181		September	01/09/2024			Stern-Gerlach Experiment, Addition of Angular

	PHY603:Quantum Mechanics- II			12.00pm- 1.00pm	Theory	Momentum
182		September	8/09/2024			Quantum Physics, Density Matrix formalism
183		September	15/09/2024			Rotation and Spin Angular Momentum
184		October	22/09/2024			Quantum Information
185		October	29/9/2024			Approximation methods in Quantum Mechanics
186		October	06/10/2024			Approximation methods and special topics
187	PHY604:Physics- III - Practical	September	01/09/2024	02.00pm- 04.00pm	Practical	To measure resistivity of a semiconductor by four probe method at different temperatures and Determination of band gap. To determine Lande's g factor of DPPH using Electron-Spin resonance (E.S.R.) Spectrometer.
188		September	8/09/2024			To determine the magnetic susceptibility of a paramagnetic sample by measuring the force exerted on the sample by a magnetic field gradient Susceptibility, Gauy method. To determine skin depth in Al using electromagnetic radiation.Skin depth in Al using electromagnetic radiation.
189		September	15/09/2024			To determine Counting statistics by using G.M. tube. To determine End point energy and Absorption coefficient using G.M. tube.
190		September	22/09/2024			To determine Michelson Interferometer. To determine of thickness of thin transparent sheet like mica using Michelson interferometer.
191		September	29/9/2024			To demonstrate the wave nature of the electron by Electron Diffraction. To Study of Thermionic Emission.
192		October	06/10/2024			To determine wavelength of monochromatic source using Fabry-Perot Etalon. To measure electrical conductivity of silicon/germanium material at different temperatures by Four Probe method.

193		October	13/10/2024			Determination of orientation of a crystal by back reflection Laue method.
194		October	20/10/2024			To measure the superconductivity transition Temperature and transition width of high-temperature superconductors.
195		November	10/11/2024			Determination of wavelength of He-Ne Laser by transmission grating and reflection grating.
196		November	17/11/2024			Beam divergence of a Diode Laser, Determination of the diameter of a thin wire using a laser.
197		November	24/11/2024			To determine the dipole moment of a given liquid.
198		December	08/12/2024			To determine magnetic susceptibility of FeCl ₃ .
199	PHY606: Physics of Thin Film	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Introduction to thin films, Comparison of thin and thick films
200		September	8/09/2024			Theory of growth of thin films, Thin Film Growth
201		September	15/09/2024			Deposition Techniques and Measurement of thickness
202		September	22/09/2024			Thin Film preparation techniques, Thin film Preparation by Optical method
203		September	29/9/2024			Techniques for Measurement of film thickness
204		October	06/10/2024			Properties of thin films, Mechanical properties
205		October	13/10/2024			Optical properties
206		October	20/10/2024			Luminescence
207		November	10/11/2024			Applications of Thin Films
208		November	17/11/2024			Junction devices
209		November	24/11/2024			Solar cells
210		December	08/12/2024			As storage devices
211	PHY607: Astronomy and Astrophysics	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Science and the Universe, Orbits and Gravity
212		September	8/09/2024			Radiation and Spectra, Other Worlds: An Introduction to the Solar System
213		September	15/09/2024			Cratered Worlds, The Giant Planets
214		September	22/09/2024			Comets and Asteroids: Debris of the Solar System
215		September	29/9/2024			The Sun: A Garden-Variety Star
216		October	06/10/2024			Analyzing Starlight, Celestial Distances
217		October	13/10/2024			The Birth of Stars and the Discovery of Planets outside the Solar System
218		October	20/10/2024			The Death of Stars

219		November	10/11/2024			The Milky Way Galaxy
220		November	17/11/2024			Active Galaxies, Quasars, and Supermassive Black Holes
221		November	24/11/2024			The Big Bang
222		December	08/12/2024			Life in the Universe
223	PHY608:Energy Studies	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Indian Energy Scenario, Various types of energy sources
224		September	8/09/2024			Energy Security, Non Renewable Energy sources & Renewable Energy sources
225		September	15/09/2024			Solar Radiation and Its Measurements
226		September	22/09/2024			Basics of Heat transfer, Solar Radiation and Its Measurements
227		September	29/9/2024			Selective coatings
228		October	06/10/2024			Solar Photovoltaics (SPV), Application of SPV
229		October	13/10/2024			Solar Thermal Devices and Systems
230		October	20/10/2024			Solar Devices
231		November	10/11/2024			Bio Energy
232		November	17/11/2024			Hydrogen Energy
233		November	24/11/2024			Wind Energy
234		December	08/12/2024			Energy Storage
235	PHY609: Nuclear And Particle Physics	February	02/02/2025	10.00am – 11.00am	Theory	Nuclear Interactions and Nuclear Reactions, Characteristics of Nucleolus
236		February	09/02/2025			Nuclear Forces, Direct and compound nuclear reaction mechanisms
237		February	16/02/2025			Nuclear Models, Shell model
238		February	23/02/2025			Nuclear Energy Level, Collective model of Bohr and Mottelson
239		March	02/03/2025			Nuclear Decay
240		March	09/03/2025			Angular momentum
241		March	16/03/2025			Parity selection rules
242		March	23/03/2025			Gamma decay
243		April	06/04/2025			Elementary Particle Physics
244		April	13/04/2025			Hadrons and leptons
245		April	04/05/2025			Elementary' ideas of CP and CPT invariance
246		May	11/05/2025			Quark model
247		February	02/02/2025			General Configuration, Input- Output Configuration

248	PHY610:Electronic Instrumentation	February	09/02/2025	11.00am- 12.00pm	Theory	Static Performance Characteristics,Dynamic characteristics
249		February	16/02/2025			Resistive Type Displacement Sensors,Capacitive Type Displacement Sensors
250		February	23/02/2025			Inductive Type Displacement Sensors, Hall Effect Sensors
251		March	02/03/2025			Flow measurements
252		March	09/03/2025			Other Flow Metering (measuring) Techniques
253		March	16/03/2025			Temperature measurements
254		March	23/03/2025			Thermocouples
255		April	06/04/2025			Signal Conditioning Processing
256		April	13/04/2025			Data Acquisition Systems
257		May	04/05/2025			Digital Display Systems
258		May	11/05/2025			Printers
259	PHY613:Physics of Nano Materials	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Quantum Size Effects,Electron Confinement
260		February	09/02/2025			Properties of Nano Materials,Structural Properties of Nano Materials
261		February	16/02/2025			Physical & Chemical Methods for the Synthesis of Nanomaterials
262		February	23/02/2025			Techniques For Synthesis Of Nanomaterials
263		March	02/03/2025			Synthesis of nanoparticles
264		March	09/03/2025			Method for nanoparticles Synthesis
265		March	16/03/2025			Carbon Nanomaterials
266		March	23/03/2025			Porous Material
267		April	06/04/2025			Aerogels
268		April	13/04/2025			Functional Nanomaterials
269		May	04/05/2025			Mechanical Properties
270		May	11/05/2025			Thermal & Electrical Properties
271	PHY614:General Relativity & Cosmology	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Optical & Magnetic Properties,Applications of Nanomaterials
272		February	09/02/2025			Essentials of general relativity,Astrophysical relativity
273		February	16/02/2025			The isotropic universe,Gravitational lensing
274		February	23/02/2025			Quantum mechanics and relativity Quantum field theory The standard model and beyond

						The hot big bang
275		March	02/03/2025			Topological defects
276		March	09/03/2025			Inflationary cosmology
277		March	16/03/2025			Matter in the universe
278		March	23/03/2025			Galaxies and their evolution,Active galaxies
279		April	13/04/2025			Dynamics of structure formation
280		April	20/04/2025			Cosmological density fields
281		May	04/05/2024			Galaxy formation
282		May	11/05/2024			Cosmic background fluctuations
283.		February	02/02/2025			Basics,Thermochemical conversion processes
284.		February	09/02/2025			Combustion and Gasification Technology
						Pyrolysis Technology
285.		February	16/02/2025			Introduction to Energy from Waste (MSW)
						Waste to energy options
286.	PHY615:Energy from Waste	February	23/02/2025	12.00pm- 01.00pm	Theory (Elective)	Properties of Municipal Solid Waste (MSW): MSW technologies
287.		March	02/03/2025			Conversion devices
288.		March	09/03/2025			Properties of fuels derived from waste to energy technology
289.		March	16/03/2025			Power generation using waste to energy technologies
290.		March	23/03/2025			Landfills
291.		April	06/04/2025			Demonstration of LFG
292.		April	13/04/2025			Parameters contributing to LFG production
294		April	20/04/2025			Design of nonlandfill
295		May	04/05/2025			Non-landfill technologies
296		February	02/02/2025			To design, build and test absolute value circuits., To design, build and test thermocouple amplifier having cold junction temperature compensation.
297	PHY611:Physics IV - Practical	February	09/02/2025	02.00pm- 04.00pm	Practical	To design, build and test Instrumentation amplifier for load cell. ,Study of IC 7107 as DPM. To design build and test 3 &1/2 DPM for load cell.
298		February	16/02/2025			To design, build and test displacement sensor using potentiometer, variable capacitor. Study of accelerometer module.
299		February	23/02/2025			To design build and test sample & hold amplifier. To design, build and test bipolar DAC using binary

						weighted ladder and Op-amps.
300		March	02/03/2025			To design, build and test Log amplifier using Op-amps and diodes. To Design, build and test phase sensitive detector.
301		March	09/03/2025			Temperature characteristics of thermistors or strain gauge and applications Characteristics and applications of photo electric devices.(photo diode led)
302		March	16/03/2025			Study of data acquisition system
303		March	23/03/2025			To determine the specific heat of graphite
304		April	06/04/2025			Measurement of resistance by two probe method with variation in temperature.
305		April	13/04/2025			Development of microstructures by photolithography.
306		April	20/04/2025			Study of photoluminescence of nanoparticles.
307		May	04/05/2025			Study of LVDT sensor

V154: MASTER IN SCIENCE (CHEMISTRY) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Master of Science. (Chemistry)(2023 Pattern)	V154	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	CHE501: Inorganic Chemistry-I	September	01/09/2024	10.00am- 11.00am	Theory	Inorganic Clusters
2.		September	08/09/2024			Boranes and Boron Hydrides
3.		September	15/09/2024			Isopoly and Heteropoly Acids
4.		September	22/09/2024			Bioinorganic Chemistry
5.		September	29/9/2024			Metallic State & Basic Organometallic Chemistry
6.		October	06/10/2024			Basic Principles of ligand-field Theory
7.		October	13/10/2024			Metal–Ligand Equilibria in Solution
8.		October	20/10/2024			Homogeneous catalytic reactions & Acid-base behavior reaction
9.		November	10/11/2024			Alkenes–isomerisation of alkenes
10.		November	17/11/2024			Chemistry in Non- aqueous solvents
11.		November	24/11/2024			Nuclear Chemistry and Nuclear Reactions & N/P ratios in stable and meta stable nuclei
12.		December	08/12/2024			Nuclear Reactions & Fertile isotopes
13.		September	01/09/2024			The Dawn of Quantum Theory & Formalism in Quantum Mechanics
14.		September	08/09/2024			Particle in a box

15.	CHE502: Physical Chemistry-I	September	15/09/2024	11.00am- 12.00pm	Theory	Harmonic oscillator & Rigid Rotator Model
16.		September	22/09/2024			Schrodinger equation for hydrogen and hydrogen like atoms
17.		September	29/09/2024			Orbital shapes, Probability density and Radial distribution function of H-atom
18.		October	06/10/2024			Variation Method & Perturbation Theory
19.		October	13/10/2024			Theories of Reaction Rates & The Arrhenius Parameters
20.		October	20/10/2024			Elementary reaction in solution
21.		November	10/11/2024			Kinetics of Complex Reactions
22.		November	17/11/2024			Surface Chemistry
23.		November	24/11/2024			Role of surface in catalysis & Enzyme catalysis
24.		December	08/12/2024			Heterogeneous catalysis
25.	CHE503: Organic Chemistry-I	September	01/09/2024	12.00pm- 1.00pm	Theory	Reaction Mechanism
26.		September	08/09/2024			Aromaticity & Bonding properties of systems
27.		September	15/09/2024			Benzene, Annulenes, Spectroscopy & Mobius Aromaticity
28.		September	22/09/2024			Addition reactions.
29.		September	29/09/2024			Addition reactions to carbonyl compounds.
30.		October	06/10/2024			Concepts in organic synthesis & Reagents in organic synthesis.
31.	CHE504: Lab Activities on CHE501, CHE502 & CHE503	September	01/09/2024	02.00pm- 04.00pm	Practical	Analysis of ore
32.		September	08/09/2024			Analysis of binary mixtures by gravimetric and volumetric method
33.		September	15/09/2024			Preparation of the following complexes and determination of its purity
34.		September	22/09/2024			Drug Analysis
35.		October	29/09/2024			Qualitative analysis
36.		October	06/10/2024			Column chromatography
37.		October	13/10/2024			Preparation of Derivatives
38.		October	20/10/2024			Thin layer chromatography (TLC)
39.		November	10/11/2024			Conductometry
40.		November	17/11/2024			Potentiometry
41.		November	24/11/2024			pH -metry
42.		December	08/12/2024			Colorimetry/ Spectrophotometry/Polarimetry
43.		September	01/09/2024			Research & Methods in research
44.		September	08/09/2024			Experimental design
45.		September	15/09/2024			Sampling method

46.	RES505: Research Methodology	September	22/09/2024	04.00pm – 05.00pm	Theory	Data collections & Representation of data
47.		September	29/09/2024			Graphical representation
48.		October	06/10/2024			Analysis of data
49.		October	13/10/2024			Use of inferential statistical tools in research
50.		October	20/10/2024			Biostatistical Test & Use of ANOVA
51.		November	10/11/2024			Application of correlation of data
52.		November	17/11/2024			Literature collection
53.		November	24/11/2024			Intellectual Property Rights
54.		December	08/12/2024			Research Databases & Research Metrics
55.	CHE506: Physical Methods in Chemistry	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	UV-Visible Spectroscopy & IR Spectroscopy
56.		September	08/09/2024			Instrumentation and application
57.		September	15/09/2024			Principles and Applications
58.		September	22/09/2024			Thermal analysis & Thermo mechanical analysis
59.		September	29/09/2024			Description of ESCA spectrometer
60.		October	06/10/2024			Auger electron spectroscopy
61.		October	13/10/2024			Diffraction Methods
62.		October	20/10/2024			Identification of free radicals
63.		November	10/11/2024			Raman spectroscopy & ESR Spectroscopy Theory
64.		November	17/11/2024			Atomic absorption spectroscopy (AAS)
65.		November	24/11/2024			Plasma sources & applications of flame emission spectrometry
66.		December	08/12/2024			Instrumentation & Interference applications of (AAS) Inductively coupled Plasma Spectroscopy
67.	CHE507: Polymer Chemistry	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Terminology and basic concepts of Polymers
68.		September	8/09/2024			Types of Polymers & Techniques of polymerization
69.		September	15/09/2024			Kinetics of Polymerization
70.		September	22/09/2024			Crystalline Nature & Degree of Crystallinity
71.		September	29/09/2024			Co-polymerization
72.		October	06/10/2024			Individual monomers
73.		October	13/10/2024			Polymer degradation & Polymer reactions
74.		October	20/10/2024			Experimental methods
75.		November	10/11/2024			Elastomeric materials
76.		November	17/11/2024			Stereochemistry of polymers
77.		November	24/11/2024			Determination of molecular weight
78.		December	08/12/2024			Thermal Characterization & Commercial polymers

79.	CHE509: Inorganic Chemistry-II	February	02/02/2025	10.00am – 11.00am	Theory	Coordination Chemistry and bonding
80.		February	09/02/2025			Bonding & Molecular orbital theory
81.		February	16/02/2025			Td & square planar symmetries
82.		February	23/02/2025			Electronic spectra of complexes
83.		March	02/03/2025			Orgel diagram and Tanabe & Metal carbonyls
84.		March	09/03/2025			Nitrosyl complexes, dinitrogen complexes
85.		March	16/03/2025			Carbocyclic pi complexes and Reaction of coordination
						compounds
86.		March	23/03/2025			Arene complexes-complexes of biochemical importance
87.		April	06/04/2025			Reactions of coordination compounds & Theories of Electron transfer reactions
88.		April	13/04/2025			Symmetry elements and symmetry operations
89.		April	20/04/2025			Principal axis and subsidiary axes & Symmetry operations and order of a group
90.		May	04/05/2025			Matrix representations of symmetry operations
91.	CHE510: Physical Chemistry-II	February	02/02/2025	11.00am- 12.00pm	Theory	Thermodynamics
92.		February	09/02/2025			Maxwell relations and its applications
93.		February	16/02/2025			Duhem-Margules equation and its applications & Henry's law
94.		February	23/02/2025			Statistical Thermodynamics & Partition function and its significance
95.		March	02/03/2025			Thermodynamic probability and entropy
96.		March	09/03/2025			Application to monoatomic gases
97.		March	16/03/2025			Spectroscopy & Rotational (microwave) spectroscopy
98.		March	23/03/2025			Fundamental vibrational frequencies
99.		April	06/04/2025			Raman Spectroscopy
100.		April	13/04/2025			Macromolecules & Degree of polymerization and molecular weight
101.		April	20/04/2025			Chemistry of polymerization
102.		May	04/05/2025			Electronically conducting polymers, thermodynamics of polymer solutions
103.		February	02/02/2025			Aromatic Electrophilic Substitution-I & Aromatic Electrophilic Substitution-II
104.		February	09/02/2025			Aliphatic Electrophilic Substitution
105.		February	16/02/2025			Typical Electrophilic Substitution

106.	CHE511: Organic Chemistry-II	February	23/02/2025	12.00pm- 1.00pm	Theory	Aliphatic Nucleophilic Substitution-I & Aliphatic Nucleophilic Substitution-II
107.		March	02/03/2025			Aromatic Nucleophilic Substitution
108.		March	09/03/2025			Elimination Reactions
109.		February	02/02/2025			Thermo chemistry
110.		February	09/02/2025			Instrumental method of Analysis
111.	CHE512: Lab Activities on CHE509, CHE510 & CHE511	February	16/02/2025	02.00pm- 04.00pm	Practical	Chromatography
112.		February	23/02/2025			Colorimetric analysis
113.		March	02/03/2025			Single Stage Preparation Monitored by TLC
114.		March	09/03/2025			Steam distillation techniques.
115.		March	16/03/2025			Organic Estimations
116.		March	23/03/2025			Two Stage Preparation Monitored by TLC
117.		April	06/04/2025			Chemical kinetics
118.		April	13/04/2025			Surface Chemistry
119.		April	20/04/2025			Non- Instrumental
120.		May	04/05/2025			Analysis
121.	CHE515: Analytical Chemistry	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Basics of Analytical Chemistry
122.		February	09/02/2025			Classification of analytical techniques
123.		February	16/02/2025			Types and sources of error & Sampling
124.		February	23/02/2025			Quantitative Analysis
125.		March	02/03/2025			Complexometric titrations-stability of complexes
126.		March	09/03/2025			Redox Equilibria & Gravimetric Analysis
127.		March	16/03/2025			Chromatography
128.		March	23/03/2025			Column chromatography
129.		April	06/04/2025			Gas Chromatography & HPLC
130.		April	13/04/2025			Electro Analytical Techniques - Polarography
131.		April	20/04/2025			Electro Analytical Techniques - Amperometry
132.		May	04/05/2025			Electro Analytical Techniques - Voltammetry & Voltammetry - quantitative and qualitative aspects
133.		February	02/02/2025			Functions, Differential and Integral calculus
134.		February	09/02/2025			Applications in Chemistry
135.		February	16/02/2025			Partial differentiation & Rules of Integration
136.		February	23/02/2025			Differential Equations & Probability and Theory of Errors

137.	CHE516: Chemical Mathematics & Biostatistics	March	02/03/2025	04.00pm- 05.00pm	Theory (Elective)	Vectors, Matrices and Determinants
138.		March	09/03/2025			Introduction to Matrix Algebra
139.		March	16/03/2025			Statistics & Probability
140.		March	23/03/2025			Sampling

141.		April	06/04/2025			Estimation and hypothesis testing
142.		April	13/04/2025			Experimental design and analysis of variance
143.		April	20/04/2025			Correlation and regression & Non-parametric tests
144.		May	04/05/2025			Statistical techniques in Pharmaceutics
145.	CHE513: OJT OR CHE514: FP	February	02/02/2025	12.00pm – 1.00pm	Term Work	
146.		February	09/02/2025			
147.		February	16/02/2025			
148.		February	23/02/2025			
149.		March	02/03/2025			
150.		March	09/03/2025			
151.		March	16/03/2025			
152.		March	23/03/2025			
153.		April	06/04/2025			
154.		April	13/04/2025			
155.		April	20/04/2025			
156.		May	04/05/2025			
157.	CHE601: Organic Reaction Mechanism	September	01/09/2024	10.00am- 11.00am	Theory	Methods of Determining Reaction Mechanisms, Types of Reactions
158.		September	08/09/2024			Energy of Activation, Non-Kinetic Methods
159.		September	15/09/2024			Oxidation Methods
160.		September	22/09/2024			Oxidation Involving
161.		September	29/09/2024			Reduction Methods, Reductions of Conjugated Systems
162.		October	06/10/2024			Reactive Intermediates: Carbenes & Nitrenes, Study of Reactions
163.		October	13/10/2024			Molecular Recognition,
164.		October	20/10/2024			Supramolecular Reactivity and Catalysis
165.		November	10/11/2024			Types of Free Radical Reactions
166.		November	17/11/2024			Neighbouring Group Assistance
167.		November	24/11/2024			Allylic Hydrogenation (NBS)
168.		December	08/12/2024			Coupling Reaction of Alkynes & Arylation
169.	CHE602: Stereochemistry	September	01/09/2024	11.00am- 12.00pm	Theory	Conformational Analysis of Acyclic Compounds
170.		September	08/09/2024			Conformational Analysis of Alicyclic Compounds
171.		September	15/09/2024			Conformation on Reactivity
172.		September	22/09/2024			Kinetic Mechanism
173.		September	29/09/2024			Conformational Analysis, Conformational Effects

174		October	06/10/2024			Fused Ring Systems, Bridged Ring Systems
175		October	13/10/2024			Stereoselective Synthesis
176		October	20/10/2024			Asymmetric Oxidations
177		November	10/11/2024			Diels-Alder Reactions
178		November	17/11/2024			Reduction Reactions
179		November	24/11/2024			Stereochemistry of Compounds, Configuration of Diastereomers
180	CHE603: Advanced Synthetic Methods	December	08/12/2024	12.00pm- 1.00pm	Theory	O.R.D. and C.D, Conformation and Configuration
181		September	01/09/2024			Disconnection Approach, Group Disconnections
182		September	08/09/2024			Retro-synthesis, Retro-synthesis of Aromatic Heterocycles
183		September	15/09/2024			Reagents and Reaction In Synthesis-1
184		October	22/09/2024			Reagents and Reaction In Synthesis-2
185		October	29/09/2024			Name Reaction-1
186		October	06/10/2024			Name Reaction-2
187	CHE604: Lab Activities on CHE601, CHE602 & CHE603	September	01/09/2024	02.00pm- 04.00pm	Practical	I. Single Stage Preparation Monitored by TLC a) Acetophenone to Benzalacetophenone. b) Resorcinol to 7-hydroxy, 4-methyl coumarin. c) Camphor to Borneol.
188		September	08/09/2024			I. Single Stage Preparation Monitored by TLC d) Benzophenone to Benzhydrol. e) Acetoacetic Ester to Pyrazolone. f) Paramino Benzoic Acid to Parachloro Benzoic Acid. g) 2-methoxy naphthalene 1- formyl-2-methoxy naphthalene.
189		September	15/09/2024			I. Single Stage Preparation Monitored by TLC h) Glycine to Benzoylglycine. i) Cyclohexanone to Adipic acid j) Cyclohexanone to Oxime k) P- nitrotoluene to p- nitrobenzoic acid.
190		September	22/09/2024			II. Two or three stage preparations starting with 5g or less and TLC. 1. Preparation of Anthranilic acid. 2. Preparation of p- Amino benzoic acid.
191		September	29/09/2024			II. Two or three stage preparations starting with 5g or less and TLC 3. Preparation of p- Chloro nitrobenzene by Sandmeyer reaction. 4. Preparation of p- Iodonitrobenzene by Sandmeyer

					reaction. 5. Preparation of Benzylamine
192		October	06/10/2024		II. Two or three stage preparations starting with 5g or less and TLC 6. Preparation of Benzimidazole 7. Preparation of 2-acetyl cyclohexanone 8. Multicomponent synthesis.
193		October	13/10/2024		III. A) Extraction from Natural Products (Extraction and estimation of active constituents) Only for learning purpose and demo. a. Lactose from milk. b. Caffeine from tea. c. Nicotine from tobacco extract.
194		October	20/10/2024		III. A) Extraction from Natural Products (Extraction and estimation of active constituents) Only for learning purpose and demo. d. Citric acid or ascorbic acid from a tablet or from a natural source. e. Curcumin from turmeric. f. Lycopene from tomato.
195		November	10/11/2024		B) Drug Analysis a) Determination of iron from a given drug sample. b) Determination of Magnesium from given Milk powder
196		November	17/11/2024		IV. A) Case Study of Stereochemistry & Use of Molecular Models
197		November	24/11/2024		B) Green Chemistry Preparations a) Bromination of acetanilide using Ceric ammonium nitrate. b) Preparation of Benzilic Acid using NaOH /KOH under Solvent-free Conditions.
198		December	08/12/2024		B) Green Chemistry Preparations c) Photo reduction of benzophenone to benzopinacol in presence of sun light using isopropanol and acetic acid. d) Synthesis of Dibenzalpropanone from Benzaldehyde and Acetone (Aldol Condensation). e) Synthesis of Dihydropyrimidinone from Ethyl acetoacetate, Benzaldehyde and Urea.

						f) Synthesis of Aspirin.
199	CHE606: Green Chemistry	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Introduction to Green Chemistry
200.		September	08/09/2024			Need for Green Chemistry, Goals of Green Chemistry
201.		September	15/09/2024			Principles of Green Chemistry
202.		September	22/09/2024			Atom Economy-1, Atom Economy-2
203.		September	29/09/2024			Green Solvents-1, Green Solvents-2
204.		October	06/10/2024			Alternative Sources of Energy: Microwaves
205.		October	13/10/2024			Alternative Sources of Energy: Ultrasonication
206.		October	20/10/2024			Alternative Sources of Energy: Photochemistry
207.		November	10/11/2024			Alternative Sources of Energy: Electro-synthesis
208.		November	17/11/2024			Green Synthesis/Reaction
209.		November	24/11/2024			Real World Cases
210.		December	08/12/2024			Chemical Industry, Combinatorial Green Chemistry
211.	CHE607: Drugs & Heterocyclic	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Drug Design
212.		September	08/09/2024			Theories of Drug Activity
213.		September	15/09/2024			Study of Antibiotics
214.		September	22/09/2024			Anti-Malarial, Analgesic, Antipyretics & Anti-Inflammatory Drugs
215.		September	29/09/2024			Antitubercular Agents, Antileprotic Agents And Anaesthetics
216.		October	06/10/2024			Antihistamines And Psychoactive Drugs
217.		October	13/10/2024			Anti-Infective Drugs & Cardiovascular Drugs, Anti-neoplastic drugs
218.		October	20/10/2024			Heterocycles, Small Ring Heterocycles
219.		November	10/11/2024			Five Membered Heterocycles
220.		November	17/11/2024			Six Membered Heterocycles-1, Six Membered Heterocycles-2
221.		November	24/11/2024			Synthesis and Reactions of Benzo Fused Diazines
222.		December	08/12/2024			Benzo Fused Heterocycles With Two Hetero Atom, Benzothiazole and Benzoxazole
223.	CHE608:	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Biotechnology
224.		September	8/09/2024			Commercial Potentials of Biotechnology
225.		September	15/09/2024			Proteins, Classification of Proteins
226.		September	22/09/2024			Enzymes
227.		September	29/09/2024			Nucleic Acids
228.		October	06/10/2024			Lipids, Classification of Lipids

229.	Biotechnology	October	13/10/2024			Microscopy
230.		October	20/10/2024			Spectroscopy
231.		November	10/11/2024			Nanobiotechnology, Application of Nano-biotechnology
232.		November	17/11/2024			Basics of Bioinformatics
233.		November	24/11/2024			Introductory Biological Databases, Applications of Bioinformatics
234.		December	08/12/2024			Industrial Bioprocesses
235.	CHE609: Advanced Organic Chemistry	February	02/02/2025	10.00am – 11.00am	Theory	Molecular Rearrangements
236.		February	09/02/2025			Migration to Carbonyl Carbon
237.		February	16/02/2025			Rearrangements to Electron Deficient Nitrogen and Oxygen
238.		February	23/02/2025			Non-cyclic Rearrangements
239.		March	02/03/2025			Conformational Analysis and Stereochemistry
240.		March	09/03/2025			Stereochemistry of Simple Addition and Elimination Reactions
241.		March	16/03/2025			Planar Chirality, Molecular Chirality
242.		March	23/03/2025			Radical Reactions, Radical Substitution
243.		April	06/04/2025			Typical Reactions
244.		April	13/04/2025			Oxidation and Reductions-Mechanisms
245.		April	04/05/2025			Organic Photochemistry, Paterno Buchi Reaction,
246.		May	11/05/2025			Pericyclic Reactions, Cycloaddition - [2+2] Addition-Diel's Alder Reaction
247.	CHE610: Advanced Organic Spectroscopy	February	02/02/2025	11.00am- 12.00pm	Theory	Ultraviolet and Visible Spectroscopy, Molecular Structure
248.		February	09/02/2025			Woodward -Fisher Rules, Calculation of λ Max
249.		February	16/02/2025			Infrared Spectroscopy
250.		February	23/02/2025			IR Spectroscopy: Characteristics Vibrational Frequencies, Detailed Study of Vibrational Frequencies of Carbonyl Compounds
251.		March	02/03/2025			FT-IR Materials of Gaseous, Solids And Polymeric Materials
252.		March	09/03/2025			NMR Spectroscopy, General Introduction and Definition
253.		March	16/03/2025			Stereochemistry
254.		March	23/03/2025			¹³ C NMR Spectroscopy
255.		April	06/04/2025			Mass Spectrometry
256.		April	13/04/2025			Analysis of Spectra
257.		May	04/05/2025			Fragmentation Associated With Functional Groups

258.		May	11/05/2025			Mossbauer Spectroscopy
259.	CHE613: Natural Products	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Terpenoids
260.		February	09/02/2025			Rule-Gem-Dialkyl
261.		February	16/02/2025			Structure of Terpenoids, Abietic Acid
262.		February	23/02/2025			Introduction: Structural Elucidation & Synthesis of Cholesterol & Ergosterol
263.		March	02/03/2025			Vitamin D, Oestrone
264.		March	09/03/2025			Bile Acids, Alkaloids
		March	16/03/2025			Structural Elucidation
		March	23/03/2025			Morphine and Quinine
		April	13/04/2025			Quinoline Alkaloids, General Nature of Proteins
		April	20/04/2025			The Spatial Arrangements of Protein Molecules
		May	04/05/2024			Enzymes
		May	11/05/2025			Nucleic acids
265.	CHE614: Industrial Organic Chemistry	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Pesticides
266.		February	09/02/2025			Herbicides
267.		February	16/02/2025			Juvenile Hormone
268.		February	23/02/2025			Perfumery
269.		March	02/03/2025			Chemoselectivity
270.		March	09/03/2025			Three, Four, Five & Six Membered Heterocycles
271.		March	16/03/2025			Protection of Hydroxyl, Umpolung Reagents & Protection of C-C Multiple Bonds
272.		March	23/03/2025			Petroleum Technology, Downstream
273.		April	06/04/2025			Petroleum Product Profile, Environmental Management
274.		April	13/04/2025			Organic Reagents, Corey's Reagent
275.		May	04/05/2025			Name Reactions In Organic Synthesis-1
276.		May	11/05/2025			Name Reactions In Organic Synthesis-2
277.	CHE615: Pharmaceutical Chemistry	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction To Drugs & Pharmaceuticals
278.		February	09/02/2025			Terminology
279.		February	16/02/2025			Formulations, Properties & Their Influence
280.		February	23/02/2025			Additive and Their Role
281.		March	02/03/2025			Impurities & Sources of Impurities In Drug Formulations
282.		March	09/03/2025			Limit Tests
283.		March	16/03/2025			Development of Pharmaceuticals, Laboratory Accreditation
284.		March	23/03/2025			Introduction Anatomical Terms

285.		April	06/04/2025			Nervous Systems, Central Nervous system
286.		April	13/04/2025			Cardiovascular System, Respiratory System
287.		April	20/04/2025			Digestive System, Endocrine System
288.		May	04/05/2025			Urinogenital System
289.	CHE611: Lab Activities on CHE609 & CHE610	February	02/02/2025	02.00pm- 04.00pm	Practical	Qualitative Analysis and Quantitative Analysis: Qualitative Analysis (Any 6) Separation, purification and identification of compounds of ternary mixtures using semi-microanalysis, TLC, column chromatography and chemical tests. IR spectra to be used for functional group identification.
290.		February	09/02/2025			Quantitative analysis 1. Two step Preparations(Any 1) a) Preparation of m-Nitroaniline b) Preparation of Benzanilide from benzophenone
291.		February	16/02/2025			Two step Preparations(Any 1) c) Preparation of Phthalimide d) Preparation of N-Bromosuccinimide
292.		February	23/02/2025			Two step Preparations (Any 1) e) Preparation of 4-methyl -7-acetoxy coumarin f) Preparation of 1, 2, 3, 4- Tetrahydro carbazole g) Preparation of p-ethoxy acetanilide
293.		March	02/03/2025			Estimation:(Any 1) a) Todetermine the percentage or numberof phenolic groups in the given sample by The acetylation method. b) Todetermine the percentage or number of methoxyl groups in the given sample byThe Zeisel's method.
294.		March	09/03/2025			Estimation:(Any 1) c) Todetermine the percentage or number of acetyl groups in an Acetyl Ester. d) Estimation of the amount of HCHO in the given solution by sodium sulphite method.
295.		March	16/03/2025			Preparations: Single Stage (Any 2) 13) Benzophenone to Benzpinacol 14) p-Nitrotoluene to p-Nitrobenzoic acid 15) Anisole to 2,4-Dinitroanisole 16) Phthalic anhydride to phthalimide
296.		March	23/03/2025			Preparations: Single Stage (Any 2) 17) Phthalimide to Anthranilic acid

						18) Acetanilide to p-Bromoacetanide 19) p-Bromoacetanide to p-Bromoaniline 20) m-Dinitrobenzene to m-Nitroaniline
297.		April	06/04/2025			1. Preparations: Single Stage (Any 2) 1) Cyclohexanone to Adipic acid 2) Benzophenone to Benzhydral 3) Anthracene to Anthraquinone 4) Chlorobenzene to 2,4-Dinitrochlorobenzene
298.		April	13/04/2025			1. Preparations: Single Stage (Any 2) 5) 2,4-Dinitrochlorobenzene to 2,4-Dinitrophenol 6) Acetoacetic ester to 1-Phenyl-3-methyl-5 pyrazolone 7) Benzaldehyde to Cinnamic acid 8) 4-Chlorobenzaldehyde to 4-Chlorobenzoic acid + 4-Chlorobenzyl alcohol
299.		April	20/04/2025			1. Preparations: Single Stage (Any 2) 9) Benzene to β -Benzoyl propionic acid 10) Benzaldehyde to Dibenzylidene acetone 11) p-Aminobenzoic acid to p-Chlorobenzoic acid 12) N,N-Dimethylaniline to 4-Formyl-N, N-dimethyl aniline
300.		May	04/05/2025			2. Interpretation of UV, FT-IR and ¹ H-NMR & Mass spectrum of above synthesized compounds. (Any 6 Compounds)

V155: MASTER IN SCIENCE (ZOOLOGY) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Master of Science. (Zoology)(2023 Pattern)	V155	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	ZOO501: Biochemistry	September	01/09/2024	10.00am- 11.00am	Theory	Biomolecules, Amino acids
2.		September	8/09/2024			Proteins, Protein Classification, Structural levels of protein
3.		September	15/09/2024			Analytical and separation techniques
4.		September	22/09/2024			Sequencing
5.		September	29/9/2024			Vitamins
6.		October	06/10/2024			Enzyme
7.		October	13/10/2024			Enzyme classification
8.		October	20/10/2024			Enzyme kinetics-I
9.		November	10/11/2024			Enzyme kinetics- II
10.		November	17/11/2024			Introduction of metabolism and overview
11.		November	24/11/2024			Glycolysis and Gluconeogenesis
12.		December	08/12/2024			Lipid metabolism
13.		September	01/09/2024			Protein Metabolism
14.		September	8/09/2024			History and Basic information of cell, Cell organization
15.		September	15/09/2024			Bio membranes, Membrane Transport
16.		September	22/09/2024			Nucleus, Mitochondria
						Endoplasmic reticulum, Golgi Complex

17.	ZOO502: Cell Biology	September	29/9/2024	11.00am- 12.00pm	Theory	Cell Surface receptors
18.		October	06/10/2024			Cell junctions
19.		October	13/10/2024			Cell adhesion molecules
20.		October	20/10/2024			Cytoskeleton
21.		November	10/11/2024			Cell cycle
22.		November	17/11/2024			Cell division
23.		November	24/11/2024			Apoptosis
24.		December	08/12/2024			Cancer
25.	ZOO503: Applied Zoology Part -I	September	01/09/2024			Aquaculture, Maintenance of Physicochemical parameter for fish culture
26.		September	8/09/2024			Fish breeding
				12.00pm- 1.00pm	Theory	Construction and management of fish culture pond
27.		September	15/09/2024			Pearl Culture
28.		September	22/09/2024			Apiculture
29.		October	29/9/2024			Life history of honey bees
30.		October	06/10/2024			Lac culture
31.	ZOO504: Lab on Biochemistry, Cell Biology & Applied Zoology Part-I	September	01/09/2024	02.00pm- 04.00pm	Practical	Study and Determination of proteins by Biuret method/ Folin Phenol method, Study and Determination of glucose by Somogi / Anthrone method
32.		September	8/09/2024			Determination of lipids by Vanillin method Estimation of Amino acid
33.		September	15/09/2024			Estimation of sugar (glucose) To Determination of enzyme activities of SDH and LDH
34.		September	22/09/2024			To Effect of substrate concentration and pH on SDH activity
35.		September	29/9/2024			Study of Sub-cellular fractionation: nuclei, mitochondria Cytosol & assaying functional identification of mitochondria Study and describe the Mitosis: Effect of colchicine on mitosis
36.		October	06/10/2024			Study and Preparation of blood smears: Cell type identification and differential counts Study of Phagocytosis
37.		October	13/10/2024			Study of Pinocytosis, Study of EM – interpretation of cellular ultra structure
38.		October	20/10/2024			Study of morphology, general characters and life cycle of Anopheles, Culex, Aedes and Housefly

39.		November	10/11/2024			Study and Identification of Silkworms - Mulberry, Tasar, Eri and Muga
40.		November	17/11/2024			To Demonstrate the Practices of sericulture
41.		November	24/11/2024			Identification and classification of Honey Bee species
42.		December	08/12/2024			Study of morphology and identification of fishes
43.	ZOO505: Research	September	01/09/2024			Research, Methods in research
44.		September	8/09/2024			Experimental design
45.		September	15/09/2024			Sampling method
46.		September	22/09/2024			Data collections, Representation of data
47.		September	29/9/2024			Graphical representation
48.	Methodology	October	06/10/2024	04.00pm – 05.00pm	Theory	Analysis of data
49.		October	13/10/2024			Use of inferential statistical tools in research
50.		October	20/10/2024			Biostatistical Test, Use of ANOVA
51.		November	10/11/2024			Application of correlation of data
52.		November	17/11/2024			Literature collection, Intellectual Property Rights
53.		November	24/11/2024			Research Databases
54.		December	08/12/2024			Research Metrics
55.	ZOO506: Developmental Biology	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Scope and importance of developmental biology Fertilization
56.		September	8/09/2024			Cleavage Role of cytoplasm
57.		September	15/09/2024			Cell–cell interaction and cell signaling Special Early Embryonic Development-I Early Embryonic Development-II
58.		September	22/09/2024			Early Mammalian Development Cell–cell interaction and cell signaling Special Early Embryonic Development-I
59.		September	29/9/2024			Late Embryonic Development
60.		October	06/10/2024			Sex Determination
61.		October	13/10/2024			Differentiation
62.		October	20/10/2024			The Development of Blood Cells
63.		November	10/11/2024			Gastrulation
64.		November	17/11/2024			Concept of organizers and induction
65.		November	24/11/2024			Metamorphosis
66.		December	08/12/2024			Teratogenesis

67.	ZOO507: Entomology	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	External Morphology Study of Generalized insects
68.		September	8/09/2024			Insect taxonomy I
69.		September	15/09/2024			Insect taxonomy II, Insect Behavior
70.		September	22/09/2024			Pest of field crops and storage grains, Horticultural crop pests
71.		September	29/9/2024			Integrated pest management I , Integrated pest management II
72.		October	06/10/2024			Internal Morphology I
73.		October	13/10/2024			Internal Morphology II
74.		October	20/10/2024			Internal Morphology III
75.		November	10/11/2024			Livestock entomology
76.		November	17/11/2024			Urban Entomology
77.		November	24/11/2024			Medical Entomology
78.		December	08/12/2024			Forensic Entomology
79.	Sem-II ZOO509: Molecular Biology	February	02/02/2025	10.00am – 11.00am	Theory	Aquatic Entomology
80.		February	09/02/2025			Nucleic Acids
81.		February	16/02/2025			DNA structure and Topology
82.		February	23/02/2025			DNA as genetic material
83.		March	02/03/2025			Genome organization
84.		March	09/03/2025			Replication
85.		March	16/03/2025			Transcription and Regulation
86.		March	23/03/2025			Post transcriptional modifications
87.		April	06/04/2025			Gene Regulation
88.		April	13/04/2025			Translation
89.		April	20/04/2025			Synthesis
90.		May	04/05/2025			Post translational modifications
91.		February	02/02/2025			DNA repair mechanism
92.		February	09/02/2025			Molecular techniques
93.		February	16/02/2025			Blotting techniques
94.		February	23/02/2025			Protein sequencing method
						Molecular Techniques
						Introduction to genetics, Gene Inheritance
						Multiple alleles, Genome organization
						Mutation, Types of point mutation
						Mutagenic agents, Sex-determination

95.	ZOO510: Genetics	March	02/03/2025	11.00am- 12.00pm	Theory	Population Genetics
96.		March	09/03/2025			Hardy-Weinberg principles
97.		March	16/03/2025			Linkage and mapping in eukaryotes
98.		March	23/03/2025			Genetic disorders
99.		April	06/04/2025			Sex linked inheritance
100.		April	13/04/2025			Microbial Genetics
101.		April	20/04/2025			Application genetics
102.	ZOO511: Applied Zoology Part-II	May	04/05/2025	12.00pm- 1.00pm	Theory	Breeding technology
103.		February	02/02/2025			Sericulture, life cycle of Bombyx mori
104.		February	09/02/2025			Cultivation, Cocoons
105.		February	16/02/2025			Vermi-culture and Vermi Compost
106.		February	23/02/2025			Domestic animals
107.		March	02/03/2025			Dairy Farming
108.		March	09/03/2025			Poultry Farming
109.	ZOO512: Lab on Molecular Biology, Genetics & Applied Zoology Part-II	February	02/02/2025	02.00pm- 04.00pm	Practical	To study of Quantitation DNA and Agarose gel electrophoresis
110.		February	09/02/2025			Study and Demonstration of plasmid DNA in <i>E. coli</i>
111.		February	16/02/2025			To study of Quantitation RNA and agarose gel electrophoresis
112.		February	23/02/2025			Protein gel electrophoresis a) SDS-Polyacrylamide gel electrophoresis
113.		March	02/03/2025			a) SDS-Polyacrylamide gel electrophoresis
114.		March	09/03/2025			Native Polyacrylamide gel electrophoresis
115.		March	16/03/2025			To study of Restriction Endonuclease digestion and mapping
116.		March	23/03/2025			Study of problems based on multiple alleles – Blood groups
117.		April	06/04/2025			Study of the problems based on Mendel's Laws – monohybrid and dihybrid ratios
118.		April	13/04/2025			Study of problems based on gene frequency – Hardy Weinberg Law
119.		April	20/04/2025			Study and estimation of gene frequencies in human population and analysis of heterozygote frequencies
120.		May	04/05/2025			Study and characterization of normal and abnormal karyotypes from human subjects
121.		February	02/02/2025			Introduction to biotechnology, Mammalian reproductive system And IVF

122.	ZOO515:Animal Biotechnology	February	09/02/2025	04.00pm- 05.00pm	Theory (Elective)	Cryopreservation, Advancement of Biotechnology
123.		February	16/02/2025			Cell culture, Mammalian cell lines & their characteristics
124.		February	23/02/2025			Tissue culture system, Cloning
125.		March	02/03/2025			Transgenic animal-I
126.		March	09/03/2025			Transgenic animal-II
127.		March	16/03/2025			Genetic Engineered Animal Cell Culture
128.		March	23/03/2025			Recombinant Microorganisms
129.		April	06/04/2025			Medical biotechnology
130.		April	13/04/2025			Medical biotechnology
131.		April	20/04/2025			Insecticide development
132.		May	04/05/2025			Biotechnology of aquaculture
133.	ZOO516: Toxicology	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Importance Of Toxicology
134.		February	09/02/2025			Dose Effect And Dose Response Relationship
135.		February	16/02/2025			Factors Affecting Toxicity
136.		February	23/02/2025			Absorption And Distribution Of Toxicants
137.		March	02/03/2025			Mechanism And Reactions Of Toxicants
138.		March	09/03/2025			Lipid Peroxidation
139.		March	16/03/2025			Oxidative Stress
140.		March	23/03/2025			Antioxidant Defense Mechanism
141.		April	06/04/2025			Basics Of Organ Toxicity
142.		April	13/04/2025			Hepatotoxicity
143.		April	20/04/2025			Pulmonary Toxicity
144.		May	04/05/2025			Renal Toxicity And Neurotoxicity
145.	ZOO513:OJT OR ZOO514: FP	February	02/02/2025	12.00pm – 1.00pm	Term Work	Eco-Toxicology Of Heavy Metals
146.		February	09/02/2025			Environmental Problems
147.		February	16/02/2025			Occupational Hazards
148.		February	23/02/2025			Carcinogenesis
149.		March	02/03/2025			
150.		March	09/03/2025			
151.		March	16/03/2025			
152.		March	23/03/2025			

153.		April	06/04/2025			
154.		April	13/04/2025			
155.		April	20/04/2025			
156.		May	04/05/2025			
157.	ZOO601: Immunology	September	01/09/2024	10.00am- 11.00am	Theory	Introduction to Immune System, The Lymphoid System
158.		September	8/09/2024			Cells Involve in Immune Response
159.		September	15/09/2024			Structure and Function of Immunoglobulin
160.		September	22/09/2024			Major Histocompatibility Complex in Mouse and Humans
161.		September	29/9/2024			The Humeral Immunity, Cell Mediated Immunity
162.		October	06/10/2024			The Complement System
163.		October	13/10/2024			Hypersensitivity
164.		October	20/10/2024			Autoimmunity and Immune Diseases
165.		November	10/11/2024			Immunity to Infectious diseases, Immunity to Parasitic Diseases
166.		November	17/11/2024			Vaccine, Transplantation and Organ Rejection
167.		November	24/11/2024			Tumor Immunology
168.		December	08/12/2024			Immunodiagnostic and Applications
170.	ZOO602: Endocrinology	September	01/09/2024	11.00am- 12.00pm	Theory	Scope of Endocrinology, Endocrine System
171.		September	8/09/2024			Hormone Mechanism, Homeostasis
172.		September	15/09/2024			Invertebrate endocrinology-I
173.		September	22/09/2024			Invertebrate endocrinology-II
174.		September	29/9/2024			Vertebrate endocrine- I
175.		October	06/10/2024			Vertebrate endocrine- II
176.		October	13/10/2024			Hormones, Steroid hormone Transport
177.		October	20/10/2024			Hormone Transport-I
178.		November	10/11/2024			Hormone Transport-II
179.		November	17/11/2024			Obesity
180.		November	24/11/2024			IVF Techniques And Hormone mechanism
181.		December	08/12/2024			Pheromone, Hormone in Insects
182.	ZOO603: Biodiversity & Conservation	September	01/09/2024	12.00pm- 1.00pm	Theory	Introduction To Biodiversity, Biogeography Regions Of India
183.		September	8/09/2024			Biodiversity And Ecosystem Function,Importance Of Conservation
184.		September	15/09/2024			Causes For Depletion Of Wildlife
185.		October	22/09/2024			Special Conservation Projects In India
186.		October	29/9/2024			Climate And Climate Change

187.		October	06/10/2024			Environmental Stress
188.	ZOO604: Lab on Immunology, Endocrinology and Biodiversity & Conservation	September	01/09/2024	02.00pm- 04.00pm	Practical	To study and determination of Agglutination test, To study and describe the precipitation reaction
189.		September	8/09/2024			To study and Demonstration of Immuno-electrophoresis, To study of Neutralization and complement fixation
190.		September	15/09/2024			To study of Separation of lymphocytes, Preparation and study of phagocytosis by splenic/peritoneal macrophages
191.		September	22/09/2024			Immunization schedules and rising of antibodies, Identification of histological slides of lymphoid tissue - Spleen, thymus, lymphnode and bone marrow
192.		September	29/9/2024			To study and Demonstration of lymphocyte transformation test with nitrogen and an antigen, To study Histology slides of Endocrine glands - Pituitary, Thyroid, Parathyroid, Thymus, Adrenal, Pancreas, Ovary & Testis, and Uterus
193.		October	06/10/2024			To study of effect of Eye Stalk ablation on Blood Glucose levels in Crabs, Identification of Gonadotrophin in Human urine samples
194.		October	13/10/2024			To Study the effect of parathormone on serum calcium levels in Rat, To study the effect of insulin and adrenalin on blood glucose levels in Rat
195.		October	20/10/2024			To study the effect of thyroxin and thiourea (antithyroid agent) on oxygen consumption in fish.
196.		November	10/11/2024			Water Analysis: Estimation of total hardness, salinity, chloride, calcium, magnesium, phosphate.
197.		November	17/11/2024			Estimation of Primary productivity of water bodies.
198.		November	24/11/2024			Study of the traditional knowledge of biodiversity conservation of any local communities.
199.		December	08/12/2024			Study of bacterial succession in Milk, Identification of Limnological Apparatus: Secchi Disk, Jacksons Candle Turbidimeter, Ekmanns Dredger. Comment on animal association/interaction: Commensalism, parasitism, mutualism, predation, proto cooperation
200.		September	01/09/2024			Male Reproductive System I, Male Reproductive System II
201.		September	8/09/2024			Male accessory ducts and accessory reproductive organs I, Male accessory ducts and accessory reproductive organs II
202.		September	15/09/2024			Female reproductive System, Histological structure and functions

203.	ZOO606: Reproductive Physiology	September	22/09/2024	04.00pm – 05.00pm	Theory (Elective)	Gametogenesis
204.		September	29/9/2024			Process of Ovulation, Estrous and Menstrual Cycle and Its Hormonal Regulation, Puberty and Menopause
205.		October	06/10/2024			Fertilization, Conception, Blastocyst Formation, Implantation
206.		October	13/10/2024			Placentation, Parturition
207.		October	20/10/2024			Lactation
208.		November	10/11/2024			Hormonal Regulation
209.		November	17/11/2024			Environmental Factors and Breeding
210.		November	24/11/2024			Artificial Control of Reproduction
211.		December	08/12/2024			Reproductive Dysfunctions
212.	ZOO607: Vermiculture	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Earthworm taxonomy
213.		September	8/09/2024			Types of earthworm
214.		September	15/09/2024			Evaluation of nutritional status
215.		September	22/09/2024			Role of Earthworms in soil fertility, Earthworms and microorganisms
216.		September	29/9/2024			Importance of microorganisms, Field sampling
217.		October	06/10/2024			Earthworms as animal feed
218.		October	13/10/2024			Earthworm Bio-technology, Vermicomposting technology
219.		October	20/10/2024			Culture techniques, Methods of Vermicomposting
220.		November	10/11/2024			Production of Vermi-compost
221.		November	17/11/2024			Factors affecting on vermicomposting
222.		November	24/11/2024			Role of earthworms in soil fertility
223.		December	08/12/2024			Vermiculture and organic farming
234.	ZOO608: Animal Behavior	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Behavior, Behavioral Ecology I
235.		September	8/09/2024			Behavioral Ecology II
236.		September	15/09/2024			Behavioral Ecology III
237.		September	22/09/2024			Behavioral Ecology IV
238.		September	29/9/2024			Aggression I, Aggression II
239.		October	06/10/2024			Territoriality I, Territoriality II
240.		October	13/10/2024			Conflict behavior I, Conflict behavior II
241.		October	20/10/2024			Biological Communication I
242.		November	10/11/2024			Biological Communication II
243.		November	17/11/2024			Biological Communication III
244.		November	24/11/2024			Orientation and Navigation I
245.		December	08/12/2024			Orientation and Navigation II
246.		February	02/02/2025			Physiology of Digestion, Absorption and Assimilation of

	ZOO609: Animal Physiology			10.00am – 11.00am	Theory	Various Food Stuffs
247.		February	09/02/2025			Physiology of Stimulation and Contraction
248.		February	16/02/2025			Innervation of Muscles
249.		February	23/02/2025			Physiology of Respiration
250.		March	02/03/2025			Mechanism of Respiration
251.		March	09/03/2025			Physiology of Nervous System, Synaptic Transmission and Neurotransmitters
252.		March	16/03/2025			Physiology of Circulation and Cardiovascular System, Blood vessels and circulation
253.		March	23/03/2025			Physiology of Excretion, Structure of a Neuron
254.		April	06/04/2025			Physiology of Reproduction
255.		April	13/04/2025			Physiology of Endocrine Glands
256.		April	04/05/2025			Physiology of Defense:
257.		May	11/05/2025			Complement System
258.	ZOO610: Ichthyology	February	02/02/2025	11.00am- 12.00pm	Theory	Classification of Fishes, Fish Phylogeny
259.		February	09/02/2025			External Morphology of Fish, Endoskeleton.
260.		February	16/02/2025			Digestive system, Respiration
261.		February	23/02/2025			Buoyancy mechanisms
262.		March	02/03/2025			Excretion and Osmoregulation
263.		March	09/03/2025			Catadromous and Anadromous Fish, Reproduction In Fishes
264.		March	16/03/2025			Nervous system and Sense organs, Endocrine organs
265.		March	23/03/2025			Ecosystem
266.		April	06/04/2025			Fish nutrition
267.		April	13/04/2025			Aquaculture
268.		May	04/05/2025			Aquatic pollution
269.		May	11/05/2025			Ecosystem
270.	ZOO613: Comparative Animal Physiology	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Comparative Study of Physiology
271.		February	09/02/2025			Food Digestive Mechanism
272.		February	16/02/2025			Coordination of digestive activities
273.		February	23/02/2025			Comparative aspects of carbohydrate pathways
274.		March	02/03/2025			Oxygen Transport, Adaptation in Respiration
275.		March	09/03/2025			Comparative aspects of transport, Respiratory pigments
276.		March	16/03/2025			Osmoregulation
		March	23/03/2025			Excretory Physiology
277.		April	06/04/2025			Thermoregulation

278.		April	13/04/2025			Chronic obstructive pulmonary disease
279.		May	04/05/2025			Liver, Electrolyte imbalance
280.		May	11/05/2025			Heat stroke
281.	ZOO614: Aquaculture	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction to Aquaculture, Aquatic Species in Aquaculture
282.		February	09/02/2025			Aquaculture Systems and Facilities
283.		February	16/02/2025			Aquaculture Engineering, Aquaculture Nutrition
284.		February	23/02/2025			Fish Health and Disease Management
285.		March	02/03/2025			Water Quality Management
286.		March	09/03/2025			Reproduction and Breeding Techniques
287.		March	16/03/2025			Hatchery Operations, Grow-Out Culture
288.		March	23/03/2025			Integrated Multi-Trophic Aquaculture (IMTA), Aquaculture and Sustainability
289.		April	06/04/2025			Aquaculture Economics and Marketing
290.		April	13/04/2025			Aquaculture Policy and Regulations
291.		May	04/05/2025			Technologies in Aquaculture
292.		May	11/05/2025			Case Studies and Industry Visits
293.	ZOO615: Parasitology	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction, Scope and Branches of Parasitology
294.		February	09/02/2025			Host parasite Relationship
295.		February	16/02/2025			Malaria (Plasmodium species)
296.		February	23/02/2025			Trypanosomiasis (Trypanosoma species)
297.		March	02/03/2025			Leishmaniasis (Leishmania species), Intestinal Helminths (e.g., Ascaris, hookworms, whipworms)
298.		March	09/03/2025			Tissue-dwelling Helminths (e.g., Filarial worms),
299.		March	16/03/2025			Fleas (Siphonaptera)
300.		March	23/03/2025			Ticks (Ixodida), Lice (Phthiraptera)
301.		April	06/04/2025			Diagnostic Techniques for Parasitic Infections, Parasite Life Cycles and Transmission
302.		April	13/04/2025			Mechanisms of Pathogenesis, Geographic Distribution of Parasitic Diseases
303.		April	20/04/2025			Control and Treatment of Parasitic Infections
304.		May	04/05/2025			Impact of Parasitic Diseases on Public Health and Veterinary Medicine
305.		February	02/02/2025			Total Count of WBC's, Total Count of RBC's.
306.		February	09/02/2025			Estimation of haemoglobin percentage with the help of

	ZOO611: Lab on Animal Physiology & Ichthyology			02.00pm- 04.00pm	Practical	haemometer, Effect of exercise on blood lactate in man
307.		February	16/02/2025			Differential Count of WBC's, Qualitative detection of nitrogenous waste products (Ammonia, urea, uric acid) in given sample
308.		February	23/02/2025			Effect of insulin on blood sugar level of mice, To determine bleeding time and clotting time of human blood
309.		March	02/03/2025			Determination of Body Mass Index (BMI), Determination of blood pressure by Sphygmomanometer
310.		March	09/03/2025			Study of Fish Identification and classification-catla, Rohu and Mrigala and Pomfret, Study of external characters & digestive system of locally available fish (E).
311.		March	16/03/2025			Study the types of scales (Placoid scale, Cycloid scale, Ctenoid scale & Ganoid, Study of tail fins in fishes (Homocercal, Heterocercal & Diphyrcercal) (D)
312.		March	23/03/2025			Study of brain of fish (Locally available), Study the measurement of physiological parameters like oxygen consumption or metabolic rates.
313.		April	06/04/2025			Identifying and documenting fish parasites using microscopy
314.		April	13/04/2025			Aquarium design and maintenance
315.		April	20/04/2025			Study of crafts and gears in fisheries
316.		May	04/05/2025			Visit to freshwater/ marine fish farm- Visiting aquaculture facilities to understand fish farming techniques

V156: MASTER IN SCIENCE (BOTANY) {2023 PATTERN}

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling services for theory courses	Modes employed by the institution to provide academic counseling services for practical /Project courses	Year	Semester
1	Master of Science. (Botany)(2023 Pattern)	V156	PG	1.Face to face counseling sessions	2.Face to face counseling sessions and 3.Laboratory based counseling 4.Seminar 5.OJT /Field Project	First, Second	1,2,3,4

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	BOT501: Diversity of Non – Vascular Plants -I	September	01/09/2024	10.00am- 11.00am	Theory	Introduction and classification: General characters of the five kingdoms of living organisms
2.		September	8/09/2024			Study of viruses: General account, classification, structure, types of viruses
3.		September	15/09/2024			Techniques for study of viruses:Cell cultivation (plant and animal cell types), purification
4.		September	22/09/2024			A brief account of Viroids, Prions and Interferons: Definition, structure, diseases caused ,transmission etc.
5.		September	29/9/2024			A brief account of Viroids, Prions and Interferons: ,.
6.		October	06/10/2024			Study of bacteria: General characteristics of Archaeobacteria (Mycoplasmas,
7.		October	13/10/2024			Structure of bacteria:Ultra - structure of bacterial cell - cell wall (biosynthesis of peptidoglycan)
8.		October	20/10/2024			Bacterial genomics: Bacterial nutrition; Genetic recombination; Drug resistance; Uses of bacteria:
9.		November	10/11/2024			Study of fungi: Classification of Fungi (Alexopoulos and Mims; Ainsworth);

10.		November	17/11/2024			Sexuality in fungi: Heterothallism in fungi – sexuality in fungi;
11.		November	24/11/2024			Study of examples of fungi: General characters, structure and life cycle of Myxomycotina
12.		December	08/12/2024			Study of examples of fungi
13.		September	01/09/2024			Fungal association and its application, Fungal diseases, Plant pathology, Plant disease management
14.		September	8/09/2024			Study of cyanobacteria
15.		September	15/09/2024			Phycology
16.		September	22/09/2024			Examples of algae, Economic importance of algae
						Bryophytes, Examples of bryophytes
17.	BOT502: Diversity of Non- Vascular Plants –II	September	29/9/2024	11.00am- 12.00pm	Theory	Economic and ecological importance of bryophytes
18.		October	06/10/2024			Phylogeny of bryophytes
19.		October	13/10/2024			Bio fertilizers, Applications of biofertilizers
20.		October	20/10/2024			Biopesticides
21.		November	10/11/2024			Applications of biopesticides
22.		November	17/11/2024			Bioagents
23.		November	24/11/2024			Strategies of marking and Registration with CIB of bioagents
24.		December	08/12/2024			Quality parameters, Important bioagents
25.	BOT503: Diversity of Vascular Plants and Paleobotany-I	September	01/09/2024	12.00pm- 1.00pm	Theory	Pteridophytes I
26.		September	8/09/2024			Evolution in Pteridophytes
27.		September	15/09/2024			Pteridophytes II, Fossil pteridophytes
28.		September	22/09/2024			Gymnosperms I
29.		September	29/9/2024			Gymnosperms II
30.		October	06/10/2024			Fossil gymnosperms, Reproduction in gymnosperms
31.	BOT504: Lab Activities on BOT501, BOT502 & BOT503	September	01/09/2024	02.00pm- 04.00pm	Practical	To prepare herbarium of- Viruses and Cyanobacteria - TMV – Tobacco and Papaya (Herbarium). To study microbes (Bacteria and fungi) in Soil, water and air – solid- serial dilution
32.		September	8/09/2024			To study Fungi – Plasmodiophora, Saprolegnia, Rhizopus; To study Lichens – types and reproductive body; Cultivation of mushrooms – Pleurotus
33.		September	15/09/2024			To study Pathology – late blight of Potato, Ergot of Bajra, Smut of Sorghum, Rice blast and white rust of Crucifer. To study Peziza – External, L.S. of Apothecia (Slide); Erysiphae

34.		September	22/09/2024			To study Cyanobacteria – Spirulina, Microcystis and Oscillatoria. To study Algae – Volvox, Hydrodictyon, Chara.
35.		September	29/9/2024			To study Diatoms, Vaucheria, To study Dictyota, Sargassum.
36.		October	06/10/2024			To study Gracilaria (Mounting/sectioning of algal material), To study Bryophytes – Porella, Riccia
37.		October	13/10/2024			Study of Pteridophytes – Diversity of forms upto order level - Psilotum, Lycopodium, – Thallus, T.S. rhizome, cones - L.S. and T.S. Study of Equisetum, Ophioglossum
38.		October	01/09/2024			Study of Marsilea (Thallus T.S., Cones – T.S. and L.S) and other forms, Study of Gymnosperms – Diversity of forms upto order level – Cycas. Study of Cupressus.
39.		November	10/11/2024			Collection, isolation and culture of algae (fresh water and industrial waste) and Study of algae
40.		November	17/11/2024			Majorment of growth (algal biomass), Estimation of chlorophyll in different algae
41.		November	24/11/2024			Estimation of Carotenoid and phycobilin protein in different algae
42.		December	08/12/2024			Estimation of total soluble proteins and total lipids, Analysis of water quality – phosphate estimation
43.	RES505: Research Methodology	September	01/09/2024	04.00pm – 05.00pm	Theory	Research, Methods in research
44.		September	8/09/2024			Experimental design
45.		September	15/09/2024			Sampling method
46.		September	22/09/2024			Data collections, Representation of data
47.		September	29/9/2024			Graphical representation
48.		October	06/10/2024			Analysis of data
49.		October	13/10/2024			Use of inferential statistical tools in research
50.		October	20/10/2024			Biostatistical Test, Use of ANOVA
51.		November	10/11/2024			Application of correlation of data
52.		November	17/11/2024			Literature collection, Intellectual Property Rights
53.		November	24/11/2024			Research Databases
54.		December	08/12/2024			Research Metrics
55.	BoT506: Applied Phycology	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Algal distribution Algae as bio-fertilizer and green manure, Application of algae
56.		September	8/09/2024			Algae as nutrient supplement and in pharmacy
57.		September	15/09/2024			Value added products from microalgae and processes

58.		September	22/09/2024			Algae and heavy metals toxicity
59.		September	29/9/2024			Algae and its role in assessment of water quality, Tests for algae
60.		October	06/10/2024			Growth control of algae, Cultivation of algae
61.		October	13/10/2024			Cultivation of agarophytes
62.		October	20/10/2024			Algal biotechnology and tissue culture of seaweeds
63.		November	10/11/2024			Toxins and biochemicals from algae
64.		November	17/11/2024			Problems and prospects
65.		November	24/11/2024			Biochemicals from algae
66.		December	08/12/2024			Regulators from algae
67.	BOT507: Tools and Techniques in Plant Science	September	01/09/2024	05.00pm – 06.00pm	Theory (Elective)	Microscopy I
68.		September	8/09/2024			Microscopy II
69.		September	15/09/2024			Confocal Raman microscopy , Microscopic Techniques
70.		September	22/09/2024			Microtechnique
71.		September	29/9/2024			Preparation of media for microorganism's growth (both bacteria and fungi) Anti-microbial activity
72.		October	06/10/2024			Separation Technique I
73.		October	13/10/2024			Chromatography , Separation Technique II
74.		October	20/10/2024			gel electrophoresis
75.		November	10/11/2024			Spectroscopic Techniques
76.		November	17/11/2024			Analysis of polymer structures
77.		November	24/11/2024			Radiochemical Techniques , Molecular Tools
78.		December	08/12/2024			Statistical tools in marker analysis
79.	BOT509: Plant Physiology	February	02/02/2025	10.00am – 11.00am	Theory	Carbohydrates, Saccharides
80.		February	09/02/2025			Structure of maltose, sucrose, starch and pectin.
81.		February	16/02/2025			Carbohydrate Polymer Technologies and Application
82.		February	23/02/2025			Proteins and enzymes, Enzymes
83.		March	02/03/2025			Enzyme regulation
84.		March	09/03/2025			Applications of recombinant proteins
85.		March	16/03/2025			Water relations, Loss of water
86.		March	23/03/2025			Mineral nutrition
87.		April	06/04/2025			Phloem transport
88.		April	13/04/2025			Photosynthesis, Respiration
89.		April	20/04/2025			Plant growth regulators and movements
90.		May	04/05/2025			Plant Movements
91.		February	02/02/2025			Conservation, Conservation organizations

92.	BOT510:	February	09/02/2025	11.00am- 12.00pm	Theory	Cultivation
93.		February	16/02/2025			Adaptive planning and management for sustainable harvesting
94.		February	23/02/2025			Intellectual property rights (IPR) ,Food flavors and natural

	Herbal Wealth					colours
95.		March	02/03/2025			Natural colours
96.		March	09/03/2025			Production technology
97.		March	16/03/2025			Plant sweeteners (natural sweeteners) ,Raw drug repository
98.		March	23/03/2025			Substitutes and Adulterants
99.		April	06/04/2025			Basic concepts of Intellectual Property Rights (IPRs)
100.		April	13/04/2025			Ethno botany, Ethno botany in India
101.		April	20/04/2025			Methods of research in Ethnobotany
102.		May	04/05/2025			Indigenous systems of medicines in India
103.	BOT511: Diversity of Vascular Plants and Paleobotany-II	February	02/02/2025	12.00pm- 1.00pm	Theory	Paleobotany
104.		February	09/02/2025			Time scale,Fossilization
105.		February	16/02/2025			Method of fossilization
106.		February	23/02/2025			Brief account on techniques to study fossils
107.		March	02/03/2025			Taxonomy of paleobotany
108.		March	09/03/2025			Palynology, Flora and application of paleobotany
109.	BOT512: Lab Activities on BOT509, BOT510 &BOT511	February	02/02/2025	02.00pm- 04.00pm	Practical	Study of highly used medicinal plant
110.		February	09/02/2025			Study of Plant sweetners, Herbal preparation
111.		February	16/02/2025			Study of Trikatu, Triphala, Ashtachurna and Sitopaladichurna
112.		February	23/02/2025			Determination of Ash value and moisture content of crude drugs. Determination of the alcohol content of Asava and Arista
113.		March	02/03/2025			Preparation of any one herbal cosmetics, Study of AshwagandhaShatavarikalpam
114.		March	09/03/2025			Study ofSwarasa – kumari, vasa and ginger, Study ofBringamlakibrahmitaila; Sikthataila
115.		March	16/03/2025			Study ofVarna lepa; Adrakakanda; amlamru, Study ofRasayana – ghrita kumara rasayana; Kashaya for common fever
116.		March	23/03/2025			Histochemical studies of drugs, Extraction of essential oils from suitable medicinal plant
117.		April	06/04/2025			To determine chlorophyll a and chlorophyll b ratio in C3 & C4 plants, Quantitative estimation of proteins by Biuret method

118.		April	13/04/2025			Estimation of total free amino acids
119.		April	20/04/2025			Estimate enzyme activity at different temperature
120.		May	04/05/2025			Detection of amino acids/ sugar from the phloem sap by paper chromatography.
121.		May	11/05/2025			Separation of photosynthetic pigments using separating funnel and Majorment of absorbance of the pigments.
122.	BOT515: Biotechnology and Molecular Biology	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Morphogenesis,Morphogenetic factors Plant Tissue Culture
123.		February	09/02/2025			Organogenesis
124.		February	16/02/2025			In Vitro Propagation.Application of tissue culture
125.		February	23/02/2025			Technique Of Transformation
126.		March	02/03/2025			Application of transgenic plants
127.		March	09/03/2025			Applications and hazards of biotechnology
128.		March	16/03/2025			Industrial Biotechnology
129.		March	23/03/2025			Enzyme biotechnology
130.		April	06/04/2025			DNA
131.		April	13/04/2025			DNA Repair Mechanism, Bioinformatics
132.		April	20/04/2025			Information sources
133.		May	04/05/2025			Use of Bioinformatics
134.	BOT516: Ecology and Phytogeography	February	02/02/2025	04.00pm- 05.00pm	Theory (Elective)	Ecology And Ecosystem, Ecological niche and Concept
135.		February	09/02/2025			Productivity In Ecosystem
136.		February	16/02/2025			Nonconventional sources of energy
137.		February	23/02/2025			Ecological Succession
138.		March	02/03/2025			Ecological Factors Biotic
139.		March	09/03/2025			Pollution
140.		March	16/03/2025			Climate Change Climatic Variations Remote Sensing And GIS
141.		March	23/03/2025			Phytogeogrphy
142.		April	06/04/2025			Plant Distribution
143.		April	13/04/2025			Plant migration and barriers on plant migration
144.		April	20/04/2025			Botanical provinces of India
145.		May	04/05/2025			Theories of Present And Past
146.	BOT513: OJT OR	February	02/02/2025			
147.		February	09/02/2025			

148.	BOT514: FP	February	16/02/2025	12.00pm – 1.00pm	Term Work	
149.		February	23/02/2025			
150.		March	02/03/2025			
151.		March	09/03/2025			
152.		March	16/03/2025			
153.		March	23/03/2025			
154.		April	06/04/2025			
155.		April	13/04/2025			
156.		April	20/04/2025			
157	BOT601: Cytogenetics and Plant Breeding	September	01/09/2024	10.00am- 11.00am	Theory	Chromosome structure, Types of chromatin, Specialized types of chromosomes
158		September	8/09/2024			Structural and numerical alterations in chromosomes, Genetics of prokaryotes and eukaryotic organisms
159		September	15/09/2024			Gene structure and expression, Regulation of gene expression
160		September	22/09/2024			Genetic recombination and gene mapping
161		September	29/9/2024			Mutation
162		October	06/10/2024			Cytogenetics of aneuploids and structural heterozygotes
163		October	13/10/2024			Molecular Cytogenetics,
164		October	20/10/2024			Multigene families, in situ hybridization
165		November	10/11/2024			Principles and Methods of Plant breeding
166		November	17/11/2024			Genetic basis of breeding self-pollinated crops
167		November	24/11/2024			Mutations and polyploidy breeding
168		December	08/12/2024			Pre-breeding and genetic enhancement
169	BOT602: Advanced Plant Physiology	September	01/09/2024	11.00am- 12.00pm	Theory	Nitrogen Metabolism, Mechanism of Nitrogen Fixation
170		September	8/09/2024			Lipid Metabolism, Glyoxylate Pathway
171		September	15/09/2024			Flowering, Floral Induction And Development,
172		September	22/09/2024			Seed Structure And Biology, Types Of Seeds
173		September	29/9/2024			Principles Of Seed Processing,
174		October	06/10/2024			Seed Dormancy And Germination
175		October	13/10/2024			Plant Secondary Metabolites And It's Defense
176		October	20/10/2024			Importance Of Secondary Metabolites
177		November	10/11/2024			Signal Transduction In Plants
178		November	17/11/2024			Protein Degradation
179		November	24/11/2024			Stress Physiology
180		December	08/12/2024			Genetic Engineering

181	BOT603: Pharmacognosy	September	01/09/2024	12.00pm- 1.00pm	Theory	Classification Of Herbal Drugs
182		September	8/09/2024			Extraction Of Herbal Drugs
183		September	15/09/2024			Extraction methods
184		October	22/09/2024			Guidelines for harvesting medicinal plants (GMP- Good Manufacturing Practices).
185						
186		October	29/9/2024			Preparation Of Medicines, Herbal preparations
187		October	06/10/2024			Active Principles, Phytochemistry
188	BOT604: Lab Activities on BOT601, BOT602 & BOT603	September	01/09/2024	02.00pm- 04.00pm	Practical	Estimation of Leghaemoglobin and Demonstration of Nitrates in Green Plants, Extraction and Estimation of Lipids – Folch Method
189		September	8/09/2024			Estimation of Lipase Activity,
190		September	15/09/2024			Saponification Value of Oils and Iodine Number
191		September	22/09/2024			Quantitative Estimation of Flavanoids
192		September	29/9/2024			Effect of Salt Stress on Accumulation of Proline and Estimation
193		October	06/10/2024			Determination of Secondary Metabolites.
194		October	13/10/2024			Study of Two Plants/Class (Two Families Per Practical), Study of Two Plants/Class (Two Families Per Practical)
195		October	20/10/2024			Plant Breeding Principles Within The Myrtaceae Family, Plant Breeding Principles Within The Rubiaceae Family, Plant Breeding Principles Within The Euphorbiaceae Family
196		November	10/11/2024			Identification of Organized and Unorganized Plant Drugs (Digitalis Leaf, Senna Leaf, Vasaka Leaf). Quantitative Estimation of An Alkaloid – Solanine
197		November	17/11/2024			Separate Anthocyanin Compounds from Flower Petals, Extraction and Estimation of Lycopene, Evaluation of Natural Products, Estimation of Rutin
198		November	24/11/2024			Identification of Organized and Unorganized Plant Drugs (Opium Latex, Acacia Gum, Catecha Extract, Aloe Juice), Determination of pH of Fresh and Dry Material of the Following Plants (Oscimum, Adhatoda Leaves, Terminalia arjuna Fruit,)
199		December	08/12/2024			Chemical Test: For Acacia, Determination of Stomatal Number, Systematic Pharmacognostic Study of Cinnamon, Systematic Pharmacognostic Study of Clove

200	BOT606: Biostatistics	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Presentation of Data
201		September	8/09/2024			Majors of Locations and Dispersion
202		September	15/09/2024			Deviation
203		September	22/09/2024			Probability and Distributions
204		September	29/9/2024			Correlation and Regression
205		October	06/10/2024			Linear regression and equations of line of regression
206		October	13/10/2024			Sampling
207		October	20/10/2024			Probability and non-probability sampling,
208		November	10/11/2024			Types of sampling
209		November	17/11/2024			Tests of significance, Chi- square Distribution, Experimental Designs
210		November	24/11/2024			Latin square designs
211		December	08/12/2024			ANOVA, Two way ANOVA, Uses of ANOVA
212	BOT607: Mycology and Plant Pathology	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	General Microbiology, Rickettsia
213		September	8/09/2024			Mycorrhiza, Medical Mycology
214		September	15/09/2024			Production of Metabolites by Fungi, Non Industrial Fungal Metabolites
215		September	22/09/2024			Fungi as welfare to human beings
216		September	29/9/2024			Concept of biodeterioration and Biodegradation:
217		October	06/10/2024			History: Milestones in phytopathology
218		October	13/10/2024			Altered metabolism of plants
219		October	20/10/2024			Principles of Plant pathology
220		November	10/11/2024			Defence mechanism in host plants against pathogens
221		November	17/11/2024			Detailed study of the Diseases
222		November	24/11/2024			Diseases of Vegetable crops:
223		December	08/12/2024			Bacterial diseases of plants, Mycoplasma/Phytoplama (PPLD) Diseases of Plants
224	BOT608: Renewable Energy Studies	September	01/09/2024	04.00pm – 05.00pm	Theory (Elective)	Indian Energy Scenario, Various types of energy sources,
225		September	8/09/2024			Energy Security, Non Renewable Energy sources, Renewable Energy sources
226		September	15/09/2024			Importance of Solar Energy,
227		September	22/09/2024			Basics of Heat transfer:
228		September	29/9/2024			Solar Radiation and Its Measurements:
229		October	06/10/2024			Selective coatings
230		October	13/10/2024			Solar Photovoltaics (SPV)
231		October	20/10/2024			Application of SPV:

232		November	10/11/2024			Solar Thermal Devices and Systems
233		November	17/11/2024			Solar Devices
234		November	24/11/2024			Bio Energy, Biogas, Biofuels
235		December	08/12/2024			Hydrogen Energy, Wind Energy, Energy Storage
236	BOT609: Taxonomy of Angiosperms	February	02/02/2025	10.00am – 11.00am	Theory	Introduction And General Account To Taxonomy
237		February	09/02/2025			Phylogenetic classification, Plant Nomenclature
238		February	16/02/2025			Citation,
239		February	23/02/2025			Taxonomic Literature
240		March	02/03/2025			Maintenance And Significance Of Herbarium
241		March	09/03/2025			Families I, Families II
242		March	16/03/2025			Families III, Families IV
243		March	23/03/2025			Families V, Families VI
244		April	06/04/2025			Modern Taxonomy,
245		April	13/04/2025			Computer application in taxonomy:
246		April	04/05/2025			Taxonomic Evidences
247		May	11/05/2025			Serological Characters And Molecular Approach
248	BOT610: Seed Technology	February	02/02/2025	11.00am- 12.00pm	Theory	Introduction, Seed Classification and Morphology,
249		February	09/02/2025			Seed Dormancy and Seed Germination,
250		February	16/02/2025			Genetic Purity
251		February	23/02/2025			Quality testing,
252		March	02/03/2025			Seed Production, Procedure of seed production
253		March	09/03/2025			Seed Testing
254		March	16/03/2025			Field Inspection
255		March	23/03/2025			Seed Pathology, Seed entomology
256		April	06/04/2025			Seed Processing, Seed treatment
257		April	13/04/2025			Packaging and handling of seeds
258		May	04/05/2025			Seed Deterioration and Seed Storage
259		May	11/05/2025			Seed legislation
260	BOT611: Lab Activities on BOT609 & BOT610	February	02/02/2025	12.00pm- 01.00pm	Practical	Use of Flora; Study of two plants / class (Two families per practical)
261		February	09/02/2025			Study of Two plants / class (Two families per practical)(Polypetalae – Myrtaceae, Meliaceae, CR 01 Sapindaceae, Combretaceae and Umbelliferae)
262		February	16/02/2025			Study of Two plants / class (One family per practical) (Gamopetalae – Solanaceae, Acanthaceae, Rubiaceae, Scrophulariaceae and Asteraceae.)

263		February	23/02/2025			Preparation of dichotomous keys, Construct the phylogenetic tree based on gene sequences of the given species from NCBI database, Study of Two plants / class (One family per practical)(Monocots – Cannaceae, Poaceae, Orchidaceae, Musaceae and Arecaceae (Palmae)
264		March	02/03/2025			Study of Two plants / class (One family per practical)(Monocots – Cannaceae, Poaceae, Orchidaceae, Musaceae and Arecaceae (Palmae
265		March	09/03/2025			Preparation of dichotomous keys, Construct the phylogenetic tree based on gene sequences of the given species from NCBI database,
266	BOT613: Anatomy and Embryology			12.00pm- 01.00pm	Theory (Elective)	Theories of organization of apical meristems, Diversity in structure of wood, Vascular tissues, Phloem
267		March	16/03/2025			Secretory cells and tissues, nodal anatomy, Leaf anatomy, Application of anatomy, Ecological anatomy
268		March	23/03/2025			Microsporangium and ovule, Pollen, Ovule,
269		April	13/04/2025			Sexual incompatibility
270		April	20/04/2025			Fertilization
271		May	04/05/2024			Apomixis and polyembryony
272		May	11/05/2024			Endosperm and embryo, Embryogenesis
273	BOT614: Hydroponic Technology	February	02/02/2025	12.00pm- 01.00pm	Theory (Elective)	Introduction to hydroponics technology, Types of hydroponics
274		February	09/02/2025			Plant Nutrition, Environmental and Chemical Factors
275		February	16/02/2025			Hydroponics entrepreneurship
276		February	23/02/2025			Nutrient Solutions and Media Inorganic salts (fertilizers)
277		March	02/03/2025			Weed control and disease control in hydroponics
278		March	09/03/2025			Good Agricultural Practices (GAP) and IPM for Hydroponics Cultivation
279		March	16/03/2025			Techniques in Hydroponics and Cultivation of crop plants:
280		March	23/03/2025			Standard Protocols used in hydroponics
281		April	06/04/2025			Production Technology of Vegetables and Flowers Grown under Hydroponics Cultivation:
282		April	13/04/2025			Marketing of hydroponics products, Application of abiotic stresses in hydroponics systems
283		April	20/04/2025			Plant Hydroponic Cultivation
284		May	04/05/2025			The Role of Hydroponics Technique as a Standard Methodology, Hydroponics and Environmental Clean-Up

285	BOT615: Medicinal Plants and their Applications	February	02/02/2025	02.00pm- 04.00pm	Theory (Elective)	History Of Medicinal And Aromatic Plants, Herbal Industry:
286		February	09/02/2025			Importance Of Medicinal Plants, Indigenous systems of medicine
287		February	16/02/2025			Poisonous And Allergic Plants,
288		February	23/02/2025			Plant Allergens
289		March	02/03/2025			Remedial Plants, Psychoactive Plants
290		March	09/03/2025			Marine Drugs, Natural Pesticides And Antibiotics
291		March	16/03/2025			Natural pesticides, Antibiotics
292		March	23/03/2025			Trade and commerce of medicinal plants of India:
293		April	06/04/2025			Herbal medicine
294		April	13/04/2025			Study of few commercial /raw drugs/ medicinal plants
295		April	20/04/2025			Traditional Agriculture Practices in Ancient India
296		May	04/05/2025			Aspects of Biodiversity