

यशवंतराव चव्हाण महाराष्ट्र
मुक्त विद्यापीठ, नाशिक

नेक मानांकित 'अ' श्रेणी

ज्ञानगंगोत्री, गंगापूर धरणाजवळ, गोवर्धन
नाशिक - ४२२ २२२ (महाराष्ट्र) भारत



ज्ञानगंगा घोषरी

Yashwantrao Chavan Maharashtra
Open University, Nashik

NAAC Accredited 'A' Grade

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वास्तुकला, विज्ञान व तंत्रज्ञान विद्याशाखा / School of Architecture, Science & Technology

School Mechanism to provide academic counseling support Q₁M - 2.3.5 Counseling Schedules for current year (2022-2023)

SN	Name of Programme	Programme code	Level of Programme	Modes employed by the institution to provide academic counseling for theory courses	Modes employed by the institution to provide academic counseling for practical courses	Year	Semester
1	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
2	Master of Science. (Mathematics)(2021 Pattern)	V130	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2.	First & Second	1,2,3 & 4
3	Master of Science. (Physics)(2021 Pattern)	V131	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	Second	2 & 4
4	Master of Science. (Chemistry)(2021 Pattern)	V132	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	Second	2 & 4

5	Master of Science. (Botany)(2021 Pattern)	V133	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	Second	2 & 4
6	Master of Science. (Zoology)(2021 Pattern)	V134	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	Second	2 & 4
7	Diploma in Environment Science	V135	Diploma	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First	1 & 2
8	Master of Science. (Environmental Science)(2021 Pattern)	V136	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First & Second	1,2,3 & 4
9	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
10	Master of Science. (Physics)(2022 Pattern)	V141	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First	1 & 2
11	Master of Science. (Chemistry)(2022 Pattern)	V142	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First	1 & 2
12	Master of Science. (Botany)(2022 Pattern)	V143	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First	1 & 2
13	Master of Science. (Zoology)(2022 Pattern)	V144	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First	1 & 2

V92: Bachelor of Science (Physics, Chemistry, Mathematics)

C.S. No.	Course Code And Name	Month	Date	Time	Theory/Practical course	Topic
1.	AEC111 : English Communication	September	04/09/2022	9:30am -10:30am	Theory	Introduction, Language of Communication, Speaking Skills
2.		September	11/09/2022			Understanding the Basis of Verbal Communication, Working with Customers
3.		September	18/09/2022			Developing Professional Telephone Skills, Improving Informal Communication
4.		September	25/09/2022			Reading and Understanding, Writing Skills,
5.		October	02/10/2022			Uncovering the Secrets of Clear writing, Communicating with E-Mail and Memos
6.		October	09/10/2022			Developing Reports and Proposals, Writing for Employment
7.		October	16/10/2022			Identifying and Defining Problems
8.		October	23/10/2022			Solving the Problem, Thinking Critically
9.		October	30/10/2022			Group Decision Making and Problem Solving
10.		November	06/11/2022			Working in Groups and Teams
11.		November	13/11/2022			Exploring Team Roles and Processes, Building and Developing Teams
12.		November	20/11/2022			Presenting yourself Professionally, Developing Your Interpersonal Skills
13.		September	04/09/2022			Ordinary Differential Equations
14.		September	11/09/2022			Laws of Motion
15.		September	18/09/2022			Dynamics of a system of particles, Centre of Mass.
16.		September	25/09/2022			Vectors

17.	S34121: Physics- 01	October	02/10/2022	10:30am -11:30am	Theory	Momentum and Energy
18.		October	09/10/2022			Rotational Motion
19.		October	16/10/2022			Gravitation
20.		October	23/10/2022			Oscillations
21.		October	30/10/2022			Kinetic and Potential Energy, Total Energy and their time averages
22.		November	06/11/2022			Elasticity
23.		November	13/11/2022			Special Theory of Relativity
24.		November	20/11/2022			Relativistic addition of velocities
25.		S37131: Chemistry- 01	September			04/09/2022
26.	September		11/09/2022	Quantum mechanics		
27.	September		18/09/2022	Electronic configurations of the atoms		
28.	September		25/09/2022	Ionic Bonding		
29.	October		02/10/2022	Covalent bonding		
30.	October		09/10/2022	Resonance and resonating structures, MO Approach		
31.	October		16/10/2022	Physical Effects, Electronic Displacements		
32.	October		23/10/2022	Structure, shape and reactivity of organic molecules, Reactive Intermediates		
33.	October		30/10/2022	Strength of organic acids and bases, Stereochemistry		
34.	November		06/11/2022	Aliphatic Hydrocarbons		
35.	November		13/11/2022	Alkanes, Alkenes, Alkynes		
36.	November	20/11/2022	Reactions			
37.		September	04/09/2022			Limit and Continuity
38.		September	11/09/2022			Types of discontinuities
39.		September	18/09/2022			Differentiability of functions
40.		September	25/09/2022			Successive differentiation, Leibnitz's theorem
41.		October	02/10/2022			Partial differentiation, Euler's theorem on homogeneous functions

42.	S41141 : Mathematics- 01	October	09/10/2022	12:30pm -1:30pm	Theory	Tangents and normal, Curvature, Asymptotes, Singular points,
43.		October	16/10/2022			Parametric representation of curves and tracing of parametric curves
44.		October	23/10/2022			Rolle's theorem, Mean Value theorems
45.		October	30/10/2022			Taylor's theorem with Lagrange's and Cauchy's forms of remainder
46.		November	06/11/2022			Maxima and Minima, Indeterminate forms.
47.		November	13/11/2022			Taylor's series
48.		November	20/11/2022			Maclaurin's series
49.		S34122 : Physics- 01	September			04/09/2022
50.	September		11/09/2022	Measurements of length (or diameter) using screw gauge		
51.	September		18/09/2022	Measurements of length (or diameter) using travelling microscope		
52.	September		25/09/2022	To determine the Height of a Building using a Sextant		
53.	October		02/10/2022	To determine the Moment of Inertia of a Flywheel.		
54.	October		09/10/2022	To determine the Young's Modulus of a Wire by Optical Lever Method		
55.	October		16/10/2022	To determine the Modulus of Rigidity of a Wire by Maxwell's needle		
56.	October		23/10/2022	To determine the Elastic Constants of a Wire by Searle's method.		
57.	October		30/10/2022	To determine g by Bar Pendulum		
58.	November		06/11/2022	To determine g by Kater's Pendulum.		
59.	November		13/11/2022	To determine g and velocity for a freely falling body using Digital Timing Technique		
60.	November		20/11/2022	To study the Motion of a Spring and calculate (a) Spring Constant (b) Value of g		
61.			September	04/09/2022		

	S37132: Chemistry-01			4:30pm - 6:30pm	Practical	carbonate present in a mixture
62.		September	11/09/2022			Estimation of oxalic acid by titrating it with $KMnO_4$.
63.		September	18/09/2022			Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$.
64.		September	25/09/2022			Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal indicator
65.		October	02/10/2022			Estimation of Cu (II) ions eudiometrically using $Na_2S_2O_3$.
66.		October	09/10/2022			Detection of extra elements (N, S, Cl, Br, I) in organic compounds
67.		October	16/10/2022			Separation of mixtures by Chromatography
68.		October	23/10/2022			Measure the R_f value in each case (combination of two compounds to be given)
69.		October	30/10/2022			Identify and separate the components of a given mixture of two amino acids (glycine) by paper chromatography
70.		November	06/11/2022			Identify and separate the components of a given mixture of two amino acids (aspartic acid) by paper chromatography
71.		November	13/11/2022			Identify and separate the components of a given mixture of two amino acids (glutamic acid) by paper chromatography
72.		November	20/11/2022			Identify and separate the sugars present in the given mixture by paper chromatography.
73.	S41142 : Mathematics- 01	November	27/11/2022	9:30am 11:30am	Practical	Assignment 01 on Limit
74.		November	27/11/2022	11:30am 1:30pm		Assignment 02 on Differentiation
75.		November	27/11/2022	2:30pm 4:30pm		Assignment 03 on Tangents
76.		November	27/11/2022	4:30pm 6:30pm		Assignment 04 on Normal
77.		December	04/12/2022	9:30am 11:30am		Assignment 05 on Curves
78.		December	04/12/2022	11:30am 1:30pm		Assignment 06 on Rolle's, and
79.		December	04/12/2022	2:30pm 4:30pm		Assignment 07 on Mean Value

80.		December	04/12/2022	4:30pm 6:30pm		Assignment 08 on Taylor's theorem
81.		December	11/12/2022	9:30am 11:30am		Assignment 09 on Maclaurin's series
82.		December	11/12/2022	11:30am 1:30pm		Assignment 10 on Maxima
83.		December	11/12/2022	2:30pm 4:30pm		Assignment 11 on Minima
84.		December	11/12/2022	4:30pm 6:30pm		Assignment 12 on Indeterminate forms
85.	SEC311: IT and E Learning Skills	September	04/09/2022	9:30am -10:30am	Theory	Block Diagram of a Computer
86.		September	11/09/2022			Input & Output Devices
87.		September	18/09/2022			Memory
88.		September	25/09/2022			Functions of Operating System
89.		October	02/10/2022			Utility Programs: Antivirus, CD/DVD burner, VLC media player, Adobe Reader
90.		October	09/10/2022			Word-processing, Presentation, Spread sheets
91.		October	16/10/2022			E-Learning definition, scope, trends, attributes & opportunities
92.		October	23/10/2022			Pedagogical designs for e-learning
93.		October	30/10/2022			Online learning management systems
94.		November	06/11/2022			Online learning course development models
95.		November	13/11/2022			Evaluating the impacts of e-learning
96.		November	20/11/2022			Management and implementation of e-learning
97.	S34321: Physics-03	September	04/09/2022	10:30am -11:30am	Theory	Zeroth Law of thermodynamics
98.		September	11/09/2022			First Law of thermodynamics and its Application
99.		September	18/09/2022			Various Thermodynamical Processes
100.		September	25/09/2022			Second Law of thermodynamics
101.		October	02/10/2022			Third Law of thermodynamics
102.		October	09/10/2022			Joule-Thompson Effect
103.		October	16/10/2022			Kinetic Theory of Gases
104.		October	23/10/2022			Transport Phenomena: Viscosity, Conduction and Diffusion

105.		October	30/10/2022			Theory of Radiation
106.		November	06/11/2022			Maxwell-Boltzmann law
107.		November	13/11/2022			Fermi-Dirac distribution law
108.		November	20/11/2022			Bose-Einstein distribution law
109.	S37331: Chemistry-03	September	04/09/2022	11:30am -12:30pm	Theory	Thermodynamics of ideal solutions
110.		September	11/09/2022			Partial miscibility of liquids
111.		September	18/09/2022			Phase Equilibrium
112.		September	25/09/2022			Conductance
113.		October	02/10/2022			Electrochemistry
114.		October	09/10/2022			Thermodynamics of a reversible cell, calculation of thermodynamic properties
115.		October	16/10/2022			Organic Chemistry
116.		October	23/10/2022			Amines and Diazonium Salts. Amines (Aliphatic and Aromatic)
117.		October	30/10/2022			Diazonium salts: Preparation: from aromatic amines. Reactions
118.		November	06/11/2022			Amino Acids, Peptides and Proteins
119.	November	13/11/2022	Carbohydrates			
120.	November	20/11/2022	Determination of configuration of monosaccharaides			
121.	S41341: Mathematics- 03	September	04/09/2022	12:30pm -1:30pm	Theory	Finite and infinite sets
122.		September	11/09/2022			completeness property of R, Archimedean property of R, intervals
123.		September	18/09/2022			Concept of cluster points and statement of Bolzano-Weierstrass theorem.
124.		September	25/09/2022			Real Sequence, Bounded sequence, Cauchy convergence criterion for sequences
125.		October	02/10/2022			Cauchy's theorem on limits, order preservation and squeeze theorem
126.		October	09/10/2022			Monotone sequences and their convergence (monotone convergence theorem without proof)

127.		October	16/10/2022			Infinite series, Cauchy convergence criterion for series
128.		October	23/10/2022			positive term series, geometric series, alternating series
129.		October	30/10/2022			Leibnitz's test, Root test, Ratio test
130.		November	06/11/2022			Sequences and series of functions
131.		November	13/11/2022			Mn-test, M-test
132.		November	20/11/2022			differentiability of functions, Power series and radius of convergence
133.	S34322: Physics- 03	September	04/09/2022	2:30pm - 4:30pm	Practical	To determine Mechanical Equivalent of Heat, J, by Callender and Barne's constant flow method
134.		September	11/09/2022			Measurement of Planck's constant using black body radiation
135.		September	18/09/2022			To determine Stefan's Constant
136.		September	25/09/2022			To determine the coefficient of thermal conductivity of copper by Searle's Apparatus
137.		October	02/10/2022			To determine the Coefficient of Thermal Conductivity of Cu by Angstrom's Method.
138.		October	09/10/2022			To determine the coefficient of thermal conductivity of a bad conductor by Lee
139.		October	16/10/2022			To determine the coefficient of thermal conductivity of a bad conductor by Charlton's disc method
140.		October	23/10/2022			To determine the temperature co-efficient of resistance by Platinum resistance thermometer
141.		October	30/10/2022			To study the variation of thermo emf across two junctions of a thermocouple with temperature
142.		November	06/11/2022			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	13/11/2022			To calibrate Resistance Temperature Device (RTD) using Null Method
144.		November	20/11/2022			To calibrate Resistance Temperature Device (RTD) using Off- Balance Bridge

145.	S37332: Chemistry-03	September	04/09/2022	4:30pm - 6:30pm	Practical	Study of the equilibrium of one of the given reactions by the distribution method
146.		September	11/09/2022			Construction of the phase diagram of a binary system (simple eutectic) using cooling curves.
147.		September	18/09/2022			Determination of the critical solution temperature and composition of the Phenol water system and study of the effect of impurities on it.
148.		September	25/09/2022			Study of the variation of mutual solubility temperature with concentration for the phenol water system and determination of the critical solubility temperature
149.		October	02/10/2022			Determination of cell constant
150.		October	09/10/2022			Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid.
151.		October	16/10/2022			Perform the following conductometric titrations: Strong acid vs. strong base
152.		October	23/10/2022			Separation of amino acids by paper chromatography
153.		October	30/10/2022			Determination of the concentration of glycine solution by formulation method.
154.		November	06/11/2022			Titration curve of glycine
155.		November	13/11/2022			Action of salivary amylase on starch
156.		November	20/11/2022			Effect of temperature on the action of salivary amylase on starch.
157.		S41342:	November			27/11/2022
158.	November		27/11/2022	11:30am 1:30pm	Assignment 02	
159.	November		27/11/2022	2:30pm 4:30pm	Assignment 03	
160.	November		27/11/2022	4:30pm 6:30pm	Assignment 04	
161.	December		04/12/2022	9:30am 11:30am	Assignment 05	
162.	December		04/12/2022	11:30am 1:30pm	Assignment 06	
163.	December		04/12/2022	2:30pm 4:30pm	Assignment 07	
164.	December		04/12/2022	4:30pm 6:30pm	Assignment 08	

165.	Mathematics- 03	December	11/12/2022	9:30am 11:30am		Assignment 09
166.		December	11/12/2022	11:30am 1:30pm		Assignment 10
167.		December	11/12/2022	2:30pm 4:30pm		Assignment 11
168.		December	11/12/2022	4:30pm 6:30pm		Assignment 12
169.	SEC511: Financial and Investment skills	September	04/09/2022	9:30am -10:30am	Theory	Introduction to Stock Markets - 01
170.		September	11/09/2022			Introduction to Stock Markets - 02
171.		September	18/09/2022			Introduction to Stock Markets - 03
172.		September	25/09/2022			Fundamental Analysis - 01
173.		October	02/10/2022			Fundamental Analysis - 02
174.		October	09/10/2022			Fundamental Analysis – 03
175.		October	16/10/2022			Technical Analysis - 01
176.		October	23/10/2022			Technical Analysis - 02
177.		October	30/10/2022			Technical Analysis – 03
178.		November	06/11/2022			Markets and Taxation
179.		November	13/11/2022			Trading Psychology and Risk Management
180.		November	20/11/2022			Mutual Funds And Financial Planning
181.	S34521: Physics-05	September	04/09/2022	10:30am -11:30am	Theory	Digital Circuits
182.		September	11/09/2022			Boolean Algebra
183.		September	18/09/2022			Binary Addition and Subtraction
184.		September	25/09/2022			Semiconductor Devices
185.		October	02/10/2022			Amplifiers
186.		October	09/10/2022			Bipolar Junction transistors
187.		October	16/10/2022			Operational Amplifiers (Black Box approach)
188.		October	23/10/2022			Applications of Op-Amps
189.		October	30/10/2022			Sinusoidal Oscillators
190.		November	06/11/2022			Introduction to CRO
191.		November	13/11/2022			Power Supply
192.		November	20/11/2022			Timer IC

193.	S37531: Chemistry 05	September	04/09/2022	11:30am -12:30pm	Theory	Introduction to Molecular Modelling
194.		September	11/09/2022			Potential Energy Surfaces and Molecular Graphics
195.		September	18/09/2022			Force Fields 01
196.		September	25/09/2022			Force Fields 02
197.		October	02/10/2022			Energy Minimization and Computer Simulation
198.		October	09/10/2022			Simple thermodynamic properties and Phase Space
199.		October	16/10/2022			Molecular Dynamics & Monte Carlo Simulation
200.		October	23/10/2022			Molecular Dynamics at constant temperature and pressure
201.		October	30/10/2022			Models used in Monte Carlo simulations of polymers.
202.		November	06/11/2022			Structure Prediction and Drug Design
203.		November	13/11/2022			Predicting protein structures by 'Threading', Molecular docking
204.		November	20/11/2022			Structure based de novo ligand design, Drug Discovery – Chemo informatics – QSAR.
205.		S41641: Mathematics 05	September			04/09/2022
206.	September		11/09/2022	Standard basis for \mathbb{R}^n		
207.	September		18/09/2022	Concept of Linear Independence and examples of different bases. Subspaces of $\mathbb{R}^2, \mathbb{R}^3$		
208.	September		25/09/2022	Translation, Dilation, Rotation, Reflection in a point, line and plane		
209.	October		02/10/2022	Matrix form of basic geometric transformations		
210.	October		09/10/2022	Interpretation of eigen values and eigen vectors for such transformations and eigen spaces as invariant subspaces		
211.	October		16/10/2022	Types of matrices		
212.	October		23/10/2022	Rank of a matrix		
213.	October		30/10/2022	Invariance of rank under elementary transformations		
214.	November		06/11/2022	Matrices in diagonal form		
215.	November		13/11/2022	Computation of matrix inverses using elementary row		

						operations
216.		November	20/11/2022			Illustrative examples of above concepts from Geometry, Physics, Chemistry, Combinatorics and Statistics
217.	S34522: Physics 05	September	04/09/2022	2:30pm - 4:30pm	Practical	To measure (a) Voltage, and (b) Frequency of a periodic waveform using a CRO
218.		September	11/09/2022			To verify and design AND, OR, NOT and XOR gates using NAND gates
219.		September	18/09/2022			Half adder, Full adder and 4-bit Binary Adder.
220.		September	25/09/2022			To design an astable multivibrator of given specifications using 555 Timer.
221.		October	02/10/2022			To design a monostable multivibrator of given specifications using 555 Timer.
222.		October	09/10/2022			To study IV characteristics of PN diode, Zener and Light emitting diode
223.		October	16/10/2022			To study the characteristics of a Transistor in CE configuration
224.		October	23/10/2022			To design a CE amplifier of a given gain (mid-gain) using voltage divider bias.
225.		October	30/10/2022			To design an inverting amplifier of given gain using Op-amp 741 and study its frequency response.
226.		November	06/11/2022			To design a non-inverting amplifier of given gain using Op-amp 741 and study its Frequency Response
227.		November	13/11/2022			To study a precision Differential Amplifier of given I/O specification using Opamp.
228.		November	20/11/2022			To investigate the use of an op-amp as a Differentiator
229.		September	04/09/2022			Compare the optimized C-C bond lengths in ethane, ethene, ethyne and benzene.
230.		September	11/09/2022			Perform a conformational analysis of butane
231.	September	18/09/2022	Determine the enthalpy of isomerization of cis and trans 2-butene.			

232.	S375332: Chemistry 05	September	25/09/2022	4:30pm - 6:30pm	Practical	Visualize the electron density and electrostatic potential maps for LiH, HF, N ₂ , NO and CO and comment.
233.		October	02/10/2022			Relate the charge on the hydrogen atom in hydrogen halides with their acid character
234.		October	09/10/2022			Compare the basicities of the nitrogen atoms in ammonia, methylamine, dimethylamine and trimethylamine.
235.		October	16/10/2022			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	23/10/2022			Build and minimize organic compounds of your choice containing the following functional groups. Note the dipole moment of each compound
237.		October	30/10/2022			Determine the heat of hydration of ethylene
238.		November	06/11/2022			Compare the optimized bond angles H ₂ O, H ₂ S, H ₂ Se
239.		November	13/11/2022			Compare the HAH bond angles for the second row dihydrides and compare with the results from qualitative MO theory.
240.		November	20/11/2022			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	November			27/11/2022
242.	November		27/11/2022	11:30am 1:30pm	Assignment 02	
243.	November		27/11/2022	2:30pm 4:30pm	Assignment 03	
244.	November		27/11/2022	4:30pm 6:30pm	Assignment 04	
245.	December		04/12/2022	9:30am 11:30am	Assignment 05	
246.	December		04/12/2022	11:30am 1:30pm	Assignment 06	
247.	December		04/12/2022	2:30pm 4:30pm	Assignment 07	
248.	December		04/12/2022	4:30pm 6:30pm	Assignment 08	
249.	December		11/12/2022	9:30am 11:30am	Assignment 09	

250.		December	11/12/2022	11:30am 1:30pm		Assignment 10
251.		December	11/12/2022	2:30pm 4:30pm		Assignment 11
252.		December	11/12/2022	4:30pm 6:30pm		Assignment 12
253.	AEC211: Environmental Science	February	05/02/2023	9:30am -10:30am	Theory	The Multidisciplinary Nature Of Environmental Studies
254.		February	12/02/2023			Natural Resources
255.		February	19/02/2023			Ecosystems
256.		February	26/02/2023			Biodiversity And Its Conservation
257.		March	05/03/2023			Environmental Pollution
258.		March	12/03/2023			Disaster Management
259.		March	19/03/2023			Social Issues And The Environment
260.		March	26/03/2023			Environmental Ethics
261.		April	02/04/2023			Environment Protection Act
262.		April	09/04/2023			Human Population And The Environment
263.		April	16/04/2023			Nutrition, health and human rights
264.		April	23/04/2023			Field Work
265.		S34221: Physics 02	February			05/02/2023
266.	February		12/02/2023	Gauss-divergence theorem and Stoke's theorem of vectors		
267.	February		19/02/2023	Electrostatics - 01		
268.	February		26/02/2023	Electrostatics - 02		
269.	March		05/03/2023	Polarization, Displacement vector		
270.	March		12/03/2023	Parallel plate, spherical and cylindrical condenser		
271.	March		19/03/2023	Magneto-statics		
272.	March		26/03/2023	Divergence and curl of magnetic field		
273.	April		02/04/2023	Magnetic properties of materials		
274.	April		09/04/2023	Electromagnetic Induction		
275.	April		16/04/2023	Maxwell`s equations		
276.	April		23/04/2023	Electromagnetic wave propagation		

277.	S37231: Chemistry 02	February	05/02/2023	11:30am -12:30pm	Theory	Chemical Energetics
278.		February	12/02/2023			Chemical Equilibrium
279.		February	19/02/2023			Variation of enthalpy of a reaction with temperature – Kirchhoff's equation
280.		February	26/02/2023			Ionic Equilibria
281.		March	05/03/2023			Ionization of weak acids and bases
282.		March	12/03/2023			Buffer solutions
283.		March	19/03/2023			Aromatic hydrocarbons
284.		March	26/03/2023			Alkyl and Aryl Halides
285.		April	02/04/2023			Aryl Halides Preparation
286.		April	09/04/2023			Alcohols
287.		April	16/04/2023			Phenols:
288.		April	23/04/2023			Ethers (aliphatic and aromatic)
289.		S41241: Mathematics 02	February			05/02/2023
290.	February		12/02/2023	Integrating factors, rules to find an integrating factor		
291.	February		19/02/2023	First order higher degree equations solvable for x, y, p		
292.	February		26/02/2023	Methods for solving higher-order differential equations		
293.	March		05/03/2023	Basic theory of linear differential equations, Wronskian, and its properties		
294.	March		12/03/2023	Solving a differential equation by reducing its order		
295.	March		19/03/2023	Solving a differential equation by reducing its order		
296.	March		26/03/2023	Linear non-homogenous equations		
297.	April		02/04/2023	The Cauchy-Euler equation		
298.	April		09/04/2023	Order and degree of partial differential equations		
299.	April		16/04/2023	Formation of first order partial differential equations		
300.	April		23/04/2023	Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustrations only		

301.	S34222: Physics 02	February	05/02/2023	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	12/02/2023			Ballistic Galvanometer: (i) Measurement of charge and current sensitivity (ii) Measurement of CDR
303.		February	19/02/2023			Ballistic Galvanometer :(i) Determine a high resistance by Leakage Method (iii) To determine Self Inductance of a Coil by Rayleigh's Method.
304.		February	26/02/2023			To compare capacitances using De'Sauty's bridge.
305.		March	05/03/2023			Measurement of field strength B and its variation in a Solenoid (Determine dB/dx)
306.		March	12/03/2023			To study the Characteristics of a Series RC Circuit
307.		March	19/03/2023			To study the a series LCR circuit and determine its (a) Resonant Frequency
308.		March	26/03/2023			To study a parallel LCR circuit and determine its Anti-resonant frequency
309.		April	02/04/2023			To study a parallel LCR circuit and determine its Quality factor Q
310.		April	09/04/2023			To determine a Low Resistance by Carey Foster's Bridge
311.		April	16/04/2023			To verify the Thevenin and Norton theorem
312.		April	23/04/2023			To verify the Superposition, and Maximum Power Transfer Theorem
313.	S37232: Chemistry 02	February	05/02/2023	4:30pm - 6:30pm	Practical	Determination of heat capacity of calorimeter for different volumes
314.		February	12/02/2023			Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide
315.		February	19/02/2023			Determination of enthalpy of ionization of acetic acid
316.		February	26/02/2023			Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl).
317.		March	05/03/2023			Determination of enthalpy of hydration of copper

						sulphate
318.		March	12/03/2023			Study of the solubility of benzoic acid in water and determination of ΔH .
319.		March	19/03/2023			Ionic equilibria - pH measurements
320.		March	26/03/2023			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	02/04/2023			Preparation of buffer solutions: (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide
322.		April	09/04/2023			Purification of organic compounds by crystallization (from water and alcohol) and distillation.
323.		April	16/04/2023			Criteria of Purity: Determination of melting and boiling points
324.		April	23/04/2023			Preparations: Mechanism of various reactions involved to be discussed.
325.	S41242: Mathematics 02	April	30/04/2023	9:30am 11:30am	Practical	Assignment 01 on First order exact differential equations
326.		April	30/04/2023	11:30am 1:30pm		Assignment 02 on First order exact differential equations
327.		April	30/04/2023	2:30pm 4:30pm		Assignment 03 on First order exact differential equations
328.		April	30/04/2023	4:30pm 6:30pm		Assignment 04 on Higher-order differential equations
329.		May	07/05/2023	9:30am 11:30am		Assignment 05 on Higher-order differential equations
330.		May	07/05/2023	11:30am 1:30pm		Assignment 06 on Higher-order differential equations
331.		May	07/05/2023	2:30pm 4:30pm		Assignment 07 on Linear equations
332.		May	07/05/2023	4:30pm 6:30pm		Assignment 08 on Linear equations
333.		May	14/05/2023	9:30am 11:30am		Assignment 09 on Linear equations
334.		May	14/05/2023	11:30am 1:30pm		Assignment 10 on Partial differential equations
335.		May	14/05/2023	2:30pm 4:30pm		Assignment 11 on Partial differential equations
336.		May	14/05/2023	4:30pm 6:30pm		Assignment 12 on Partial differential equations
337.		February	05/02/2023			Meaning of Research, Scientific Inquiry

338.	SEC411: Research methodology	February	12/02/2023	9:30am -10:30am	Theory	Research Interdisciplinary Approach
339.		February	19/02/2023			Ethics in Research, Survey Research
340.		February	26/02/2023			Experiment, Case Study, Framing Aim, Objectives and Hypothesis
341.		March	05/03/2023			Population and Sample Part I
342.		March	12/03/2023			Population and Sample Part II
343.		March	19/03/2023			Tools of Data Collection
344.		March	26/03/2023			Analysis of Qualitative Data
345.		April	02/04/2023			Hypothesis Testing Chi Square Test
346.		April	09/04/2023			Measures of Central Tendency, Normal Probability Curve (NPS)
347.		April	16/04/2023			Independent and Dependent Variables, Selection of Statistical Techniques: How to Select different statistical technique for Research design depending
348.	April	23/04/2023	Interpretation of Results and Discussion			
349.	S34421: Physics 04	February	05/02/2023	10:30am -11:30am	Theory	Superposition of Two Collinear Harmonic oscillations
350.		February	12/02/2023			Superposition of Two Perpendicular Harmonic Oscillations
351.		February	19/02/2023			Waves Motion- General
352.		February	26/02/2023			Fluids
353.		March	05/03/2023			Viscosity
354.		March	12/03/2023			Sound
355.		March	19/03/2023			Wave Optics
356.		March	26/03/2023			Interference
357.		April	02/04/2023			Michelson's Interferometer
358.		April	09/04/2023			Diffraction
359.		April	16/04/2023			Half-period zones
360.		April	23/04/2023			Polarization
361.		February	05/02/2023			Transition Elements (3d series)

362.	S37431: Chemistry 04	February	12/02/2023	11:30am -12:30pm	Theory	ability to form complexes and stability of various oxidation states			
363.		February	19/02/2023			Lanthanoids and actinoids			
364.		February	26/02/2023			Coordination Chemistry			
365.		March	05/03/2023			Crystal Field Theory			
366.		March	12/03/2023			Spectrochemical series			
367.		March	19/03/2023			Kinetic Theory of Gases			
368.		March	26/03/2023			Maxwell Boltzmann distribution laws of molecular velocities and molecular energies and their importance			
369.		April	02/04/2023			Liquids			
370.		April	09/04/2023			Solids			
371.		April	16/04/2023			Chemical Kinetics			
372.		April	23/04/2023			Theories of Reaction Rates			
373.		S41441: Mathematics 04	February			05/02/2023	12:30pm -1:30pm	Theory	Definition and examples of groups
374.			February			12/02/2023			Cyclic groups from number systems
375.	February		19/02/2023	Complex roots of unity, circle group					
376.	February		26/02/2023	The general linear group $GL_n(n, R)$					
377.	March		05/03/2023	Group of quaternions					
378.	March		12/03/2023	concept of a subgroup generated by a subset					
379.	March		19/03/2023	Examples of subgroups including the centre of a group					
380.	March		26/03/2023	Normal subgroups					
381.	April		02/04/2023	Definition and examples of rings, examples of commutative and non-commutative rings					
382.	April		09/04/2023	Z_n the ring of integers modulo n					
383.	April		16/04/2023	Subrings and ideals, Integral domains and fields					
384.	April		23/04/2023	Field of rational functions					
385.			February	05/02/2023					To investigate the motion of coupled oscillators
386.		February	12/02/2023	To determine the Frequency of an Electrically Maintained Tuning Fork by Melde's Experiment and to					

	S34422: Physics 04			2:30pm - 4:30pm	Practical	verify $\lambda^2 - T$ Law.
387.		February	19/02/2023			To study Lissajous Figures
388.		February	26/02/2023			Familiarization with Schuster's focussing; determination of angle of prism
389.		March	05/03/2023			To determine the Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
390.		March	12/03/2023			To determine the Refractive Index of the Material of a given Prism using Sodium Light
391.		March	19/03/2023			To determine the value of Cauchy Constants of a material of a prism.
392.		March	26/03/2023			To determine the Resolving Power of a Prism.
393.		April	02/04/2023			To determine wavelength of sodium light using Fresnel Biprism
394.		April	09/04/2023			To determine wavelength of sodium light using Newton's Rings
395.		April	16/04/2023			To determine the wavelength of Laser light using Diffraction of Single Slit
396.		April	23/04/2023			To determine the Resolving Power of a Plane Diffraction Grating
397.		S37432: Chemistry 04	February			05/02/2023
398.	February		12/02/2023	Estimate the amount of nickel present in a given solution as bis (dimethylglyoximate) nickel(II) as oximate in a given solution gravimetrically.		
399.	February		19/02/2023	Estimate the amount of nickel present in a given solution as bis (dimethylglyoximate) aluminium as oximate in a given solution gravimetrically.		
400.	February		26/02/2023	Estimation of Mg ²⁺ by complexometric titrations using EDTA.		
401.	March		05/03/2023	Estimation of Zn ²⁺ by complexometric titrations using EDTA.		

402.		March	12/03/2023			Estimation of total hardness of a given sample of water by complexometric titration
403.		March	19/03/2023			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	26/03/2023			Surface tension measurement (use of organic solvents excluded): Study of the variation of surface tension of a detergent solution with concentration
405.		April	02/04/2023			Viscosity measurement (use of organic solvents excluded)
406.		April	09/04/2023			Viscosity measurement (use of organic solvents excluded)
407.		April	16/04/2023			Chemical Kinetics: Study the kinetics of the following reactions: 1. Initial rate method: Iodide-per sulphate reaction 2. Integrated rate method
408.		April	23/04/2023			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 ₂ SO ₄ by studying kinetics of hydrolysis of methyl acetate
409.		S41442: Mathematics 04	April			30/04/2023
410.	April		30/04/2023	11:30am 1:30pm	Assignment 02	
411.	April		30/04/2023	2:30pm 4:30pm	Assignment 03	
412.	April		30/04/2023	4:30pm 6:30pm	Assignment 04	
413.	May		07/05/2023	9:30am 11:30am	Assignment 05	
414.	May		07/05/2023	11:30am 1:30pm	Assignment 06	
415.	May		07/05/2023	2:30pm 4:30pm	Assignment 07	
416.	May		07/05/2023	4:30pm 6:30pm	Assignment 08	
417.	May		14/05/2023	9:30am 11:30am	Assignment 09	

418.		May	14/05/2023	11:30am 1:30pm		Assignment 10
419.		May	14/05/2023	2:30pm 4:30pm		Assignment 11
420.		May	14/05/2023	4:30pm 6:30pm		Assignment 12
421.	SEC611: Personality and Career skills	February	05/02/2023	9:30am -10:30am	Theory	Soft Skills
422.		February	12/02/2023			Self-Discovery, Forming Values
423.		February	19/02/2023			Developing Positive Attitude
424.		February	26/02/2023			Improving Perception
425.		March	05/03/2023			Career Planning
426.		March	12/03/2023			The Art of Writing E-mail
427.		March	19/03/2023			Team Building and Teamwork:
428.		March	26/03/2023			Group Discussion
429.		April	02/04/2023			Etiquette and Manners
430.		April	09/04/2023			Preparing Resume
431.		April	16/04/2023			Interview Skills
432.		April	23/04/2023			Time Management and Stress Management
433.	S34621: Physics 06	February	05/02/2023	10:30am -11:30am	Theory	Embedded system introduction
434.		February	12/02/2023			Elemental description of embedded processors and microcontrollers.
435.		February	19/02/2023			Review of microprocessors
436.		February	26/02/2023			8051 microcontroller
437.		March	05/03/2023			Program Counter and ROM memory map
438.		March	12/03/2023			8051 I/O port programming
439.		March	19/03/2023			Programming of 8051
440.		March	26/03/2023			Timer and counter programming
441.		April	02/04/2023			Interfacing 8051 microcontroller to peripherals
442.		April	09/04/2023			Serial port programming with and without interrupt: Introduction to 8051 interrupts, programming timer interrupts, programming

443.		April	16/04/2023			Programming Embedded Systems: Structure of embedded program, infinite loop, compiling, linking and locating			
444.		April	23/04/2023			Embedded system design and development			
445.	Sec37631: Chemistry 06	February	05/02/2023	11:30am -12:30pm	Theory	Principles of Green Chemistry			
446.		February	12/02/2023			Designing of Green Chemistry			
447.		February	19/02/2023			Chemical synthesis of Green Chemistry			
448.		February	26/02/2023			Energy requirements for reactions – alternative sources of energy: use of microwaves and ultrasonic energy			
449.		March	05/03/2023			Selection of starting materials			
450.		March	12/03/2023			Use of catalytic reagents			
451.		March	19/03/2023			Green Synthesis of the following compounds			
452.		March	26/03/2023			Microwave assisted reactions in water			
453.		April	02/04/2023			Ultrasound assisted reactions			
454.		April	09/04/2023			Healthier fats and oil by Green Chemistry			
455.		April	16/04/2023			Development of Fully Recyclable Carpet			
456.		April	23/04/2023			Future Trends in Green Chemistry			
457.		S41641: Mathematics 06	February			05/02/2023	12:30pm -1:30pm	Theory	Algorithms, Convergence, Bisection method
458.			February			12/02/2023			False position method
459.	February		19/02/2023	Fixed point iteration method					
460.	February		26/02/2023	Newton's method, Secant method					
461.	March		05/03/2023	LU decomposition, Gauss-Jacobi					
462.	March		12/03/2023	Gauss-Siedel and SOR iterative methods.					
463.	March		19/03/2023	Lagrange interpolation					
464.	March		26/03/2023	Newton interpolation					
465.	April		02/04/2023	linear and higher order, finite difference operators.					
466.	April		09/04/2023	Numerical differentiation					
467.	April		16/04/2023	Integration: trapezoidal rule, Simpson's rule					

468.		April	23/04/2023			Euler's method.
469.	S34622: Physics 06	February	05/02/2023	2:30pm - 4:30pm	Practical	To find that the given numbers is prime or not
470.		February	12/02/2023			To find the factorial of a number
471.		February	19/02/2023			Write a program to make the two numbers equal by increasing the smallest number and decreasing the largest number
472.		February	26/02/2023			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	05/03/2023			Program to glow first four LED then next four using TIMER application
474.		March	12/03/2023			Program to rotate the contents of the accumulator first right and then left
475.		March	19/03/2023			Program to run a countdown from 9-0 in the seven segment LED display
476.		March	26/03/2023			To interface seven segment LED display with 8051 microcontroller and display 'HELP' in the seven segment LED display
477.		April	02/04/2023			To toggle '1234' as '1324' in the seven segment LED.
478.		April	09/04/2023			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.		April	16/04/2023			Application of embedded systems: Temperature measurement
480.		April	23/04/2023			Application of embedded systems: Some information on LCD display, interfacing a keyboard.
481.		S37632: Chemistry	February			05/02/2023
482.	February		12/02/2023	Safer starting materials: characterization of nanoparticles of gold using tea leaves		
483.	February		19/02/2023	Using renewable resources: Preparation of biodiesel from vegetable/ waste cooking oil		

484.	06	February	26/02/2023			Avoiding waste: Principle of atom economy
485.		March	05/03/2023			Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper
486.		March	12/03/2023			Photoreduction of benzophenone to benzopinacol in the presence of sunlight.
487.		March	19/03/2023			Use of enzymes as catalysts
488.		March	26/03/2023			Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide
489.		April	02/04/2023			Alternative Green solvents
490.		April	09/04/2023			Extraction of D-limonene from orange peel using liquid CO ₂ prepared from dry ice
491.		April	16/04/2023			Mechanochemical solvent free synthesis of azomethines
492.		April	23/04/2023			Alternative sources of energy
493.		S41642: Mathematics 06	April	30/04/2023	9:30am 11:30am	Practical
494.	April		30/04/2023	11:30am 1:30pm	Assignment 02	
495.	April		30/04/2023	2:30pm 4:30pm	Assignment 03	
496.	April		30/04/2023	4:30pm 6:30pm	Assignment 04	
497.	May		07/05/2023	9:30am 11:30am	Assignment 05	
498.	May		07/05/2023	11:30am 1:30pm	Assignment 06	
499.	May		07/05/2023	2:30pm 4:30pm	Assignment 07	
500.	May		07/05/2023	4:30pm 6:30pm	Assignment 08	
501.	May		14/05/2023	9:30am 11:30am	Assignment 09	
502.	May		14/05/2023	11:30am 1:30pm	Assignment 10	
503.	May		14/05/2023	2:30pm 4:30pm	Assignment 11	
504.	May		14/05/2023	4:30pm 6:30pm	Assignment 12	

V130: M.SC. (Mathematics){2021Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	S25011: Real Analysis	September	04/09/2022	10.30am- 11.30am	Theory	Metric Spaces
2.		September	11/09/2022			Open and Closed Sets
3.		September	18/09/2022			Sequences in Metric Spaces, Continuity
4.		September	25/09/2022			Connected Metric Spaces
5.		October	02/10/2022			Totally Bounded Subsets of Metric Spaces
6.		October	09/10/2022			Compact Metric Spaces
7.		October	16/10/2022			Riemann Integral
8.		October	23/10/2022			Necessary and Sufficient Conditions for Riemann Integrability
9.		October	30/10/2022			Mean Value Theorems and Fundamental Theorems of Calculus
10.		November	06/11/2022			Convergence and Uniform Convergence of Sequence of Functions
11.		November	13/11/2022			Properties of functions preserved under uniform convergence
12.		November	20/11/2022			Power series
13.	S25012: Abstract Algebra	September	04/09/2022	11.30am- 12.30pm	Theory	Direct product of groups
14.		September	11/09/2022			Finitely generated abelian groups
15.		September	18/09/2022			Normal Subgroups
16.		September	25/09/2022			Series of Groups
17.		October	02/10/2022			Solvable groups
18.		October	09/10/2022			Group action on a set
19.		October	16/10/2022			Maximal and Prime ideals
20.		October	23/10/2022			Ring of Polynomials
21.		October	30/10/2022			Factorization of a polynomials over a field
22.		November	06/11/2022			Unique factorization Domains

23.		November	13/11/2022			Principal ideal domains, Euclidean Domains			
24.		November	20/11/2022			Ring of Gaussian Integers			
25.	S25013: Ordinary Differential Equations	September	04/09/2022	12.30pm- 1.30pm	Theory	Linear Equations with constant coefficients			
26.		September	11/09/2022			Dependence and independence of solutions			
27.		September	18/09/2022			Applications of Second Order Linear Equations			
28.		September	25/09/2022			The non-homogeneous equation of higher order			
29.		October	02/10/2022			Linear Equations with variable Coefficients			
30.		October	09/10/2022			Homogeneous equations with analytic coefficients			
31.		October	16/10/2022			Linear Equations with Regular Singular Points			
32.		October	23/10/2022			Second order equations with regular singular points			
33.		October	30/10/2022			Existence and Uniqueness of Solutions to First Order Equations			
34.		November	06/11/2022			The method of successive approximations			
35.		November	13/11/2022			Non-local existence of solutions			
36.		November	20/11/2022			Existence and Uniqueness of Solutions to Systems and nth Order Equations			
37.		S25014 : Topology	September			04/09/2022	2.30pm – 3.30pm	Theory	Topological spaces
38.			September			11/09/2022			Basis and Subbasis for a topology
39.	September		18/09/2022	Limit points					
40.	September		25/09/2022	Continuous functions					
41.	October		02/10/2022	Quotient spaces					
42.	October		09/10/2022	Locally connected spaces					
43.	October		16/10/2022	Compact spaces					
44.	October		23/10/2022	Forms of compact spaces					
45.	October		30/10/2022	Countability axioms					
46.	November		06/11/2022	Separation axioms					
47.	November		13/11/2022	Regular and normal spaces					
48.	November	20/11/2022	Compactification						
49.		September	04/09/2022			Errors in Numerical Calculations			
50.		September	11/09/2022			Solutions of algebraic and transcendental equations			
51.		September	18/09/2022			Newton Raphson method, Interpolation			

52.	S25015: Numerical Analysis	September	25/09/2022	3.30pm – 4.30pm	Theory	Matrix Theory
53.		October	02/10/2022			Systems of Linear Algebraic equations
54.		October	09/10/2022			Direct methods, Iteration methods
55.		October	16/10/2022			Numerical solutions of ordinary differential equations
56.		October	23/10/2022			Successive approximation
57.		October	30/10/2022			Euler's method, Runge - Kutta method
58.		November	06/11/2022			Numerical Differentiation and integration
59.		November	13/11/2022			Methods based on Finite Differences
60.		November	20/11/2022			Interpolation and approximation
61.		S25031: Complex Analysis	September			04/09/2022
62.	September		11/09/2022	Analytic Functions, Harmonic Functions		
63.	September		18/09/2022	Mobius Transformations		
64.	September		25/09/2022	Power Series Representation of Analytic Functions		
65.	October		02/10/2022	Zeros of an Analytic Function, The Index of a Closed Curve		
66.	October		09/10/2022	Morera's Theorem and Counting Zeros		
67.	October		16/10/2022	Goursat's Theorem		
68.	October		23/10/2022	Classification of Singularities, Residues		
69.	October		30/10/2022	The Argument Principle		
70.	November		06/11/2022	Branches		
71.	November		13/11/2022	Hadamard Theorem		
72.	November		20/11/2022	Spaces, Analytic Continuation		
73.	S25032: Field Theory	September	04/09/2022	11.30am- 12.30pm	Theory	Irreducible Polynomials
74.		September	11/09/2022			Adjunction of Roots
75.		September	18/09/2022			Algebraic Extensions, Algebraically Closed Fields
76.		September	25/09/2022			Splitting Fields
77.		October	02/10/2022			Normal Extensions, Finite Fields
78.		October	09/10/2022			Separable Extensions
79.		October	16/10/2022			Automorphism Groups, Fixed Fields
80.		October	23/10/2022			Fundamental Theorem of Galois Theory
81.		October	30/10/2022			Different Galois Groups

82.		November	06/11/2022			Cyclotomic Polynomials, Cyclic Extensions			
83.		November	13/11/2022			Polynomials Solvable by Radicals			
84.		November	20/11/2022			Ruler and Compass Constructions			
85.	S25033: Integral Equations	September	04/09/2022	12.30pm- 1.30pm	Theory	Integral Equation with Separable Kernel			
86.		September	11/09/2022			Method of Successive Approximation			
87.		September	18/09/2022			Resolvent Kernel			
88.		September	25/09/2022			Application to Ordinary Differential Equations			
89.		October	02/10/2022			Dirac Delta function			
90.		October	09/10/2022			Green's function			
91.		October	16/10/2022			Symmetric kernels			
92.		October	23/10/2022			Bilinear Forms, Hilbert-Schmidt theorem			
93.		October	30/10/2022			Symmetric Integral Equation			
94.		November	06/11/2022			Singular Integral equations			
95.		November	13/11/2022			Application of Laplace transform			
96.		November	20/11/2022			Application of Fourier transform			
97.		S25034 : Discrete Mathematics	September			04/09/2022	2.30pm – 3.30pm	Theory	Permutations, Combinations
98.			September			11/09/2022			Generation of Permutations and Combinations
99.	September		18/09/2022	Discrete Probability					
100.	September		25/09/2022	Graphs, Paths and Circuits					
101.	October		02/10/2022	Eulerian and Hamiltonian Paths and Circuits					
102.	October		09/10/2022	Planar Graphs					
103.	October		16/10/2022	Trees, Rooted and Binary Trees					
104.	October		23/10/2022	Spanning Trees					
105.	October		30/10/2022	Cut-Sets					
106.	November		06/11/2022	Boolean Algebras : Lattices and Algebraic System					
107.	November		13/11/2022	Basic Properties of Algebraic Systems Defined by Lattices					
108.	November	20/11/2022	Boolean Functions and Boolean Expressions						
109.	S25035:	September	04/09/2022	3.30pm – 4.30pm	Theory	Operations Research and its scope			
110.		September	11/09/2022			Linear Programming Problems			
111.		September	18/09/2022			Simplex Method, Duality Theory and Dual Simplex Method			
112.		September	25/09/2022			Game Models and Related Theory			

113.	Operations Research	October	02/10/2022			Two Person Zero Sum Game, Dominance in Games			
114.		October	09/10/2022			Mixed Strategies($2 \times n$ and $m \times 2$ games)			
115.		October	16/10/2022			Network Analysis			
116.		October	23/10/2022			Fulkerson's Rule			
117.		October	30/10/2022			Critical Path Method (CPM), Programme Evaluation and Review Technique (PERT)			
118.		November	06/11/2022			MONTE CARLO Method			
119.		November	13/11/2022			Generation of Random Numbers			
120.		November	20/11/2022			Simulation Languages			
121.		S25021: Measure and Integration Theory	February			05/02/2023	10.30am- 11.30am	Theory	Lebesgue Measure
122.			February			12/02/2023			The Algebra of Lebesgue Measurable Sets
123.	February		19/02/2023	Approximate measurable sets					
124.	February		26/02/2023	Measurable Functions					
125.	March		05/03/2023	Sequential Pointwise Limits and Simple Approximation					
126.	March		12/03/2023	Littlewood's Three Principles					
127.	March		19/03/2023	Integration of Bounded Measurable Functions					
128.	March		26/03/2023	General Lebesgue Integration					
129.	April		02/04/2023	Countable Additivity and Continuity of Integration					
130.	April		09/04/2023	Differentiation and Integration					
131.	April		16/04/2023	Functions of Bounded Variations					
132.	April		23/04/2023	The L^p Spaces, The Riesz Theorem					
133.	S25022: Linear Algebra	February	05/02/2023	11.30am- 12.30pm	Theory	Vector Spaces, Dual spaces			
134.		February	12/02/2023			Inner product spaces			
135.		February	19/02/2023			Modules			
136.		February	26/02/2023			Linear transformations			
137.		March	05/03/2023			Matrices			
138.		March	12/03/2023			Triangular forms			
139.		March	19/03/2023			Nilpotent forms, Jordan form			
140.		March	26/03/2023			Rational Canonical form			
141.		April	02/04/2023			Trace and transpose of a matrix			
142.		April	09/04/2023			Determinants, Operators			

143.		April	16/04/2023			Normal operator			
144.		April	23/04/2023			Real Quadratic forms			
145.	S25023: Partial Differential Equations	February	05/02/2023	12.30pm- 1.30pm	Theory	Ordinary Differential Equations			
146.		February	12/02/2023			Orthogonal Trajectories			
147.		February	19/02/2023			Partial Differential Equations of the First Order			
148.		February	26/02/2023			Nonlinear Partial Differential Equations of the First Order			
149.		March	05/03/2023			Jacobi's Method			
150.		March	12/03/2023			Partial differential equations of the second order			
151.		March	19/03/2023			Equations with Variable Coefficients			
152.		March	26/03/2023			Nonlinear equations of the second order			
153.		April	02/04/2023			Laplace's Equation			
154.		April	09/04/2023			Separation of Variables			
155.		April	16/04/2023			The Wave Equation, Methods of Solution for Wave Equations			
156.		April	23/04/2023			The Diffusion Equation, Methods of Solution for Diffusion Equation			
157.		S25024 : Number Theory	February			05/02/2023	2.30pm – 3.30pm	Theory	The Fundamental Theorem of Arithmetic
158.			February			12/02/2023			The Euclidean Algorithm
159.	February		19/02/2023	Arithmetic Functions and Dirichlet Product					
160.	February		26/02/2023	Formal power series					
161.	March		05/03/2023	Congruences					
162.	March		12/03/2023	Polynomial Congruences					
163.	March		19/03/2023	The Chinese Remainder Theorem					
164.	March		26/03/2023	Diophantine Equations					
165.	April		02/04/2023	Quadratic Residues, Quadratic Reciprocity law					
166.	April		09/04/2023	Jacobi Symbol					
167.	April		16/04/2023	Primitive roots					
168.	April	23/04/2023	Indices						
169.		February	05/02/2023			Fourier Integrals, Fourier Transforms			
170.		February	12/02/2023			Inverse Fourier Transforms			
171.		February	19/02/2023			Applications of Fourier Transforms			

172.	S25025: Integral Transforms	February	26/02/2023	3.30pm – 4.30pm	Theory	Laplace Transform
173.		March	05/03/2023			The inverse Laplace Transform
174.		March	12/03/2023			Applications of Laplace Transform
175.		March	19/03/2023			The Mellin Transform
176.		March	26/03/2023			Inverse Mellin Transform
177.		April	02/04/2023			Applications of Mellin transform
178.		April	09/04/2023			The Henkel Transform
179.		April	16/04/2023			Finite transforms
180.		April	23/04/2023			Inverse Z-transform
181.		S25041: Differential Geometry	February			05/02/2023
182.	February		12/02/2023	Curvature of Curves		
183.	February		19/02/2023	Plane Curves		
184.	February		26/02/2023	Isoperimetric Inequality		
185.	March		05/03/2023	Surfaces in R^3		
186.	March		12/03/2023	Tangent and Normal		
187.	March		19/03/2023	Types of Surfaces		
188.	March		26/03/2023	First Fundamental Form		
189.	April		02/04/2023	Isometries of Surfaces		
190.	April		09/04/2023	Second Fundamental Form		
191.	April		16/04/2023	Curvature of Surfaces		
192.	April		23/04/2023	Gaussian and Mean Curvature		
193.	S25042: Functional Analysis	February	05/02/2023	11.30am- 12.30pm	Theory	Banach Spaces
194.		February	12/02/2023			Continuous Linear Transformation
195.		February	19/02/2023			The Hahn Banach Theorem
196.		February	26/02/2023			The Open Mapping Theorem
197.		March	05/03/2023			The Conjugate of an Operator
198.		March	12/03/2023			Hilbert Spaces, Orthogonal Complements, Orthonormal Sets
199.		March	19/03/2023			The Conjugate Space H^*
200.		March	26/03/2023			The Adjoint of an Operator
201.		April	02/04/2023			Different Types of Operators
202.		April	09/04/2023			Spectral Resolution of T

203.		April	16/04/2023			The Determinant and Spectrum of an Operator			
204.		April	23/04/2023			The Spectral Theorem			
205.	S25043: Classical Mechanics	February	05/02/2023	12.30pm- 1.30pm	Theory	Mechanics of System of Particles			
206.		February	12/02/2023			D'Alembert's Principle and Lagrange's Equations			
207.		February	19/02/2023			Central Force Motion, Kepler's Laws and Virial Theorem			
208.		February	26/02/2023			Calculus of Variation			
209.		March	05/03/2023			Euler's Equation and its Applications			
210.		March	12/03/2023			Hamilton's Principle, Hamilton's Equation of Motion			
211.		March	19/03/2023			Routh Procedure and the Least Action Principle			
212.		March	26/03/2023			Canonical Transformations, Invariance under Canonical Transformations			
213.		April	02/04/2023			Lagrange and Poisson Brackets			
214.		April	09/04/2023			Rigid Body Motion-Rotations in Plane and Space			
215.		April	16/04/2023			Eulerian Angles, A Moving Coordinate Frame			
216.		April	23/04/2023			Rotational Dynamics of a Rigid Body			
217.		S25044 : Cryptography	February			05/02/2023	2.30pm – 3.30pm	Theory	Time Estimates for doing Arithmetic
218.			February			12/02/2023			Divisibility and the Euclidean Algorithm
219.	February		19/02/2023	Congruences, Some Applications to Factoring					
220.	February		26/02/2023	Finite Fields					
221.	March		05/03/2023	Quadratic Residues and Quadratic Reciprocity					
222.	March		12/03/2023	Some Simple Cryptosystems, Enciphering Matrices					
223.	March		19/03/2023	The Idea of Public Key Cryptography					
224.	March		26/03/2023	RSA Cryptosystem					
225.	April		02/04/2023	Discrete Log, Pseudo primes, The rho method					
226.	April		09/04/2023	Elliptic Curve Cryptosystems					
227.	April		16/04/2023	Elliptic Curve Primality Test					
228.	April		23/04/2023	Elliptic Curve Factorization					
229.		February	05/02/2023	3.30pm – 4.30pm	Theory	Fuzzy Sets and Crisp Sets			
230.		February	12/02/2023			Convex Fuzzy Sets			
231.		February	19/02/2023			Extension Principle, Fuzzy Complementation			
232.		February	26/02/2023			Fuzzy Intersections and Unions			

233.	S25045: Topics in Fuzzy Mathematics	March	05/03/2023			Dual triplets and Aggregation operations
234.		March	12/03/2023			Fuzzy Arithmetic, Lattice of Fuzzy Numbers and Fuzzy Equations
235.		March	19/03/2023			Fuzzy Relations
236.		March	26/03/2023			Fuzzy Equivalence Relations
237.		April	02/04/2023			Composition of Fuzzy Relations
238.		April	09/04/2023			More Fuzzy Relations Equations and Approximate Solutions
239.		April	16/04/2023			Fuzzy Propositions, Fuzzy Quantifiers
240.		April	23/04/2023			Approximate Reasoning

V131: M.SC. (PHYSICS){2021Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: PHY011: Mathematical Physics and Classical Mechanics	September	04/09/2022	10.30am- 11.30am	Theory	Legender's Polynomials, Bessel Functions, Hermite Polynomials
2.		September	11/09/2022			Laplace Equation and Wave Equation
3.		September	18/09/2022			Fourier Transforms and Applications, Laplace Transforms and Applications
4.		September	25/09/2022			Tensor Algebra
5.		October	02/10/2022			Metric Tensor and Chrioffel Symbols
6.		October	09/10/2022			Lagrangian Mechanics, Lagrange's Equations
7.		October	16/10/2022			Hamilton's Principle, Hamilton's Mechanics
8.		October	23/10/2022			Canonical Transformation and Hamilton- Jacobi Theory, Poissons Brackets
9.		October	30/10/2022			Numerical Interpolation
10.		November	06/11/2022			Numerical Differentiation
11.		November	13/11/2022			Numerical Integration, Solution Of Equations
12.		November	20/11/2022			Numerical Solutions Of Ordinary Differential Equations
13.	Year 01: PHY012: Statistical Mechanics and Quantum	September	04/09/2022	11.30am- 12.30pm	Theory	Statistical Mechanics – Thermodynamics, Ensembles
14.		September	11/09/2022			Density Distribution- Liouville's Theorem, Postulate of Classical Statistical Mechanics
15.		September	18/09/2022			Micro Canonical Ensemble, Maxwell- Boltzmann Statistics, Canonical And Grand Canonical Ensembles
16.		September	25/09/2022			Postulate of Quantum Statistical Mechanics, Quantum Statistics- B.E. and F.D. Statistics
17.		October	02/10/2022			Birth of Quantum Mechanics, Eigen Value and Eigen

	Mechanics					Functions
18.		October	09/10/2022			Dirac's Bra And Ket Vectors, Eigen Functions and Uncertainty Principle
19.		October	16/10/2022			Schrodinger Wave Equation, Applications of Schrodinger Equations one Dimensional Problem
20.		October	23/10/2022			Angular Momentum, Application of Schrodinger Equation To Three Dimensional problems
21.		October	30/10/2022			Hydrogen Atom, Spin Angular Momentum, Addition Angular Momenta Clebsch-Godvan Coefficients
22.		November	06/11/2022			Time Independent Perturbation Theory, Variation Method
23.		November	13/11/2022			Time Dependent Perturbation Theory
24.		November	20/11/2022			Kelvin Gordon Relativistic equation and Application, Dirac's Relativistic equation and Application
25.	Year 01: PHY013: Solid State Physics	September	04/09/2022	12.30pm- 1.30pm	Theory	Crystalline State of Crystal Structure, Non Crystalline State
26.		September	11/09/2022			Element of X-Ray Diffraction
27.		September	18/09/2022			Experimental Techniques For Structure Determination
28.		September	25/09/2022			Imperfections In Crystals, Diffusion, Dislocation
29.		October	02/10/2022			Free Electron Theory, Band Theory of Solids
30.		October	09/10/2022			Semiconductors, Solid State LASERS
31.		October	16/10/2022			Elastic Waves In Solids
32.		October	23/10/2022			Infrared Absorption In Ionic Crystal, Lattice Heat Capacity
33.		October	30/10/2022			Microscopic Description of Dielectrics
34.		November	06/11/2022			Measurement of Dielectric Constant, Ferroelectrics
35.		November	13/11/2022			Magnetism, Spontaneous Magnetization
36.	November	20/11/2022	Occurrence of Superconductivity, Superconductivity-Theoretical Explanations			
37.		September	04/09/2022			Semiconductor Diodes, Transistors
38.		September	11/09/2022			Power Supplies, Feedback Amplifier, RC Coupled

	Year 01: PHY014:Semiconductor Devices Analog and Digital Electronics			2.30pm – 3.30pm	Theory	Amplifier and its frequency Response			
39.		September	18/09/2022			Oscillators(Using Transistors), Multivibrators (Using transistor)			
40.		September	25/09/2022			Operational Amplifier and It's Characteristics Parameters, Operational Amplifier Configurations			
41.		October	02/10/2022			Operational Amplifier – Frequency, Operational Amplifier- Linear Application			
42.		October	09/10/2022			Operational Amplifier- Non-Linear Applications, Operational Amplifier- Waveform Generators			
43.		October	16/10/2022			Introduction To Digital Electronics and Logic Gates, Application of Exclusive-OR Gate			
44.		October	23/10/2022			De-Morgan's Theorem, Fundamental Products, K-Map			
45.		October	30/10/2022			Flip-Flops, Shift Registers, Counters			
46.		November	06/11/2022			Multiplexers and Demultiplexers			
47.		November	13/11/2022			Digital-to-Analog (D/A) Converters			
48.		November	20/11/2022			Analog-to-Digital (A/D) Converters			
49.		Year 01: PHY015: Heat and Acoustics	September			04/09/2022	3.30pm- 5.30pm	Practical	Errors
50.			September			11/09/2022			Thermal conductivity of a bad conductor- Lee's Method
51.	September		18/09/2022	Determination of melting point of Wax – thermo E. M. F. diagram Potentiometer					
52.	September		25/09/2022	Study of Variation of Specific Heat of Graphite with Temperature					
53.	October		02/10/2022	Stefan's Constant					
54.	October		09/10/2022	Coefficient of Viscosity – Meyer's Formula					
55.	October		16/10/2022	Elastic Constants of the Material of a Spiral Springs					
56.	October		23/10/2022	Energy Gap of a Semi-Conductor					
57.	October		30/10/2022	Ultrasonic Velocity in Liquids Debye – Sears Method					
58.	November		06/11/2022	Ultrasonic Velocity in Liquids Ultrasonic Interferometer Method					
59.	November		13/11/2022	Fibre Optics – Determination of Numerical Aperture					

						and Losses			
60.		November	20/11/2022			Fibre Optics – Conversion of Electrical to Optical and to Electrical Signal			
61.	Year 01: PHY016:Optics	February	05/02/2023	9.30am- 11.30pm	Practical	Biprism – λ of Sodium Light			
62.		February	12/02/2023			Biprism – Thickness of a Thin Mica Sheet			
63.		February	19/02/2023			Cauchy's Constant			
64.		February	26/02/2023			Determination of Wavelength and Difference in Wavelength of Sodium Source using Michelson Interferometer			
65.		March	05/03/2023			Y – of a Glass Plates – Newton's Rings' Method			
66.		March	12/03/2023			Determination of Photoelastic Constant of Transparent Material			
67.		March	19/03/2023			Study of Dispersion Spectra - Double Refraction			
68.		March	26/03/2023			Verification of Malus Law			
69.		April	02/04/2023			Determination of Wavelength of Laser Using Diffraction Grating			
70.		April	09/04/2023			Hart Mann's Dispersion Formula			
71.		April	16/04/2023			Study of Led Characteristics And Determination of Plank's Constant			
72.		April	23/04/2023			Determination of Rydberg Constant			
73.		Year 01: PHY017:Basic Electronics	February			05/02/2023	11.30pm- 1.30pm	Practical	Power Supplies
74.			February			12/02/2023			Zener Diode As A Voltage Regulator
75.	February		19/02/2023	RC – Coupled Amplifier					
76.	February		26/02/2023	RC - Phase Shift Oscillator					
77.	March		05/03/2023	Colpits Oscillator					
78.	March		12/03/2023	Operational Amplifier (OP – AMP) Characteristics					
79.	March		19/03/2023	Operational Amplifier (OP – AMP) As An Inverting And Non – Inverting Amplifier					
80.	March		26/03/2023	Wein Bridge Oscillator					
81.	April		02/04/2023	Triangular Wave Generator					
82.	April		09/04/2023	Schmitt Trigger Using IC 741 (OP – AMP)					

83.		April	16/04/2023			Astable Multivibrator Using IC 555			
84.		April	23/04/2023			Monostable Multivibrator Using IC 555			
85.	Year 01: PHY018:Digital Electronics and Computers	February	05/02/2023	2.30pm – 4.30pm	Practical	Verification of Boolean And Demorgan Theorem			
86.		February	12/02/2023			Half Adder / Half Subtractor, Full – Adder			
87.		February	19/02/2023			Verification of Flip – Flops			
88.		February	26/02/2023			Implementation of Ring Counter And Johnson Counter			
89.		March	05/03/2023			Counter (Part – A), Decade Counter			
90.		March	12/03/2023			Digital to Analog Converter			
91.		March	19/03/2023			Crystal Oscillator			
92.		March	26/03/2023			History of The ‘C’ Programming Language			
93.		April	02/04/2023			Evaluation of Function, Evaluation of Determinant of Matrix			
94.		April	09/04/2023			Solution of Non – Linear Equations			
95.		April	16/04/2023			Numerical Integration			
96.		April	23/04/2023			Solution For Differential Equations, Solutions TO System of Linear Equations			
97.		Year 02: PHY021: Nuclear Physics and Analytical Techniques	September			04/09/2022	10.30am- 11.30am	Theory	Alpha Spectrum, Gamow’s Theory of α - Decay, Beta Spectrum Neutrino Hypothesis, Fermi Theory of α -decay, Fermi- Kurie Plots, Selection rules for β - decay
98.			September			11/09/2022			Gamma Emission- Multiple Radiation- Selection rules for γ - decay, Classification of Elementary Particles- Fundamental Interactions- Conservation laws
99.	September		18/09/2022	Interaction of Charged Particles and Gamma Radiation with matter, Radiation Detectors					
100.	September		25/09/2022	Properties of Nucleus, Nuclear Radius, Nuclear Mass and Binding Energy, Angular Momentum, Nuclear Statistics, Parity and Symmetry, Magnetic Dipole moment, Electric Quadrupole moment					
101.	October		02/10/2022	Nature of Nuclear Forces, Two Body Problem, Bound and Spin States of Two Nucleons, Theory of Deuteron, Tensor Forces, Exchange Forces, Meson Theory of					

					Nuclear Forces
102.		October	09/10/2022		Nuclear Model, Shell Model
103.		October	16/10/2022		Types of Nuclear Reactions, Basic Properties of Neutrons, Phase Contrast Microscopy, Scanning Electron Microscope, Transmission Microscope
104.		October	23/10/2022		Thermogravimetric analyzer, Principle, Instrument Control, applications, Differential Scanning Calorimetry, Principle, Instrumentation, Power Compensated DSC, Heat flux DSC, Temperature control methods, The average Temperature control , Differential Temperature control
105.		October	30/10/2022		Theory of Mossbauer Effect: Recoil-less Emission and Absorption of Gamma Rays – Nuclear Resonance, Experimental Technique to Observe Mossbauer Effect, Mossbauer Nuclides
106.		November	06/11/2022		NMR Theory – Simple and classical, Relaxation Mechanism – Spin – Spin and Spin –Lattice, Principles of ESR, Conditions For Resonance, ESR Spectrometer, Interpretation of Spectra, Hyperfine Interaction, Applications of ESR
107.		November	13/11/2022		Bloch Equations, Complex Susceptibility, NMR Instrumentation Related to Absorption and Induction Techniques, Chemical Shift, Spin – Spin Coupling, Ethyl and Methyl Alcohol NMR Spectra, Major Areas of NMR
108.		November	20/11/2022		Nuclear Quadrupole moment, Electric field Gradients, Nuclear Quadrupole resonance, energy levels in Different EFG Symmetries, NQR Spectrometer, Applications, Review on NMR, ESR and NQR
109.		September	04/09/2022		Electrostatic field, Magneto statics, Electro dynamics
110.		September	11/09/2022		EW waves in matter, Electromagnetic radiation
111.		September	18/09/2022		Lienard - Wiechert potentials, Radiated power

112.	Year 02: PHY022: Electromagnetic Theory and Spectroscopy	September	25/09/2022	11.30am- 12.30pm	Theory	Fine structure, Zeeman , Paschen-back and Stark effects
113.		October	02/10/2022			Vector atom model L-S and J-J coupling of two electron states
114.		October	09/10/2022			Two electron system , Lande 'G' Factor
115.		October	16/10/2022			Rotational spectra of diatomic molecules
116.		October	23/10/2022			Vibrational spectra, Electronic spectra
117.		October	30/10/2022			Franck-Condon principle , dissociation Energies
118.		November	06/11/2022			Principle of IR spectroscopy , IR double beam spectrometer
119.		November	13/11/2022			Raman scattering, Rotational and vibrational Raman spectra
120.		November	20/11/2022			Laser Raman spectrometer , differences between IR and Raman spectra
121.		Year 02: PHY023: Memory Devices and Microprocessors	September			04/09/2022
122.	September		11/09/2022	Emitter coupled logic (ECL , PMOs, CMOs logic and Tri state logic), Comparisons of logic families		
123.	September		18/09/2022	Classification and characteristics of memories, Memory organization and expansion		
124.	September		25/09/2022	Micro Processor organization and architecture, Pin configuration of Intel 8085 Microprocessor		
125.	October		02/10/2022	Timing diagrams, Addressing modes and instruction set of Intel 8085		
126.	October		09/10/2022	Programming of Micro Processor Intel 8085, Assembly language programming using loops		
127.	October		16/10/2022	I/O interfacing & data transfer schemes, Intel 8053 programmable interval timer		
128.	October		23/10/2022	Programmable peripheral interface (8255)		
129.	October		30/10/2022	Priority interrupt controller(8259)		
130.	November		06/11/2022	Intel 8086 microprocessor, Addressing modes and instruction set of Intel 8086 microprocessor		

131.		November	13/11/2022			Pin configuration of Intel 8086 microprocessor
132.		November	20/11/2022			Architecture of Micro Processor 80286, 80386 , 80486, The Pentium microprocessor
133.	Year 02: PHY024: Microwave Devices and Communication Systems	September	04/09/2022	2.30pm – 3.30pm	Theory	Passive devices- wave guides, Cut-off wave length
134.		September	11/09/2022			Rectangular wave guides
135.		September	18/09/2022			Scattering matrix, s- matrix of e-plane H-plane and magic tee
136.		September	25/09/2022			Wave guide components, Phase shifters
137.		October	02/10/2022			Microwave semiconductor devices
138.		October	09/10/2022			Parametric devices
139.		October	16/10/2022			Two cavity Klystron, Magnetron
140.		October	23/10/2022			Travelling wave tube (TWT), Modulation, Demodulation
141.		October	30/10/2022			Antenna fundamentals, VHF antennas
142.		November	06/11/2022			Microwave antennas
143.		November	13/11/2022			Radars 184
144.		November	20/11/2022			Types radar, Tracking radar
145.		Year 02: PHY025: Spectroscopy	September			04/09/2022
146.	September		11/09/2022	Raman Effect		
147.	September		18/09/2022	Zeeman Effect		
148.	September		25/09/2022	Hall Effect		
149.	October		02/10/2022	Magnetic Susceptibility “Gouy’s Method”		
150.	October		09/10/2022	ESR Spectrometer		
151.	October		16/10/2022	Electrical Conductivity of a Solid Variation With Temperature (Four Probe Method)		
152.	October		23/10/2022	Laue Spots		
153.	October		30/10/2022	Powder Pattern		
154.	November		06/11/2022	Study of B – H Curve		
155.	November		13/11/2022	Thermal Study Of Magnetic Permeability of Ferrite (Toroid)		
156.	November		20/11/2022	Determination of Curie Temperature of Ferroelectric		

						Material
157.	Year 02: PHY026: Modern Physics	February	05/02/2023	9.30am- 11.30pm	Practical	Reciprocal Dispersion Curve
158.		February	12/02/2023			Characteristics of a Solar Cell
159.		February	19/02/2023			G. M. Counter – Characteristics Curve
160.		February	26/02/2023			Dead Time Determination
161.		March	05/03/2023			Range And End Point Energy of β – Ray Absorption
162.		March	12/03/2023			Linear And Mass Attenuation Coefficient Using Gamma Ray Absorption
163.		March	19/03/2023			Verification of Inverse Square Law of Gamma Ray, Half – Life of Uranium
164.		March	26/03/2023			Magnetic Susceptibility – Quick Tube Method
165.		April	02/04/2023			Study of Birefringence
166.		April	09/04/2023			Babinet’s Compensator
167.		April	16/04/2023			Thickness of Thin Wire By Diffraction
168.	April	23/04/2023	Characteristics of Laser Diode			
169.	Year 02: PHY027: Memory Devices and Microprocessors	February	05/02/2023	11.30pm- 1.30pm	Practical	Introduction To Microprocessors, One’s Compliment and Two’s Compliment of a Number, Mask Off Most Significant and Least Significant 4 – Bits of an 8 – Bit Data
170.		February	12/02/2023			Picking of Largest / Smallest of a Number From an Array of Number, Square of a Number using Look up table Technique
171.		February	19/02/2023			Addition of 8 – Bit Hexadecimal Data, Addition of 8 – Decimal Data, Subtraction of Two 8 – Bit Data
172.		February	26/02/2023			Addition 16 – Bit Data Using an Individual Registers, Addition 16 – Bit Data Using DAD Instruction
173.		March	05/03/2023			Addition of a Number For ‘N’ Times, Multiplication
174.		March	12/03/2023			Division of Two 8– Bit Data and The Quotient and The Remainder Are Stored In Two Successive Memory Location, Division of Two 8– Bit Data and The Quotient Up To ‘N’ Decimal Values and The

						Remainder Are Stored In 'N + 1' Memory Locations
175.		March	19/03/2023			Sum of Series Of 8– Bit Numbers, Block Movement of Data In An Array
176.		March	26/03/2023			Conversion Of ASCII To Binary, Conversion of Binary To ASCII
177.		April	02/04/2023			Data Transformation Through 8255 (PPI) I/O Ports AND Generation of Time Delay Between The Data's
178.		April	09/04/2023			Displaying Traffic Lights At 8255 I/O Ports, 4 – Bit / 8– Bit Digital To Analog Converter (DAC)
179.		April	16/04/2023			Rotating The Shaft of a Stepper Motor With (i) Given Direction, (ii)Given Speed, (iii) Given Angle, (iv) Bidirectional Rotational
180.		April	23/04/2023			Displaying of A Number On 7 – Segment Display
181.	Year 02: PHY028: Microwave Devices and Communication Systems	February	05/02/2023	2.30pm – 4.30pm	Practical	Microwaves, Reflex Klystron Characteristics
182.		February	12/02/2023			Gunn Diode Characteristics
183.		February	19/02/2023			Directional Coupler Characteristics
184.		February	26/02/2023			Waveguide Parameters Measurement
185.		March	05/03/2023			Scattering Matrix of Isolator And Circular, Scattering Matrix of Magic Tee
186.		March	12/03/2023			Amplitude Modulation
187.		March	19/03/2023			Frequency Modulator And Demodulator, Balanced Modulator
188.		March	26/03/2023			Pre Emphasis And DE – Emphasis, Amplitude Shift Keying
189.		April	02/04/2023			Pulse Amplitude Modulation And Demodulation
190.		April	09/04/2023			Pulse Position Modulation (PPM)
191.		April	16/04/2023			Pulse Width Modulation And Demodulation
192.		April	23/04/2023			Analog Signal Sampling And Reconstruction

V132: M.SC. (CHEMISTRY){2021PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: CHE011: Inorganic Chemistry	September	04/09/2022	10.30am- 11.30am	Theory	Symmetry operations and Symmetry elements, Mathematical Rules of Groups Abelian and Non-Abelian
2.		September	11/09/2022			Molecular Point Groups, Group Multiplication Tables
3.		September	18/09/2022			Symmetry Properties Of Molecules- Molecular Polarity, Chirality and optical Activity
4.		September	25/09/2022			Crystal Field Theory-Splitting Of Metal d-Orbitals in Different Geometries
5.		October	02/10/2022			Ligand Field Parameters, Molecular Orbital Theory
6.		October	09/10/2022			Free Ion Terms Energy Levels, Electronic Spectra Of Transition Metal Complexes And Orgel Diagrams
7.		October	16/10/2022			Labile And Inert Complexes, Substitution Reaction Mechanisms Of Octahedral Complexes
8.		October	23/10/2022			Substitution Reaction Mechanisms of Square Planar Complexes
9.		October	30/10/2022			Electron transfer reaction mechanism, Reaction Mechanisms Of Organometallic Compounds
10.		November	06/11/2022			Stability Constants Of Metal Complexes And Factors Influencing Stability
11.		November	13/11/2022			Methods Of Determination Of Stability Constants, Ligational Aspects Of Diatomic Molecules
12.		November	20/11/2022			Metal Clusters, Coordination Chemistry Of Metal Ions In Bio molecules
13.		September	04/09/2022			Molecular Representations And Classification Of Stereo isomers, Molecular symmetry and chirality:

	Year 01: CHE012: Organic chemistry Volume I & II			11.30am- 12.30pm	Theory	enantiomers and diastereoisomers			
14.		September	11/09/2022			Molecules with one and more than one chiral centers, Axial, planar and helical chirality and pi or E, Z- diastereoisomerism			
15.		September	18/09/2022			Absolute configurational nomenclature, determination of absolute configuration and resolution of racemates			
16.		September	25/09/2022			Basic concepts, electronic effects, electro negativity, resonance, acid and basic character of organic compound, Reaction Pathways			
17.		October	02/10/2022			Electrophilic Addition To Carbon-Carbon Double Bonds, Aliphatic nucleophilic substitution			
18.		October	09/10/2022			Neighbouring Group Participation, Ambident Nucleophiles, Aromatic Nucleophilic Substitution And Aliphatic Electrophilic Substitution			
19.		October	16/10/2022			Concept Of Aromaticity, Nonbenzenoid Aromatic Compounds Synthesis And Reactions Of 3,5,7-Membered Carbocyclic Systems			
20.		October	23/10/2022			Azulenenes And Polycyclic Aromatic Compounds, Heterocyclic compounds			
21.		October	30/10/2022			Fused hetero bicyclic and tricyclic systems, carbazole, quinolone, isoquinoline and acridine			
22.		November	06/11/2022			Natural product tenpins and terpenoids, Alkaloids			
23.		November	13/11/2022			Carbohydrates – monoacids, Carbohydrates disaccharide			
24.		November	20/11/2022			Carbohydrates polysaccharide			
25.		Year 01: CHE013: Physical Chemistry Theory	September			04/09/2022	12.30pm- 1.30pm	Theory	Basic Quantum Chemistry, Wave Mechanics Of Some Simple Systems With Constant Potential Energy
26.			September			11/09/2022			Hydrogen-Like Atoms, Approximation Methods And Interaction Of Radiation And Matter
27.	September		18/09/2022	Theories Of Chemical Bonding- Diatomic Molecules					
28.	September		25/09/2022	Concept Of Thermodynamics Laws- First Law Of Thermodynamics					

29.		October	02/10/2022			The Second Law Of Thermodynamics, Spontaneity And Equilibrium
30.		October	09/10/2022			Ideal And Non-Ideal Solutions And Activity Coefficients, Nerst Heat Theorem And Third Law Of Thermodynamics
31.		October	16/10/2022			Electrochemical Cells First Law Of Thermodynamics
32.		October	23/10/2022			Polarization, Electro Analytical Techniques
33.		October	30/10/2022			Activity, Corrosion
34.		November	06/11/2022			Theories Of Reactions Rates, Kinetics Of Complex Reactions
35.		November	13/11/2022			Reactions In Solutions, Photochemistry
36.		November	20/11/2022			Photochemical Reaction Mechanisms
37.	Year 01: CHE014: Chemistry(General)	September	04/09/2022	2.30pm – 3.30pm	Theory	Co-Ordinate System, Differential Calculus
38.		September	11/09/2022			Matrices, Integral Calculus
39.		September	18/09/2022			Differential Equations, Cell Structure And Functions
40.		September	25/09/2022			Carbohydrates, Fatty Acids, Amino Acids, Peptides And Proteins
41.		October	02/10/2022			Nucleic Acids, Rotational Spectra, Vibrational Spectroscopy- 1, Vibrational Spectroscopy- 2, Vibration Spectroscopy- 3
42.		October	09/10/2022			Roman Spectroscopy, Electron Spectroscopy
43.		October	16/10/2022			H NMR Spectroscopy- 1, H NMR Spectroscopy- 2, NMR Of Paramagnetic Compounds
44.		October	23/10/2022			Mass Spectroscopy-1, Mass Spectroscopy- 2
45.		October	30/10/2022			Introduction To Computers
46.		November	06/11/2022			Basic Language, C Language
47.		November	13/11/2022			Chemistry Application Using Basic Programme
48.		November	20/11/2022			Chemistry Application Using C Language
49.			September			04/09/2022
50.		September	11/09/2022			Classification of Cations Into Groups For Qualitative Analysis

51.	Year 01: CHE015: Inorganic Chemistry Practical	September	18/09/2022	3.30pm- 5.30pm	Practical	Reactions Of Cations
52.		September	25/09/2022			General Group Separation and analysis of Individual Groups
53.		October	02/10/2022			Model Semi-Micro Analysis of Cations(A Known Salt Mixture – I)
54.		October	09/10/2022			Model Semi-Micro Analysis Of Cations (A Known Salt Mixture – II)
55.		October	16/10/2022			Preparation Of Tetrammine Copper(II) Sulphate, Hydrate
56.		October	23/10/2022			Calibration Of Analytical Apparatus
57.		October	30/10/2022			Estimations Involving Volumetric-I
58.		November	06/11/2022			Estimations Involving Volumetric-II
59.		November	13/11/2022			Estimations Involving Volumetric-III
60.		November	20/11/2022			Estimation of Cu ²⁺ and Ni ²⁺ present in a Sample Solution
61.	Year 01: CHE016: Organic Chemistry Practical	February	05/02/2023	9.30am- 11.30pm	Practical	Safety in chemical Laboratory,Laboratory Equipment& technique
62.		February	12/02/2023			Systematic Qualitative Analysis of Organic Compounds
63.		February	19/02/2023			Systematic Qualitative analysis of A Model Organic Compound
64.		February	26/02/2023			Identification of organic compounds by systematic qualitative analysis
65.		March	05/03/2023			m-nitro aniline
66.		March	12/03/2023			Benzoyl glycine
67.		March	19/03/2023			Estimation of phenol
68.		March	26/03/2023			Estimation of methyl ketone
69.		April	02/04/2023			Estimation of reducing sugars
70.		April	09/04/2023			Chromatography
71.		April	16/04/2023			Separation of a solid mixture by column chromatography I
72.		April	23/04/2023			Separation of a solid mixture by column

						chromatography II			
73.	Year 01: CHE017: Physical Chemistry Practical	February	05/02/2023	11.30pm- 1.30pm	Practical	Density and viscosity liquids			
74.		February	12/02/2023			Distribution of I2 between CCL4 and aqueous KI and calculation of formation constant of K3			
75.		February	19/02/2023			Adsorption of acetic acid on activated charcoal			
76.		February	26/02/2023			Kinetic study Acid catalyzed hydrolysis of methyl acetate			
77.		March	05/03/2023			Persulphate Iodide reactions			
78.		March	12/03/2023			Conductivity study			
79.		March	19/03/2023			Determination of cell constant			
80.		March	26/03/2023			Potentiometry			
81.		April	02/04/2023			PH metry			
82.		April	09/04/2023			Colorimetry			
83.		April	16/04/2023			Polarimetry I			
84.		April	23/04/2023			Polarimetry II			
85.		Year 01: CHE018: Spectroscopy & Computers	February			05/02/2023	2.30pm – 4.30pm	Practical	Infrared Spectroscopy I
86.			February			12/02/2023			Infrared Spectroscopy II
87.	February		19/02/2023	Proton Magnetic resonance spectroscopy I					
88.	February		26/02/2023	Proton Magnetic resonance spectroscopy II					
89.	March		05/03/2023	Ultraviolet visible spectroscopy					
90.	March		12/03/2023	Mass spectrometry					
91.	March		19/03/2023	Structural determination of organic compounds using the combined spectral data (IR, PMR, Mass & UV) data					
92.	March		26/03/2023	Structural determination of organic compounds using the combined spectral data (IR, PMR, Mass & UV) data					
93.	April		02/04/2023	Basic language practical					
94.	April		09/04/2023	Calculation of activation energy using Arrhenius question by least square fitting					
95.	April		16/04/2023	Language practical's					
96.	April		23/04/2023	First order rate constant from kinetic data					
97.			September	04/09/2022					Reaction intermediates I, Reaction intermediates II

98.	Year 02: CHE021: Organic chemistry theory	September	11/09/2022	10.30am- 11.30am	Theory	Molecular rearrangements 1, Molecular rearrangements II
99.		September	18/09/2022			Elimination reactions, Classification and stereo chemistry of pericyclic reactions
100.		September	25/09/2022			Molecular orbital and their symmetry properties, Analysis of electro cyclic reactions
101.		October	02/10/2022			Analysis of electro cycloaddition reactions, Analysis of sigmatropic reactions
102.		October	09/10/2022			Electronic transition, Photochemistry of carbonyl compound
103.		October	16/10/2022			Photochemistry of alkenes and dienes, Photochemistry of benzene derivatives
104.		October	23/10/2022			Photochemistry of peroxides, nitrates, hypohalites, azo compounds, and Diels-Alder compounds
105.		October	30/10/2022			Conformations of some acyclic molecules, Conformation and reactivity
106.		November	06/11/2022			Conformation of cyclobutanes, cyclopentanes, cyclohexanes and monosubstituted cyclohexanes
107.		November	13/11/2022			Conformation of disubstituted cyclohexanes, cyclohexenes and cyclohexanones
108.		November	20/11/2022			Conformations of a few other monocyclic and bicyclic systems
109.	Year 02: CHE022: Organic Chemistry Theory Course-VI	September	04/09/2022	11.30am- 12.30pm	Theory	Fractionation and functional group interconversion & oxidation of alkanes and alkenes
110.		September	11/09/2022			Oxidations of alcohols, Reduction- catalytic hydrogenation
111.		September	18/09/2022			Reduction by hydride transfer reagents, Dissolving metal reductions
112.		September	25/09/2022			Formation of carbon carbon single bonds, Formation of carbon carbon double bonds
113.		October	02/10/2022			Synthetic application of organoboranes, Synthetic application of organosilanes

114.		October	09/10/2022			Protecting groups of organic chemistry
115.		October	16/10/2022			Introduction and target selection and terminology, Disconnection approach with examples
116.		October	23/10/2022			Carbon- Carbon disconnections, Application of some important strategies in organic synthesis
117.		October	30/10/2022			Amine synthesis, consecutive and convergent synthesis & some selected synthesis
118.		November	06/11/2022			Tropicity and prochirality, stereoselectivity and strategies of asymmetric synthesis
119.		November	13/11/2022			Substrate controlled methods
120.		November	20/11/2022			Chiral auxiliary-controlled methods, Chiral eragent controlled and catalyst controlled method
121.	Year 02: CHE023: Organic chemistry Theory	September	04/09/2022	12.30pm- 1.30pm	Theory	Alkaloids: Aims, objective, introductions
122.		September	11/09/2022			Steroids and hormones, Prostaglandins
123.		September	18/09/2022			Vitamins, Retinoid and popyrins
124.		September	25/09/2022			Enzymes and their reactivity, Biochemical pathways 1, Metabolism of fatty acids and proteins
125.		October	02/10/2022			Biosynthetic methods general methods, and feeding experiments
126.		October	09/10/2022			Biosynthesis of aromatic hydro carbins by acetate/melonate and shikmic acid pathway
127.		October	16/10/2022			5 membrane hetrocycles contain two hetero atoms, 6 membraed hetrocycles containing two nitrogen atoms
128.		October	23/10/2022			Synthesis of 5 membrane hetrocycles containing more than two hetro atoms
129.		October	30/10/2022			Synthesis of pyrimidine purine anf=d xanthenine bases, Three and four membered hetrocyclic compounds
130.		November	06/11/2022			13 C NMR spectroscopy I, 13 C NMR Spectroscopy II
131.		November	13/11/2022			19F AND 31 bP NMR spectroscopy, Optical rotator dispersion studies
132.		November	20/11/2022			Multiples techniques in NMR spectroscopy 2D NMR &

						APT, DEPT, and INEPT			
133.	Year 02: CHE024: Organic Chemistry Theory Course -VIII	September	04/09/2022	2.30pm – 3.30pm	Theory	Drug discovery design and development, Concept of receptors, agonist and antagonists			
134.		September	11/09/2022			Design of agonist and antagonist development of captoprilsalbutamol and cimetides, Structural activities relationship studies I			
135.		September	18/09/2022			SAR studies II Developemnt of oxaminoquinon & SAR studies of sulphjonamiteds and benzioidazepines			
136.		September	25/09/2022			Combinatorial synthesis, Quantitative structure activity relationship			
137.		October	02/10/2022			Pharmacokinetics prodrugs and clinical trials			
138.		October	09/10/2022			Drug acting on metabolic process, Drugs acting on cell wall and cell membrane			
139.		October	16/10/2022			Drug acting on nervous system, Enzyme inhibitors			
140.		October	23/10/2022			Drugs affecting cholinergic nervous system, Drugs acting on genetic materials			
141.		October	30/10/2022			Drug acting on histamine receptors and ion channels			
142.		November	06/11/2022			Introduction to chiral drugs, Synthesis of chiral drugs			
143.		November	13/11/2022			Drugs and drug intermediates from fermentation, Drug analysis			
144.		November	20/11/2022			Quality control methods in drug manufacturing and formulation			
145.		Year 02: CHE025: Organic Chemistry Practical	September			04/09/2022	3.30pm- 5.30pm	Practical	Systematic procedure for the separation of diethyl ether in soluble binary organic mixture
146.			September			11/09/2022			Systematic procedure of separation of organic mixture based on salt formation I
147.	September		18/09/2022	Systematic procedure of separation of organic mixture based on salt formation II					
148.	September		25/09/2022	Systematic procedure of separation of organic mixture based on salt formation III					
149.	October		02/10/2022	Systematic procedure for qualitative analysis of organic compounds formation					

150.		October	09/10/2022			Identification of unknown binary organic mixture I
151.		October	16/10/2022			Identification of unknown binary organic mixture II
152.		October	23/10/2022			Identification of unknown binary organic mixture III
153.		October	30/10/2022			Identification of unknown binary organic mixture IV
154.		November	06/11/2022			General separation procedure for the ternary organic mixture
155.		November	13/11/2022			Separation and identification of ternary organic mixture XVI
156.		November	20/11/2022			Separation and identification of ternary organic mixture XVII
157.	Year 02: CHE026: Organic Chemistry Practical	February	05/02/2023	9.30am- 11.30pm	Practical	Correlation tables of mass, infrared NMR, UV spectroscopy
158.		February	12/02/2023			Solved spectra; problem 1, Solved spectra; problem 2
159.		February	19/02/2023			Solved spectra; problem 3, Solved spectra; problem 4
160.		February	26/02/2023			Solved spectra; problem 5
161.		March	05/03/2023			Solved spectra; problem 6
162.		March	12/03/2023			Solved spectra; problem 7
163.		March	19/03/2023			Solved spectra; problem 8
164.		March	26/03/2023			Solved spectra; problem 9
165.		April	02/04/2023			thin layer chromatography TLC1
166.		April	09/04/2023			Monitoring of chemical reaction by thin layer chromatography
167.		April	16/04/2023			Preparation of thin layer chromatography
168.		April	23/04/2023			Separation of solid mixture by column chromatography
169.	Year 02: CHE027: Organic Chemistry Practical	February	05/02/2023	11.30pm- 1.30pm	Practical	Preparation 2 pehnyl indole
170.		February	12/02/2023			Preparation of 7 hdroxy 3 methyl flavone,
171.		February	19/02/2023			Preparation OF 2-5 Dihydroxy acetophenone
172.		February	26/02/2023			Preparation of benzilic acid
173.		March	05/03/2023			Preparation of caprolactum
174.		March	12/03/2023			Preparation of acridone
175.		March	19/03/2023			Preparation of 4chloro toluene

176.		March	26/03/2023			Preparation of 7 hydroxy coumarine
177.		April	02/04/2023			Preparation of photo dimerisation of maleic anhydride
178.		April	09/04/2023			Preparation of benzophenone
179.		April	16/04/2023			Isolation of Caffeine from Tea leaves
180.		April	23/04/2023			Preparation of benzenilide
181.	Year 02: CHE028: Organic Chemistry Practical	February	05/02/2023	2.30pm – 4.30pm	Practical	Preparation of Paracetamol, Preparation of phenytoin
182.		February	12/02/2023			Preparation of 6-methyl uracil
183.		February	19/02/2023			Preparation of benzocaine
184.		February	26/02/2023			Preparation of synthesis of chlorbutol
185.		March	05/03/2023			Preparation of sulfanilamide
186.		March	12/03/2023			Preparation of fluorescein
187.		March	19/03/2023			Preparation of antipyrine, Preparation of diazepam
188.		March	26/03/2023			Esterification of assay of aspirin, Esterification of assay of Ibuprofen
189.		April	02/04/2023			Estimation of assay Analgin, Estimation of assay of ascorbic acid
190.		April	09/04/2023			Estimation of Ca ²⁺ ions in calcium gluconate injection, Estimation of chloride in ringer lactate injection
191.		April	16/04/2023			Estimation of assay of sulphanylmidide by potentiometric titrations
192.		April	23/04/2023			Estimation of assay of riboflavin by colorimetric

V133: M.SC. (ZOOLOGY){2021 PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: ZGY011: Animal Diversity and Ecology	September	04/09/2022	10.30am- 11.30am	Theory	Theories and concepts of Taxonomy
2.		September	11/09/2022			Biological Classification
3.		September	18/09/2022			Methodologies in Systematic
4.		September	25/09/2022			Coelom, Circulatory System
5.		October	02/10/2022			Nervous System, Excretory System
6.		October	09/10/2022			Phylogenic Importance of Echinoderm Larvae
7.		October	16/10/2022			Integument, Heart and Circulatory System
8.		October	23/10/2022			Respiratory System
9.		October	30/10/2022			Nervous System, Brain and Sensory Organs
10.		November	06/11/2022			Ecology and Animal Diversity
11.		November	13/11/2022			Aquatic ecosystems and Animal Diversity, Protected areas (sanctuaries and National Parks)
12.		November	20/11/2022			Extinction and Biodiversity Conservation
13.	Year 01: ZGY012: Cell And Molecular Biology	September	04/09/2022	11.30am- 12.30pm	Theory	An overview of the Cell, Cell shapes and types, Method in Cell Biology
14.		September	11/09/2022			Structure and function of the Cell Membrane
15.		September	18/09/2022			Functional aspects of cell Organelles
16.		September	25/09/2022			The Cell Organelles
17.		October	02/10/2022			Nucleus, Cell Division
18.		October	09/10/2022			Cell Communication and Signaling
19.		October	16/10/2022			Nucleic Acid
20.		October	23/10/2022			DNA Replication, Transcription
21.		October	30/10/2022			Genetic code and Protein Synthesis
22.		November	06/11/2022			Gene Regulation

23.		November	13/11/2022			Gene Transfer method in Prokaryotes			
24.		November	20/11/2022			Mobile Genetic Elements, Cancer			
25.	Year 01: ZGY013: Animal physiology and physiological chemistry	September	04/09/2022	12.30pm- 1.30pm	Theory	Water, Thermoregulation			
26.		September	11/09/2022			Respiration			
27.		September	18/09/2022			Circulation			
28.		September	25/09/2022			Nutrition and Digestion			
29.		October	02/10/2022			Excretion, Immunology			
30.		October	09/10/2022			Nerve and receptor			
31.		October	16/10/2022			Muscle, Enzyme			
32.		October	23/10/2022			Endocrinology and bioluminescence			
33.		October	30/10/2022			Carbohydrate			
34.		November	06/11/2022			Amino acids			
35.		November	13/11/2022			Proteins, Lipids			
36.		November	20/11/2022			Biological oxidation			
37.		Year 01: ZGY014: Human Cytogenetics and Developmental Biology	September			04/09/2022	2.30pm – 3.30pm	Theory	Introduction to human Cytogenetic
38.			September			11/09/2022			Chromosomes and Karyotyping's, Chromosomal Abnormalities
39.	September		18/09/2022	Genetic Disorder, Mutations and Repair of DNA					
40.	September		25/09/2022	Recombination DNA Technology, Cytogenetic Culture setup and Harvest					
41.	October		02/10/2022	Slide Preparation and staining					
42.	October		09/10/2022	Glossary of Genetics Terms, Glossary of Malformation					
43.	October		16/10/2022	Basic concepts of Development Biology					
44.	October		23/10/2022	Gametes and Fertilization, Cleavage and Gastrulating					
45.	October		30/10/2022	Early vertebrate Development					
46.	November		06/11/2022	Differentiation, Body Axis					
47.	November		13/11/2022	Tetrapod Limb Development					
48.	November		20/11/2022	Growth and post- embryogenic Development					
49.		September	04/09/2022			Identification of evolutionary significant specimens and important connecting links and biodiversity.			

50.	Year 01: ZGY015: Animal Diversity and Ecology	September	11/09/2022	3.30pm- 5.30pm	Practical	Diversity of beak in birds.
51.		September	18/09/2022			Mode of life and Modification of feet of birds.
52.		September	25/09/2022			Preparation of check list of animal in a zoo-park or sanctuary or a National Park.
53.		October	02/10/2022			Protected areas (sanctuaries and National Parks) Extinction and biodiversity conservation.
54.		October	09/10/2022			Aquatic ecosystem and animal diversity.
55.		October	16/10/2022			Freshwater crab (paratelphusa) Nervous System
56.		October	23/10/2022			Grasshopper (Locust) Reproductive System
57.		October	30/10/2022			Digestive System in chick.
58.		November	06/11/2022			Circulatory system in chick
59.		November	13/11/2022			Urinogenital System in chick
60.		November	20/11/2022			Respiratory System in Chick
61.	Year 01: ZGY016: Cell and molecular biology	February	05/02/2023	9.30am- 11.30pm	Practical	Preparation of blood Smear, Cell Type Identification and Differential Counts.
62.		February	12/02/2023			Osmotic Fragility of Erythrocytes
63.		February	19/02/2023			Estimation of RNs and DNA in Tissue
64.		February	26/02/2023			Extrication of DNA
65.		March	05/03/2023			Extraction of RNA
66.		March	12/03/2023			Fractionation of proteins by Ammonium sulfate, Precipitation
67.		March	19/03/2023			Tissue Homogenization and fraction by differential, Centrifugation for isolation of Nuclei and Mitochondria
68.		March	26/03/2023			Separation of proteins by Polysacrylamide Gel Electrophoresis
69.		April	02/04/2023			Polythene Chromosome
70.		April	09/04/2023			Cell Division
71.		April	16/04/2023			12A Mitosis
72.		April	23/04/2023			12B Meiosis
73.		February	05/02/2023			
74.	February	12/02/2023		Determination of protein by Buiret method.		

75.	Year 01: ZGY017: Animal Physiology and physiological chemistry	February	19/02/2023	11.30pm- 1.30pm	Practical	Determination of Glucose by Anthone Method / Somagi method
76.		February	26/02/2023			Determination of lipids by veiling method
77.		March	05/03/2023			Determination of glycogen by kemps method
78.		March	12/03/2023			Determination of cholesterol by acetic anhydride method
79.		March	19/03/2023			Laboratory techniques 2
80.		March	26/03/2023			Determination of Enzyme Activities of SDH, LDH, GDH.
81.		April	02/04/2023			Effect of subtract Concentration and pH on Succinate Dehydrogenate Activity.
82.		April	09/04/2023			Effect of Competitive inhibitor on SDH Activity.
83.		April	16/04/2023			Estimation of Blood Chlorides under Hetero Osmotic Media.
84.		April	23/04/2023			Estimation of acetyl cholinesterase (ACHE).
85.	Year 01: ZGY018: Human Cytogenetic and Developmental Biology	February	05/02/2023	2.30pm – 4.30pm	Practical	Human Cytogenetic
86.		February	12/02/2023			Culture setup and harvest
87.		February	19/02/2023			Slide preparation
88.		February	26/02/2023			Staining
89.		March	05/03/2023			Microscopy Training and Mitotic Index Calculation
90.		March	12/03/2023			Scoring
91.		March	19/03/2023			Developmental Biology
92.		March	26/03/2023			Procedure for isolating and culturing early hour's chick embryo by filter paper ring method.
93.		April	02/04/2023			Development of a Microlecithal Eg. Spiral cleavage in a snail.
94.		April	09/04/2023			Demonstration of vitellogenesis by classifying the developmental stage of oocytes un thecrustacean ovary.
95.	April	16/04/2023	Fecundity index.			
96.	April	23/04/2023	Culturing of Drosophila and observing its embryonic			

						and larval stages.
97.	Year 02: ZGY021: Immunology	September	04/09/2022	10.30am- 11.30am	Theory	Introduction to the Immune system
98.		September	11/09/2022			The Lymphoid System
99.		September	18/09/2022			Cell Involve in Immune Response
100.		September	25/09/2022			Major Histocompatibility Complex in mouse and Humans Humoral Immunity
101.		October	02/10/2022			Cell Mediated Immunity,
102.		October	09/10/2022			The complement system
103.		October	16/10/2022			Hypersensitivity
104.		October	23/10/2022			Auto Immunity and Immune diseases
105.		October	30/10/2022			Immunity to Infectious disease
106.		November	06/11/2022			Vaccinology
107.		November	13/11/2022			Transplantation and Organ Rejection
108.		November	20/11/2022			Tumor Immunology
109.	Year 02: ZGY022: Animal Biotechnology	September	04/09/2022	11.30am- 12.30pm	Theory	Introduction, History and Scope of Biotechnology
110.		September	11/09/2022			General Histology and Cell Tissue Culture
111.		September	18/09/2022			Preparation of Culture Media
112.		September	25/09/2022			Propagation and Maintenance of Tissue Culture
113.		October	02/10/2022			Preparation of Cell Lines
114.		October	09/10/2022			Cellular aspects of Tumor Cells
115.		October	16/10/2022			Agricultural Biotechnology
116.		October	23/10/2022			Aquatic Biotechnology
117.		October	30/10/2022			Microbial Biotechnology
118.		November	06/11/2022			Environmental Biotechnology-II: Landfill, Composting,
119.		November	13/11/2022			Bioremediation
120.		November	20/11/2022			Enzyme Biotechnology
121.	Year 02: ZGY023: Toxicology of	September	04/09/2022	12.30pm- 1.30pm	Theory	Formulation and Classification of insecticide
122.		September	11/09/2022			Evaluation of insecticide
123.		September	18/09/2022			Insecticide and Cuticle
124.		September	25/09/2022			Botanical insecticide
125.		October	02/10/2022			Organ chlorines

126.	insecticides	October	09/10/2022			Organ phosphorus Insecticide
127.		October	16/10/2022			Synthetic Pyrethoroides
128.		October	23/10/2022			Molecules with Different Chemistry
129.		October	30/10/2022			Synthetic Insect Control Agents
130.		November	06/11/2022			Photochemistry of Pesticide
131.		November	13/11/2022			Microsomal Mono-Oxygenizes
132.		November	20/11/2022			Extra- Microsomal Metabolism of Insecticide
133.	Year 02: ZGY024: Applied Entomology	September	04/09/2022	2.30pm – 3.30pm	Theory	Classification and structure
134.		September	11/09/2022			Insect toxonomy
135.		September	18/09/2022			External Morphology-study of generalized insect
136.		September	25/09/2022			Economic Entomology
137.		October	02/10/2022			Pests of field Crops of stored grains
138.		October	09/10/2022			Horticulture Crop Pests
139.		October	16/10/2022			Silkworm (Biology, nature of produce, uses)
140.		October	23/10/2022			Honeybees (Biology, nature of produce, uses)
141.		October	30/10/2022			Lac insect and other beneficial insects
142.		November	06/11/2022			Livestock, urban and medical entomology
143.		November	13/11/2022			Livestock
144.		November	20/11/2022			Urban Entomology
145.		Year 02: ZGY025: Immunology	September			04/09/2022
146.	September		11/09/2022	Total count and differential count of leukocyte		
147.	September		18/09/2022	Determination of total red blood cell		
148.	September		25/09/2022	Estimation of serum proteins		
149.	October		02/10/2022	Estimation of Albumin and globulin		
150.	October		09/10/2022	Determination of white blood cells in the blood sample		
151.	October		16/10/2022	Histology of lymphocyte organs		
152.	October		23/10/2022	Blood groups		
153.	October		30/10/2022	Widal test		
154.	November		06/11/2022	Pregnancy test		
155.	November		13/11/2022	Immune diffusion		
156.	November		20/11/2022	Immune electrophoresis		

157.	Year 02: ZGY026: Animal Biotechnology	February	05/02/2023	9.30am- 11.30pm	Practical	Fundamental Techniques of Biotechnology
158.		February	12/02/2023			General Histology and Cell Tissue Culture
159.		February	19/02/2023			Cell Culture
160.		February	26/02/2023			The Stem cell
161.		March	05/03/2023			Propagation and maintenance of tissue culture
162.		March	12/03/2023			Cell culture from cell line
163.		March	19/03/2023			Applied Biotechnology
164.		March	26/03/2023			Microbiology – testing and evaluation of coliform bacteria
165.		April	02/04/2023			Phytoplankton and Zooplanktons
166.		April	09/04/2023			Production of Pathogen-free plants through meristem culture
167.		April	16/04/2023			Vermitechnology
168.		April	23/04/2023			Penicillin production and testing of antimicrobial activity
169.		Year 02: ZGY027: Toxicology	February			05/02/2023
170.	February		12/02/2023	Estimation of contact toxicity of insecticide film.		
171.	February		19/02/2023	Evaluation of efficacy of mosquito repellent coils		
172.	February		26/02/2023	Evaluation of efficacy of mosquito repellent creams		
173.	March		05/03/2023	Testing efficacy of household insecticides		
174.	March		12/03/2023	Detection of insecticide resistance in hellicoverpa armigera		
175.	March		19/03/2023	Nerve cells in insects		
176.	March		26/03/2023	Mixed Function oxidizes (MFO) Assay		
177.	April		02/04/2023	Assay of carboxyl esterase		
178.	April		09/04/2023	Estimation of acetyl cholinesterase in insects		
179.	April		16/04/2023	Emulsion Stability test		
180.	April		23/04/2023	Determination of pesticide residues in water		
181.		February	05/02/2023			General histology and cell Tissue culture
182.		February	12/02/2023			External characters of typical insect (viz. Grasshopper)
183.		February	19/02/2023			Demonstration of chitin in the Integument

184.	Year 02: ZGY028: Applied Entomology	February	26/02/2023	2.30pm – 4.30pm	Practical	Identification of some common orders of class insect.
185.		March	05/03/2023			Identification important pests and their symptoms of damage
186.		March	12/03/2023			Identification of important pests stored grains-and their symptoms of damage
187.		March	19/03/2023			Forensic Entomology Practical
188.		March	26/03/2023			Excavation of an Active Termite Mound
189.		April	02/04/2023			Collocation of silk Gland, Appendages, Digestive system
190.		April	09/04/2023			Dissection of Mouth parts of Insects.
191.		April	16/04/2023			Dissection of silk gland appendages digestive system.
192.		April	23/04/2023			Visit to biological control laboratory

V134: M.SC. (BOTANY){2021PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: BNY011: Biology and Diversity of Viruses, Bacteria, and Fungi	September	04/09/2022	10.30am- 11.30am	Theory	General Characters and Classification of Viruses, Chemistry and Ultra structure of Viruses
2.		September	11/09/2022			Isolation and Purification of Viruses, Replication and Transmission of Viruses
3.		September	18/09/2022			General Account of Plant, Animal and Human Viral Diseases
4.		September	25/09/2022			General Account and Classification of Eubacteria, Archaeobacteria and Cynobacteria
5.		October	02/10/2022			Ultrastructure, Nutrition and Reproduction of Bacteria
6.		October	09/10/2022			Economic Importance of Bacteria, Mycoplasma
7.		October	16/10/2022			General Characters and Classification of Fungi
8.		October	23/10/2022			Ultrastructure of Cell and Cell Wall Composition, Nutrition in Fungi
9.		October	30/10/2022			Reproduction in Fungi. Hetrothallism, Hetrokaryosis and Parasexuality
10.		November	06/11/2022			Mastigomycotina and Zygomycotina, Ascomycotina, Basidiomycotina, Deuteromycotina
11.		November	13/11/2022			Fungi in Industry, Fungi in Agriculture and Forestry
12.		November	20/11/2022			Fungi as Human and Animal Parasites (Medical Mycology), Fungi as Food
13.		September	04/09/2022			General Characteristics and Classification
14.		September	11/09/2022			Thallus Organization in Algae, Reproduction and Life Cycles of Algae
15.		September	18/09/2022			Life Histories of Some Genera of Chlorophyta – I, Life

16.	Year 01: BNY012: Biology and Diversity of Algae, Bryophyta and Pteridophyta	September	25/09/2022	11.30am- 12.30pm	Theory	Histories of Some Genera of Chlorophyta – II
17.		October	02/10/2022			General Characters of Cyanophyta, General Characters of Some Genera Of Xanthophyta and Bacillariophyta
18.		October	09/10/2022			General Characters and Life Histories of Some members of Phaeophyta
19.		October	16/10/2022			General Characters and Life Histories of Rhodophyta, Economic Importance of Algae
20.		October	23/10/2022			General Characters, Classification, Distribution and Economic Importance of Bryophytes
21.		October	30/10/2022			Marchantiales, Jungermanniales, Anthoceratales and Sphagnales
22.		November	06/11/2022			The Evolution of Gametophyte, Evolution of Sporophyte
23.		November	13/11/2022			General Characters and Classification of Pteridophytes, Telome Theory and Stellar Evolution
24.		November	20/11/2022			Structure and Life Histories of Psilotum, Lycopodium, Selaginella and Equisetum
25.		Year 01: BNY013: Gymnosperms, Taxonomy and Anatomy of Angiosperms	September			04/09/2022
26.	September		11/09/2022	Distribution, General Characteristics, Classification and Economic Importance of Gymnosperms		
27.	September		18/09/2022	Morphology and Anatomy of Cycadales, Ginkgoales, Coniferales, Taxales and Gnetales, Reproductive Structures of Cycadales, Ginkgoales, Coniferales, Taxales and Gnetales		
28.	September		25/09/2022	Development of Male and Female gametophytes (Cycadales, ginkgoales, coniferales, taxaes and gnetales)		
29.	October		02/10/2022	Fossil gymnosperms (pteridospermales, bennettitales, pentoxylales and cordaitales)		
30.	October		09/10/2022	Origin and phylogeny of angiosperms		
						Plant nomenclature, Systems of classification

31.		October	16/10/2022			Recent trends in plant taxonomy(anatomy, palynology, embryology, cytology, chemotaxonomy, numerical taxonomy and molecular taxonomy)
32.		October	23/10/2022			Biosystematics, General account of orders tubiflorae, helobiales and poales
33.		October	30/10/2022			General account of ranales, centrospermae and amentiferae
34.		November	06/11/2022			Flora and vegetation of Andhra Pradesh, Herbarium methodology
35.		November	13/11/2022			Biodiversity and conservation, Apical meristems of root and shoot, Tissues and tissue systems
36.		November	20/11/2022			Primary structure of root, stem and leaf, Secondary growth, Wood structure
37.	Year 01: BNY014: Biochemistry and Plant Physiology	September	04/09/2022	2.30pm – 3.30pm	Theory	Principles Of Thermodynamics, Enzymes
38.		September	11/09/2022			Carbohydrates, Lipids, Amino Acids
39.		September	18/09/2022			Proteins, Nucleic Acids, Structure And Function Of Membranes
40.		September	25/09/2022			Plant Water Relations
41.		October	02/10/2022			Mineral Nutrition
42.		October	09/10/2022			Photosynthesis-I, Photosynthesis-Ii
43.		October	16/10/2022			Respiration-I, Respiration-Ii
44.		October	23/10/2022			Nitrogen And Sulphur Metabolism
45.		October	30/10/2022			Plant Growth Regulators
46.		November	06/11/2022			Mechanism Of Hormonal Regulation Of Plant Growth And Development
47.		November	13/11/2022			Seed Dormancy And Germination
48.	November	20/11/2022	Physiology Of Flowering, Stress Physiology			
49.		September	04/09/2022			Methods of Sterilization, Preparation of Media
50.		September	11/09/2022			Culturing Methods, Staining Techniques
51.		September	18/09/2022			Symptoms of Some Viral and Mycoplasmal Diseases, Models of Bacteriophage and HIV

52.	Year 01: BNY015: LMR-Biology and Diversity of Viruses, Bacteria, and Fungi	September	25/09/2022	3.30pm- 5.30pm	Practical	Transmission of Virus Diseases
53.		October	02/10/2022			Isolation and Enumeration of Bacteria from Soil and Water
54.		October	09/10/2022			Observation of Symptoms of Plant Diseases Caused by Bacterial Pathogens
55.		October	16/10/2022			Isolation of Fungi From Soil ,Water, Litter and Air
56.		October	23/10/2022			Identification of Fungal Cultures Slides and Specimens-I, Identification of Fungal Cultures Slides and Specimens-II, Identification of Fungal Cultures Slides and Specimens-III
57.		October	30/10/2022			Mycorrhizal Colonization in Roots of Parthenium and Tagetes
58.		November	06/11/2022			Morphology of Plant Pathogens, Study of Symptoms of Fungal Diseases
59.		November	13/11/2022			Morphology of Button Oyster,paddy Straw Mushrooms and Amanita, Identification of Ectomycorrhizal Fungi
60.		November	20/11/2022			Genetics of Fungi (Neurospora Ascus)
61.		Year 01: BNY016: LMR-Biology and Diversity of algae, Bryophyta and Pteridophyta	February			05/02/2023
62.	February		12/02/2023	Clamydomonas, Volvox, Chlorella and Ulva		
63.	February		19/02/2023	Enteromorpha,Oedogonium,Cosmarium and Caulerpa		
64.	February		26/02/2023	Ectocarpus, Dictyota and Sargassum, Gelidium, Gracilaria, Cyclotella, and Navicula		
65.	March		05/03/2023	Collection and Identification of Algae in and Around Local Area, Observation of Algal Blooms and Bioindicators of Water Quality		
66.	March		12/03/2023	Preparation of Cultures Media for Micro Algae, Preparation of Herbarium for Macro Algae		
67.	March		19/03/2023	Marchantia, and Targionia, Plagiochasma and Fimbriaria		
68.	March		26/03/2023	Pelia and Porella, Anthoceros and Notothylas		
69.	April		02/04/2023	Funaria and Polytrichum, Lycopodium and Selaginella		

70.		April	09/04/2023			Psilotum and Isoetes, Osmunda and Gleichenia
71.		April	16/04/2023			Ophioglossum and Adiantum
72.		April	23/04/2023			Marsiela, Salvinia and Azolla
73.	Year 01: BNY017: LMR-gymnosperms, taxonomy and anatomy of angiosperms	February	05/02/2023	11.30pm- 1.30pm	Practical	Zamia and Ginkgo
74.		February	12/02/2023			Pinus and Thuja
75.		February	19/02/2023			Araucaria and Taxus
76.		February	26/02/2023			Ephedra and Gnetum
77.		March	05/03/2023			Lyginopteris, Medullosa
78.		March	12/03/2023			Ptilophyllum and Glassopteris, Pentoxylon
79.		March	19/03/2023			Study of the locally available plants and recording of the intraspecific variation, Description and Identification at Family, Genus and Species Levels using Floras-I
80.		March	26/03/2023			Description and Identification at Family, Genus and Species Levels using Floras-II, Identification of Key characters in a Group of Species of a Genus
81.		April	02/04/2023			Construction of Indented and Bracketed Keys for the given Material, Nomenclatural Problems
82.		April	09/04/2023			Herbarium Techniques, Study of Meristematic and Permanent Issues and Tissue Systems
83.		April	16/04/2023			Secondary growth in Roots and Stems, Leaf Anatomy
84.		April	23/04/2023			Anomalous Secondary Growth, Wood Structure
85.		Year 01: BNY018: LMR-biochemistry and plant physiology	February			05/02/2023
86.	February		12/02/2023	Estimation of Aminoacids by Ninhydrin Method		
87.	February		19/02/2023	Estimation of Protein by Biuret Method		
88.	February		26/02/2023	Separation and Identification of Aminoacids by using TLC Method		
89.	March		05/03/2023	Determination of Amylase Activity, Determination of Catalase Activity		
90.	March		12/03/2023	Estimation of Reducing Sugars, Determination of Iodine Number of Edible Oils		
91.	March		19/03/2023	Determination of Water Potential using Gravimetric		

						Method, Effects of Temperature on Membrane Permeability
92.		March	26/03/2023			Determination of Total and Titrable Acidity, Determination of Stomata Frequency and Index
93.		April	02/04/2023			Stomatal Response to Promoters and Inhibitors, Separation of Chloroplast Pigments by Solvents Extraction Method
94.		April	09/04/2023			Determination of Absorption Spectra of Chlorophylls, Estimation of Chlorophyll-a, Chlorophyll-b and Total Chlorophyll in Leaves of C3 and C4 plants
95.		April	16/04/2023			Determination of Rate of Respiration of Germinating seeds by Continuous Current Method, Estimation of Nitrogen by Micro-Kjeldahl's Method
96.		April	23/04/2023			Estimation of Indole Acetic Acid(IAA), Determination of Seeds Viability
97.	Year 02: BNY021: Cell biology, genetics, biostatistics & ecology	September	04/09/2022	10.30am- 11.30am	Theory	Principles And Application Of Light, Phase Contrast, Fluorescence And Electron Microscopy
98.		September	11/09/2022			Ultra-Structure Of A Cell And Its Organelles, Chromosome
99.		September	18/09/2022			Special Types Of Chromosomes, Cell Cycle And Apoptosis
100.		September	25/09/2022			DNA, Genetic Code
101.		October	02/10/2022			Brief Overview Of Mendelian Inheritance
102.		October	09/10/2022			Chromosomal Aberrations, Mutations
103.		October	16/10/2022			Mean Variance, Applications Of Computers In Biology
104.		October	23/10/2022			Principles, Concepts And Levels Of Ecology, Community Characteristics
105.		October	30/10/2022			Biodiversity, Ecosystem, Global Biogeochemical Cycles
106.		November	06/11/2022			Climate, Soil, Vegetation Pattern Of India
107.	November	13/11/2022	Climate Change And Green House Gases			

108.		November	20/11/2022			Environmental Pollution
109.	Year 02: BNY022: Medicinal Plants And Embryology Of Angiosperms	September	04/09/2022	11.30am- 12.30pm	Theory	Role Of Plants In Medicine, Its Origin And Development And Different Systems Of Medicine, General Account Of Phytochemistry Of Medicinal Plants
110.		September	11/09/2022			Morphology, Active Principles And Medicinal Value-I, Morphology, Active Principles And Medicinal Value-Ii
111.		September	18/09/2022			Cultivation Of Medicinal Plants, Pharmacognosy And Adulteration Of Plant Drugs
112.		September	25/09/2022			Ethnobotany- History, Scope And Importance, Conservation Of Medicinal Plants
113.		October	02/10/2022			Structure Of Anther And Development Of Male Gametophyte, Fertilization
114.		October	09/10/2022			Structure Of Ovule And Development Of Female Gametophyte, Sexual Incompatibility
115.		October	16/10/2022			Development Of Endosperm, Apomixis
116.		October	23/10/2022			Development Of Embryo, Polyembryony
117.		October	30/10/2022			Parthenocarpy
118.		November	06/11/2022			Experimental Embryology
119.		November	13/11/2022			Applications Of Embryology In Taxonomy, Agriculture And Horticulture
120.			November			20/11/2022
121.	Year 02: BNY023: Applied Mycology and Plant Pathology	September	04/09/2022	12.30pm- 1.30pm	Theory	General Account And Diversity Of Fungi, Fungal Taxonomy
122.		September	11/09/2022			Mycorrhizae, Edible Mushrooms: Medicinal And Nutritional Value
123.		September	18/09/2022			Mushroom Cultivation, Fungi As Biopesticides
124.		September	25/09/2022			Scope And Techniques Of Fungal Biotechnology
125.		October	02/10/2022			Fungal Enzymes And Metabolites, Industrial Production Of Penicillin, Citric Acid And Alcohol
126.		October	09/10/2022			Fungi In Relation To Pollution, Fungi In Biodegradation

127.		October	16/10/2022			History And Concepts Of Plant Pathology, Control Plant Diseases
128.		October	23/10/2022			Classification And Symptomatology Of Fungal, Bacterial, Viral, Phytoplasma And Nematode Diseases
129.		October	30/10/2022			Host- Pathogen Interaction-I, Host- Pathogen Interaction-Ii
130.		November	06/11/2022			Lant Diseases Caused By Bacteria, Viruses And Spiroplasmas
131.		November	13/11/2022			Plant Diseases Of Cereals, Pulses And Oil Seeds, Plant Diseases Of Fruits And Vegetables
132.		November	20/11/2022			Plant Diseases Of Cash Crops And Plantation Crops
133.	Year 02: BNY024: Plant Molecular Biology and Biotechnology	September	04/09/2022	2.30pm – 3.30pm	Theory	Genome, Genome Organization In Higher Plants
134.		September	11/09/2022			Chloroplast And Mitochondrial Genomes, Structure And Organization Of Eukaryotic Genes
135.		September	18/09/2022			Gene Expression In Eukaryotes, Regulation Of Gene Expression In Eukaryotes
136.		September	25/09/2022			Restriction Endonucleases, Modifying Enzymes Uesd In Molecular Cloning
137.		October	02/10/2022			Cloning Vectors, Genomic And CDNA Libraries
138.		October	09/10/2022			Polymerase Chain Reaction, Molecular Markers
139.		October	16/10/2022			Introduction To Plant Tissue Culture And In Vitro Morphogenesis
140.		October	23/10/2022			Anther, Pollen And Ovule Culture, Protoplast Culture And Somatic Hybridization
141.		October	30/10/2022			Cryopreservation Of Plant Cells And Tissues And Germplasm Storage
142.		November	06/11/2022			Transgenic Plants, Plant Metabolomics
143.		November	13/11/2022			Plant Genomics And Proteomics
144.		November	20/11/2022			Intellectual Property Rights And Biosafety
145.			September			04/09/2022
146.		September	11/09/2022			Squash preparation of Onion root Tips to study mitosis

147.	Year 02: BNY025: Cell biology, genetics, biostatistics and ecology	September	18/09/2022	3.30pm- 5.30pm	Practical	Smear preparation of Maize or onion flower Buds to study Meiosis
148.		September	25/09/2022			Karyotype Analysis, Problems of Monohybrid Cross
149.		October	02/10/2022			Problems of Dihybrid Cross, Problems of Trihybrid Cross
150.		October	09/10/2022			Genetic Mapping in Eukaryotes
151.		October	16/10/2022			Designing of Experiments and Random Sampling, Problems on Means and Variations
152.		October	23/10/2022			Problems on F-Ratio and Critical Differences(CD), Problems on Chi- Square Test
153.		October	30/10/2022			Problems on ANOVA, Determination of Minimum size Quadrats by species Area curve
154.		November	06/11/2022			Determination of quantitative characters by random quadrat methods, Evaluation of life form classes of local flora
155.		November	13/11/2022			Morphology and anatomy of common hydrophytes and xerophytes, Interpretation of environmental data and climatogram and plotting techniques
156.		November	20/11/2022			Mechanical analysis of soil, soil Ph, Soil moisture and water holding capacity, Estimation of chlorides, carbonates, Bicarbonates and dissolved oxygen in Clean and polluted water, BOD, COD
157.	Year 02: BNY026: LMR-Medicinal plants and embryology of angiosperms	February	05/02/2023	9.30am- 11.30pm	Practical	Analysis of morphological attributes in Selected Medicinal plants
158.		February	12/02/2023			Identification of crude drugs using anatomical characters, Identification of crude drugs using physical properties
159.		February	19/02/2023			Qualitative analysis of crude drugs for different Phytochemicals
160.		February	26/02/2023			Antimicrobial studies and determination of MIC (Minimum Inheritance Concentration)
161.		March	05/03/2023			Anatomical studies of medicinal plants, Histochemical

						analysis of medicinal plants
162.		March	12/03/2023			Collection of ethno botanical information of Local Medicinal Plants
163.		March	19/03/2023			Study of ovules and ovaries and their identification, Pollen grain analysis by acetolysis
164.		March	26/03/2023			Pollen germination studies, Estimation of pollen fertility
165.		April	02/04/2023			Study of endosperm Haustoria, Study of embryos
166.		April	09/04/2023			Study of protandry and protogyny, Study of heterostyly
167.		April	16/04/2023			Fundamentals of microtome technique, Preparation of permanent slides
168.		April	23/04/2023			Anther culture, Callus culture
169.	Year 02: BNY027: LMR-Applied mycology and plant pathology	February	05/02/2023	11.30pm- 1.30pm	Practical	Sterilization Methods, Preparation of Media and Stains
170.		February	12/02/2023			Isolation techniques, Fermentation Methods
171.		February	19/02/2023			Single Spore Isolation, Pure Culture and Conservation of Fungal Germplasm
172.		February	26/02/2023			Isolation of Trichoderma viride and T.harzianum and their evaluation as Biocontrol Agents
173.		March	05/03/2023			Collection and identification of Ectomycorrhizae, Isolation of Keratinophilic fungi
174.		March	12/03/2023			Observation of Hyperparasites and Common Entomogenous Fungi, Testing of some isolates of Penicillium species against pathogenic bacteria
175.		March	19/03/2023			Observation of Plant Disease Symptoms Caused by Bacteria, Viruses and Fungi- In
176.		March	26/03/2023			Observation of Fungal Pathogens and their identification, Isolation of plant pathogens and pure culture preparation
177.		April	02/04/2023			Establishing Koch's postulates for evaluation of pathogenicity, Evaluation of disease index and crop loss
178.		April	09/04/2023			Evaluation of culture filtrates for cellulose, pectinase,

						protease and amylase, Estimation of protein and amino acids
179.		April	16/04/2023			Spawn preparation of edible mushrooms(Oyster), bed preparation and mushroom production
180.		April	23/04/2023			Evaluation of fungicidal efficacy, Collection of materials with diseases
181.	Year 02: BNY028: LMR-Plant molecular biology and biotechnology	February	05/02/2023	2.30pm – 4.30pm	Practical	Isolation of plasmid DNA from bacteria and agarose gel electrophoresis of DNA
182.		February	12/02/2023			Production of competent cells and bacterial transformation
183.		February	19/02/2023			Isolation of plant genomic DNA, Restriction endonuclease digestion of plasmid and genomic DNA
184.		February	26/02/2023			Isolation of plant RNA, Quantification of DNA,RNA and reassociation kinetics of DNA
185.		March	05/03/2023			Polymerase chain reaction, Southern, Northern and Western Blotting
186.		March	12/03/2023			RAPD Analysis, Gene cloning
187.		March	19/03/2023			Preparation of media, surface sterilization and inoculation of explants
188.		March	26/03/2023			Initiation of callus and suspension cultures
189.		April	02/04/2023			Plant regeneration from callus cultures, Micropropagation of plants
190.		April	09/04/2023			Protoplast isolation and culture, Genetic transformation of plants using Agrobacterium tumefaciens
191.		April	16/04/2023			Induction of hairy root cultures using Agrobacterium rhizogenes, Direct gene transformation of plants using biolistic gun
192.		April	23/04/2023			Sequence alignment, Exploring Genebank Database and Blast Search

V135: Diploma In ENVIRONMENTAL SCIENCE{2021PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: Course 1: Environmental Science and Biology	September	04/09/2022	10.30am- 11.30am	Theory	Background and scope of environmental science:
2.		September	11/09/2022			Use of technology, media and people in environmental science, decision making and applications of Environmental science
3.		September	18/09/2022			Human impact on environment and its consequences
4.		September	25/09/2022			Definition of Ecology and sub divisions
5.		October	02/10/2022			Community Ecology
6.		October	09/10/2022			Biomes
7.		October	16/10/2022			Principal and Scope of Biology
8.		October	23/10/2022			Classification of ecosystem
9.		October	30/10/2022			Succession
10.		November	06/11/2022			Forest ecology
11.		November	13/11/2022			Effect of fire on forest ecosystem
12.		November	20/11/2022			Marine environment
13.	Sem01: Course 2: Environmental Education, Polices and Legislation	September	04/09/2022	11.30am- 12.30pm	Theory	Environmental Education
14.		September	11/09/2022			Environmental Policy
15.		September	18/09/2022			State of India ' s Environment(with respect to)
16.		September	25/09/2022			Emerging environmental concerns in India
17.		October	02/10/2022			Awareness of Society with respect to global terminology
18.		October	09/10/2022			Environmental Awareness
19.		October	16/10/2022			Global Environment Conservation Strategy -1
20.		October	23/10/2022			Global Environment Conservation Strategy - 2
21.		October	30/10/2022			Environmental Conventions and Agreements

22.		November	06/11/2022			Environmental Acts-1			
23.		November	13/11/2022			Environmental Acts-2			
24.		November	20/11/2022			The National Green Tribunal Act, 2010			
25.	Sem01: Course 3: Natural Resources and Their Conservation	September	04/09/2022	12.30pm- 1.30pm	Theory	Definition of resources, biotic and abiotic resources			
26.		September	11/09/2022			Biodiversity: Conservation, Global and National Concerns			
27.		September	18/09/2022			Biodiversity National Concerns			
28.		September	25/09/2022			Wildlife management and conservation			
29.		October	02/10/2022			Concept of sustainable use of wildlife			
30.		October	09/10/2022			Indian ethos of wildlife conservation			
31.		October	16/10/2022			Conservation of Wetlands, Watersheds, Ground water, Surface water			
32.		October	23/10/2022			Land use, land cover and soil conservation			
33.		October	30/10/2022			Methods of soil conservation and practices			
34.		November	06/11/2022			Forest resources, plantations, social forestry			
35.		November	13/11/2022			Human population growth and increasing demand for resources			
36.		November	20/11/2022			Natural resource -conservation and Natural resource Accounting			
37.		Sem01: Course 4: Lab Activities on Course 1, Course 2 and Course 3	September			04/09/2022	2.30pm – 4.30pm	Practical	Study of ecological pyramids (at least four)
38.			September			11/09/2022			Study of food chain – Any one example of fresh water, marine water and terrestrial food chain.
39.	September		18/09/2022	Estimation of Biomass of a given area					
40.	September		25/09/2022	Study of pond ecosystem					
41.	October		02/10/2022	Estimation of Dissolve oxygen(DO) of water sample					
42.	October		09/10/2022	Estimation of CO ₂ of given water sample					
43.	October		16/10/2022	Estimation of hardness of water					
44.	October		23/10/2022	Preparation of bio-fertilizer and study of its applications					
45.	October		30/10/2022	Determination of SAR (sodium absorption ratio) of soil					
46.	November		06/11/2022	Study of land degradation					
47.	November		13/11/2022	Estimation of Ni & Co elements from soil sample					

48.		November	20/11/2022			Measurement of intensity of solar radiations by Lux meter			
49.	Sem02: Course 5: Environmental Sustainability [MOOC]	February	05/02/2023	10.30am- 11.30am	Theory	Introduction to environment and society			
50.		February	12/02/2023			Introduction to Terms of Significance			
51.		February	19/02/2023			Trade & Environment- Concepts, issues and recent developments			
52.		February	26/02/2023			The Case of Western Ghats- The Gadgil Report			
53.		March	05/03/2023			The Forest Conservation Act, 1980			
54.		March	12/03/2023			Managing our environment for sustainability- Solar Energy			
55.		March	19/03/2023			Live Examples of Environment Friendly Technologies			
56.		March	26/03/2023			Sensitivity towards environment and environmental issues			
57.		April	02/04/2023			Awareness through knowledge			
58.		April	09/04/2023			Local strategies and innovations in Environmental Protection			
59.		April	16/04/2023			Active Participation in the resolution of Environmental Challenges			
60.		April	23/04/2023			Motivational Sustainability Environmental Sustainability – the conclusion			
61.		Sem02: Course 6: Environmental Chemistry	February			05/02/2023	11.30am- 12.30pm	Theory	Fundamentals of Environmental Chemistry
62.			February			12/02/2023			Soil Chemistry
63.	February		19/02/2023	Properties of water, water pollutants					
64.	February		26/02/2023	Chemical composition of Air and Water					
65.	March		05/03/2023	Radioactivity, it' s Types, Sources and Hazards					
66.	March		12/03/2023	Biological effects of radiation exposure					
67.	March		19/03/2023	Water treatment and environmental chemistry1					
68.	March		26/03/2023	Water treatment and environmental chemistry 2					
69.	April		02/04/2023	Tertiary treatment and Advanced waste water treatments					
70.	April		09/04/2023	Classical Methods					
71.	April		16/04/2023	Toxic chemicals					

72.		April	23/04/2023			Biochemical aspects			
73.	Sem02: Course 7: Environmental geosciences and Computer Applications	February	05/02/2023	12.30pm- 1.30pm	Theory	Principles			
74.		February	12/02/2023			Interior of the Earth, earth' s materials			
75.		February	19/02/2023			The earth systems and biosphere			
76.		February	26/02/2023			Elements			
77.		March	05/03/2023			Biochemical factors			
78.		March	12/03/2023			The Ocean Environment			
79.		March	19/03/2023			Climate			
80.		March	26/03/2023			Remote Sensing in Environmental Monitoring			
81.		April	02/04/2023			Geographical Information System (GIS)			
82.		April	09/04/2023			Information and communication technology in Environmental Science			
83.		April	16/04/2023			Introduction to web browsing			
84.		April	23/04/2023			Computer applications in environmental modelling			
85.		Sem02: Course 8: Lab Activities on Course 5, Course 6 and Course 7	February			05/02/2023	2.30pm – 4.30pm	Practical	Analysis of Soil and Water: Physical properties, chemical properties, nutrients, bacterial parameters
86.			February			12/02/2023			Analysis of Total hardness of water
87.	February		19/02/2023	Estimation of halides in water samples					
88.	February		26/02/2023	Estimation of sulphate in water samples					
89.	March		05/03/2023	Estimation of carbon di-oxide in water samples					
90.	March		12/03/2023	Estimation of non-respirable dust in air using dust samples					
91.	March		19/03/2023	Studies of models of various rock types					
92.	March		26/03/2023	Study of various ground water sources and its quality					
93.	April		02/04/2023	Study of various meteorological parameters and climate					
94.	April		09/04/2023	Student Tests					
95.	April		16/04/2023	Sample manuscript writing					
96.	April		23/04/2023	Study and use of various computer applications/models for environmental use					

V136: M.SC. (ENVIRONMENTAL SCIENCE){2021PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: Course 1: Environmental Science and Biology	September	04/09/2022	10.30am- 11.30am	Theory	Background and scope of environmental science:
2.		September	11/09/2022			Use of technology, media and people in environmental science, decision making and applications of Environmental science
3.		September	18/09/2022			Human impact on environment and its consequences
4.		September	25/09/2022			Definition of Ecology and sub divisions
5.		October	02/10/2022			Community Ecology
6.		October	09/10/2022			Biomes
7.		October	16/10/2022			Principal and Scope of Biology
8.		October	23/10/2022			Classification of ecosystem
9.		October	30/10/2022			Succession
10.		November	06/11/2022			Forest ecology
11.		November	13/11/2022			Effect of fire on forest ecosystem
12.		November	20/11/2022			Marine environment
13.	Sem01: Course 2: Environmental Education, Polices and Legislation	September	04/09/2022	11.30am- 12.30pm	Theory	Environmental Education
14.		September	11/09/2022			Environmental Policy
15.		September	18/09/2022			State of India ' s Environment(with respect to)
16.		September	25/09/2022			Emerging environmental concerns in India
17.		October	02/10/2022			Awareness of Society with respect to global terminology
18.		October	09/10/2022			Environmental Awareness
19.		October	16/10/2022			Global Environment Conservation Strategy -1
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22.		November	06/11/2022			Environmental Acts-1			
23.		November	13/11/2022			Environmental Acts-2			
24.		November	20/11/2022			The National Green Tribunal Act, 2010			
25.	Sem01: Course 3: Natural Resources and Their Conservation	September	04/09/2022	12.30pm- 1.30pm	Theory	Definition of resources, biotic and abiotic resources			
26.		September	11/09/2022			Biodiversity: Conservation, Global and National Concerns			
27.		September	18/09/2022			Biodiversity National Concerns			
28.		September	25/09/2022			Wildlife management and conservation			
29.		October	02/10/2022			Concept of sustainable use of wildlife			
30.		October	09/10/2022			Indian ethos of wildlife conservation			
31.		October	16/10/2022			Conservation of Wetlands, Watersheds, Ground water, Surface water			
32.		October	23/10/2022			Land use, land cover and soil conservation			
33.		October	30/10/2022			Methods of soil conservation and practices			
34.		November	06/11/2022			Forest resources, plantations, social forestry			
35.		November	13/11/2022			Human population growth and increasing demand for resources			
36.		November	20/11/2022			Natural resource -conservation and Natural resource Accounting			
37.		Sem01: Course 4: Lab Activities on Course 1, Course 2 and Course 3	September			04/09/2022	2.30pm – 4.30pm	Practical	Study of ecological pyramids (at least four)
38.			September			11/09/2022			Study of food chain – Any one example of fresh water, marine water and terrestrial food chain.
39.	September		18/09/2022	Estimation of Biomass of a given area					
40.	September		25/09/2022	Study of pond ecosystem					
41.	October		02/10/2022	Estimation of Dissolve oxygen(DO) of water sample					
42.	October		09/10/2022	Estimation of CO2 of given water sample					
43.	October		16/10/2022	Estimation of hardness of water					
44.	October		23/10/2022	Preparation of bio-fertilizer and study of its applications					
45.	October		30/10/2022	Determination of SAR (sodium absorption ratio) of soil					
46.	November		06/11/2022	Study of land degradation					
47.	November		13/11/2022	Estimation of Ni & Co elements from soil sample					

48.		November	20/11/2022			Measurement of intensity of solar radiations by Lux meter
49.	Sem03: Course 9: Environmental monitoring and Energy studies	September	04/09/2022	10.30am- 11.30am	Theory	Environmental Quality Assessment and Monitoring
50.		September	11/09/2022			Environmental Impact Assessment
51.		September	18/09/2022			Environmental Impact Assessment Techniques
52.		September	25/09/2022			Remote Sensing in Environmental Monitoring
53.		October	02/10/2022			About Energy
54.		October	09/10/2022			Bio catalysis and nonconventional energy
55.		October	16/10/2022			Biofuel production (bio-ethanol and biodiesel)
56.		October	23/10/2022			Production of biodegradable materials
57.		October	30/10/2022			Energy Use
58.		November	06/11/2022			Energy Conservation and Energy Economics
59.		November	13/11/2022			Solid wastes
60.		November	20/11/2022			Disposal in landfills
61.		Sem03: Course 10: Instrumentation and lab techniques	September			04/09/2022
62.	September		11/09/2022	Drilling equipment, pumping equipment		
63.	September		18/09/2022	Calorimetry and Spectrophotometry		
64.	September		25/09/2022	Microscopy		
65.	October		02/10/2022	Nanotechnology		
66.	October		09/10/2022	Nanomaterials		
67.	October		16/10/2022	Environmental Nano Remediation Technology		
68.	October		23/10/2022	Nano Filtration		
69.	October		30/10/2022	Laboratory safety		
70.	November		06/11/2022	Personal Protective Equipment [PPE]		
71.	November		13/11/2022	Administrative controls		
72.	November		20/11/2022	Response to specific incidents/ accidents		
73.	Sem03: Course 11:	September	04/09/2022			Environmental Microbiology
74.		September	11/09/2022			Microbial diversity and Metabolism
75.		September	18/09/2022			Microbial activities
76.		September	25/09/2022			Bio-indicators
77.		October	02/10/2022			Determination of microbiological quality

78.	Environmental Microbiology and Toxicology	October	09/10/2022	12.30pm- 1.30pm	Theory	Biosensor
79.		October	16/10/2022			Toxicology
80.		October	23/10/2022			Environmental Toxicology - 1
81.		October	30/10/2022			Nontoxicity
82.		November	06/11/2022			Environmental Toxicology - 2:
83.		November	13/11/2022			Safety regulations
84.		November	20/11/2022			Pollution of the ecosphere
85.		Sem03: Course 12: Lab Activities on Course 9, Course 10 and Course 11	September			04/09/2022
86.	September		11/09/2022	Determination of relative humidity from the atmosphere		
87.	September		18/09/2022	Determination of particulate matter from the industrial area by High Volume Sampler/Settling method		
88.	September		25/09/2022	Study of solar cells		
89.	October		02/10/2022	Case studies on energy efficiency analysis		
90.	October		09/10/2022	Study of various agro wastes as substrates for biofuel production		
91.	October		16/10/2022	Separation of a mixture of two amino acids by ascending and horizontal paper chromatography		
92.	October		23/10/2022	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		
93.	October		30/10/2022	Isolation and enumeration of microbes from environmental samples		
94.	November		06/11/2022	Evaluation of anti-microbial chemical agents		
95.	November		13/11/2022	Estimation of metals in soil, plants and animal tissue		
96.	November		20/11/2022	Case studies on environmental effects of pesticides		
97.	Sem02: Course 5:	February	05/02/2023	10.30am- 11.30am	Theory	Introduction to environment and society
98.		February	12/02/2023			Introduction to Terms of Significance
99.		February	19/02/2023			Trade & Environment- Concepts, issues and recent developments
100.		February	26/02/2023			The Case of Western Ghats- The Gadgil Report

101.	Environmental Sustainability [MOOC]	March	05/03/2023			The Forest Conservation Act, 1980
102.		March	12/03/2023			Managing our environment for sustainability- Solar Energy
103.		March	19/03/2023			Live Examples of Environment Friendly Technologies
104.		March	26/03/2023			Sensitivity towards environment and environmental issues
105.		April	02/04/2023			Awareness through knowledge
106.		April	09/04/2023			Local strategies and innovations in Environmental Protection
107.		April	16/04/2023			Active Participation in the resolution of Environmental Challenges
108.		April	23/04/2023			Motivational Sustainability Environmental Sustainability – the conclusion
109.	Sem02: Course 6: Environmental Chemistry	February	05/02/2023	11.30am- 12.30pm	Theory	Fundamentals of Environmental Chemistry
110.		February	12/02/2023			Soil Chemistry
111.		February	19/02/2023			Properties of water, water pollutants
112.		February	26/02/2023			Chemical composition of Air and Water
113.		March	05/03/2023			Radioactivity, it' s Types, Sources and Hazards
114.		March	12/03/2023			Biological effects of radiation exposure
115.		March	19/03/2023			Water treatment and environmental chemistry1
116.		March	26/03/2023			Water treatment and environmental chemistry 2
117.		April	02/04/2023			Tertiary treatment and Advanced waste water treatments
118.		April	09/04/2023			Classical Methods
119.		April	16/04/2023			Toxic chemicals
120.		April	23/04/2023			Biochemical aspects
121.	Sem02: Course 7: Environmental	February	05/02/2023	12.30pm- 1.30pm	Theory	Principles
122.		February	12/02/2023			Interior of the Earth, earth' s materials
123.		February	19/02/2023			The earth systems and biosphere
124.		February	26/02/2023			Elements
125.		March	05/03/2023			Biochemical factors
126.		March	12/03/2023			The Ocean Environment

127.	geosciences and Computer Applications	March	19/03/2023			Climate			
128.		March	26/03/2023			Remote Sensing in Environmental Monitoring			
129.		April	02/04/2023			Geographical Information System (GIS)			
130.		April	09/04/2023			Information and communication technology in Environmental Science			
131.		April	16/04/2023			Introduction to web browsing			
132.		April	23/04/2023			Computer applications in environmental modelling			
133.	Sem02: Course 8: Lab Activities on Course 5, Course 6 and Course 7	February	05/02/2023	2.30pm – 4.30pm	Practical	Analysis of Soil and Water: Physical properties, chemical properties, nutrients, bacterial parameters			
134.		February	12/02/2023			Analysis of Total hardness of water			
135.		February	19/02/2023			Estimation of halides in water samples			
136.		February	26/02/2023			Estimation of sulphate in water samples			
137.		March	05/03/2023			Estimation of carbon di-oxide in water samples			
138.		March	12/03/2023			Estimation of non-respirable dust in air using dust samples			
139.		March	19/03/2023			Studies of models of various rock types			
140.		March	26/03/2023			Study of various ground water sources and its quality			
141.		April	02/04/2023			Study of various meteorological parameters and climate			
142.		April	09/04/2023			Student Tests			
143.		April	16/04/2023			Sample manuscript writing			
144.		April	23/04/2023			Study and use of various computer applications/models for environmental use			
145.		Sem04: Course 13: Sustainable Management of Biodiversity [MOOC]	February			05/02/2023	10.30am- 11.30am	Theory	Basic concept of Biodiversity, Origin of Species, Value of Biodiversity
146.			February			12/02/2023			Ecosystem Services, Biodiversity in India
147.	February		19/02/2023	Introduction to Wetland Biodiversity					
148.	February		26/02/2023	Genetic resources					
149.	March		05/03/2023	Agro biodiversity					
150.	March		12/03/2023	Animal Genetic Resources					
151.	March		19/03/2023	Drivers of biodiversity loss					
152.	March		26/03/2023	Impact of Climate Change on Biodiversity					

153.		April	02/04/2023			Invasive Species as a Threat to Biodiversity, Consequences of Biodiversity Loss
154.		April	09/04/2023			Biodiversity conservation and sustainable management
155.		April	16/04/2023			Sustainable Management of Biodiversity
156.		April	23/04/2023			International Instruments to Conserve Biological Diversity
157.	Sem04: Course 14: Statistical Approaches and Modelling in Environmental Sciences	February	05/02/2023	11.30am- 12.30pm	Theory	Basics of Statistics
158.		February	12/02/2023			Statistical methods
159.		February	19/02/2023			Probability
160.		February	26/02/2023			Correlation
161.		March	05/03/2023			Regression
162.		March	12/03/2023			Testing of hypothesis
163.		March	19/03/2023			Introduction-Environmental modelling
164.		March	26/03/2023			Chemical transport models including basic principles and numerical methods
165.		April	02/04/2023			Inverse modelling
166.		April	09/04/2023			Transformation processes
167.		April	16/04/2023			Water quality modelling
168.	April	23/04/2023	Air quality modelling			
169.	Sem04: Course 15: Environmental issues and Human Health	February	05/02/2023	12.30pm- 1.30pm	Theory	Environmental pollution
170.		February	12/02/2023			Air sampling and monitoring techniques
171.		February	19/02/2023			Noise Pollution
172.		February	26/02/2023			Aquatic Pollution
173.		March	05/03/2023			Soil Pollution
174.		March	12/03/2023			Radioactive Pollution
175.		March	19/03/2023			Contemporary and emerging environmental issues
176.		March	26/03/2023			Basic principle of environmental health
177.		April	02/04/2023			Industrial Toxicology
178.		April	09/04/2023			Health maintenance
179.		April	16/04/2023			Treatment of variation
180.	April	23/04/2023	Environmental and occupational risk assessment			

181.	Sem04: Course 16: Project Work	February	05/02/2023	2.30pm – 4.30pm	Practical	Project work
182.		February	12/02/2023			Project work
183.		February	19/02/2023			Project work
184.		February	26/02/2023			Project work
185.		March	05/03/2023			Project work
186.		March	12/03/2023			Project work
187.		March	19/03/2023			Project work
188.		March	26/03/2023			Project work
189.		April	02/04/2023			Project work
190.		April	09/04/2023			Project work
191.		April	16/04/2023			Project work
192.		April	23/04/2023			Project work

V137: Diploma In Statistics {2021PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: DSS011:Basic Mathematics 01	September	04/09/2022	10.30am- 11.30am	Theory	Logic
2.		September	11/09/2022			Quantifiers
3.		September	18/09/2022			Sets Preliminaries
4.		September	25/09/2022			Properties of set operations, Venn Diagrams, Function or Mapping
5.		October	02/10/2022			The Real Number System
6.		October	09/10/2022			Extended Real Number System, Intervals in R, Bounded sets.
7.		October	16/10/2022			Completeness Axiom, Archimedean property of R, Open, Closed and Countable sets in R.
8.		October	23/10/2022			Algorithm
9.		October	30/10/2022			Basics of Sequences
10.		November	06/11/2022			Convergence of Sequences, Important theorems of Convergence of sequences
11.		November	13/11/2022			Preliminaries of Convergent Series
12.		November	20/11/2022			Series of Non negative terms
13.	Sem01: DSS012:Basic Mathematics 02	September	04/09/2022	11.30am- 12.30pm	Theory	Limit of function, Theorems on Limit.
14.		September	11/09/2022			Continuity, Types of discontinuity.
15.		September	18/09/2022			Theorems on Continuity, Some special types of functions.
16.		September	25/09/2022			Derivative of function, Differentiation Rules, Successive Differentiation.
17.		October	02/10/2022			Leibnitz's Theorem, Partial Differentiation, Euler's Theorem, Mean Value Theorem.

18.		October	09/10/2022			Indeterminate Forms and L' Hospital Rule, Maximum and Minimum Values.
19.		October	16/10/2022			Definite Integrals.
20.		October	23/10/2022			Properties of Definite Integrals.
21.		October	30/10/2022			Integrals of Irrational function
22.		November	06/11/2022			Matrix, Various types of Matrices, Arithmetic Operations on Matrices, Multiplication of Matrices, Determinant of Square Matrices, Inverse of Matrix.
23.		November	13/11/2022			Elementary Transformation of Matrix, Rank of matrix, System of simultaneous Linear Equations.
24.		November	20/11/2022			Linear Independence of Vectors, Eigen Value Problems, Cayley-Hamilton Theorem.
25.		Sem01: DSS013:Fundamentals of Statistics	September			04/09/2022
26.	September		11/09/2022	Graphing Distributions: Frequency Tables, Pie Charts, Bar Charts		
27.	September		18/09/2022	Graphing Quantitative Distributions: Stem and Leaf Displays, Histogram, Frequency Polygon, Box Plots, Line Graphs, DotPlots.		
28.	September		25/09/2022	Measure of Central Location- Arithmetic Mean, Median, Mode, Geometric Mean. Measure of Variability- Range, Coefficient of Range		
29.	October		02/10/2022	Variance, Standard Deviation, Percentiles, Quartiles, z-score, Empirical Rule, Chebyshev's Theorem Moments, Skewness and Kurtosis.		
30.	October		09/10/2022	Basic Concepts of Probability		
31.	October		16/10/2022	Permutation and Combination, Sample Space		
32.	October		23/10/2022	Events and their Probabilities, Complements, Intersections, Unions, Conditional Probability and Independent Events.		
33.	October		30/10/2022	Discrete Probability Distributions		

34.		November	06/11/2022			Discrete Random Variables, Probability Distributions for Discrete Random Variables, Mean, Standard Deviation
35.		November	13/11/2022			Binomial Distribution, Cumulative Probability Distribution Function for Binomial
36.		November	20/11/2022			Standard Discrete Distributions – Uniform, Poisson, Multinomial, Hypergeometric, Geometric, Negative Binomial.
37.	Sem01:DSS014:Excel Applications in Statistics	September	04/09/2022	2.30pm – 4.30pm	Practical	To start MS Excel, Enter Data, Edit and Manage Data.
38.		September	11/09/2022			To apply simple arithmetic operations on data.
39.		September	18/09/2022			To represent raw data using graphs and diagrams: line plot, Bar plot, subdivided bar plot, pie diagram, and histogram.
40.		September	25/09/2022			To draw frequency table for given data (raw, grouped), draw Frequency curve, less than and more than cumulative frequency curve, frequency polygon.
41.		October	02/10/2022			To draw Stem and Leaf diagram, box plot.
42.		October	09/10/2022			To calculate Mean (AM, GM, HM), Median, Mode for Raw Data.
43.		October	16/10/2022			To calculate Mean (AM, GM, HM), Median, Mode for Grouped Data.
44.		October	23/10/2022			To calculate Range, Variance Standard Deviation, Coefficient of Variation.
45.		October	30/10/2022			To calculate Mean Deviation about Mean, Median, Mode.
46.		November	06/11/2022			To find Covariance and Correlation.
47.		November	13/11/2022			To find probabilities for Bernoulli, Binomial, Poisson Distribution.
48.		November	20/11/2022			Fitting of Binomial Distribution, Fitting of Poisson Distribution, Fitting of Normal Distribution.
49.		February	05/02/2023			The Mean and Standard Deviation of the Sample Mean
50.		February	12/02/2023			The Sampling Distribution of Sampling Mean, The

	Sem02: DSS021:Inferential Statistics			10.30am- 11.30am	Theory	Sample Proportion.
51.		February	19/02/2023			Large Sample Estimation of Population Mean, Small Sample Estimation of Population Mean
52.		February	26/02/2023			Large Sample Estimation of Population Proportion, Sample Size Determination.
53.		March	05/03/2023			The Elements of hypotheses Testing, Large Sample Tests for Population Mean, Observed Significance of Test
54.		March	12/03/2023			Small Sample Tests for Population Proportion
55.		March	19/03/2023			Large Sample Tests for Population Proportion, Examples
56.		March	26/03/2023			Comparison of Two Population Mean: Large, Independent Samples.
57.		April	02/04/2023			Comparison of Two Population Mean: Small, Independent Samples
58.		April	09/04/2023			Comparison of Two Population Mean: Paired Samples, Comparison of Two Population Proportions, Sample Size Determination.
59.		April	16/04/2023			Chi-Square Tests and F- Tests: Chi-Square Test for Independence
60.		April	23/04/2023			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	05/02/2023	11.30am- 12.30pm	Theory	Fundamentals of sampling, Simple Random Sampling
62.		February	12/02/2023			Stratified Sampling, Ratio Method of Estimation
63.		February	19/02/2023			Regression Method of Estimation
64.		February	26/02/2023			Varying Probability Sampling, Double Sampling, Two Stage Sampling
65.		March	05/03/2023			Systematic Sampling, Cluster Sampling
66.		March	12/03/2023			Sampling in Successive Occasion, Non Sampling Errors.
67.		March	19/03/2023			Types of Correlation–Positive, Negative, Simple,

						Multiple, Linear, Nonlinear
68.		March	26/03/2023			Methods of studying Correlation-Scatter Diagram Method, ,, Graphic Method
69.		April	02/04/2023			Karl Pearson's Coefficient of Correlation Method, Method of Least Squares, Linear Relationships Between Variables, Linear Correlation Coefficient
70.		April	09/04/2023			Simple Linear Regression Model, Goodness of fit of Straight Line to Data
71.		April	16/04/2023			The Least Square Regression Line, The Sum of Standard Errors
72.		April	23/04/2023			Confidence Interval for β_1 , Testing Hypotheses about β_1 , The Coefficient of Determination, Estimation and Prediction.
73.	Sem02: DSS023:Design of Experiment	February	05/02/2023	12.30pm- 1.30pm	Theory	One way classification, Two way classification under Fixed Effect Model
74.		February	12/02/2023			Two way classification without interaction, Two way classification with interaction,
75.		February	19/02/2023			Tukey's Test for nonadditivity, Comparison of Variances, Fixed Effects Models, Random Effects Models, Mixed Effects Models.
76.		February	26/02/2023			Basic terms, Principles of Experimental Design: Randomization, Replication, and Local Control
77.		March	05/03/2023			Complete and Incomplete Block designs, Completely Randomize Designs (CRD): Layout of CRD, Procedure, Analysis, Expectations, Distributions, Decision Rules.
78.		March	12/03/2023			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	19/03/2023			Factorial Experiments with Factors at 2 levels (22

						Factorial Experiments) 23 Factorial Experiments
80.		March	26/03/2023			2n Factorial Experiments, Standard Order for Treatment Combinations
81.		April	02/04/2023			Confounding Arrangement, Orthogonal Treatment Combinations
82.		April	09/04/2023			Analysis of Variance in case of Confounded effects
83.		April	16/04/2023			Introduction to Analysis of Covariance Model, One way classification
84.		April	23/04/2023			Two way classification (with one observation per cell).
85.	Sem02: DSS024:R Programming for Statistics	February	05/02/2023	2.30pm – 4.30pm	Practical	Introduction to R, R-commands (creating Vectors, Replication of Numbers, Sequence Generation), Arithmetic Operations on Vectors, Matrix Operations.
86.		February	12/02/2023			To Draw Bar Plot, Multiple Bar Diagram, Sub-divided BarDiagram, Pie Chart, Stem and Leaf Diagram, Box Plot.
87.		February	19/02/2023			To Draw Frequency Distribution Table, Histogram, Frequency Polygon, Ogive Curve.
88.		February	26/02/2023			To Calculate Mean (A.M., G.M. ,H.M.) Median, Mode, Quartiles, Percentile.
89.		March	05/03/2023			To Calculate Range, Mean Deviation about (Mean, Median,Mode,), Variance, Coefficient Of Variation, Standard Deviation, Skewness, Kurtosis.
90.		March	12/03/2023			To Find Probabilities Based On Real Life Examples, To Find Probabilities for Binomial, Poisson, Geometric, Negative-Binomial Distributions
91.		March	19/03/2023			To Find Probabilities for Uniform, Exponential, Normal,Standard-Normal, Chi-Square, t, F Distributions.
92.		March	26/03/2023			To Find Correlation Using Scattered Plot, Karl – Pearson’sCoefficient Of Correlation.
93.		April	02/04/2023			To Draw Sample From-Simple Random Sampling With Replacement and Without Replacement, Stratified

					Sampling, Systematic Sampling.
94.		April	09/04/2023		One Sample Z-Test, One Sample t-Test, Two Sample t-Test, Paired t-Test.
95.		April	16/04/2023		Chi-Square Goodness Of Fit Test, Chi-Square Test Of Independence.
96.		April	23/04/2023		One-Way ANOVA, Two-Way ANOVA.

V141: M.SC. (PHYSICS){2022 Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	PHY111: Mathematical Methods in Physics	September	04/09/2022	10.30am- 11.30am	Theory	Vector Spaces, Inner product spaces
2.		September	11/09/2022			Linear transformations, Matrices
3.		September	18/09/2022			Laplace Transform, Properties of Laplace Transform
4.		September	25/09/2022			The inverse Laplace Transform
5.		October	02/10/2022			Applications of Laplace Transform
6.		October	09/10/2022			Linear Equations with Constant Coefficients
7.		October	16/10/2022			Dependence and independence of solutions
8.		October	23/10/2022			Applications of Second Order Linear Equations, The homogeneous equation of higher order
9.		October	30/10/2022			Fourier Integrals
10.		November	06/11/2022			Fourier Transforms
11.		November	13/11/2022			Inverse Fourier Transforms
12.		November	20/11/2022			Applications of Fourier Transforms
13.	PHY112: Classical Mechanics	September	04/09/2022	11.30am- 12.30pm	Theory	Mechanics of a System of Particles, D'Alembert's Principle and Lagrange's Equations
14.		September	11/09/2022			Central Force Motion, Kepler's Laws and Virial Theorem
15.		September	18/09/2022			Calculus of Variation, Euler's Equation and its Applications
16.		September	25/09/2022			Hamilton's Principle, Hamilton's Equation of Motion
17.		October	02/10/2022			Routh Procedure and the Least Action Principle
18.		October	09/10/2022			Canonical Transformations
19.		October	16/10/2022			Invariance under Canonical Transformations
20.		October	23/10/2022			Lagrange and Poission Brackets
21.		October	30/10/2022			Rigid Body Motion-Rotations in Plane and Space

22.		November	06/11/2022			The Euler Angles			
23.		November	13/11/2022			A Moving Coordinate Frame			
24.		November	20/11/2022			Rotational Dynamics of a Rigid Body			
25.	PHY113: Electronic Devices	September	04/09/2022	12.30pm- 1.30pm	Theory	Study of Timer IC 555, Study of VCO IC 566			
26.		September	11/09/2022			Study of PLL IC 565, Function generator using two OPAMPs with variable controls			
27.		September	18/09/2022			Voltage Regulator, Three pin regulators			
28.		September	25/09/2022			IC 723			
29.		October	02/10/2022			DC - DC converter			
30.		October	09/10/2022			Boolean Algebra and Logic Families			
31.		October	16/10/2022			Digital Logic circuits: Sequential Logic			
32.		October	23/10/2022			Counter			
33.		October	30/10/2022			Shift registers using IC 7495			
34.		November	06/11/2022			Digital to analog converters, Study of IC 0808			
35.		November	13/11/2022			Analog to digital converters			
36.		November	20/11/2022			Study of ICL 7106			
37.		PHY114 : Experimental Techniques in Physics	September			04/09/2022	2.30pm – 3.30pm	Theory	Vacuum Physics, Gas transport properties
38.			September			11/09/2022			Vacuum Technology and Surface Physics Vacuum System- II, Pumps for High Vacuum (HV) and Ultra High Vacuum (UHV)
39.	September		18/09/2022	Vacuum Gauges					
40.	September		25/09/2022	Low temperatures techniques					
41.	October		02/10/2022	low temperature production techniques					
42.	October		09/10/2022	Structural Characterization and Thermal Analysis					
43.	October		16/10/2022	Techniques used for XRD					
44.	October		23/10/2022	Characterization Techniques-I					
45.	October		30/10/2022	Characterization Techniques-II					
46.	November		06/11/2022	Morphological and Magnetic Characterization Electron Microscopy- Principle, Instrumentation and Working					
47.	November		13/11/2022	Probe Microscopy- Principle, Instrumentation and					

						Working
48.		November	20/11/2022			Magnetic Characterization- Principle, Instrumentation and Working
49.	PHY115: Physics I - Practical	September	04/09/2022	3.30pm – 5.30pm	Practical	To determine the specific rotation of a sugar using a polarimeter.
50.		September	11/09/2022			To Determination of Brewster's angle & estimation of refractive index of a given transparent material by using spectrometer and sodium lamp.
51.		September	18/09/2022			To calculate the velocity of ultrasonic sound through different liquid media.
52.		September	25/09/2022			Magnetic susceptibility of paramagnetic material by Quincke's method
53.		October	02/10/2022			To find the terminal velocity of the drop ("e/m" by Millikan oil drop method).
54.		October	09/10/2022			Determination of Rydberg's constant using Hydrogen discharge tube.
55.		October	16/10/2022			To study and test CVCC power supply for load and line regulation.
56.		October	23/10/2022			Determination of ionic conductivity & activation energy of NaCl/KCl solid specimen.
57.		October	30/10/2022			To investigate the characteristics of radiation emitted by bodies at elevated temperatures (Black body radiation) and determine various constants.
58.		November	06/11/2022			To investigate the characteristics of radiation emitted by bodies at elevated temperatures (Black body radiation) and determine various constants.
59.		November	13/11/2022			To study and observe the microstructure of pure metals and continuous solid solutions (Materials: Cu, Fe, Zn(as cast), Cu-Ni(as cast) and Cu-Ni (annealed))
60.		November	20/11/2022			To study and observe the microstructure of pure metals and continuous solid solutions (Materials: Cu, Fe, Zn(as cast), Cu-Ni(as cast) and Cu-Ni (annealed))

61.	PHY116: Electronics Devices - Practical	November	27/11/2022	9:30am - 11:30am	Practical	To design, build and test Astable /monostablemultivibrator using IC 741/IC 555.		
62.		November	27/11/2022	11:30am - 1:30pm		To design, build and test Astable /monostablemultivibrator using IC 741/IC 555.		
63.		November	27/11/2022	2:30pm - 4:30pm		To Build and test SMPS power supply.		
64.		November	27/11/2022	4:30pm - 6:30pm		To simplify the given SOP expression and to realize it using Basic gates and Universal gates		
65.		December	04/12/2022	9:30am - 11:30am		To Design, built and test oscillator – Wien Bridge oscillator / phase shift oscillator using OP-AMP.		
66.		December	04/12/2022	11:30am - 1:30pm		To Design, build and test Voltage to Frequency / Frequency to voltage converter using OP-AMP		
67.		December	04/12/2022	2:30pm - 4:30pm		To Design, build & test square, triangular and sine wave generator using IC -741.		
68.		December	04/12/2022	4:30pm - 6:30pm		To Study of voltage control oscillator using IC 566.		
69.		December	11/12/2022	9:30am - 11:30am		To design and setup a Frequency Multiplier circuit using PLL IC-565 to multiply the input frequency		
70.		December	11/12/2022	11:30am - 1:30pm		To design and setup a Frequency Multiplier circuit using PLL IC-565 to multiply the input frequency		
71.		December	11/12/2022	2:30pm - 4:30pm		To Build and test Function generator using IC –8038		
72.		December	11/12/2022	4:30pm - 6:30pm		To Design, build and test the DC to DC converter circuit		
73.		GEN203: Value Education	September	04/09/2022		05.30am- 06.30pm	Theory	Value & Value Education
74.			September	11/09/2022				Inside Out
75.	September		18/09/2022	Habit Of Proactivity				
76.	September		25/09/2022	Habit Of Personal Leadership				
77.	October		02/10/2022	Habit Of Personal Management				
78.	October		09/10/2022	Public Victory				
79.	October		16/10/2022	Interpersonal Leadership (Win-Win)				
80.	October		23/10/2022	Principles Of Empathic Communication				
81.	October		30/10/2022	Principles Of Creative Cooperation				
82.	November		06/11/2022	Principles of balanced self-renewal				

83.		November	13/11/2022			Inside-Out Again			
84.		November	20/11/2022			Habit Of Greatness			
85.	PHY121: Quantum Mechanics	February	05/02/2023	10.30am- 11.30am	Theory	Introduction to Quantum Mechanics, Bound States Linear Vector Space (LVS), Function Spaces			
86.		February	12/02/2023			Classical vs Quantum Mechanics			
87.		February	19/02/2023			Schrodinger and Heisenberg Pictures			
88.		February	26/02/2023			Hydrogen Atom & Wave Functions			
89.		March	05/03/2023			Harmonic Oscillator			
90.		March	12/03/2023			Stern-Gerlach Experiment			
91.		March	19/03/2023			Addition of Angular Momentum: Quantum Physics			
92.		March	26/03/2023			Density Matrix formalism			
93.		April	02/04/2023			Rotation and Spin Angular Momentum			
94.		April	09/04/2023			Quantum Information			
95.		April	16/04/2023			Approximation methods in Quantum Mechanics			
96.		April	23/04/2023			Approximation methods and special topics			
97.		PHY122: Atomic and Molecular Physics	February			05/02/2023	11.30am- 12.30pm	Theory	Atomic structure and atomic spectra, Exclusion principle
98.			February			12/02/2023			Electron spectra, Zeeman effect
99.	February		19/02/2023	Molecular Spectra , Electronics spectra					
100.	February		26/02/2023	Frank – Condon principle					
101.	March		05/03/2023	Rotational Spectra					
102.	March		12/03/2023	ESR, Hamiltonian					
103.	March		19/03/2023	NMR					
104.	March		26/03/2023	Applications of NMR					
105.	April		02/04/2023	Laue theory of X-ray diffraction					
106.	April		09/04/2023	Brillouin zone					
107.	April		16/04/2023	Modes of Vibration					
108.	April	23/04/2023	Lattice heat capacity						
109.		February	05/02/2023			Multipole expansions, linear quadrupole potential and field			
110.		February	12/02/2023			Faraday's law, Maxwell's equations			

111.	PHY123: Electrodynamics	February	19/02/2023	12.30am- 01.30pm	Theory	Energy relations in quasi-stationary current systems, Poynting's theorem
112.		February	26/02/2023			Electromagnetic wave equations, Electromagnetic waves
113.		March	05/03/2023			Inhomogeneous wave equations
114.		March	12/03/2023			Gauge transformations
115.		March	19/03/2023			Wave equations
116.		March	26/03/2023			Hertz potential
117.		April	02/04/2023			Special theory of relativity
118.		April	09/04/2023			Lorentz transformations
119.		April	16/04/2023			Minkowski's space-time diagram
120.		April	23/04/2023			Four vector potential
121.	PHY124: "C" Programming and Computational Methods	February	05/02/2023	2.30pm – 3.30pm	Theory	Concepts of programming, Algorithm development
122.		February	12/02/2023			Flow charts and Algorithms, Types of programming language
123.		February	19/02/2023			C Programming , Input/output functions
124.		February	26/02/2023			Formatted input/output Control statements, Use of Library functions
125.		March	05/03/2023			Arrays and Pointers in C
126.		March	12/03/2023			Function
127.		March	19/03/2023			Storage Classes
128.		March	26/03/2023			Graphics
129.		April	02/04/2023			Computational Physics
130.		April	09/04/2023			Iterative methods: bi-section method
131.		April	16/04/2023			Newton Raphson method
132.		April	23/04/2023			Trapezoidal rule and Simpson's 1/3rd rule
133.		February	05/02/2023	3.30pm –	Practical	To measure resistivity of a semiconductor by four probe method at different temperatures and Determination of band gap.
134.		February	12/02/2023			To determine Lande's g factor of DPPH using

	PHY125: Physics II - Practical			5.30pm		Electron-Spin resonance (E.S.R.) Spectrometer.			
135.		February	19/02/2023			To determine the magnetic susceptibility of a paramagnetic sample by measuring the force exerted on the sample by a magnetic field gradient			
136.		February	26/02/2023			Susceptibility, Gauy method To determine skin depth in Al using electromagnetic radiation, Skin depth in Al using electromagnetic radiation.			
137.		March	05/03/2023			To determine Counting statistics by using G.M. tube.			
138.		March	12/03/2023			To determine End point energy and Absorption coefficient using G.M. tube.			
139.		March	19/03/2023			To determine λ Michelson Interferometer.			
140.		March	26/03/2023			To determine of thickness of thin transparent sheet like mica using Michelson interferometer			
141.		April	02/04/2023			To demonstrate the wave nature of the electron by Electron Diffraction.			
142.		April	09/04/2023			To Study of Thermionic Emission.			
143.		April	16/04/2023			To determine wavelength of monochromatic source using Fabry-Parot Etalon.			
144.		April	23/04/2023			To measure electrical conductivity of silicon/germanium material at different temperatures by Four Probe method.			
145.		PHY126: "C" Programming- Practical	April			30/04/2023	9:30am - 11:30am	Practical	Sum of digits of an integer , To find factorial of a number
146.			April			30/04/2023	11:30am - 1:30pm		Checking and printing of prime numbers , To find $\sin(x)$, $\cos(x)$ using series method
147.			April			30/04/2023	2:30pm - 4:30pm		Sorting of (1) Numerical data (2) Character type data-ascending, descending., Use of pointers – sorting (any one method of sorting)
148.	April		30/04/2023	4:30pm - 6:30pm	Matrix operations – addition, subtraction, multiplication, Root of equation-Bisection method, Newton Raphson method				

149.		May	07/05/2023	9:30am - 11:30am		Numerical integration- Trapezoidal, Simpson's 1/3rd rule., Roots of an algebraic equation (Bisection)
150.		May	07/05/2023	9:30am - 11:30am		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.)
151.		May	07/05/2023	11:30am - 1:30pm		Bessel functions of the first kind using the standard recurrence relation.
152.		May	07/05/2023	2:30pm - 4:30pm		Interpolation: Interpolate the value of a function at a point. Use Lagrange interpolation method.
153.		May	14/05/2023	4:30pm - 6:30pm		Rotation of matrix: Rotate the elements of a n x n matrix in clockwise/ anticlockwise direction and display the matrices (n>=5).
154.		May	14/05/2023	9:30am - 11:30am		Inverse of a matrix: Find the inverse of anxn matrix and display both matrices.
155.		May	14/05/2023	11:30am - 1:30pm		Trapezoidal/ Simpson rule: Evaluate a given function f(x) using Trapezoidal/ Simpson rule correct up to given accuracy by successively halving the step size.
156.		May	14/05/2023	2:30pm - 4:30pm		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.
157.		GEN121: Cyber Security	February	05/02/2023		05.30am- 06.30pm
158.	February		12/02/2023	What Is Data Privacy?		
159.	February		19/02/2023	Computer Security Threats		
160.	February		26/02/2023	Online Scams & Frauds		
161.	March		05/03/2023	What Is Phishing?		
162.	March		12/03/2023	Ransomware		
163.	March		19/03/2023	How To Keep Your Kids Safe Online		
164.	March		26/03/2023	How To Avoid Getting Addicted To Facebook		
165.	April		02/04/2023	Dos And Don'ts Of Internet Security		
166.	April		09/04/2023	What Is Browser Sandbox Protection?		

167.		April	16/04/2023			Gmail Security & Mobile Device Security
168.		April	23/04/2023			Tips And Tricks On Securing Your Android Devices & Top 10 Web Hacking Techniques Of 2014

V142: M.SC. (CHEMISTRY) {2022 Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	CHE111:	September	04/09/2022	10.30am- 11.30am	Theory	Inorganic Clusters
2.		September	11/09/2022			Boranes and Boron Hydrides
3.		September	18/09/2022			Isopoly and Heteropoly Acids
4.		September	25/09/2022			Bioinorganic Chemistry
5.		October	02/10/2022			Metallic State & Basic Organometallic Chemistry
6.		October	09/10/2022			Basic Principles of ligand-field Theory
7.		October	16/10/2022			Metal-Ligand Equilibria in Solution
8.		October	23/10/2022			Heterogeneous catalytic reactions & Acid-base behavior reaction
9.		October	30/10/2022			Alkenes-isomerization of alkenes
10.		November	06/11/2022			Chemistry in Non- aqueous solvents
11.		November	13/11/2022			Nuclear Chemistry and Nuclear Reactions
12.		November	20/11/2022			Nuclear Reactions & Fertile isotopes
13.	CHE112:	September	04/09/2022	11.30am- 12.30pm	Theory	Reaction Mechanism & Huckel's Theory of Aromaticity
14.		September	11/09/2022			Bonding Properties of System & Aromatic Character
15.		September	18/09/2022			Addition reactions and Concepts in organic synthesis
16.		September	25/09/2022			Addition reactions to carbonyl compounds
17.		October	02/10/2022			Concepts in organic synthesis
18.		October	09/10/2022			Reagents in organic synthesis
19.		October	16/10/2022			Electrophilic substitution reactions
20.		October	23/10/2022			Aromatic & Aliphatic electrophilic substitution reactions
21.		October	30/10/2022			Typical electrophilic substitution reaction
22.		November	06/11/2022			Nucleophilic substitution reactions and Elimination reactions

23.		November	13/11/2022			Stereochemistry of Nucleophilic substitution reaction			
24.		November	20/11/2022			Aromatic Nucleophilic substitution reactions & Elimination reactions			
25.	CHE113:	September	04/09/2022	12.30pm- 1.30pm	Theory	Failure of classical mechanics and Operators			
26.		September	11/09/2022			Time dependent and time independent Schrodinger equations			
27.		September	18/09/2022			Particle in a one-dimensional box			
28.		September	25/09/2022			Harmonic oscillator mode			
29.		October	02/10/2022			Approximation Methods & Radial distribution functions			
30.		October	09/10/2022			The perturbation theory & The variation method			
31.		October	16/10/2022			Theories of Reaction Rates & Arrhenius parameters			
32.		October	23/10/2022			Transition state theory & Elementary Reactions in Solutions			
33.		October	30/10/2022			Surface Chemistry			
34.		November	06/11/2022			Role of surface in catalysis			
35.		November	13/11/2022			Enzyme catalysis			
36.		November	20/11/2022			Heterogeneous catalysis			
37.		CHE114 :	September			04/09/2022	2.30pm – 3.30pm	Theory	UV-Visible Spectroscopy & IR Spectroscopy:
38.			September			11/09/2022			Instrumentation and application: BET & Principles and Applications
39.	September		18/09/2022	Thermal analysis & Thermo mechanical analysis					
40.	September		25/09/2022	Description of ESCA spectrometer					
41.	October		02/10/2022	Auger electron spectroscopy					
42.	October		09/10/2022	Diffraction Methods & Raman spectroscopy					
43.	October		16/10/2022	ESR spectroscopy Theory					
44.	October		23/10/2022	Identification of free radicals					
45.	October		30/10/2022	Atomic absorption spectroscopy (AAS)					
46.	November		06/11/2022	Plasma sources & applications of flame emission spectrometry					
47.	November		13/11/2022	Instrumentation & Interference applications of AAS					

48.		November	20/11/2022			Inductively coupled Plasma Spectroscopy
49.	CHE115:	September	04/09/2022	3.30pm – 5.30pm	Practical	Analysis of ore (Any two) a) Pyrolusite ore - Estimation of silica gravimetrically and Manganese volumetrically. b) Haematite - Estimation of copper volumetrically and Iron gravimetrically.
50.		September	11/09/2022			Analysis of binary mixtures by gravimetric and volumetric method (Any two) a) Copper- Nickel b) Copper -Magnesium c) Copper-Zinc
51.		September	18/09/2022			Preparation of the following complexes and determination of its purity (Any two) a) Potassium trioxalatoferate(III)trihydrate b) Tris(acetylacetonato)iron(III) c) Potassium di aqua bis(oxalato) chromate (III) d) Prussian Blue (Potassium Ferric Ferro cyanide)
52.		September	25/09/2022			Drug Analysis (Any One) a) Determination of iron from given drug sample. b) Determination of Magnesium from given Milk powder
53.		October	02/10/2022			Thermochemistry (Any two salts) To determine the lattice energy of binary salts (NaCl, KCl, and CaCl ₂).
54.		October	09/10/2022			Chromatography (any two) a) Determination of the R _f value of Pb, Cu, and Cd ions by using paperchromatographic technique. b) Determination of the R _f value of Fe, Al, Cr ions by using paper chromatographic technique. c) Determination of the R _f value of Ba, Sr, Ca ions by using paper chromatographic technique.
55.		October	16/10/2022			To determine the strength of given mixture of carbonate and bicarbonate by pH metric method
56.		October	23/10/2022			To determine Ca in the given solution by flame

						photometrically, by calibration curve Method.
57.		October	30/10/2022			Spectrophotometry (any one experiments) a) Estimation of phosphate from waste water by calibration curve method b) Estimation of Manganese from steel.
58.		November	06/11/2022			To determine the amount of copper present by iodometric method (potentiometrically)
59.		November	13/11/2022			Estimation of Boric acid using NH ₄ OH by conductometric method.
60.		November	20/11/2022			Colorimetric analysis (Any 2) Estimation of copper, nickel, zinc, lead, chromium, Iron
61.	CHE116:	November	27/11/2022	9:30am - 11:30am	Practical	Qualitative analysis: Separation and identification of the two component/Binary mixtures using Chemical and physical methods.
62.		November	27/11/2022	11:30am - 1:30pm		Thin layer chromatography (TLC).
63.		November	27/11/2022	2:30pm - 4:30pm		Column chromatography and steam distillation techniques.
64.		November	27/11/2022	4:30pm - 6:30pm		Preparation of Derivatives: (Each Derivative of at least one Compounds) (Any 2): Oxime, 2, 4-DNP, Acetyl, Benzoyl, Semicarbazone, Anilide, Amide, Aryloxyacetic acid, Ester.
65.		December	04/12/2022	9:30am - 11:30am		Benzophenone to Benzhydrol.
66.		December	04/12/2022	11:30am - 1:30pm		Acetoaceticester to Pyrazolone.
67.		December	04/12/2022	2:30pm - 4:30pm		Paramino Benzoic Acid to Parachloro Benzoic Acid.
68.		December	04/12/2022	4:30pm - 6:30pm		2-methoxy naphthalene to 1- formyl-2-methoxy naphthalene.
69.		December	11/12/2022	9:30am - 11:30am		Estimation of glucose.
70.		December	11/12/2022	11:30am - 1:30pm		Estimation of nitro compound.
71.		December	11/12/2022	2:30pm - 4:30pm		Chlorobenzene- 2,4- dinitrochloro benzene - 2,4-dinitrophenol.
72.		December	11/12/2022	4:30pm - 6:30pm		Acetophenone -Oxime - Acetanilide.

73.	GEN203: Value Education	September	04/09/2022	05.30am- 06.30pm	Theory	Value & Value Education			
74.		September	11/09/2022			Inside Out			
75.		September	18/09/2022			Habit Of Proactivity			
76.		September	25/09/2022			Habit Of Personal Leadership			
77.		October	02/10/2022			Habit Of Personal Management			
78.		October	09/10/2022			Public Victory			
79.		October	16/10/2022			Interpersonal Leadership (Win-Win)			
80.		October	23/10/2022			Principles Of Empathic Communication			
81.		October	30/10/2022			Principles Of Creative Cooperation			
82.		November	06/11/2022			Principles of balanced self-renewal			
83.		November	13/11/2022			Inside-Out Again			
84.		November	20/11/2022			Habit Of Greatness			
85.		CHE121:	February			05/02/2023	10.30am- 11.30am	Theory	Coordination Chemistry & Bonding
86.			February			12/02/2023			Molecular orbital theory & Td & square planar symmetries
87.	February		19/02/2023	Electronic spectra of complexes & Orgel diagram and Tanabe					
88.	February		26/02/2023	Metal carbonyls & Nitrosyl complexes, dinitrogen complexes					
89.	March		05/03/2023	Carbocyclic pi complexes and Reaction of coordination compounds					
90.	March		12/03/2023	Arene complexes-complexes of biochemical importance					
91.	March		19/03/2023	Reactions of coordination compounds					
92.	March		26/03/2023	Theories of Electron transfer reactions					
93.	April		02/04/2023	Symmetry elements and symmetry operations					
94.	April		09/04/2023	Principal axis and subsidiary axes					
95.	April		16/04/2023	Symmetry operations and order of a group					
96.	April		23/04/2023	Matrix representations of symmetry operations					
97.			February	05/02/2023					Molecular rearrangements & Migration to carbonyl carbon

98.	CHE122:	February	12/02/2023	11.30am- 12.30pm	Theory	Rearrangements to electron deficient nitrogen and oxygen
99.		February	19/02/2023			Non-cyclic rearrangements
100.		February	26/02/2023			Conformational analysis and stereochemistry
101.		March	05/03/2023			Stereochemistry of simple addition and elimination reactions
102.		March	12/03/2023			Planar chirality & Molecular chirality
103.		March	19/03/2023			Radical reactions & Radical substitution
104.		March	26/03/2023			Typical reactions & Oxidation and reductions mechanisms
105.		April	02/04/2023			Organic Photochemistry
106.		April	09/04/2023			Paterno-Buchi reaction
107.		April	16/04/2023			Pericyclic reactions
108.		April	23/04/2023			Cycloaddition-[2+2] addition-Diel's Alder reaction
109.		CHE123:	February			05/02/2023
110.	February		12/02/2023	Duhem-Margules equation and its applications & Henry's law		
111.	February		19/02/2023	Statistical Thermodynamics		
112.	February		26/02/2023	Partition function and its significance		
113.	March		05/03/2023	Thermodynamic probability and entropy		
114.	March		12/03/2023	Application to monoatomic gases		
115.	March		19/03/2023	Spectroscopy & Rotational (microwave) spectroscopy		
116.	March		26/03/2023	Fundamental vibrational frequencies & Raman Spectroscopy		
117.	April		02/04/2023	Macromolecules		
118.	April		09/04/2023	Degree of polymerization and molecular weight		
119.	April		16/04/2023	Chemistry of polymerization		
120.	April		23/04/2023	Electronically conducting polymers, thermodynamics of polymer solutions		
121.		February	05/02/2023			Basics of Analytical Chemistry & Classification of

	CHE124:			2.30pm – 3.30pm	Theory	analytical techniques
122.		February	12/02/2023			Types and sources of error & Sampling
123.		February	19/02/2023			Quantitative Analysis
124.		February	26/02/2023			Complexometric titrations-stability of complexes & Redox Equibria
125.		March	05/03/2023			Gravimetric Analysis
126.		March	12/03/2023			Chromatography
127.		March	19/03/2023			Column chromatography
128.		March	26/03/2023			Gas Chromatography & HPLC
129.		April	02/04/2023			Electro Analytical Techniques - Polarography
130.		April	09/04/2023			Electro Analytical Techniques - Amperometry
131.		April	16/04/2023			Electro Analytical Techniques - Voltammetry
132.		April	23/04/2023			Voltametry - quantitative and qualitative aspects
133.	CHE125:	February	05/02/2023	3.30pm – 5.30pm	Practical	Determine the conductance of strong electrolyte (KCl/ NaCl/ AgNO ₃ /HCl) at various concentrations and verify the applicability of DHO equation.
134.		February	12/02/2023			Determination of degree of hydrolysis and hydrolysis constant of sodium acetate conductometrically.
135.		February	19/02/2023			To determine standard free energy change ΔG^0 and equilibrium constant for the reaction $\text{Cu} + 2\text{Ag}^+ = \text{Cu}^{2+} + 2\text{Ag}$ Potentiometrically
136.		February	26/02/2023			To titrate ferrous ammonium sulphate solution with potassium dichromate solution potentiometrically using bimetallic electrode pair.
137.		March	05/03/2023			Determination of Hammett constant of a given substituted benzoic acid by pH measurements.
138.		March	12/03/2023			To determine the amount of aspirin in the given tablet.
139.		March	19/03/2023			To determine pK _a and K _a of given indicator by colorimetry/ spectrophotometry.
140.		March	26/03/2023			Polarimetric determination of the specific rotation of camphor in benzene and carbon tetrachloride.

141.		April	02/04/2023			To determine the rate constant for depolymerization of diacetone alcohol catalyzed by sodium hydroxide using dilatometer.
142.		April	09/04/2023			To determine the order of the reaction between potassium persulphate and potassium iodide by fractional change method.
143.		April	16/04/2023			Surface Chemistry: To determine the critical micelle concentration of soap by surface tension by drop number method
144.		April	23/04/2023			To study the effect of addition of an electrolyte (KCl /NaCl /NH ₄ Cl / Na ₂ SO ₄ / K ₂ SO ₄) on solubility of an organic acid (benzoic acid or salicylic acid).
145.	CHE126:	April	30/04/2023	9:30am - 11:30am	Practical	To verify Beer-Lambert's Law for potassium permanganate solution and hence to determine the molar extinction coefficient and unknown concentration of given sample Spectrophotometrically
146.		April	30/04/2023	11:30am -1:30pm		To determine the iron potentiometrically by titrating with potassium dichromate
147.		April	30/04/2023	2:30pm - 4:30pm		To verify the Beer-Lamberts Law and determine the concentration of given organic dye solution colorimetrically/ spectrophotometrically.
148.		April	30/04/2023	4:30pm - 6:30pm		Determination of sodium from the fertilizer sample using cation exchange chromatography
149.		May	07/05/2023	9:30am - 11:30am		Separation and estimation of Cd ²⁺ and Zn ²⁺ by ion exchange chromatography for given Cd ²⁺ and Zn ²⁺ mixture.
150.		May	07/05/2023	9:30am - 11:30am		Chromatographic separation of sugars, amino acids by paper, T.L.C. and Ion exchange methods (both qualitative and quantitative method) separation organic compounds by column chromatography.
151.		May	07/05/2023	11:30am -1:30pm		Estimation of milk powder for Ca, Fe and P content.
152.		May	07/05/2023	2:30pm - 4:30pm		Determination of chemical oxygen demand (COD) of

						polluted water samples.
153.		May	14/05/2023	4:30pm - 6:30pm		Determination of percentage purity of commercial washing soda by potentiometric titration.
154.		May	14/05/2023	9:30am - 11:30am		Estimation of vitamin B2 in drug sample by fluorometry.
155.		May	14/05/2023	11:30am -1:30pm		Determination of percentage purity of electrolytic copper by electrogravimetry.
156.		May	14/05/2023	2:30pm - 4:30pm		To estimate the amount of NH4Cl colorimetrically using Nessler's Reagent
157.	GEN121: Cyber Security	February	05/02/2023	05.30am- 06.30pm	Theory	Introduction To Cyber Security
158.		February	12/02/2023			What Is Data Privacy?
159.		February	19/02/2023			Computer Security Threats
160.		February	26/02/2023			Online Scams & Frauds
161.		March	05/03/2023			What Is Phishing?
162.		March	12/03/2023			Ransomware
163.		March	19/03/2023			How To Keep Your Kids Safe Online
164.		March	26/03/2023			How To Avoid Getting Addicted To Facebook
165.		April	02/04/2023			Dos And Don'ts Of Internet Security
166.		April	09/04/2023			What Is Browser Sandbox Protection?
167.		April	16/04/2023			Gmail Security & Mobile Device Security
168.		April	23/04/2023			Tips And Tricks On Securing Your Android Devices & Top 10 Web Hacking Techniques Of 2014

V143: M.Sc. (ZOOLOGY) {2022 Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	ZGY111: Biochemistry	September	04/09/2022	10.30am- 11.30am	Theory	Biomolecules & Amino Acids
2.		September	11/09/2022			Proteins & Protein Classification
3.		September	18/09/2022			Structural Levels Of Protein
4.		September	25/09/2022			Analytical And Separation Techniques
5.		October	02/10/2022			Sequencing
6.		October	09/10/2022			Vitamins
7.		October	16/10/2022			Enzyme
8.		October	23/10/2022			Enzyme Classification
9.		October	30/10/2022			Enzyme Kinetics-I
10.		November	06/11/2022			Enzyme Kinetics- II
11.		November	13/11/2022			Introduction Of Metabolism And Overview & Glycolysis And Gluconeogenesis
12.		November	20/11/2022			Lipid Metabolism & Protein Metabolism
13.	ZGY112: Cell Biology	September	04/09/2022	11.30am- 12.30pm	Theory	History And Basic Information Of Cell & Cell Organization
14.		September	11/09/2022			Bio Membranes & Membrane Transport
15.		September	18/09/2022			Nucleus & Mitochondria
16.		September	25/09/2022			Endoplasmic Reticulum
17.		October	02/10/2022			Golgi Complex
18.		October	09/10/2022			Cell Surface Receptors
19.		October	16/10/2022			Cell Junctions
20.		October	23/10/2022			Cell Adhesion Molecules
21.		October	30/10/2022			Cytoskeleton
22.		November	06/11/2022			Cell Cycle
23.		November	13/11/2022			Cell Division
24.		November	20/11/2022			Apoptosis & Cancer

25.	ZGY113: Applied Zoology	September	04/09/2022	12.30pm- 1.30pm	Theory	Aquaculture			
26.		September	11/09/2022			Maintenance Of Physicochemical Parameter For Fish Culture			
27.		September	18/09/2022			Construction And Management Of Fish Culture Pond			
28.		September	25/09/2022			Pearl Culture			
29.		October	02/10/2022			Apiculture & Life History Of Honey Bee			
30.		October	09/10/2022			Lac Insect			
31.		October	16/10/2022			Introduction To Sericulture, Different Species Of Silkworm, Taxonomy, Silk Production In India			
32.		October	23/10/2022			Life Cycle Of Bombyx Mori			
33.		October	30/10/2022			Cultivation & Cocoons			
34.		November	06/11/2022			Vermiculture And Vermi Compost			
35.		November	13/11/2022			Domestic Animals & Dairy Farming			
36.		November	20/11/2022			Prawn/Shrimp Farming			
37.		ZGY114 : Biodiversity & Conservation	September			04/09/2022	2.30pm – 3.30pm	Theory	Introduction To Biodiversity & Biogeography Regions Of India
38.			September			11/09/2022			Biodiversity And Ecosystem Function & Importance Of Conservation
39.	September		18/09/2022	Causes For Depletion Of Wildlife With Special Reference To India					
40.	September		25/09/2022	Special Conservation Projects In India					
41.	October		02/10/2022	Climate And Climate Change & Environmental Stress					
42.	October		09/10/2022	Conservation Planning Of Biodiversity And Climate Change					
43.	October		16/10/2022	Global Biological Impacts Of Climate Change					
44.	October		23/10/2022	Threats To Biodiversity & Conservation Challenges In The Twenty First					
45.	October		30/10/2022	Field Techniques In Wildlife Studies					
46.	November		06/11/2022	Biodiversity Act And Related International Conventions					
47.	November		13/11/2022	Sustainable Development					

48.		November	20/11/2022			Visit To Wildlife Sanctuaries
49.	ZGY115: Lab Activity on Biochemistry & Cell Biology	September	04/09/2022	3.30pm – 5.30pm	Practical	Protein Determination
50.		September	11/09/2022			Glucose Determination
51.		September	18/09/2022			Lipids Determination
52.		September	25/09/2022			Estimation Of Amino Acids
53.		October	02/10/2022			Estimation Of Carbohydrates (Sugar)
54.		October	09/10/2022			Determination Of Enzyme Activities Of Sdh And Ldh
55.		October	16/10/2022			Effect Of Substrate Concentration And Ph On Sdh Activity
56.		October	23/10/2022			Study Of Subcellular Fractionation
57.		October	30/10/2022			Study Of The Mitosis
58.		November	06/11/2022			Study And Preparation Of Blood Smears: Cell Type Identification And Differential Counts
59.		November	13/11/2022			Study Of Phagocytosis & Study Of Pinocytosis
60.		November	20/11/2022			Study Of Em – Interpretation Of Cellular Ultra Structure
61.	ZGY116: Lab Activity on Applied Zoology & Biodiversity	November	27/11/2022	9:30am - 11:30am	Practical	Study Of Morphology, General Characters And Life Cycle Of Insect
62.		November	27/11/2022	11:30am - 1:30pm		Study And Identification Of Silkworm
63.		November	27/11/2022	2:30pm - 4:30pm		To Demonstrate The Practices Of Sericulture
64.		November	27/11/2022	4:30pm - 6:30pm		Identification And Classification Of Honey Bee Species
65.		December	04/12/2022	9:30am - 11:30am		Study Of Morphology, And Identification Of Fishes
66.		December	04/12/2022	11:30am - 1:30pm		Water Analysis
67.		December	04/12/2022	2:30pm - 4:30pm		Estimation Of Primary Productivity Of Water Bodies
68.		December	04/12/2022	4:30pm - 6:30pm		Study Of The Traditional Knowledge Of Biodiversity Conservation
69.		December	11/12/2022	9:30am - 11:30am		Study Of Bacterial Succession In Milk
70.		December	11/12/2022	11:30am - 1:30pm		Identification Of Limunological Apparatus
71.		September	04/09/2022			Values And Value Education
72.		September	11/09/2022			Inside Out
73.		September	18/09/2022			Habit Of Proactivity
74.		September	25/09/2022			Habit Of Personal Leadership

75.	GEN203: Value Education	October	02/10/2022	05.30am- 06.30pm	Theory	Habit Of Personal Management
76.		October	09/10/2022			Public Victory
77.		October	16/10/2022			Interpersonal Leadership (Win-Win)
78.		October	23/10/2022			Principles Of Empathic Communication
79.		October	30/10/2022			Principles Of Balanced Self-Renewal
80.		November	06/11/2022			Inside-Out Again
81.		November	13/11/2022			Habit Of Greatness
82.		ZGY121: Molecular Biology	February			05/02/2023
83.	February		12/02/2023	Dna Structure And Topology & Dna As Genetic Material		
84.	February		19/02/2023	Genome Organization		
85.	February		26/02/2023	Replication & Transcription And Regulation		
86.	March		05/03/2023	Post Transcriptional Modification & Gene Regulation		
87.	March		12/03/2023	Translation & Synthesis		
88.	March		19/03/2023	Post Translational Modification		
89.	March		26/03/2023	Dna Repair Mechanism		
90.	April		02/04/2023	Molecular Techniques		
91.	April		09/04/2023	Blotting Techniques		
92.	April		16/04/2023	Protein Sequencing Methods		
93.	April		23/04/2023	Molecular Techniques		
94.	ZGY122: Genetics	February	05/02/2023	11.30am- 12.30pm	Theory	Introduction To Genetics & Gene Inheritance
95.		February	12/02/2023			Multiple Alleles & Genome Organisation
96.		February	19/02/2023			Mutation & Types Of Point Mutation
97.		February	26/02/2023			Mutagenic Agents & Sex Determination
98.		March	05/03/2023			Population Genetics
99.		March	12/03/2023			Hardy Weinberg Principle
100.		March	19/03/2023			Linkage And Mapping In Eukaryotes
101.		March	26/03/2023			Genetic Disorders
102.		April	02/04/2023			Sex Linked Inheritance
103.		April	09/04/2023			Microbial Genetics
104.		April	16/04/2023			Application Genetics
105.		April	23/04/2023			Breeding Technology

106.	ZGY123: Developmental Biology	February	05/02/2023	12.30am- 01.30pm	Theory	Scope And Importance Of Developmental Biology
107.		February	12/02/2023			Fertilization & Cleavage
108.		February	19/02/2023			Role Of Cytoplasm
109.		February	26/02/2023			Cell-Cell Interaction And Cell Signaling
110.		March	05/03/2023			Early Embryonic Development-I & Early Embryonic Development-Ii & Early Mammalian Development
111.		March	12/03/2023			Late Embryonic Development
112.		March	19/03/2023			Sex Determination & Differentiation
113.		March	26/03/2023			The Development Of Blood Cells
114.		April	02/04/2023			Gastrulation
115.		April	09/04/2023			Concept Of Organizers And Induction
116.		April	16/04/2023			Metamorphosis
117.	April	23/04/2023	Teratogenesis			
118.	ZGY124: Entomology	February	05/02/2023	2.30pm – 3.30pm	Theory	External Morphology Study Of Generalized Insects
119.		February	12/02/2023			Insect Taxonomy I & Insect Taxonomy Ii
120.		February	19/02/2023			Insect Behaviour
121.		February	26/02/2023			Pest Of Field Crops And Storage Grains
122.		March	05/03/2023			Horticultural Crop Pests
123.		March	12/03/2023			Integrated Pest Management I & Integrated Pest Management Ii
124.		March	19/03/2023			Internal Morphology I & Internal Morphology Ii & Internal Morphology Iii
125.		March	26/03/2023			Livestock Entomology
126.		April	02/04/2023			Urban Entomology
127.		April	09/04/2023			Medical Entomology
128.		April	16/04/2023			Forensic Entomology
129.	April	23/04/2023	Aquatic Entomology			
130.		February	05/02/2023	3.30pm – 5.30pm	Practical	To Isolate, Quantitation Genomic Dna From Goat Liver And Agarose Gel Electrophoresis
131.		February	12/02/2023			Genomic Dna Isolation From Prokaryotic Cells
132.		February	19/02/2023			Study And Demonstration Of Plasmid Dna In E. Coli

133.	ZGY125: Lab Activity on Molecular Biology & Genetics	February	26/02/2023			Quantification Of Rna And Agarose Gel Electrophoresis
134.		March	05/03/2023			Protein Gel Electrophoresis
135.		March	12/03/2023			Multiple Alleles-Blood Group
136.		March	19/03/2023			Mendel's Laws – Monohybrid And Dihybrid Ratios
137.		March	26/03/2023			Hardy Weinberg Law
138.		April	02/04/2023			Gene Frequency
139.		April	09/04/2023			Karyotyping
140.	ZGY126: Lab Activity on Developmental Biology & Entomology	April	30/04/2023	9:30am - 11:30am	Practical	Patterns Of Cleavages In Starfish, Amphioxus Insect (Slides)
141.		April	30/04/2023	11:30am -1:30pm		Mounting Of Chick Embryos And Preparation Of Permanent Mounts
142.		April	30/04/2023	2:30pm - 4:30pm		Study Of Developmental Stages And Gross Anatomy And Histology Of Chick Embryos Till 96 Hours
143.		April	30/04/2023	4:30pm - 6:30pm		Study Of Regeneration In Hydra Or Planaria
144.		May	07/05/2023	9:30am - 11:30am		Study Of Head And Its Sclerites Of Dysdercus, Honeybee, Grasshopper, And Cockroach
145.		May	07/05/2023	9:30am - 11:30am		To Study Of Head And Thoracic Appendages Different Types Of Antennae And Legs Of Insects
146.		May	07/05/2023	11:30am -1:30pm		Identification Of Some Common Orders Of Class Insect
147.		May	07/05/2023	2:30pm - 4:30pm		Morphological And Anatomical Studies Of Various Castes Of Apis, And Odontotermes
148.		May	14/05/2023	4:30pm - 6:30pm		To Study of Identification Of Important Pests Stored Grains –And Their Symptoms Of Damage
149.		May	14/05/2023	9:30am - 11:30am		Visits To Agricultural Fields And Forests For On Spot Study of Pests And Damage Caused By Them
150.		February	05/02/2023			Introduction To Cyber Security
151.		February	12/02/2023			What Is Data Privacy?

152.	GEN121: Cyber Security	February	19/02/2023	05.30am- 06.30pm	Theory	Computer Security Threats
153.		February	26/02/2023			Online Scams & Frauds
154.		March	05/03/2023			What Is Phishing?
155.		March	12/03/2023			Ransomware
156.		March	19/03/2023			How To Keep Your Kids Safe Online
157.		March	26/03/2023			How To Avoid Getting Addicted To Facebook
158.		April	02/04/2023			Dos And Don'ts Of Internet Security
159.		April	09/04/2023			What Is Browser Sandbox Protection?
160.		April	16/04/2023			Gmail Security & Mobile Device Security
161.		April	23/04/2023			Tips And Tricks On Securing Your Android Devices & Top 10 Web Hacking Techniques Of 2014

V144: M.SC. (BOTANY) {2022 Pattern}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practica I course	Topic
1.	BNY111:	September	04/09/2022	10.30am- 11.30am	Theory	Introduction and classification
2.		September	11/09/2022			Study of viruses
3.		September	18/09/2022			Techniques for study of viruses
4.		September	25/09/2022			A brief account of Viroids, Prions and Interferons
5.		October	02/10/2022			Study of bacteria
6.		October	09/10/2022			Structure of bacteria
7.		October	16/10/2022			Bacterial genomics
8.		October	23/10/2022			Uses of bacteria
9.		October	30/10/2022			Study of fungi
10.		November	06/11/2022			Sexuality in fungi
11.		November	13/11/2022			Study of examples of fungi
12.		November	20/11/2022			Study of examples of fungi
13.	BNY112:	September	04/09/2022	11.30am- 12.30pm	Theory	Study of cyanobacteria
14.		September	11/09/2022			Phycology
15.		September	18/09/2022			Examples of algae
16.		September	25/09/2022			Economic importance of algae
17.		October	02/10/2022			Bryophytes
18.		October	09/10/2022			Examples of bryophytes
19.		October	16/10/2022			Economic and ecological importance of bryophytes
20.		October	23/10/2022			Phylogeny of bryophytes
21.		October	30/10/2022			Bio fertilizers
22.		November	06/11/2022			Applications of biofertilizers
23.		November	13/11/2022			Biopesticides
24.		November	20/11/2022			Applications of biopesticides
25.		September	04/09/2022			Pteridophytes I

26.	BNY113:	September	11/09/2022	12.30pm- 1.30pm	Theory	Evolution in Pteridophytes
27.		September	18/09/2022			PteridophytesII
28.		September	25/09/2022			Fossil pteridophytes
29.		October	02/10/2022			Gymnosperms I
30.		October	09/10/2022			Gymnosperms II
31.		October	16/10/2022			Fossil gymnosperms
32.		October	23/10/2022			Reproduction in gymnosperms
33.		October	30/10/2022			Paleobotany
34.		November	06/11/2022			Time scale
35.		November	13/11/2022			Fossilization
36.		November	20/11/2022			Method of fossilization
37.		BNY114 :	September			04/09/2022
38.	September		11/09/2022	Algae as bio-fertilizer and green manure		
39.	September		18/09/2022	Application of algae		
40.	September		25/09/2022	Algae as nutrient supplement and in pharmacy		
41.	October		02/10/2022	Value added products from microalgae and processes		
42.	October		09/10/2022	Algae and heavy metals toxicity		
43.	October		16/10/2022	Algae and its role in assessment of water quality		
44.	October		23/10/2022	Tests for algae		
45.	October		30/10/2022	Growth control of algae		
46.	November		06/11/2022	Cultivation of algae		
47.	November		13/11/2022	Cultivation of agarophytes		
48.	November		20/11/2022	Algal biotechnology and tissue culture of seaweeds		
49.	BNY115:	September	04/09/2022	3.30pm – 5.30pm	Practical	To prepare herbarium of-Viruses and Cyanobacteria - TMV – Tobacco and Papaya (Herbarium).
50.		September	11/09/2022			To study microbes (Bacteria and fungi) in Soil, water and air – solid- serial dilution
51.		September	18/09/2022			To study Fungi – Plasmodiophora, Saprolegnia, Rhizopus
52.		September	25/09/2022			To study Lichens – types and reproductive body; Cultivation of mushrooms – Pleurotus

53.		October	02/10/2022			To study Pathology – late blight of Potato, Ergot of Bhajra, Smut of Sorghum, Rice blast and white rust of Crucifer
54.		October	09/10/2022			To study Peziza – External, L.S. of Apothecia (Slide); Erysiphae
55.		October	16/10/2022			To study Cyanobacteria – Spirulina, Microcystis and Oscillatoria
56.		October	23/10/2022			To study Algae – Volvox, Hydrodictyon, Chara.
57.		October	30/10/2022			To study Diatoms, Vaucheria,
58.		November	06/11/2022			To study Dictyota, Sargassum
59.		November	13/11/2022			To study Gracilaria (Mounting/sectioning of algal material)
60.		November	20/11/2022			To study Bryophytes – Porella, Riccia
61.	BNY116:	November	27/11/2022	9:30am - 11:30am	Practical	Study of Pteridophytes – Diversity of forms upto order level - Psilotum, Lycopodium, – Thallus, T.S. rhizome, cones - L.S. and T.S.
62.		November	27/11/2022	11:30am - 1:30pm		Study of Equisetum, Ophioglossum
63.		November	27/11/2022	2:30pm - 4:30pm		Study of Osmunda, Salvinia
64.		November	27/11/2022	4:30pm - 6:30pm		Study of Marsilea (Thallus T.S., Cones – T.S. and L.S) and other forms
65.		December	04/12/2022	9:30am - 11:30am		Study of Gymnosperms – Diversity of forms upto order level – Cycas.
66.		December	04/12/2022	11:30am - 1:30pm		Study of Cupressus.
67.		December	04/12/2022	2:30pm - 4:30pm		Collection, isolation and culture of algae (fresh water and industrial waste) and Study of algae.
68.		December	04/12/2022	4:30pm - 6:30pm		Measurement of growth (algal biomass)
69.		December	11/12/2022	9:30am - 11:30am		Estimation of chlorophyll in different algae
70.		December	11/12/2022	11:30am - 1:30pm		Estimation of Carotenoid and phycobilin protein in different algae
71.		December	11/12/2022	2:30pm - 4:30pm		Estimation of total soluble proteins and total lipids
72.		December	11/12/2022	4:30pm - 6:30pm		Analysis of water quality – phosphate estimation.

73.	GEN203: Value Education	September	04/09/2022	05.30am- 06.30pm	Theory	Value & Value Education			
74.		September	11/09/2022			Inside Out			
75.		September	18/09/2022			Habit Of Proactivity			
76.		September	25/09/2022			Habit Of Personal Leadership			
77.		October	02/10/2022			Habit Of Personal Management			
78.		October	09/10/2022			Public Victory			
79.		October	16/10/2022			Interpersonal Leadership (Win-Win)			
80.		October	23/10/2022			Principles Of Empathic Communication			
81.		October	30/10/2022			Principles Of Creative Cooperation			
82.		November	06/11/2022			Principles of balanced self-renewal			
83.		November	13/11/2022			Inside-Out Again			
84.		November	20/11/2022			Habit Of Greatness			
85.		BNY121:	February			05/02/2023	10.30am- 11.30am	Theory	Carbohydrates
86.			February			12/02/2023			Saccharides
87.	February		19/02/2023	Structure of maltose, sucrose, starch and pectin					
88.	February		26/02/2023	Carbohydrate Polymer Technologies and Application					
89.	March		05/03/2023	Proteins and enzymes					
90.	March		12/03/2023	Enzymes					
91.	March		19/03/2023	Enzyme regulation					
92.	March		26/03/2023	Applications of recombinant proteins					
93.	April		02/04/2023	Water relations					
94.	April		09/04/2023	Loss of water					
95.	April		16/04/2023	Mineral nutrition					
96.	April		23/04/2023	Phloem transport					
97.	BNY122:		February	05/02/2023	11.30am- 12.30pm	Theory			Theories of organization of apical meristems
98.			February	12/02/2023					Diversity in structure of wood
99.		February	19/02/2023	Vascular tissues					
100.		February	26/02/2023	Phloem					
101.		March	05/03/2023	Secretory cells and tissues, nodal anatomy					
102.		March	12/03/2023	Leaf anatomy					
103.		March	19/03/2023	Application of anatomy					

104.		March	26/03/2023			Ecological anatomy
105.		April	02/04/2023			Microsporangium and ovule
106.		April	09/04/2023			Pollen
107.		April	16/04/2023			Ovule
108.		April	23/04/2023			Sexual incompatibility
109.	BNY123:	February	05/02/2023	12.30am- 01.30pm	Theory	Conservation
110.		February	12/02/2023			Conservation organizations
111.		February	19/02/2023			Cultivation
112.		February	26/02/2023			Adaptive planning and management for sustainable harvesting
113.		March	05/03/2023			Intellectual property rights (IPR)
114.		March	12/03/2023			Food flavors and natural colours
115.		March	19/03/2023			Natural colours
116.		March	26/03/2023			Production technology
117.		April	02/04/2023			Plant sweeteners (natural sweeteners)
118.		April	09/04/2023			Raw drug repository
119.		April	16/04/2023			Substitutes and Adulterants
120.		April	23/04/2023			Basic concepts of Intellectual Property Rights (IPRs)
121.		BNY124:	February			05/02/2023
122.	February		12/02/2023	Herbal Industry		
123.	February		19/02/2023	Importance Of Medicinal Plants		
124.	February		26/02/2023	Indigenous systems of medicine		
125.	March		05/03/2023	Poisonous And Allergic Plants		
126.	March		12/03/2023	Plant Allergens		
127.	March		19/03/2023	Remedial Plants		
128.	March		26/03/2023	Psychoactive Plants		
129.	April		02/04/2023	Marine Drugs, Natural Pesticides And Antibiotics		
130.	April		09/04/2023	Natural pesticides		
131.	April		16/04/2023	Antibiotics		
132.	April		23/04/2023	Trade and commerce of medicinal plants of India		

133.	BNY125:	February	05/02/2023	3.30pm – 5.30pm	Practical	To determine chlorophyll a and chlorophyll b ratio in C3 & C4 plants
134.		February	12/02/2023			Quantitative estimation of proteins by Biuret method
135.		February	19/02/2023			Estimation of total free amino acids
136.		February	26/02/2023			Estimate enzyme activity at different temperature
137.		March	05/03/2023			Detection of amino acids/ sugar from the phloem sap by paper chromatography.
138.		March	12/03/2023			Separation of photosynthetic pigments using separating funnel and measurement of absorbance of the pigments.
139.		March	19/03/2023			Staining techniques - Histochemical studies – staining technique
140.		March	26/03/2023			Xylem, phloem, maceration (Aristolochia, Saraca, Tinospora, Cupresses) and Thickenings in vessels and tracheids; Nodal anatomy - Unilacunar – Nerium,
141.		April	02/04/2023			Embryology – microsporangium – young and old anther; types of pollen (based on availability)
142.		April	09/04/2023			Estimation of total amino acids in germinating and non germinating seeds.
143.		April	16/04/2023			Estimation of pollen fertility; Acetolysis of pollen grains
144.		April	23/04/2023			Cytochemical localization of stigma – surface esterases
145.		BNY126:	April			30/04/2023

146.		April	30/04/2023	11:30am -1:30pm		Study of Plant sweeteners; Raw drug identification - Adulteration – fruits, bark, seeds, roots, flowers, resins (guggulu)		
147.		April	30/04/2023	2:30pm - 4:30pm		Herbal preparation - Infusion (Tea) - hot and cold; tulasitaila, guduchitaila		
148.		April	30/04/2023	4:30pm - 6:30pm		Study of Trikatu, Triphala, Ashtachurna and Sitopaladichurna; Vasavalehya		
149.		May	07/05/2023	9:30am - 11:30am		Determination of Ash value and moisture content of crude drugs		
150.		May	07/05/2023	9:30am - 11:30am		Determination of the alcohol content of Asava and Arista.		
151.		May	07/05/2023	11:30am -1:30pm		Preparation of any one herbal cosmetics		
152.		May	07/05/2023	2:30pm - 4:30pm		Study of AshwagandhaShatavarikalpam		
153.		May	14/05/2023	4:30pm - 6:30pm		Study ofSwarasa – kumari, vasa and ginger		
154.		May	14/05/2023	9:30am - 11:30am		Study of Bringamlakibrahmitaila; Sikthataila		
155.		May	14/05/2023	11:30am -1:30pm		Study of Varna lepa; Adrakakanda; amlamru		
156.		May	14/05/2023	2:30pm - 4:30pm		Study of Rasayana – ghritha kumara rasayana; Kashaya for common fever		
157.		GEN121: Cyber Security	February	05/02/2023		05.30am- 06.30pm	Theory	Introduction to Cyber Security
158.			February	12/02/2023				What is Data Privacy
159.			February	19/02/2023				Computer Security Threats
160.			February	26/02/2023				Online Scams & Frauds
161.	March		05/03/2023	What is Phishing?				
162.	March		12/03/2023	Ransomware				
163.	March		19/03/2023	How to Keep Your Kids Safe Online				
164.	March		26/03/2023	How to Avoid Getting Addicted to Facebook				
165.	April		02/04/2023	Dos and Don'ts of Internet Security				
166.	April		09/04/2023	What is Browser Sandbox Protection?				
167.	April		16/04/2023	Gmail Security				
168.	April		23/04/2023	Mobile Device Security				

