

School of Architecture, Science and Technology, YCMOU Nashik

Study Centers Counseling Schedules for A.Y. 2021-22

Note: All study centers shall follow this schedule to conduct online/ offline counseling on the given topics. These are guidelines; study centers may conduct more counseling for theory and practical courses to cover the maximum content of the syllabus.

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	First & Second	
4	Master of Science. (Zoology)(2021 Pattern)	V132	PG	1. Face to face counseling sessions	1. Face to face counseling sessions and 2. Laboratory based counseling	First & Second	
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	First & Second	
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	First & Second	

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 Counselling Sessions for interaction, problem solving and 2. Conduction of practical activities at Study Center	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	05/09/2021	9:30am -10:30am	Theory	Introduction, Language of Communication, Speaking Skills
2.		September	12/09/2021			Understanding the Basis of Verbal Communication, Working with Customers
3.		September	19/09/2021			Developing Professional Telephone Skills, Improving Informal Communication
4.		September	26/09/2021			Reading and Understanding, Writing Skills,
5.		October	03/10/2021			Uncovering the Secrets of Clear writing, Communicating with E-Mail and Memos
6.		October	10/10/2021			Developing Reports and Proposals, Writing for Employment
7.		October	17/10/2021			Identifying and Defining Problems
8.		October	24/10/2021			Solving the Problem, Thinking Critically
9.		October	31/10/2021			Group Decision Making and Problem Solving
10.		November	07/11/2021			Working in Groups and Teams
11.		November	14/11/2021			Exploring Team Roles and Processes, Building and Developing Teams
12.		November	21/11/2021			Presenting yourself Professionally, Developing Your Interpersonal Skills
13.	S34121: Physics- 01	September	05/09/2021	10:30am -11:30am	Theory	Ordinary Differential Equations
14.		September	12/09/2021			Laws of Motion
15.		September	19/09/2021			Dynamics of a system of particles, Centre of Mass.
16.		September	26/09/2021			Vectors
17.		October	03/10/2021			Momentum and Energy
18.		October	10/10/2021			Rotational Motion

19.		October	17/10/2021			Gravitation
20.		October	24/10/2021			Oscillations
21.		October	31/10/2021			Kinetic and Potential Energy, Total Energy and their time averages
22.		November	07/11/2021			Elasticity
23.		November	14/11/2021			Special Theory of Relativity
24.		November	21/11/2021			Relativistic addition of velocities
25.	S37131: Chemistry-01	September	05/09/2021	11:30am -12:30pm	Theory	Atomic Structure
26.		September	12/09/2021			Quantum mechanics
27.		September	19/09/2021			Electronic configurations of the atoms
28.		September	26/09/2021			Ionic Bonding
29.		October	03/10/2021			Covalent bonding
30.		October	10/10/2021			Resonance and resonating structures, MO Approach
31.		October	17/10/2021			Physical Effects, Electronic Displacements
32.		October	24/10/2021			Structure, shape and reactivity of organic molecules, Reactive Intermediates
33.		October	31/10/2021			Strength of organic acids and bases, Stereochemistry
34.		November	07/11/2021			Aliphatic Hydrocarbons
35.		November	14/11/2021			Alkanes, Alkenes, Alkynes
36.		November	21/11/2021			Reactions
37.	S41141 : Mathematics- 01	September	05/09/2021	12:30pm -1:30pm	Theory	Limit and Continuity
38.		September	12/09/2021			Types of discontinuities
39.		September	19/09/2021			Differentiability of functions
40.		September	26/09/2021			Successive differentiation, Leibnitz's theorem
41.		October	03/10/2021			Partial differentiation, Euler's theorem on homogeneous functions
42.		October	10/10/2021			Tangents and normal, Curvature, Asymptotes, Singular points,

43.		October	17/10/2021			Parametric representation of curves and tracing of parametric curves
44.		October	24/10/2021			Rolle's theorem, Mean Value theorems
45.		October	31/10/2021			Taylor's theorem with Lagrange's and Cauchy's forms of remainder
46.		November	07/11/2021			Maxima and Minima, Indeterminate forms.
47.		November	14/11/2021			Taylor's series
48.		November	21/11/2021			Maclaurin's series
49.	S34122 : Physics- 01	September	05/09/2021	2:30pm - 4:30pm	Practical	Measurements of length (or diameter) using Vernier calliper
50.		September	12/09/2021			Measurements of length (or diameter) using screw gauge
51.		September	19/09/2021			Measurements of length (or diameter) using travelling microscope
52.		September	26/09/2021			To determine the Height of a Building using a Sextant
53.		October	03/10/2021			To determine the Moment of Inertia of a Flywheel.
54.		October	10/10/2021			To determine the Young's Modulus of a Wire by Optical Lever Method
55.		October	17/10/2021			To determine the Modulus of Rigidity of a Wire by Maxwell's needle
56.		October	24/10/2021			To determine the Elastic Constants of a Wire by Searle's method.
57.		October	31/10/2021			To determine g by Bar Pendulum
58.		November	07/11/2021			To determine g by Kater's Pendulum.
59.		November	14/11/2021			To determine g and velocity for a freely falling body using Digital Timing Technique
60.		November	21/11/2021			To study the Motion of a Spring and calculate (a) Spring Constant (b) Value of g
61.		September	05/09/2021			Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture
62.		September	12/09/2021			Estimation of oxalic acid by titrating it with KMnO ₄ .

63.	S37132: Chemistry-01	September	19/09/2021	4:30pm - 6:30pm	Practical	Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .
64.		September	26/09/2021			Estimation of Fe (II) ions by titrating it with $\text{K}_2\text{Cr}_2\text{O}_7$ using internal indicator
65.		October	03/10/2021			Estimation of Cu (II) ions eudiometrically using $\text{Na}_2\text{S}_2\text{O}_3$.
66.		October	10/10/2021			Detection of extra elements (N, S, Cl, Br, I) in organic compounds
67.		October	17/10/2021			Separation of mixtures by Chromatography
68.		October	24/10/2021			Measure the R_f value in each case (combination of two compounds to be given)
69.		October	31/10/2021			Identify and separate the components of a given mixture of two amino acids (glycine) by paper chromatography
70.		November	07/11/2021			Identify and separate the components of a given mixture of two amino acids (aspartic acid) by paper chromatography
71.		November	14/11/2021			Identify and separate the components of a given mixture of two amino acids (glutamic acid) by paper chromatography
72.		November	21/11/2021			Identify and separate the sugars present in the given mixture by paper chromatography.
73.	S41142 : Mathematics- 01	November	28/11/2021	9:30am 11:30am	Practical	Assignment 01 on Limit
74.		November	28/11/2021	11:30am 1:30pm		Assignment 02 on Differentiation
75.		November	28/11/2021	2:30pm 4:30pm		Assignment 03 on Tangents
76.		November	28/11/2021	4:30pm 6:30pm		Assignment 04 on Normal
77.		December	05/12/2021	9:30am 11:30am		Assignment 05 on Curves
78.		December	05/12/2021	11:30am 1:30pm		Assignment 06 on Rolle's, and
79.		December	05/12/2021	2:30pm 4:30pm		Assignment 07 on Mean Value
80.		December	05/12/2021	4:30pm 6:30pm		Assignment 08 on Taylor's theorem
81.		December	12/12/2021	9:30am 11:30am		Assignment 09 on Maclaurin's series

82.		December	12/12/2021	11:30am 1:30pm		Assignment 10 on Maxima
83.		December	12/12/2021	2:30pm 4:30pm		Assignment 11 on Minima
84.		December	12/12/2021	4:30pm 6:30pm		Assignment 12 on Indeterminate forms
85.	SEC311: IT and E Learning Skills	September	05/09/2021	9:30am -10:30am	Theory	Block Diagram of a Computer
86.		September	12/09/2021			Input & Output Devices
87.		September	19/09/2021			Memory
88.		September	26/09/2021			Functions of Operating System
89.		October	03/10/2021			Utility Programs: Antivirus, CD/DVD burner, VLC media player, Adobe Reader
90.		October	10/10/2021			Word-processing, Presentation, Spread sheets
91.		October	17/10/2021			E-Learning definition, scope, trends, attributes & opportunities
92.		October	24/10/2021			Pedagogical designs for e-learning
93.		October	31/10/2021			Online learning management systems
94.		November	07/11/2021			Online learning course development models
95.		November	14/11/2021			Evaluating the impacts of e-learning
96.		November	21/11/2021			Management and implementation of e-learning
97.	S34321: Physics-03	September	05/09/2021	10:30am -11:30am	Theory	Zeroth Law of thermodynamics
98.		September	12/09/2021			First Law of thermodynamics and its Application
99.		September	19/09/2021			Various Thermodynamical Processes
100.		September	26/09/2021			Second Law of thermodynamics
101.		October	03/10/2021			Third Law of thermodynamics
102.		October	10/10/2021			Joule-Thompson Effect
103.		October	17/10/2021			Kinetic Theory of Gases
104.		October	24/10/2021			Transport Phenomena: Viscosity, Conduction and Diffusion
105.		October	31/10/2021			Theory of Radiation
106.		November	07/11/2021			Maxwell-Boltzmann law

107.		November	14/11/2021			Fermi-Dirac distribution law
108.		November	21/11/2021			Bose-Einstein distribution law
109.	S37331: Chemistry-03	September	05/09/2021	11:30am -12:30pm	Theory	Thermodynamics of ideal solutions
110.		September	12/09/2021			Partial miscibility of liquids
111.		September	19/09/2021			Phase Equilibrium
112.		September	26/09/2021			Conductance
113.		October	03/10/2021			Electrochemistry
114.		October	10/10/2021			Thermodynamics of a reversible cell, calculation of thermodynamic properties
115.		October	17/10/2021			Organic Chemistry
116.		October	24/10/2021			Amines and Diazonium Salts. Amines (Aliphatic and Aromatic)
117.		October	31/10/2021			Diazonium salts: Preparation: from aromatic amines. Reactions
118.		November	07/11/2021			Amino Acids, Peptides and Proteins
119.		November	14/11/2021			Carbohydrates
120.		November	21/11/2021			Determination of configuration of monosaccharaides
121.	S41341: Mathematics- 03	September	05/09/2021	12:30pm -1:30pm	Theory	Finite and infinite sets
122.		September	12/09/2021			completeness property of R, Archimedean property of R, intervals
123.		September	19/09/2021			Concept of cluster points and statement of Bolzano-Weierstrass theorem.
124.		September	26/09/2021			Real Sequence, Bounded sequence, Cauchy convergence criterion for sequences
125.		October	03/10/2021			Cauchy's theorem on limits, order preservation and squeeze theorem
126.		October	10/10/2021			Monotone sequences and their convergence (monotone convergence theorem without proof)
127.		October	17/10/2021			Infinite series, Cauchy convergence criterion for series
128.		October	24/10/2021			positive term series, geometric series, alternating series

129.		October	31/10/2021			Leibnitz's test, Root test, Ratio test
130.		November	07/11/2021			Sequences and series of functions
131.		November	14/11/2021			Mn-test, M-test
132.		November	21/11/2021			differentiability of functions, Power series and radius of convergence
133.	S34322: Physics- 03	September	05/09/2021	2:30pm - 4:30pm	Practical	To determine Mechanical Equivalent of Heat, J, by Callender and Barne's constant flow method
134.		September	12/09/2021			Measurement of Planck's constant using black body radiation
135.		September	19/09/2021			To determine Stefan's Constant
136.		September	26/09/2021			To determine the coefficient of thermal conductivity of copper by Searle's Apparatus
137.		October	03/10/2021			To determine the Coefficient of Thermal Conductivity of Cu by Angstrom's Method.
138.		October	10/10/2021			To determine the coefficient of thermal conductivity of a bad conductor by Lee
139.		October	17/10/2021			To determine the coefficient of thermal conductivity of a bad conductor by Charlton's disc method
140.		October	24/10/2021			To determine the temperature co-efficient of resistance by Platinum resistance thermometer
141.		October	31/10/2021			To study the variation of thermo emf across two junctions of a thermocouple with temperature
142.		November	07/11/2021			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	14/11/2021			To calibrate Resistance Temperature Device (RTD) using Null Method
144.		November	21/11/2021			To calibrate Resistance Temperature Device (RTD) using Off- Balance Bridge
145.		September	05/09/2021			Study of the equilibrium of one of the given reactions by the distribution method

146.	S37332: Chemistry-03	September	12/09/2021	4:30pm - 6:30pm	Practical	Construction of the phase diagram of a binary system (simple eutectic) using cooling curves.
147.		September	19/09/2021			Determination of the critical solution temperature and composition of the Phenol water system and study of the effect of impurities on it.
148.		September	26/09/2021			Study of the variation of mutual solubility temperature with concentration for the phenol water system and determination of the critical solubility temperature
149.		October	03/10/2021			Determination of cell constant
150.		October	10/10/2021			Determination of equivalent conductance, degree of dissociation and dissociation constant of a weak acid.
151.		October	17/10/2021			Perform the following conductometric titrations: Strong acid vs. strong base
152.		October	24/10/2021			Separation of amino acids by paper chromatography
153.		October	31/10/2021			Determination of the concentration of glycine solution by formulation method.
154.		November	07/11/2021			Titration curve of glycine
155.		November	14/11/2021			Action of salivary amylase on starch
156.		November	21/11/2021			Effect of temperature on the action of salivary amylase on starch.
157.	S41342: Mathematics- 03	November	28/11/2021	9:30am 11:30am	Practical	Assignment 01
158.		November	28/11/2021	11:30am 1:30pm		Assignment 02
159.		November	28/11/2021	2:30pm 4:30pm		Assignment 03
160.		November	28/11/2021	4:30pm 6:30pm		Assignment 04
161.		December	05/12/2021	9:30am 11:30am		Assignment 05
162.		December	05/12/2021	11:30am 1:30pm		Assignment 06
163.		December	05/12/2021	2:30pm 4:30pm		Assignment 07
164.		December	05/12/2021	4:30pm 6:30pm		Assignment 08
165.		December	12/12/2021	9:30am 11:30am		Assignment 09
166.		December	12/12/2021	11:30am 1:30pm		Assignment 10

167.		December	12/12/2021	2:30pm 4:30pm		Assignment 11
168.		December	12/12/2021	4:30pm 6:30pm		Assignment 12
169.	SEC511: Financial and Investment skills	September	05/09/2021	9:30am -10:30am	Theory	Introduction to Stock Markets - 01
170.		September	12/09/2021			Introduction to Stock Markets - 02
171.		September	19/09/2021			Introduction to Stock Markets - 03
172.		September	26/09/2021			Fundamental Analysis - 01
173.		October	03/10/2021			Fundamental Analysis - 02
174.		October	10/10/2021			Fundamental Analysis – 03
175.		October	17/10/2021			Technical Analysis - 01
176.		October	24/10/2021			Technical Analysis - 02
177.		October	31/10/2021			Technical Analysis – 03
178.		November	07/11/2021			Markets and Taxation
179.		November	14/11/2021			Trading Psychology and Risk Management
180.		November	21/11/2021			Mutual Funds And Financial Planning
181.	S34521: Physics-05	September	05/09/2021	10:30am -11:30am	Theory	Digital Circuits
182.		September	12/09/2021			Boolean Algebra
183.		September	19/09/2021			Binary Addition and Subtraction
184.		September	26/09/2021			Semiconductor Devices
185.		October	03/10/2021			Amplifiers
186.		October	10/10/2021			Bipolar Junction transistors
187.		October	17/10/2021			Operational Amplifiers (Black Box approach)
188.		October	24/10/2021			Applications of Op-Amps
189.		October	31/10/2021			Sinusoidal Oscillators
190.		November	07/11/2021			Introduction to CRO
191.		November	14/11/2021			Power Supply
192.		November	21/11/2021			Timer IC
193.		September	05/09/2021			Introduction to Molecular Modelling
194.		September	12/09/2021			Potential Energy Surfaces and Molecular Graphics

195.	S37531: Chemistry 05	September	19/09/2021	11:30am -12:30pm	Theory	Force Fields 01
196.		September	26/09/2021			Force Fields 02
197.		October	03/10/2021			Energy Minimization and Computer Simulation
198.		October	10/10/2021			Simple thermodynamic properties and Phase Space
199.		October	17/10/2021			Molecular Dynamics & Monte Carlo Simulation
200.		October	24/10/2021			Molecular Dynamics at constant temperature and pressure
201.		October	31/10/2021			Models used in Monte Carlo simulations of polymers.
202.		November	07/11/2021			Structure Prediction and Drug Design
203.		November	14/11/2021			Predicting protein structures by 'Threading', Molecular docking
204.		November	21/11/2021			Structure based de novo ligand design, Drug Discovery – Chemo informatics – QSAR.
205.	S41641: Mathematics 05	September	05/09/2021	12:30pm -1:30pm	Theory	R, R ² , R ³ as vector spaces over R
206.		September	12/09/2021			Standard basis for R
207.		September	19/09/2021			Concept of Linear Independence and examples of different bases. Subspaces of R ² , R ³
208.		September	26/09/2021			Translation, Dilation, Rotation, Reflection in a point, line and plane
209.		October	03/10/2021			Matrix form of basic geometric transformations
210.		October	10/10/2021			Interpretation of eigen values and eigen vectors for such transformations and eigen spaces as invariant subspaces
211.		October	17/10/2021			Types of matrices
212.		October	24/10/2021			Rank of a matrix
213.		October	31/10/2021			Invariance of rank under elementary transformations
214.		November	07/11/2021			Matrices in diagonal form
215.		November	14/11/2021			Computation of matrix inverses using elementary row operations
216.		November	21/11/2021			Illustrative examples of above concepts from Geometry, Physics, Chemistry, Combinatorics and Statistics

217.	S34522: Physics 05	September	05/09/2021	2:30pm - 4:30pm	Practical	To measure (a) Voltage, and (b) Frequency of a periodic waveform using a CRO
218.		September	12/09/2021			To verify and design AND, OR, NOT and XOR gates using NAND gates
219.		September	19/09/2021			Half adder, Full adder and 4-bit Binary Adder.
220.		September	26/09/2021			To design an astable multivibrator of given specifications using 555 Timer.
221.		October	03/10/2021			To design a monostable multivibrator of given specifications using 555 Timer.
222.		October	10/10/2021			To study IV characteristics of PN diode, Zener and Light emitting diode
223.		October	17/10/2021			To study the characteristics of a Transistor in CE configuration
224.		October	24/10/2021			To design a CE amplifier of a given gain (mid-gain) using voltage divider bias.
225.		October	31/10/2021			To design an inverting amplifier of given gain using Op-amp 741 and study its frequency response.
226.		November	07/11/2021			To design a non-inverting amplifier of given gain using Op-amp 741 and study its Frequency Response
227.		November	14/11/2021			To study a precision Differential Amplifier of given I/O specification using Opamp.
228.		November	21/11/2021			To investigate the use of an op-amp as a Differentiator
229.	S375332: Chemistry 05	September	05/09/2021	4:30pm - 6:30pm	Practical	Compare the optimized C-C bond lengths in ethane, ethene, ethyne and benzene.
230.		September	12/09/2021			Perform a conformational analysis of butane
231.		September	19/09/2021			Determine the enthalpy of isomerization of cis and trans 2-butene.
232.		September	26/09/2021			Visualize the electron density and electrostatic potential maps for LiH, HF, N ₂ , NO and CO and comment.
233.		October	03/10/2021			Relate the charge on the hydrogen atom in hydrogen

						halides with their acid character
234.		October	10/10/2021			Compare the basicities of the nitrogen atoms in ammonia, methylamine, dimethylamine and trimethylamine.
235.		October	17/10/2021			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	24/10/2021			Build and minimize organic compounds of your choice containing the following functional groups. Note the dipole moment of each compound
237.		October	31/10/2021			Determine the heat of hydration of ethylene
238.		November	07/11/2021			Compare the optimized bond angles H ₂ O, H ₂ S, H ₂ Se
239.		November	14/11/2021			Compare the HAH bond angles for the second row dihydrides and compare with the results from qualitative MO theory.
240.		November	21/11/2021			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	28/11/2021	9:30am 11:30am	Practical	Assignment 01
242.		November	28/11/2021	11:30am 1:30pm		Assignment 02
243.		November	28/11/2021	2:30pm 4:30pm		Assignment 03
244.		November	28/11/2021	4:30pm 6:30pm		Assignment 04
245.		December	05/12/2021	9:30am 11:30am		Assignment 05
246.		December	05/12/2021	11:30am 1:30pm		Assignment 06
247.		December	05/12/2021	2:30pm 4:30pm		Assignment 07
248.		December	05/12/2021	4:30pm 6:30pm		Assignment 08
249.		December	12/12/2021	9:30am 11:30am		Assignment 09
250.		December	12/12/2021	11:30am 1:30pm		Assignment 10
251.		December	12/12/2021	2:30pm 4:30pm		Assignment 11
252.		December	12/12/2021	4:30pm 6:30pm		Assignment 12

253.	AEC211: Environmental Science	February	06/02/2022	9:30am -10:30am	Theory	The Multidisciplinary Nature Of Environmental Studies
254.		February	13/02/2022			Natural Resources
255.		February	20/02/2022			Ecosystems
256.		February	27/02/2022			Biodiversity And Its Conservation
257.		March	06/03/2022			Environmental Pollution
258.		March	13/03/2022			Disaster Management
259.		March	20/03/2022			Social Issues And The Environment
260.		March	27/03/2022			Environmental Ethics
261.		April	03/04/2022			Environment Protection Act
262.		April	10/04/2022			Human Population And The Environment
263.		April	17/04/2022			Nutrition, health and human rights
264.		April	24/04/2022			Field Work
265.	S34221: Physics 02	February	06/02/2022	10:30am -11:30am	Theory	Vector Analysis
266.		February	13/02/2022			Gauss-divergence theorem and Stoke's theorem of vectors
267.		February	20/02/2022			Electrostatics - 01
268.		February	27/02/2022			Electrostatics - 02
269.		March	06/03/2022			Polarization, Displacement vector
270.		March	13/03/2022			Parallel plate, spherical and cylindrical condenser
271.		March	20/03/2022			Magneto-statics
272.		March	27/03/2022			Divergence and curl of magnetic field
273.		April	03/04/2022			Magnetic properties of materials
274.		April	10/04/2022			Electromagnetic Induction
275.		April	17/04/2022			Maxwell's equations
276.		April	24/04/2022			Electromagnetic wave propagation
277.		February	06/02/2022			Chemical Energetics
278.		February	13/02/2022			Chemical Equilibrium
279.		February	20/02/2022			Variation of enthalpy of a reaction with temperature –

	S37231: Chemistry 02			11:30am -12:30pm	Theory	Kirchhoff's equation
280.		February	27/02/2022			Ionic Equilibria
281.		March	06/03/2022			Ionization of weak acids and bases
282.		March	13/03/2022			Buffer solutions
283.		March	20/03/2022			Aromatic hydrocarbons
284.		March	27/03/2022			Alkyl and Aryl Halides
285.		April	03/04/2022			Aryl Halides Preparation
286.		April	10/04/2022			Alcohols
287.		April	17/04/2022			Phenols:
288.		April	24/04/2022			Ethers (aliphatic and aromatic)
289.	S41241: Mathematics 02	February	06/02/2022	12:30pm -1:30pm	Theory	First order exact differential equations
290.		February	13/02/2022			Integrating factors, rules to find an integrating factor
291.		February	20/02/2022			First order higher degree equations solvable for x, y, p
292.		February	27/02/2022			Methods for solving higher-order differential equations
293.		March	06/03/2022			Basic theory of linear differential equations, Wronskian, and its properties
294.		March	13/03/2022			Solving a differential equation by reducing its order
295.		March	20/03/2022			Solving a differential equation by reducing its order
296.		March	27/03/2022			Linear non-homogenous equations
297.		April	03/04/2022			The Cauchy-Euler equation
298.		April	10/04/2022			Order and degree of partial differential equations
299.		April	17/04/2022			Formation of first order partial differential equations
300.		April	24/04/2022			Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustrations only
301.		February	06/02/2022			To use a Multimeter for measuring (a) Resistances, (b) AC and DC Voltages, (c) DC Current, and (d) checking electrical fuses.
302.		February	13/02/2022			Ballistic Galvanometer: (i) Measurement of charge and

	S34222: Physics 02			2:30pm - 4:30pm	Practical	current sensitivity (ii) Measurement of CDR
303.		February	20/02/2022			Ballistic Galvanometer :(i) Determine a high resistance by Leakage Method (iii) To determine Self Inductance of a Coil by Rayleigh's Method.
304.		February	27/02/2022			To compare capacitances using De'Sauty's bridge.
305.		March	06/03/2022			Measurement of field strength B and its variation in a Solenoid (Determine dB/dx)
306.		March	13/03/2022			To study the Characteristics of a Series RC Circuit
307.		March	20/03/2022			To study the a series LCR circuit and determine its (a) Resonant Frequency
308.		March	27/03/2022			To study a parallel LCR circuit and determine its Anti-resonant frequency
309.		April	03/04/2022			To study a parallel LCR circuit and determine its Quality factor Q
310.		April	10/04/2022			To determine a Low Resistance by Carey Foster's Bridge
311.		April	17/04/2022			To verify the Thevenin and Norton theorem
312.		April	24/04/2022			To verify the Superposition, and Maximum Power Transfer Theorem
313.	S37232: Chemistry 02	February	06/02/2022	4:30pm - 6:30pm	Practical	Determination of heat capacity of calorimeter for different volumes
314.		February	13/02/2022			Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide
315.		February	20/02/2022			Determination of enthalpy of ionization of acetic acid
316.		February	27/02/2022			Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl).
317.		March	06/03/2022			Determination of enthalpy of hydration of copper sulphate
318.		March	13/03/2022			Study of the solubility of benzoic acid in water and determination of ΔH .
319.		March	20/03/2022			Ionic equilibria - pH measurements

320.		March	27/03/2022			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	03/04/2022			Preparation of buffer solutions: (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide
322.		April	10/04/2022			Purification of organic compounds by crystallization (from water and alcohol) and distillation.
323.		April	17/04/2022			Criteria of Purity: Determination of melting and boiling points
324.		April	24/04/2022			Preparations: Mechanism of various reactions involved to be discussed.
325.	S41242: Mathematics 02	May	01/05/2022	9:30am 11:30am	Practical	Assignment 01 on First order exact differential equations
326.		May	01/05/2022	11:30am 1:30pm		Assignment 02 on First order exact differential equations
327.		May	01/05/2022	2:30pm 4:30pm		Assignment 03 on First order exact differential equations
328.		May	01/05/2022	4:30pm 6:30pm		Assignment 04 on Higher-order differential equations
329.		May	08/05/2022	9:30am 11:30am		Assignment 05 on Higher-order differential equations
330.		May	08/05/2022	11:30am 1:30pm		Assignment 06 on Higher-order differential equations
331.		May	08/05/2022	2:30pm 4:30pm		Assignment 07 on Linear equations
332.		May	08/05/2022	4:30pm 6:30pm		Assignment 08 on Linear equations
333.		May	15/05/2022	9:30am 11:30am		Assignment 09 on Linear equations
334.		May	15/05/2022	11:30am 1:30pm		Assignment 10 on Partial differential equations
335.		May	15/05/2022	2:30pm 4:30pm		Assignment 11 on Partial differential equations
336.		May	15/05/2022	4:30pm 6:30pm		Assignment 12 on Partial differential equations
337.	SEC411: Research	February	06/02/2022	9:30am -10:30am	Theory	Meaning of Research, Scientific Inquiry
338.		February	13/02/2022			Research Interdisciplinary Approach
339.		February	20/02/2022			Ethics in Research, Survey Research
340.		February	27/02/2022			Experiment, Case Study, Framing Aim, Objectives and Hypothesis

341.	methodology	March	06/03/2022			Population and Sample Part I
342.		March	13/03/2022			Population and Sample Part II
343.		March	20/03/2022			Tools of Data Collection
344.		March	27/03/2022			Analysis of Qualitative Data
345.		April	03/04/2022			Hypothesis Testing Chi Square Test
346.		April	10/04/2022			Measures of Central Tendency, Normal Probability Curve (NPS)
347.		April	17/04/2022			Independent and Dependent Variables, Selection of Statistical Techniques: How to Select different statistical technique for Research design depending
348.		April	24/04/2022			Interpretation of Results and Discussion
349.	S34421: Physics 04	February	06/02/2022	10:30am -11:30am	Theory	Superposition of Two Collinear Harmonic oscillations
350.		February	13/02/2022			Superposition of Two Perpendicular Harmonic Oscillations
351.		February	20/02/2022			Waves Motion- General
352.		February	27/02/2022			Fluids
353.		March	06/03/2022			Viscosity
354.		March	13/03/2022			Sound
355.		March	20/03/2022			Wave Optics
356.		March	27/03/2022			Interference
357.		April	03/04/2022			Michelson's Interferometer
358.		April	10/04/2022			Diffraction
359.		April	17/04/2022			Half-period zones
360.		April	24/04/2022			Polarization
361.	S37431: Chemistry 04	February	06/02/2022	11:30am -12:30pm	Theory	Transition Elements (3d series)
362.		February	13/02/2022			ability to form complexes and stability of various oxidation states
363.		February	20/02/2022			Lanthanoids and actinoids
364.		February	27/02/2022			Coordination Chemistry

365.		March	06/03/2022			Crystal Field Theory
366.		March	13/03/2022			Spectrochemical series
367.		March	20/03/2022			Kinetic Theory of Gases
368.		March	27/03/2022			Maxwell Boltzmann distribution laws of molecular velocities and molecular energies and their importance
369.		April	03/04/2022			Liquids
370.		April	10/04/2022			Solids
371.		April	17/04/2022			Chemical Kinetics
372.		April	24/04/2022			Theories of Reaction Rates
373.	S41441: Mathematics 04	February	06/02/2022	12:30pm -1:30pm	Theory	Definition and examples of groups
374.		February	13/02/2022			Cyclic groups from number systems
375.		February	20/02/2022			Complex roots of unity, circle group
376.		February	27/02/2022			The general linear group GL _n (n,R)
377.		March	06/03/2022			Group of quaternions
378.		March	13/03/2022			concept of a subgroup generated by a subset
379.		March	20/03/2022			Examples of subgroups including the centre of a group
380.		March	27/03/2022			Normal subgroups
381.		April	03/04/2022			Definition and examples of rings, examples of commutative and non-commutative rings
382.		April	10/04/2022			Z _n the ring of integers modulo n
383.		April	17/04/2022			Subrings and ideals, Integral domains and fields
384.		April	24/04/2022			Field of rational functions
385.	S34422: Physics 04	February	06/02/2022	2:30pm - 4:30pm	Practical	To investigate the motion of coupled oscillators
386.		February	13/02/2022			To determine the Frequency of an Electrically Maintained Tuning Fork by Melde's Experiment and to verify $\lambda^2 \propto T$ Law.
387.		February	20/02/2022			To study Lissajous Figures
388.		February	27/02/2022			Familiarization with Schuster's focussing; determination of angle of prism

389.		March	06/03/2022			To determine the Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's method).
390.		March	13/03/2022			To determine the Refractive Index of the Material of a given Prism using Sodium Light
391.		March	20/03/2022			To determine the value of Cauchy Constants of a material of a prism.
392.		March	27/03/2022			To determine the Resolving Power of a Prism.
393.		April	03/04/2022			To determine wavelength of sodium light using Fresnel Biprism
394.		April	10/04/2022			To determine wavelength of sodium light using Newton's Rings
395.		April	17/04/2022			To determine the wavelength of Laser light using Diffraction of Single Slit
396.		April	24/04/2022			To determine the Resolving Power of a Plane Diffraction Grating
397.	S37432: Chemistry 04	February	06/02/2022	4:30pm - 6:30pm	Practical	Semi-micro qualitative analysis (using H ₂ S or other methods) of mixtures
398.		February	13/02/2022			Estimate the amount of nickel present in a given solution as bis (dimethylglyoximate) nickel(II) as oximate in a given solution gravimetrically.
399.		February	20/02/2022			Estimate the amount of nickel present in a given solution as bis (dimethylglyoximate) aluminium as oximate in a given solution gravimetrically.
400.		February	27/02/2022			Estimation of Mg ²⁺ by complexometric titrations using EDTA.
401.		March	06/03/2022			Estimation of Zn ²⁺ by complexometric titrations using EDTA.
402.		March	13/03/2022			Estimation of total hardness of a given sample of water by complexometric titration
403.		March	20/03/2022			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	27/03/2022			Surface tension measurement (use of organic solvents excluded): Study of the variation of surface tension of a detergent solution with concentration
405.		April	03/04/2022			Viscosity measurement (use of organic solvents excluded)
406.		April	10/04/2022			Viscosity measurement (use of organic solvents excluded)
407.		April	17/04/2022			Chemical Kinetics: Study the kinetics of the following reactions: 1. Initial rate method: Iodide-per sulphate reaction 2. Integrated rate method
408.		April	24/04/2022			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	May	01/05/2022	9:30am 11:30am	Practical	Assignment 01
410.		May	01/05/2022	11:30am 1:30pm		Assignment 02
411.		May	01/05/2022	2:30pm 4:30pm		Assignment 03
412.		May	01/05/2022	4:30pm 6:30pm		Assignment 04
413.		May	08/05/2022	9:30am 11:30am		Assignment 05
414.		May	08/05/2022	11:30am 1:30pm		Assignment 06
415.		May	08/05/2022	2:30pm 4:30pm		Assignment 07
416.		May	08/05/2022	4:30pm 6:30pm		Assignment 08
417.		May	15/05/2022	9:30am 11:30am		Assignment 09
418.		May	15/05/2022	11:30am 1:30pm		Assignment 10
419.		May	15/05/2022	2:30pm 4:30pm		Assignment 11
420.		May	15/05/2022	4:30pm 6:30pm		Assignment 12
421.		February	06/02/2022			Soft Skills

422.	SEC611: Personality and Career skills	February	13/02/2022	9:30am -10:30am	Theory	Self-Discovery, Forming Values
423.		February	20/02/2022			Developing Positive Attitude
424.		February	27/02/2022			Improving Perception
425.		March	06/03/2022			Career Planning
426.		March	13/03/2022			The Art of Writing E-mail
427.		March	20/03/2022			Team Building and Teamwork:
428.		March	27/03/2022			Group Discussion
429.		April	03/04/2022			Etiquette and Manners
430.		April	10/04/2022			Preparing Resume
431.		April	17/04/2022			Interview Skills
432.		April	24/04/2022			Time Management and Stress Management
433.	S34621: Physics 06	February	06/02/2022	10:30am -11:30am	Theory	Embedded system introduction
434.		February	13/02/2022			Elemental description of embedded processors and microcontrollers.
435.		February	20/02/2022			Review of microprocessors
436.		February	27/02/2022			8051 microcontroller
437.		March	06/03/2022			Program Counter and ROM memory map
438.		March	13/03/2022			8051 I/O port programming
439.		March	20/03/2022			Programming of 8051
440.		March	27/03/2022			Timer and counter programming
441.		April	03/04/2022			Interfacing 8051 microcontroller to peripherals
442.		April	10/04/2022			Serial port programming with and without interrupt: Introduction to 8051 interrupts, programming timer interrupts, programming
443.		April	17/04/2022			Programming Embedded Systems: Structure of embedded program, infinite loop, compiling, linking and locating
444.		April	24/04/2022			Embedded system design and development
445.		February	06/02/2022			Principles of Green Chemistry

446.	Sec37631: Chemistry 06	February	13/02/2022	11:30am -12:30pm	Theory	Designing of Green Chemistry
447.		February	20/02/2022			Chemical synthesis of Green Chemistry
448.		February	27/02/2022			Energy requirements for reactions – alternative sources of energy: use of microwaves and ultrasonic energy
449.		March	06/03/2022			Selection of starting materials
450.		March	13/03/2022			Use of catalytic reagents
451.		March	20/03/2022			Green Synthesis of the following compounds
452.		March	27/03/2022			Microwave assisted reactions in water
453.		April	03/04/2022			Ultrasound assisted reactions
454.		April	10/04/2022			Healthier fats and oil by Green Chemistry
455.		April	17/04/2022			Development of Fully Recyclable Carpet
456.		April	24/04/2022			Future Trends in Green Chemistry
457.	S41641: Mathematics 06	February	06/02/2022	12:30pm -1:30pm	Theory	Algorithms, Convergence, Bisection method
458.		February	13/02/2022			False position method
459.		February	20/02/2022			Fixed point iteration method
460.		February	27/02/2022			Newton's method, Secant method
461.		March	06/03/2022			LU decomposition, Gauss-Jacobi
462.		March	13/03/2022			Gauss-Siedel and SOR iterative methods.
463.		March	20/03/2022			Lagrange interpolation
464.		March	27/03/2022			Newton interpolation
465.		April	03/04/2022			linear and higher order, finite difference operators.
466.		April	10/04/2022			Numerical differentiation
467.		April	17/04/2022			Integration: trapezoidal rule, Simpson's rule
468.		April	24/04/2022			Euler's method.
469.		February	06/02/2022			To find that the given numbers is prime or not
470.		February	13/02/2022			To find the factorial of a number
471.		February	20/02/2022			Write a program to make the two numbers equal by increasing the smallest

	S34622: Physics 06			2:30pm - 4:30pm	Practical	number and decreasing the largest number
472.		February	27/02/2022			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	06/03/2022			Program to glow first four LED then next four using TIMER application
474.		March	13/03/2022			Program to rotate the contents of the accumulator first right and then left
475.		March	20/03/2022			Program to run a countdown from 9-0 in the seven segment LED display
476.		March	27/03/2022			To interface seven segment LED display with 8051 microcontroller and display 'HELP' in the seven segment LED display
477.		April	03/04/2022			To toggle '1234' as '1324' in the seven segment LED.
478.		April	10/04/2022			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	17/04/2022			Application of embedded systems: Temperature measurement
480.		April	24/04/2022			Application of embedded systems: Some information on LCD display, interfacing a keyboard.
481.	S37632: Chemistry 06	February	06/02/2022	4:30pm - 6:30pm	Practical	Safer starting materials: Preparation of nanoparticles of gold using tea leaves
482.		February	13/02/2022			Safer starting materials: characterization of nanoparticles of gold using tea leaves
483.		February	20/02/2022			Using renewable resources: Preparation of biodiesel from vegetable/ waste cooking oil
484.		February	27/02/2022			Avoiding waste: Principle of atom economy
485.		March	06/03/2022			Solvent free, microwave assisted one pot synthesis of phthalocyanine complex of copper
486.		March	13/03/2022			Photoreduction of benzophenone to benzopinacol in the presence of sunlight.

487.		March	20/03/2022			Use of enzymes as catalysts
488.		March	27/03/2022			Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide
489.		April	03/04/2022			Alternative Green solvents
490.		April	10/04/2022			Extraction of D-limonene from orange peel using liquid CO2 prepared from dry ice
491.		April	17/04/2022			Mechanochemical solvent free synthesis of azomethines
492.		April	24/04/2022			Alternative sources of energy
493.	S41642: Mathematics 06	May	01/05/2022	9:30am 11:30am	Practical	Assignment 01
494.		May	01/05/2022	11:30am 1:30pm		Assignment 02
495.		May	01/05/2022	2:30pm 4:30pm		Assignment 03
496.		May	01/05/2022	4:30pm 6:30pm		Assignment 04
497.		May	08/05/2022	9:30am 11:30am		Assignment 05
498.		May	08/05/2022	11:30am 1:30pm		Assignment 06
499.		May	08/05/2022	2:30pm 4:30pm		Assignment 07
500.		May	08/05/2022	4:30pm 6:30pm		Assignment 08
501.		May	15/05/2022	9:30am 11:30am		Assignment 09
502.		May	15/05/2022	11:30am 1:30pm		Assignment 10
503.		May	15/05/2022	2:30pm 4:30pm		Assignment 11
504.		May	15/05/2022	4:30pm 6:30pm		Assignment 12

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

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	S25011: Real Analysis	September	05/09/2021	10.30am- 11.30am	Theory	Metric Spaces
2.		September	12/09/2021			Open and Closed Sets
3.		September	19/09/2021			Sequences in Metric Spaces, Continuity
4.		September	26/09/2021			Connected Metric Spaces
5.		October	03/10/2021			Totally Bounded Subsets of Metric Spaces
6.		October	10/10/2021			Compact Metric Spaces
7.		October	17/10/2021			Riemann Integral
8.		October	24/10/2021			Necessary and Sufficient Conditions for Riemann Integrability
9.		October	31/10/2021			Mean Value Theorems and Fundamental Theorems of Calculus
10.		November	07/11/2021			Convergence and Uniform Convergence of Sequence of Functions
11.		November	14/11/2021			Properties of functions preserved under uniform convergence
12.		November	21/11/2021			Power series
13.	S25012: Abstract Algebra	September	05/09/2021	11.30am- 12.30pm	Theory	Direct product of groups
14.		September	12/09/2021			Finitely generated abelian groups
15.		September	19/09/2021			Normal Subgroups
16.		September	26/09/2021			Series of Groups
17.		October	03/10/2021			Solvable groups
18.		October	10/10/2021			Group action on a set
19.		October	17/10/2021			Maximal and Prime ideals
20.		October	24/10/2021			Ring of Polynomials
21.		October	31/10/2021			Factorization of a polynomials over a field
22.		November	07/11/2021			Unique factorization Domains
23.		November	14/11/2021			Principal ideal domains, Euclidean Domains
24.		November	21/11/2021			Ring of Gaussian Integers

25.	S25013: Ordinary Differential Equations	September	05/09/2021	12.30pm- 1.30pm	Theory	Linear Equations with constant coefficients
26.		September	12/09/2021			Dependence and independence of solutions
27.		September	19/09/2021			Applications of Second Order Linear Equations
28.		September	26/09/2021			The non-homogeneous equation of higher order
29.		October	03/10/2021			Linear Equations with variable Coefficients
30.		October	10/10/2021			Homogeneous equations with analytic coefficients
31.		October	17/10/2021			Linear Equations with Regular Singular Points
32.		October	24/10/2021			Second order equations with regular singular points
33.		October	31/10/2021			Existence and Uniqueness of Solutions to First Order Equations
34.		November	07/11/2021			The method of successive approximations
35.		November	14/11/2021			Non-local existence of solutions
36.		November	21/11/2021			Existence and Uniqueness of Solutions to Systems and nth Order Equations
37.	S25014 : Topology	September	05/09/2021	2.30pm – 3.30pm	Theory	Topological spaces
38.		September	12/09/2021			Basis and Subbasis for a topology
39.		September	19/09/2021			Limit points
40.		September	26/09/2021			Continuous functions
41.		October	03/10/2021			Quotient spaces
42.		October	10/10/2021			Locally connected spaces
43.		October	17/10/2021			Compact spaces
44.		October	24/10/2021			Forms of compact spaces
45.		October	31/10/2021			Countability axioms
46.		November	07/11/2021			Separation axioms
47.		November	14/11/2021			Regular and normal spaces
48.		November	21/11/2021			Compactification
49.		September	05/09/2021	3.30pm – 4.30pm	Theory	Errors in Numerical Calculations
50.		September	12/09/2021			Solutions of algebraic and transcendental equations
51.		September	19/09/2021			Newton Raphson method, Interpolation
52.		September	26/09/2021			Matrix Theory
53.		October	03/10/2021			Systems of Linear Algebraic equations

54.	S25015: Numerical Analysis	October	10/10/2021			Direct methods, Iteration methods
55.		October	17/10/2021			Numerical solutions of ordinary differential equations
56.		October	24/10/2021			Successive approximation
57.		October	31/10/2021			Euler's method, Runge - Kutta method
58.		November	07/11/2021			Numerical Differentiation and integration
59.		November	14/11/2021			Methods based on Finite Differences
60.		November	21/11/2021			Interpolation and approximation
61.	S25031: Complex Analysis	September	05/09/2021	10.30am- 11.30am	Theory	Power Series
62.		September	12/09/2021			Analytic Functions, Harmonic Functions
63.		September	19/09/2021			Mobius Transformations
64.		September	26/09/2021			Power Series Representation of Analytic Functions
65.		October	03/10/2021			Zeros of an Analytic Function, The Index of a Closed Curve
66.		October	10/10/2021			Morera's Theorem and Counting Zeros
67.		October	17/10/2021			Goursat's Theorem
68.		October	24/10/2021			Classification of Singularities, Residues
69.		October	31/10/2021			The Argument Principle
70.		November	07/11/2021			Branches
71.		November	14/11/2021			Hadamard Theorem
72.		November	21/11/2021			Spaces, Analytic Continuation
73.	S25032: Field Theory	September	05/09/2021	11.30am- 12.30pm	Theory	Irreducible Polynomials
74.		September	12/09/2021			Adjunction of Roots
75.		September	19/09/2021			Algebraic Extensions, Algebraically Closed Fields
76.		September	26/09/2021			Splitting Fields
77.		October	03/10/2021			Normal Extensions, Finite Fields
78.		October	10/10/2021			Separable Extensions
79.		October	17/10/2021			Automorphism Groups, Fixed Fields
80.		October	24/10/2021			Fundamental Theorem of Galois Theory
81.		October	31/10/2021			Different Galois Groups
82.		November	07/11/2021			Cyclotomic Polynomials, Cyclic Extensions
83.		November	14/11/2021			Polynomials Solvable by Radicals

84.		November	21/11/2021			Ruler and Compass Constructions
85.	S25033: Integral Equations	September	05/09/2021	12.30pm- 1.30pm	Theory	Integral Equation with Separable Kernel
86.		September	12/09/2021			Method of Successive Approximation
87.		September	19/09/2021			Resolvent Kernel
88.		September	26/09/2021			Application to Ordinary Differential Equations
89.		October	03/10/2021			Dirac Delta function
90.		October	10/10/2021			Green's function
91.		October	17/10/2021			Symmetric kernels
92.		October	24/10/2021			Bilinear Forms, Hilbert-Schmidt theorem
93.		October	31/10/2021			Symmetric Integral Equation
94.		November	07/11/2021			Singular Integral equations
95.		November	14/11/2021			Application of Laplace transform
96.		November	21/11/2021			Application of Fourier transform
97.	S25034 : Discrete Mathematics	September	05/09/2021	2.30pm – 3.30pm	Theory	Permutations, Combinations
98.		September	12/09/2021			Generation of Permutations and Combinations
99.		September	19/09/2021			Discrete Probability
100.		September	26/09/2021			Graphs, Paths and Circuits
101.		October	03/10/2021			Eulerian and Hamiltonian Paths and Circuits
102.		October	10/10/2021			Planar Graphs
103.		October	17/10/2021			Trees, Rooted and Binary Trees
104.		October	24/10/2021			Spanning Trees
105.		October	31/10/2021			Cut-Sets
106.		November	07/11/2021			Boolean Algebras : Lattices and Algebraic System
107.		November	14/11/2021			Basic Properties of Algebraic Systems Defined by Lattices
108.		November	21/11/2021			Boolean Functions and Boolean Expressions
109.	S25035: Operations Research	September	05/09/2021	3.30pm – 4.30pm	Theory	Operations Research and its scope
110.		September	12/09/2021			Linear Programming Problems
111.		September	19/09/2021			Simplex Method, Duality Theory and Dual Simplex Method
112.		September	26/09/2021			Game Models and Related Theory
113.		October	03/10/2021			Two Person Zero Sum Game, Dominance in Games
114.		October	10/10/2021			Mixed Strategies(2×n and m×2 games)

115.		October	17/10/2021			Network Analysis
116.		October	24/10/2021			Fulkerson's Rule
117.		October	31/10/2021			Critical Path Method (CPM), Programme Evaluation and Review Technique (PERT)
118.		November	07/11/2021			MONTE CARLO Method
119.		November	14/11/2021			Generation of Random Numbers
120.		November	21/11/2021			Simulation Languages
121.	S25021: Measure and Integration Theory	February	06/02/2022	10.30am- 11.30am	Theory	Lebesgue Measure
122.		February	13/02/2022			The Algebra of Lebesgue Measurable Sets
123.		February	20/02/2022			Approximate measurable sets
124.		February	27/02/2022			Measurable Functions
125.		March	06/03/2022			Sequential Pointwise Limits and Simple Approximation
126.		March	13/03/2022			Littlewood's Three Principles
127.		March	20/03/2022			Integration of Bounded Measurable Functions
128.		March	27/03/2022			General Lebesgue Integration
129.		April	03/04/2022			Countable Additivity and Continuity of Integration
130.		April	10/04/2022			Differentiation and Integration
131.		April	17/04/2022			Functions of Bounded Variations
132.		April	24/04/2022			The L^p Spaces, The Riesz Theorem
133.	S25022: Linear Algebra	February	06/02/2022	11.30am- 12.30pm	Theory	Vector Spaces, Dual spaces
134.		February	13/02/2022			Inner product spaces
135.		February	20/02/2022			Modules
136.		February	27/02/2022			Linear transformations
137.		March	06/03/2022			Matrices
138.		March	13/03/2022			Triangular forms
139.		March	20/03/2022			Nilpotent forms, Jordan form
140.		March	27/03/2022			Rational Canonical form
141.		April	03/04/2022			Trace and transpose of a matrix
142.		April	10/04/2022			Determinants, Operators
143.		April	17/04/2022			Normal operator
144.		April	24/04/2022			Real Quadratic forms

145.	S25023: Partial Differential Equations	February	06/02/2022	12.30pm- 1.30pm	Theory	Ordinary Differential Equations
146.		February	13/02/2022			Orthogonal Trajectories
147.		February	20/02/2022			Partial Differential Equations of the First Order
148.		February	27/02/2022			Nonlinear Partial Differential Equations of the First Order
149.		March	06/03/2022			Jacobi's Method
150.		March	13/03/2022			Partial differential equations of the second order
151.		March	20/03/2022			Equations with Variable Coefficients
152.		March	27/03/2022			Nonlinear equations of the second order
153.		April	03/04/2022			Laplace's Equation
154.		April	10/04/2022			Separation of Variables
155.		April	17/04/2022			The Wave Equation, Methods of Solution for Wave Equations
156.		April	24/04/2022			The Diffusion Equation, Methods of Solution for Diffusion Equation
157.	S25024 : Number Theory	February	06/02/2022	2.30pm – 3.30pm	Theory	The Fundamental Theorem of Arithmetic
158.		February	13/02/2022			The Euclidean Algorithm
159.		February	20/02/2022			Arithmetic Functions and Dirichlet Product
160.		February	27/02/2022			Formal power series
161.		March	06/03/2022			Congruences
162.		March	13/03/2022			Polynomial Congruences
163.		March	20/03/2022			The Chinese Remainder Theorem
164.		March	27/03/2022			Diophantine Equations
165.		April	03/04/2022			Quadratic Residues, Quadratic Reciprocity law
166.		April	10/04/2022			Jacobi Symbol
167.		April	17/04/2022			Primitive roots
168.		April	24/04/2022			Indices
169.	S25025:	February	06/02/2022	3.30pm – 4.30pm	Theory	Fourier Integrals, Fourier Transforms
170.		February	13/02/2022			Inverse Fourier Transforms
171.		February	20/02/2022			Applications of Fourier Transforms
172.		February	27/02/2022			Laplace Transform
173.		March	06/03/2022			The inverse Laplace Transform

174.	Integral Transforms	March	13/03/2022			Applications of Laplace Transform
175.		March	20/03/2022			The Mellin Transform
176.		March	27/03/2022			Inverse Mellin Transform
177.		April	03/04/2022			Applications of Mellin transform
178.		April	10/04/2022			The Henkel Transform
179.		April	17/04/2022			Finite transforms
180.		April	24/04/2022			Inverse Z-transform
181.	S25041: Differential Geometry	February	06/02/2022	10.30am- 11.30am	Theory	Curves, Reparameterization
182.		February	13/02/2022			Curvature of Curves
183.		February	20/02/2022			Plane Curves
184.		February	27/02/2022			Isoperimetric Inequality
185.		March	06/03/2022			Surfaces in R^3
186.		March	13/03/2022			Tangent and Normal
187.		March	20/03/2022			Types of Surfaces
188.		March	27/03/2022			First Fundamental Form
189.		April	03/04/2022			Isometries of Surfaces
190.		April	10/04/2022			Second Fundamental Form
191.		April	17/04/2022			Curvature of Surfaces
192.		April	24/04/2022			Gaussian and Mean Curvature
193.	S25042: Functional Analysis	February	06/02/2022	11.30am- 12.30pm	Theory	Banach Spaces
194.		February	13/02/2022			Continuous Linear Transformation
195.		February	20/02/2022			The Hahn Banach Theorem
196.		February	27/02/2022			The Open Mapping Theorem
197.		March	06/03/2022			The Conjugate of an Operator
198.		March	13/03/2022			Hilbert Spaces, Orthogonal Complements, Orthonormal Sets
199.		March	20/03/2022			The Conjugate Space H^*
200.		March	27/03/2022			The Adjoint of an Operator
201.		April	03/04/2022			Different Types of Operators
202.		April	10/04/2022			Spectral Resolution of T
203.		April	17/04/2022			The Determinant and Spectrum of an Operator
204.		April	24/04/2022			The Spectral Theorem

205.	S25043: Classical Mechanics	February	06/02/2022	12.30pm- 1.30pm	Theory	Mechanics of System of Particles
206.		February	13/02/2022			D'Alembert's Principle and Lagrange's Equations
207.		February	20/02/2022			Central Force Motion, Kepler's Laws and Virial Theorem
208.		February	27/02/2022			Calculus of Variation
209.		March	06/03/2022			Euler's Equation and its Applications
210.		March	13/03/2022			Hamilton's Principle, Hamilton's Equation of Motion
211.		March	20/03/2022			Routh Procedure and the Least Action Principle
212.		March	27/03/2022			Canonical Transformations, Invariance under Canonical Transformations
213.		April	03/04/2022			Lagrange and Poisson Brackets
214.		April	10/04/2022			Rigid Body Motion-Rotations in Plane and Space
215.		April	17/04/2022			Eulerian Angles, A Moving Coordinate Frame
216.		April	24/04/2022			Rotational Dynamics of a Rigid Body
217.	S25044 : Cryptography	February	06/02/2022	2.30pm – 3.30pm	Theory	Time Estimates for doing Arithmetic
218.		February	13/02/2022			Divisibility and the Euclidean Algorithm
219.		February	20/02/2022			Congruences, Some Applications to Factoring
220.		February	27/02/2022			Finite Fields
221.		March	06/03/2022			Quadratic Residues and Quadratic Reciprocity
222.		March	13/03/2022			Some Simple Cryptosystems, Enciphering Matrices
223.		March	20/03/2022			The Idea of Public Key Cryptography
224.		March	27/03/2022			RSA Cryptosystem
225.		April	03/04/2022			Discrete Log, Pseudo primes, The rho method
226.		April	10/04/2022			Elliptic Curve Cryptosystems
227.		April	17/04/2022			Elliptic Curve Primality Test
228.		April	24/04/2022			Elliptic Curve Factorization
229.	S25045: Topics in Fuzzy	February	06/02/2022	3.30pm – 4.30pm	Theory	Fuzzy Sets and Crisp Sets
230.		February	13/02/2022			Convex Fuzzy Sets
231.		February	20/02/2022			Extension Principle, Fuzzy Complementation
232.		February	27/02/2022			Fuzzy Intersections and Unions
233.		March	06/03/2022			Dual triplets and Aggregation operations
234.		March	13/03/2022			Fuzzy Arithmetic, Lattice of Fuzzy Numbers and Fuzzy

	Mathematics					Equations
235.		March	20/03/2022			Fuzzy Relations
236.		March	27/03/2022			Fuzzy Equivalence Relations
237.		April	03/04/2022			Composition of Fuzzy Relations
238.		April	10/04/2022			More Fuzzy Relations Equations and Approximate Solutions
239.		April	17/04/2022			Fuzzy Propositions, Fuzzy Quantifiers
240.		April	24/04/2022			Approximate Reasoning

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

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: PHY011: Mathematical Physics and Classical Mechanics	September	05/09/2021	10.30am- 11.30am	Theory	Legender's Polynomials, Bessel Functions, Hermite Polynomials
2.		September	12/09/2021			Laplace Equation and Wave Equation
3.		September	19/09/2021			Fourier Transforms and Applications, Laplace Transforms and Applications
4.		September	26/09/2021			Tensor Algebra
5.		October	03/10/2021			Metric Tensor and Chrioffel Symbols
6.		October	10/10/2021			Lagrangian Mechanics, Lagrange's Equations
7.		October	17/10/2021			Hamilton's Principle, Hamilton's Mechanics
8.		October	24/10/2021			Canonical Transformation and Hamilton- Jacobi Theory, Poissons Brackets
9.		October	31/10/2021			Numerical Interpolation
10.		November	07/11/2021			Numerical Differentiation
11.		November	14/11/2021			Numerical Integration, Solution Of Equations
12.		November	21/11/2021			Numerical Solutions Of Ordinary Differential Equations
13.	Year 01: PHY012: Statistical Mechanics and Quantum Mechanics	September	05/09/2021	11.30am- 12.30pm	Theory	Statistical Mechanics – Thermodynamics, Ensembles
14.		September	12/09/2021			Density Distribution- Liouville's Theorem, Postulate of Classical Statistical Mechanics
15.		September	19/09/2021			Micro Canonical Ensemble, Maxwell- Boltzmann Statistics, Canonical And Grand Canonical Ensembles
16.		September	26/09/2021			Postulate of Quantum Statistical Mechanics, Quantum Statistics- B.E. and F.D. Statistics
17.		October	03/10/2021			Birth of Quantum Mechanics, Eigen Value and Eigen Functions
18.		October	10/10/2021			Dirac's Bra And Ket Vectors, Eigen Functions and Uncertainty Principle

19.		October	17/10/2021			Schrodinger Wave Equation, Applications of Schrodinger Equations one Dimensional Problem
20.		October	24/10/2021			Angular Momentum, Application of Schrodinger Equation To Three Dimensional problems
21.		October	31/10/2021			Hydrogen Atom, Spin Angular Momentum, Addition Angular Momenta Clebsch-Godvan Coefficients
22.		November	07/11/2021			Time Independent Perturbation Theory, Variation Method
23.		November	14/11/2021			Time Dependent Perturbation Theory
24.		November	21/11/2021			Kelvin Gordon Relativistic equation and Application, Dirac's Relativistic equation and Application
25.	Year 01: PHY013: Solid State Physics	September	05/09/2021	12.30pm- 1.30pm	Theory	Crystalline State of Crystal Structure, Non Crystalline State
26.		September	12/09/2021			Element of X-Ray Diffraction
27.		September	19/09/2021			Experimental Techniques For Structure Determination
28.		September	26/09/2021			Imperfections In Crystals, Diffusion, Dislocation
29.		October	03/10/2021			Free Electron Theory, Band Theory of Solids
30.		October	10/10/2021			Semiconductors, Solid State LASERs
31.		October	17/10/2021			Elastic Waves In Solids
32.		October	24/10/2021			Infrared Absorption In Ionic Crystal, Lattice Heat Capacity
33.		October	31/10/2021			Microscopic Description of Dielectrics
34.		November	07/11/2021			Measurement of Dielectric Constant, Ferroelectrics
35.		November	14/11/2021			Magnetism, Spontaneous Magnetization
36.		November	21/11/2021			Occurrence of Superconductivity, Superconductivity-Theoretical Explanations
37.	Year 01: PHY014:	September	05/09/2021			Semiconductor Diodes, Transistors
38.		September	12/09/2021			Power Supplies, Feedback Amplifier, RC Coupled Amplifier and its frequency Response
39.		September	19/09/2021			Oscillators(Using Transistors), Multivibrators (Using transistor)

40.	Semiconductor Devices Analog and Digital Electronics	September	26/09/2021	2.30pm – 3.30pm	Theory	Operational Amplifier and It's Characteristics Parameters, Operational Amplifier Configurations
41.		October	03/10/2021			Operational Amplifier – Frequency, Operational Amplifier- Linear Application
42.		October	10/10/2021			Operational Amplifier- Non-Linear Applications, Operational Amplifier- Waveform Generators
43.		October	17/10/2021			Introduction To Digital Electronics and Logic Gates, Application of Exclusive-OR Gate
44.		October	24/10/2021			De-Morgan's Theorem, Fundamental Products, K-Map
45.		October	31/10/2021			Flip-Flops, Shift Registers, Counters
46.		November	07/11/2021			Multiplexers and Demultiplexers
47.		November	14/11/2021			Digital-to-Analog (D/A) Converters
48.		November	21/11/2021			Analog-to-Digital (A/D) Converters
49.	Year 01: PHY015: Heat and Acoustics	September	05/09/2021	3.30pm- 5.30pm	Practical	Errors
50.		September	12/09/2021			Thermal conductivity of a bad conductor- Lee's Method
51.		September	19/09/2021			Determination of melting point of Wax – thermo E. M. F. diagram Potentiometer
52.		September	26/09/2021			Study of Variation of Specific Heat of Graphite with Temperature
53.		October	03/10/2021			Stefan's Constant
54.		October	10/10/2021			Coefficient of Viscosity – Meyer's Formula
55.		October	17/10/2021			Elastic Constants of the Material of a Spiral Springs
56.		October	24/10/2021			Energy Gap of a Semi-Conductor
57.		October	31/10/2021			Ultrasonic Velocity in Liquids Debye – Sears Method
58.		November	07/11/2021			Ultrasonic Velocity in Liquids Ultrasonic Interferometer Method
59.		November	14/11/2021			Fibre Optics – Determination of Numerical Aperture and Losses
60.		November	21/11/2021			Fibre Optics – Conversion of Electrical to Optical and to Electrical Signal
61.		February	06/02/2022			Biprism – λ of Sodium Light

62.	Year 01: PHY016: Optics	February	13/02/2022	9.30am- 11.30pm	Practical	Biprism – Thickness of a Thin Mica Sheet
63.		February	20/02/2022			Cauchy's Constant
64.		February	27/02/2022			Determination of Wavelength and Difference in Wavelength of Sodium Source using Michelson Interferometer
65.		March	06/03/2022			Y – of a Glass Plates – Newton's Rings' Method
66.		March	13/03/2022			Determination of Photoelastic Constant of Transparent Material
67.		March	20/03/2022			Study of Dispersion Spectra - Double Refraction
68.		March	27/03/2022			Verification of Malus Law
69.		April	03/04/2022			Determination of Wavelength of Laser Using Diffraction Grating
70.		April	10/04/2022			Hart Mann's Dispersion Formula
71.		April	17/04/2022			Study of Led Characteristics And Determination of Plank's Constant
72.		April	24/04/2022			Determination of Rydberg Constant
73.	Year 01: PHY017: Basic Electronics	February	06/02/2022	11.30pm- 1.30pm	Practical	Power Supplies
74.		February	13/02/2022			Zener Diode As A Voltage Regulator
75.		February	20/02/2022			RC – Coupled Amplifier
76.		February	27/02/2022			RC - Phase Shift Oscillator
77.		March	06/03/2022			Colpits Oscillator
78.		March	13/03/2022			Operational Amplifier (OP – AMP) Characteristics
79.		March	20/03/2022			Operational Amplifier (OP – AMP) As An Inverting And Non – Inverting Amplifier
80.		March	27/03/2022			Wein Bridge Oscillator
81.		April	03/04/2022			Triangular Wave Generator
82.		April	10/04/2022			Schmitt Trigger Using IC 741 (OP – AMP)
83.		April	17/04/2022			Astable Multivibrator Using IC 555
84.		April	24/04/2022			Monostable Multivibrator Using IC 555
85.		February	06/02/2022			Verification of Boolean And Demorgan Theorem
86.		February	13/02/2022			Half Adder / Half Subtractor, Full – Adder

87.	Year 01: PHY018: Digital Electronics and Computers	February	20/02/2022	2.30pm – 4.30pm	Practical	Verification of Flip – Flops
88.		February	27/02/2022			Implementation of Ring Counter And Johnson Counter
89.		March	06/03/2022			Counter (Part – A), Decade Counter
90.		March	13/03/2022			Digital to Analog Converter
91.		March	20/03/2022			Crystal Oscillator
92.		March	27/03/2022			History of The ‘C’ Programing Language
93.		April	03/04/2022			Evaluation of Function, Evaluation of Determinant of Matrix
94.		April	10/04/2022			Solution of Non – Linear Equations
95.		April	17/04/2022			Numerical Integration
96.		April	24/04/2022			Solution For Differential Equations, Solutions TO System of Linear Equations
97.	Year 02: PHY021: Nuclear Physics and Analytical Techniques	September	05/09/2021	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	12/09/2021			Gamma Emission- Multiple Radiation- Selection rules for γ - decay, Classification of Elementary Particles- Fundamental Interactions- Conservation laws
99.		September	19/09/2021			Interaction of Charged Particles and Gamma Radiation with matter, Radiation Detectors
100.		September	26/09/2021			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	03/10/2021			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	10/10/2021			Nuclear Model, Shell Model
103.		October	17/10/2021			Types of Nuclear Reactions, Basic Properties of Neutrons, Phase Contrast Microscopy, Scanning Electron Microscope, Transmission Microscope

104.		October	24/10/2021			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	31/10/2021			Theory of Mossbauer Effect: Recoil-less Emission and Absorption of Gamma Rays – Nuclear Resonance, Experimental Technique to Observe Mossbauer Effect, Mossbauer Nuclides
106.		November	07/11/2021			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	14/11/2021			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	21/11/2021			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.	Year 02: PHY022: Electromagnetic Theory and	September	05/09/2021	11.30am- 12.30pm	Theory	Electrostatic field, Magneto statics, Electro dynamics
110.		September	12/09/2021			EW waves in matter, Electromagnetic radiation
111.		September	19/09/2021			Lienard - Wiechert potentials, Radiated power
112.		September	26/09/2021			Fine structure, Zeeman , Paschen-back and Stark effects
113.		October	03/10/2021			Vector atom model L-S and J-J coupling of two electron states
114.		October	10/10/2021			Two electron system , Lande ‘G’ Factor
115.		October	17/10/2021			Rotational spectra of diatomic molecules

116.	Spectroscopy	October	24/10/2021			Vibrational spectra, Electronic spectra
117.		October	31/10/2021			Franck-Condon principle , dissociation Enalgies
118.		November	07/11/2021			Principle of IR spectroscopy , IR double beam spectrometer
119.		November	14/11/2021			Raman scattering, Rotational and vibrational Raman spectra
120.		November	21/11/2021			Laser Raman spectrometer , differences between IR and Raman spectra
121.	Year 02: PHY023: Memory Devices and Microprocessors	September	05/09/2021	12.30pm- 1.30pm	Theory	Logic families and their performance characteristics
122.		September	12/09/2021			Emitter coupled logic (ECL , PMOs, CMOs logic and Tri state logic), Comparisons of logic families
123.		September	19/09/2021			Classification and characteristics of memories, Memory organization and expansion
124.		September	26/09/2021			Micro Processor organization and architecture, Pin configuration of Intel 8085 Microprocessor
125.		October	03/10/2021			Timing diagrams, Addressing modes and instruction set of Intel 8085
126.		October	10/10/2021			Programming of Micro Processor Intel 8085, Assembly language programming using loops
127.		October	17/10/2021			I/O interfacing & data transfer schemes, Intel 8053 programmable interval timer
128.		October	24/10/2021			Programmable peripheral interface (8255)
129.		October	31/10/2021			Priority interrupt controller(8259)
130.		November	07/11/2021			Intel 8086 microprocessor, Addressing modes and instruction set of Intel 8086 microprocessor
131.		November	14/11/2021			Pin configuration of Intel 8086 microprocessor
132.		November	21/11/2021			Architecture of Micro Processor 80286, 80386 , 80486, The Pentium microprocessor
133.		September	05/09/2021			Passive devices- wave guides, Cut-off wave length
134.		September	12/09/2021			Rectangular wave guides
135.		September	19/09/2021			Scattering matrix, s- matrix of e-plane H-plane and

						magic tee
136.	Year 02: PHY024: Microwave Devices and Communication Systems	September	26/09/2021	2.30pm – 3.30pm	Theory	Wave guide components, Phase shifters
137.		October	03/10/2021			Microwave semiconductor devices
138.		October	10/10/2021			Parametric devices
139.		October	17/10/2021			Two cavity Klystron, Magnetron
140.		October	24/10/2021			Travelling wave tube (TWT), Modulation, Demodulation
141.		October	31/10/2021			Antenna fundamentals, VHF antennas
142.		November	07/11/2021			Microwave antennas
143.		November	14/11/2021			Radars 184
144.		November	21/11/2021			Types radar, Tracking radar
145.	Year 02: PHY025: Spectroscopy	September	05/09/2021	3.30pm- 5.30pm	Practical	Study of The Band Spectra
146.		September	12/09/2021			Raman Effect
147.		September	19/09/2021			Zeeman Effect
148.		September	26/09/2021			Hall Effect
149.		October	03/10/2021			Magnetic Susceptibility “Gouy’s Method”
150.		October	10/10/2021			ESR Spectrometer
151.		October	17/10/2021			Electrical Conductivity of a Solid Variation With Temperature (Four Probe Method)
152.		October	24/10/2021			Laue Spots
153.		October	31/10/2021			Powder Pattern
154.		November	07/11/2021			Study of B – H Curve
155.		November	14/11/2021			Thermal Study Of Magnetic Permeability of Ferrite (Toroid)
156.		November	21/11/2021			Determination of Curie Temperature of Ferroelectric Material
157.	Year 02: PHY026:	February	06/02/2022	9.30am- 11.30pm	Practical	Reciprocal Dispersion Curve
158.		February	13/02/2022			Characteristics of a Solar Cell
159.		February	20/02/2022			G. M. Counter – Characteristics Curve
160.		February	27/02/2022			Dead Time Determination
161.		March	06/03/2022			Range And End Point Energy of β – Ray Absorption

162.	Modern Physics	March	13/03/2022			Linear And Mass Attenuation Coefficient Using Gamma Ray Absorption
163.		March	20/03/2022			Verification of Inverse Square Law of Gamma Ray, Half – Life of Uranium
164.		March	27/03/2022			Magnetic Susceptibility – Quick Tube Method
165.		April	03/04/2022			Study of Birefringence
166.		April	10/04/2022			Babinet's Compensator
167.		April	17/04/2022			Thickness of Thin Wire By Diffraction
168.		April	24/04/2022			Characteristics of Laser Diode
169.	Year 02: PHY027: Memory Devices and Microprocessors	February	06/02/2022	11.30pm- 1.30pm	Practical	Introduction To Microprocessors, One's Complement and Two's Complement of a Number, Mask Off Most Significant and Least Significant 4 – Bits of an 8 – Bit Data
170.		February	13/02/2022			Picking of Largest / Smallest of a Number From an Array of Number, Square of a Number using Look up table Technique
171.		February	20/02/2022			Addition of 8 – Bit Hexadecimal Data, Addition of 8 – Decimal Data, Subtraction of Two 8 – Bit Data
172.		February	27/02/2022			Addition 16 – Bit Data Using an Individual Registers, Addition 16 – Bit Data Using DAD Instruction
173.		March	06/03/2022			Addition of a Number For 'N' Times, Multiplication
174.		March	13/03/2022			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	20/03/2022			Sum of Series Of 8– Bit Numbers, Block Movement of Data In An Array
176.		March	27/03/2022			Conversion Of ASCII To Binary, Conversion of Binary To ASCII
177.		April	03/04/2022			Data Transformation Through 8255 (PPI) I/O Ports AND Generation of Time Delay Between The Data's

178.		April	10/04/2022			Displaying Traffic Lights At 8255 I/O Ports, 4 – Bit / 8– Bit Digital To Analog Converter (DAC)
179.		April	17/04/2022			Rotating The Shaft of a Stepper Motor With (i) Given Direction, (ii) Given Speed, (iii) Given Angle, (iv) Bidirectional Rotational
180.		April	24/04/2022			Displaying of A Number On 7 – Segment Display
181.	Year 02: PHY028: Microwave Devices and Communication Systems	February	06/02/2022	2.30pm – 4.30pm	Practical	Microwaves, Reflex Klystron Characteristics
182.		February	13/02/2022			Gunn Diode Characteristics
183.		February	20/02/2022			Directional Coupler Characteristics
184.		February	27/02/2022			Waveguide Parameters Measurement
185.		March	06/03/2022			Scattering Matrix of Isolator And Circular, Scattering Matrix of Magic Tee
186.		March	13/03/2022			Amplitude Modulation
187.		March	20/03/2022			Frequency Modulator And Demodulator, Balanced Modulator
188.		March	27/03/2022			Pre Emphasis And DE – Emphasis, Amplitude Shift Keying
189.		April	03/04/2022			Pulse Amplitude Modulation And Demodulation
190.		April	10/04/2022			Pulse Position Modulation (PPM)
191.		April	17/04/2022			Pulse Width Modulation And Demodulation
192.		April	24/04/2022			Analog Signal Sampling And Reconstruction

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

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Year 01: CHE011: Inorganic Chemistry	September	05/09/2021	10.30am- 11.30am	Theory	Symmetry operations and Symmetry elements, Mathematical Rules of Groups Abelian and Non-Abelian
2.		September	12/09/2021			Molecular Point Groups, Group Multiplication Tables
3.		September	19/09/2021			Symmetry Properties Of Molecules- Molecular Polarity, Chirality and optical Activity
4.		September	26/09/2021			Crystal Field Theory-Splitting Of Metal d-Orbitals in Different Geometries
5.		October	03/10/2021			Ligand Field Parameters, Molecular Orbital Theory
6.		October	10/10/2021			Free Ion Terms Energy Levels, Electronic Spectra Of Transition Metal Complexes And Orgel Diagrams
7.		October	17/10/2021			Labile And Inert Complexes, Substitution Reaction Mechanisms Of Octahedral Complexes
8.		October	24/10/2021			Substitution Reaction Mechanisms of Square Planar Complexes
9.		October	31/10/2021			Electron transfer reaction mechanism, Reaction Mechanisms Of Organometallic Compounds
10.		November	07/11/2021			Stability Constants Of Metal Complexes And Factors Influencing Stability
11.		November	14/11/2021			Methods Of Determination Of Stability Constants, Ligational Aspects Of Diatomic Molecules
12.		November	21/11/2021			Metal Clusters, Coordination Chemistry Of Metal Ions In Bio molecules
13.		September	05/09/2021			Molecular Representations And Classification Of Stereo isomers, Molecular symmetry and chirality: enantiomers and diastereoisomers
14.		September	12/09/2021			Molecules with one and more than one chiral centers,

	Year 01: CHE012: Organic chemistry Volume I & II			11.30am- 12.30pm	Theory	Axial, planar and helical chirality and pi or E, Z- diastereoisomerism
15.		September	19/09/2021			Absolute configurational nomenclature, determination of absolute configuration and resolution of racemates
16.		September	26/09/2021			Basic concepts, electronic effects, electro negativity, resonance, acid and basic character of organic compound, Reaction Pathways
17.		October	03/10/2021			Electrophilic Addition To Carbon-Carbon Double Bonds, Aliphatic nucleophilic substitution
18.		October	10/10/2021			Neighbouring Group Participation, Ambident Nucleophiles, Aromatic Nucleophilic Substitution And Aliphatic Electrophilic Substitution
19.		October	17/10/2021			Concept Of Aromaticity, Nonbenzenoid Aromatic Compounds Synthesis And Reactions Of 3,5,7- Membered Carbocyclic Systems
20.		October	24/10/2021			Azulenenes And Polycyclic Aromatic Compounds, Heterocyclic compounds
21.		October	31/10/2021			Fused hetero bicyclic and tricyclic systems, carbazole, quinolone, isoquinoline and acridine
22.		November	07/11/2021			Natural product tenpins and terpenoids, Alkaloids
23.		November	14/11/2021			Carbohydrates – monoacids, Carbohydrates disaccharide
24.		November	21/11/2021			Carbohydrates polysaccharide
25.	Year 01: CHE013: Physical Chemistry Theory	September	05/09/2021	12.30pm- 1.30pm	Theory	Basic Quantum Chemistry, Wave Mechanics Of Some Simple Systems With Constant Potential Energy
26.		September	12/09/2021			Hydrogen-Like Atoms, Approximation Methods And Interaction Of Radiation And Matter
27.		September	19/09/2021			Theories Of Chemical Bonding- Diatomic Molecules
28.		September	26/09/2021			Concept Of Thermodynamics Laws- First Law Of Thermodynamics
29.		October	03/10/2021			The Second Law Of Thermodynamics, Spontaneity And Equilibrium

30.		October	10/10/2021			Ideal And Non-Ideal Solutions And Activity Coefficients, Nerst Heat Theorem And Third Law Of Thermodynamics
31.		October	17/10/2021			Electrochemical Cells First Law Of Thermodynamics
32.		October	24/10/2021			Polarization, Electro Analytical Techniques
33.		October	31/10/2021			Activity, Corrosion
34.		November	07/11/2021			Theories Of Reactions Rates, Kinetics Of Complex Reactions
35.		November	14/11/2021			Reactions In Solutions, Photochemistry
36.		November	21/11/2021			Photochemical Reaction Mechanisms
37.	Year 01: CHE014: Chemistry(General)	September	05/09/2021	2.30pm – 3.30pm	Theory	Co-Ordinate System, Differential Calculus
38.		September	12/09/2021			Matrices, Integral Calculus
39.		September	19/09/2021			Differential Equations, Cell Structure And Functions
40.		September	26/09/2021			Carbohydrates, Fatty Acids, Amino Acids, Peptides And Proteins
41.		October	03/10/2021			Nucleic Acids, Rotational Spectra, Vibrational Spectroscopy- 1, Vibrational Spectroscopy- 2, Vibration Spectroscopy- 3
42.		October	10/10/2021			Roman Spectroscopy, Electron Spectroscopy
43.		October	17/10/2021			H NMR Spectroscopy- 1, H NMR Spectroscopy- 2, NMR Of Paramagnetic Compounds
44.		October	24/10/2021			Mass Spectroscopy-1, Mass Spectroscopy- 2
45.		October	31/10/2021			Introduction To Computers
46.		November	07/11/2021			Basic Language, C Language
47.		November	14/11/2021			Chemistry Application Using Basic Programme
48.		November	21/11/2021			Chemistry Application Using C Language
49.	Year 01: CHE015:	September	05/09/2021	3.30pm- 5.30pm	Practical	Introduction to Semi Micro Analysis
50.		September	12/09/2021			Classification of Cations Into Groups For Qualitative Analysis
51.		September	19/09/2021			Reactions Of Cations
52.		September	26/09/2021			General Group Separation and analysis of Individual

	Inorganic Chemistry Practical					Groups
53.		October	03/10/2021			Model Semi-Micro Analysis of Cations(A Known Salt Mixture – I)
54.		October	10/10/2021			Model Semi-Micro Analysis Of Cations (A Known Salt Mixture – II)
55.		October	17/10/2021			Preparation Of Tetrammine Copper(II) Sulphate, Hydrate
56.		October	24/10/2021			Calibration Of Analytical Apparatus
57.		October	31/10/2021			Estimations Involving Volumetric-I
58.		November	07/11/2021			Estimations Involving Volumetric-II
59.		November	14/11/2021			Estimations Involving Volumetric-III
60.		November	21/11/2021			Estimation of Cu ²⁺ and Ni ²⁺ present in a Sample Solution
61.	Year 01: CHE016: Organic Chemistry Practical	February	06/02/2022	9.30am- 11.30pm	Practical	Safety in chemical Laboratory, Laboratory Equipment& technique
62.		February	13/02/2022			Systematic Qualitative Analysis of Organic Compounds
63.		February	20/02/2022			Systematic Qualitative analysis of A Model Organic Compound
64.		February	27/02/2022			Identification of organic compounds by systematic qualitative analysis
65.		March	06/03/2022			m-nitro aniline
66.		March	13/03/2022			Benzoyl glycine
67.		March	20/03/2022			Estimation of phenol
68.		March	27/03/2022			Estimation of methyl ketone
69.		April	03/04/2022			Estimation of reducing sugars
70.		April	10/04/2022			Chromatography
71.		April	17/04/2022			Separation of a solid mixture by column chromatography I
72.		April	24/04/2022			Separation of a solid mixture by column chromatography II
73.		February	06/02/2022			Density and viscosity liquids

74.	Year 01: CHE017: Physical Chemistry Practical	February	13/02/2022	11.30pm- 1.30pm	Practical	Distribution of I ₂ between CCL ₄ and aqueous KI and calculation of formation constant of K ₃
75.		February	20/02/2022			Adsorption of acetic acid on activated charcoal
76.		February	27/02/2022			Kinetic study Acid catalyzed hydrolysis of methyl acetate
77.		March	06/03/2022			Persulphate Iodide reactions
78.		March	13/03/2022			Conductivity study
79.		March	20/03/2022			Determination of cell constant
80.		March	27/03/2022			Potentiometry
81.		April	03/04/2022			PH metry
82.		April	10/04/2022			Colorimetry
83.		April	17/04/2022			Polarimetry I
84.		April	24/04/2022			Polarimetry II
85.	Year 01: CHE018: Spectroscopy & Computers	February	06/02/2022	2.30pm – 4.30pm	Practical	Infrared Spectroscopy I
86.		February	13/02/2022			Infrared Spectroscopy II
87.		February	20/02/2022			Proton Magnetic resonance spectroscopy I
88.		February	27/02/2022			Proton Magnetic resonance spectroscopy II
89.		March	06/03/2022			Ultraviolet visible spectroscopy
90.		March	13/03/2022			Mass spectrometry
91.		March	20/03/2022			Structural determination of organic compounds using the combined spectral data (IR, PMR, Mass & UV) data
92.		March	27/03/2022			Structural determination of organic compounds using the combined spectral data (IR, PMR, Mass & UV) data
93.		April	03/04/2022			Basic language practical
94.		April	10/04/2022			Calculation of activation energy using Arrhenius question by least square fitting
95.		April	17/04/2022			Language practical's
96.		April	24/04/2022			First order rate constant from kinetic data
97.		September	05/09/2021			Reaction intermediates I, Reaction intermediates II
98.		September	12/09/2021			Molecular rearrangements 1, Molecular rearrangements II

99.	Year 02: CHE021: Organic chemistry theory	September	19/09/2021	10.30am- 11.30am	Theory	Elimination reactions, Classification and stereo chemistry of pericyclic reactions
100.		September	26/09/2021			Molecular orbital and their symmetry properties, Analysis of electro cyclic reactions
101.		October	03/10/2021			Analysis of electro cycloaddition reactions, Analysis of sigmatropic reactions
102.		October	10/10/2021			Electronic transition, Photochemistry of carbonyl compound
103.		October	17/10/2021			Photochemistry of alkenes and dienes, Photochemistry of benzene derivatives
104.		October	24/10/2021			Photochemistry of peroxides, nitrates, hypohalites, azo compounds, and Diels-Alder compounds
105.		October	31/10/2021			Conformations of some acyclic molecules, Conformation and reactivity
106.		November	07/11/2021			Conformation of cyclobutanes, cyclopentanes, cyclohexanes and monosubstituted cyclohexanes
107.		November	14/11/2021			Conformation of disubstituted cyclohexanes, cyclohexenes and cyclohexanones
108.		November	21/11/2021			Conformations of a few other monocyclic and bicyclic systems
109.	Year 02: CHE022: Organic Chemistry Theory Course-VI	September	05/09/2021	11.30am- 12.30pm	Theory	Fictionalization and functional group interconversion & oxidation of alkanes and alkenes
110.		September	12/09/2021			Oxidations of alcohols, Reduction- catalytic hydrogenation
111.		September	19/09/2021			Reduction by hydride transfer reagents, Dissolving metal reductions
112.		September	26/09/2021			Formation of carbon carbon single bonds, Formation of carbon carbon double bonds
113.		October	03/10/2021			Synthetic application of organoboranes, Synthetic application of organosilanes
114.		October	10/10/2021			Protecting groups of organic chemistry
115.		October	17/10/2021			Introduction and target selection and terminology,

						Disconnection approach with examples
116.		October	24/10/2021			Carbon- Carbon disconnections, Application of some important strategies in organic synthesis
117.		October	31/10/2021			Amine synthesis, consecutive and convergent synthesis & some selected synthesis
118.		November	07/11/2021			Tropicity and prochirality, stereoselectivity and strategies of asymmetric synthesis
119.		November	14/11/2021			Substrate controlled methods
120.		November	21/11/2021			Chiral auxiliary-controlled methods, Chiral reagent controlled and catalyst controlled method
121.	Year 02: CHE023: Organic chemistry Theory	September	05/09/2021	12.30pm- 1.30pm	Theory	Alkaloids: Aims, objective, introductions
122.		September	12/09/2021			Steroids and hormones, Prostaglandins
123.		September	19/09/2021			Vitamins, Retinoid and porphyrins
124.		September	26/09/2021			Enzymes and their reactivity, Biochemical pathways 1, Metabolism of fatty acids and proteins
125.		October	03/10/2021			Biosynthetic methods general methods, and feeding experiments
126.		October	10/10/2021			Biosynthesis of aromatic hydrocarbons by acetate/melonic and shikimic acid pathway
127.		October	17/10/2021			5 membered heterocycles contain two hetero atoms, 6 membered heterocycles containing two nitrogen atoms
128.		October	24/10/2021			Synthesis of 5 membered heterocycles containing more than two hetero atoms
129.		October	31/10/2021			Synthesis of pyrimidine purine and xanthine bases, Three and four membered heterocyclic compounds
130.		November	07/11/2021			¹³ C NMR spectroscopy I, ¹³ C NMR Spectroscopy II
131.		November	14/11/2021			¹⁹ F AND ³¹ P NMR spectroscopy, Optical rotatory dispersion studies
132.		November	21/11/2021			Multiple techniques in NMR spectroscopy 2D NMR & APT, DEPT, and INEPT
133.		September	05/09/2021			Drug discovery design and development, Concept of

	Year 02: CHE024: Organic Chemistry Theory Course -VIII			2.30pm – 3.30pm	Theory	receptors, agonist and antagonists
134.		September	12/09/2021			Design of agonist and antagonist development of captoprilsalbutamol and cimetides, Structural activities relationship studies I
135.		September	19/09/2021			SAR studies II Developemnt of oxaminoquinon & SAR studies of sulphjonamiteds and benzioidazepines
136.		September	26/09/2021			Combinatorial synthesis, Quantitative structure activity relationship
137.		October	03/10/2021			Pharmacokinetics prodrugs and clinical trials
138.		October	10/10/2021			Drug acting on metabolic process, Drugs acting on cell wall and cell membrane
139.		October	17/10/2021			Drug acting on nervous system, Enzyme inhibitors
140.		October	24/10/2021			Drugs affecting cholinergic nervous system, Drugs acting on genetic materials
141.		October	31/10/2021			Drug acting on histamine receptors and ion channels
142.		November	07/11/2021			Introduction to chiral drugs, Synthesis of chiral drugs
143.		November	14/11/2021			Drugs and drug intermediates from fermentation, Drug analysis
144.		November	21/11/2021			Quality control methods in drug manufacturing and formulation
145.	Year 02: CHE025: Organic Chemistry Practical	September	05/09/2021	3.30pm- 5.30pm	Practical	Systematic procedure for the separation of diethyl ether in soluble binary organic mixture
146.		September	12/09/2021			Systematic procedure of separation of organic mixture based on salt formation I
147.		September	19/09/2021			Systematic procedure of separation of organic mixture based on salt formation II
148.		September	26/09/2021			Systematic procedure of separation of organic mixture based on salt formation III
149.		October	03/10/2021			Systematic procedure for qualitative analysis of organic compounds formation
150.		October	10/10/2021			Identification of unknown binary organic mixture I

151.		October	17/10/2021			Identification of unknown binary organic mixture II
152.		October	24/10/2021			Identification of unknown binary organic mixture III
153.		October	31/10/2021			Identification of unknown binary organic mixture IV
154.		November	07/11/2021			General separation procedure for the ternary organic mixture
155.		November	14/11/2021			Separation and identification of ternary organic mixture XVI
156.		November	21/11/2021			Separation and identification of ternary organic mixture XVII
157.	Year 02: CHE026: Organic Chemistry Practical	February	06/02/2022	9.30am- 11.30pm	Practical	Correlation tables of mass, infrared NMR, UV spectroscopy
158.		February	13/02/2022			Solved spectra; problem 1, Solved spectra; problem 2
159.		February	20/02/2022			Solved spectra; problem 3, Solved spectra; problem 4
160.		February	27/02/2022			Solved spectra; problem 5
161.		March	06/03/2022			Solved spectra; problem 6
162.		March	13/03/2022			Solved spectra; problem 7
163.		March	20/03/2022			Solved spectra; problem 8
164.		March	27/03/2022			Solved spectra; problem 9
165.		April	03/04/2022			thin layer chromatography TLC1
166.		April	10/04/2022			Monitoring of chemical reaction by thin layer chromatography
167.		April	17/04/2022			Preparation of thin layer chromatography
168.		April	24/04/2022			Separation of solid mixture by column chromatography
169.	Year 02: CHE027: Organic Chemistry Practical	February	06/02/2022	11.30pm- 1.30pm	Practical	Preparation 2 pehnyl indole
170.		February	13/02/2022			Preparation of 7 hdroxy 3 methyl flavone,
171.		February	20/02/2022			Preparation OF 2-5 Dihydroxy acetophenone
172.		February	27/02/2022			Preparation of benzilic acid
173.		March	06/03/2022			Preparation of caprolactum
174.		March	13/03/2022			Preparation of acridone
175.		March	20/03/2022			Preparation of 4chloro toluene
176.		March	27/03/2022			Preparation of 7 hydroxy coumarine

177.		April	03/04/2022			Preparation of photo dimerisation of maleic anhydride
178.		April	10/04/2022			Preparation of benzophenone
179.		April	17/04/2022			Isolation of Caffeine from Tea leaves
180.		April	24/04/2022			Preparation of benzenilide
181.	Year 02: CHE028: Organic Chemistry Practical	February	06/02/2022	2.30pm – 4.30pm	Practical	Preparation of Paracetamol, Preparation of phenytoin
182.		February	13/02/2022			Preparation of 6-methyl uracil
183.		February	20/02/2022			Preparation of benzocaine
184.		February	27/02/2022			Preparation of synthesis of chlorbutol
185.		March	06/03/2022			Preparation of sulfanilamide
186.		March	13/03/2022			Preparation of fluorescein
187.		March	20/03/2022			Preparation of antipyrine, Preparation of diazepam
188.		March	27/03/2022			Esterification of assay of aspirin, Esterification of assay of Ibuprofen
189.		April	03/04/2022			Estimation of assay Analgin, Estimation of assay of ascorbic acid
190.		April	10/04/2022			Estimation of Ca ²⁺ ions in calcium gluconate injection, Estimation of chloride in ringer lactate injection
191.		April	17/04/2022			Estimation of assay of sulphanilimide by potentiometric titrations
192.		April	24/04/2022			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	05/09/2021	10.30am- 11.30am	Theory	Theories and concepts of Taxonomy
2.		September	12/09/2021			Biological Classification
3.		September	19/09/2021			Methodologies in Systematic
4.		September	26/09/2021			Coelom, Circulatory System
5.		October	03/10/2021			Nervous System, Excretory System
6.		October	10/10/2021			Phylogenetic Importance of Echinoderm Larvae
7.		October	17/10/2021			Integument, Heart and Circulatory System
8.		October	24/10/2021			Respiratory System
9.		October	31/10/2021			Nervous System, Brain and Sensory Organs
10.		November	07/11/2021			Ecology and Animal Diversity
11.		November	14/11/2021			Aquatic ecosystems and Animal Diversity, Protected areas (sanctuaries and National Parks)
12.		November	21/11/2021			Extinction and Biodiversity Conservation
13.	Year 01: ZGY012: Cell And Molecular Biology	September	05/09/2021	11.30am- 12.30pm	Theory	An overview of the Cell, Cell shapes and types, Method in Cell Biology
14.		September	12/09/2021			Structure and function of the Cell Membrane
15.		September	19/09/2021			Functional aspects of cell Organelles
16.		September	26/09/2021			The Cell Organelles
17.		October	03/10/2021			Nucleus, Cell Division
18.		October	10/10/2021			Cell Communication and Signaling
19.		October	17/10/2021			Nucleic Acid
20.		October	24/10/2021			DNA Replication, Transcription
21.		October	31/10/2021			Genetic code and Protein Synthesis
22.		November	07/11/2021			Gene Regulation
23.		November	14/11/2021			Gene Transfer method in Prokaryotes
24.		November	21/11/2021			Mobile Genetic Elements, Cancer

25.	Year 01: ZGY013: Animal physiology and physiological chemistry	September	05/09/2021	12.30pm- 1.30pm	Theory	Water, Thermoregulation
26.		September	12/09/2021			Respiration
27.		September	19/09/2021			Circulation
28.		September	26/09/2021			Nutrition and Digestion
29.		October	03/10/2021			Excretion, Immunology
30.		October	10/10/2021			Nerve and receptor
31.		October	17/10/2021			Muscle, Enzyme
32.		October	24/10/2021			Endocrinology and bioluminescence
33.		October	31/10/2021			Carbohydrate
34.		November	07/11/2021			Amino acids
35.		November	14/11/2021			Proteins, Lipids
36.		November	21/11/2021			Biological oxidation
37.	Year 01: ZGY014: Human Cytogenetics and Developmental Biology	September	05/09/2021	2.30pm – 3.30pm	Theory	Introduction to human Cytogenetic
38.		September	12/09/2021			Chromosomes and Karyotyping's, Chromosomal Abnormalities
39.		September	19/09/2021			Genetic Disorder, Mutations and Repair of DNA
40.		September	26/09/2021			Recombination DNA Technology, Cytogenetic Culture setup and Harvest
41.		October	03/10/2021			Slide Preparation and staining
42.		October	10/10/2021			Glossary of Genetics Terms, Glossary of Malformation
43.		October	17/10/2021			Basic concepts of Development Biology
44.		October	24/10/2021			Gametes and Fertilization, Cleavage and Gastrulating
45.		October	31/10/2021			Early vertebrate Development
46.		November	07/11/2021			Differentiation, Body Axis
47.		November	14/11/2021			Tetrapod Limb Development
48.		November	21/11/2021			Growth and post- embryogenic Development
49.	Year 01: ZGY015:	September	05/09/2021	3.30pm- 5.30pm	Practical	Identification of evolutionary significant specimens and important connecting links and biodiversity.
50.		September	12/09/2021			Diversity of beak in birds.
51.		September	19/09/2021			Mode of life and Modification of feet of birds.

52.	Animal Diversity and Ecology	September	26/09/2021			Preparation of check list of animal in a zoo-park or sanctuary or a National Park.
53.		October	03/10/2021			Protected areas (sanctuaries and National Parks) Extinction and biodiversity conservation.
54.		October	10/10/2021			Aquatic ecosystem and animal diversity.
55.		October	17/10/2021			Freshwater crab (paratelphusa) Nervous System
56.		October	24/10/2021			Grasshopper (Locust) Reproductive System
57.		October	31/10/2021			Digestive System in chick.
58.		November	07/11/2021			Circulatory system in chick
59.		November	14/11/2021			Urinogenital System in chick
60.		November	21/11/2021			Respiratory System in Chick
61.	Year 01: ZGY016: Cell and molecular biology	February	06/02/2022	9.30am- 11.30pm	Practical	Preparation of blood Smear, Cell Type Identification and Differential Counts.
62.		February	13/02/2022			Osmotic Fragility of Erythrocytes
63.		February	20/02/2022			Estimation of RNs and DNA in Tissue
64.		February	27/02/2022			Extraction of DNA
65.		March	06/03/2022			Extraction of RNA
66.		March	13/03/2022			Fractionation of proteins by Ammonium sulfate, Precipitation
67.		March	20/03/2022			Tissue Homogenization and fraction by differential, Centrifugation for isolation of Nuclei and Mitochondria
68.		March	27/03/2022			Separation of proteins by Polysacrylamide Gel Electrophoresis
69.		April	03/04/2022			Polythene Chromosome
70.		April	10/04/2022			Cell Division
71.		April	17/04/2022			12A Mitosis
72.		April	24/04/2022			12B Meiosis
73.	Year 01: ZGY017:	February	06/02/2022			Laboratory Technues-1 Estimation
74.		February	13/02/2022			Determination of protein by Buiret method.
75.		February	20/02/2022			Determination of Glucose by Anthone Method / Somagi method

76.	Animal Physiology and physiological chemistry	February	27/02/2022	11.30pm- 1.30pm	Practical	Determination of lipids by veiling method
77.		March	06/03/2022			Determination of glycogen by kemps method
78.		March	13/03/2022			Determination of cholesterol by acetic anhydride method
79.		March	20/03/2022			Laboratory techniques 2
80.		March	27/03/2022			Determination of Enzyme Activities of SDH, LDH, GDH.
81.		April	03/04/2022			Effect of subtract Concentration and pH on Succinate Dehydrogenate Activity.
82.		April	10/04/2022			Effect of Competitive inhibitor on SDH Activity.
83.		April	17/04/2022			Estimation of Blood Chlorides under Hetero Osmotic Media.
84.		April	24/04/2022			Estimation of acetyl cholinesterase (ACHE).
85.	Year 01: ZGY018: Human Cytogenetic and Developmental Biology	February	06/02/2022	2.30pm – 4.30pm	Practical	Human Cytogenetic
86.		February	13/02/2022			Culture setup and harvest
87.		February	20/02/2022			Slide preparation
88.		February	27/02/2022			Staining
89.		March	06/03/2022			Microscopy Training and Mitotic Index Calculation
90.		March	13/03/2022			Scoring
91.		March	20/03/2022			Developmental Biology
92.		March	27/03/2022			Procedure for isolating and culturing early hour's chick embryo by filter paper ring method.
93.		April	03/04/2022			Development of a Microlecithal Eg. Spiral cleavage in a snail.
94.		April	10/04/2022			Demonstration of vitellogenesis by classifying the developmental stage of oocytes un thecrustacean ovary.
95.		April	17/04/2022			Fecundity index.
96.		April	24/04/2022			Culturing of Drosophila and observing its embryonic and larval stages.
97.		September	05/09/2021			Introduction to the Immune system

98.	Year 02: ZGY021: Immunology	September	12/09/2021	10.30am- 11.30am	Theory	The Lymphoid System
99.		September	19/09/2021			Cell Involve in Immune Response
100.		September	26/09/2021			Major Histocompatibility Complex in mouse and Humans Humoral Immunity
101.		October	03/10/2021			Cell Mediated Immunity,
102.		October	10/10/2021			The complement system
103.		October	17/10/2021			Hypersensitivity
104.		October	24/10/2021			Auto Immunity and Immune diseases
105.		October	31/10/2021			Immunity to Infectious disease
106.		November	07/11/2021			Vaccinology
107.		November	14/11/2021			Transplantation and Organ Rejection
108.		November	21/11/2021			Tumor Immunology
109.	Year 02: ZGY022: Animal Biotechnology	September	05/09/2021	11.30am- 12.30pm	Theory	Introduction, History and Scope of Biotechnology
110.		September	12/09/2021			General Histology and Cell Tissue Culture
111.		September	19/09/2021			Preparation of Culture Media
112.		September	26/09/2021			Propagation and Maintenance of Tissue Culture
113.		October	03/10/2021			Preparation of Cell Lines
114.		October	10/10/2021			Cellular aspects of Tumor Cells
115.		October	17/10/2021			Agricultural Biotechnology
116.		October	24/10/2021			Aquatic Biotechnology
117.		October	31/10/2021			Microbial Biotechnology
118.		November	07/11/2021			Environmental Biotechnology-II: Landfill, Composting,
119.		November	14/11/2021			Bioremediation
120.		November	21/11/2021			Enzyme Biotechnology
121.	Year 02: ZGY023: Toxicology of insecticides	September	05/09/2021	12.30pm- 1.30pm	Theory	Formulation and Classification of insecticide
122.		September	12/09/2021			Evaluation of insecticide
123.		September	19/09/2021			Insecticide and Cuticle
124.		September	26/09/2021			Botanical insecticide
125.		October	03/10/2021			Organ chlorines
126.		October	10/10/2021			Organ phosphorus Insecticide
127.		October	17/10/2021			Synthetic Pyrethoroides

128.		October	24/10/2021			Molecules with Different Chemistry
129.		October	31/10/2021			Synthetic Insect Control Agents
130.		November	07/11/2021			Photochemistry of Pesticide
131.		November	14/11/2021			Microsomal Mono-Oxygenizes
132.		November	21/11/2021			Extra- Microsomal Metabolism of Insecticide
133.	Year 02: ZGY024: Applied Entomology	September	05/09/2021	2.30pm – 3.30pm	Theory	Classification and structure
134.		September	12/09/2021			Insect toxonomy
135.		September	19/09/2021			External Morphology-study of generalized insect
136.		September	26/09/2021			Economic Entomology
137.		October	03/10/2021			Pests of field Crops of stored grains
138.		October	10/10/2021			Horticulture Crop Pests
139.		October	17/10/2021			Silkworm (Biology, nature of produce, uses)
140.		October	24/10/2021			Honeybees (Biology, nature of produce, uses)
141.		October	31/10/2021			Lac insect and other beneficial insects
142.		November	07/11/2021			Livestock, urban and medical entomology
143.		November	14/11/2021			Livestock
144.		November	21/11/2021			Urban Entomology
145.	Year 02: ZGY025: Immunology	September	05/09/2021	3.30pm- 5.30pm	Practical	Blood Film preparation and identification of cells.
146.		September	12/09/2021			Total count and differential count of leukocyte
147.		September	19/09/2021			Determination of total red blood cell
148.		September	26/09/2021			Estimation of serum proteins
149.		October	03/10/2021			Estimation of Albumin and globulin
150.		October	10/10/2021			Determination of white blood cells in the blood sample
151.		October	17/10/2021			Histology of lymphocyte organs
152.		October	24/10/2021			Blood groups
153.		October	31/10/2021			Widal test
154.		November	07/11/2021			Pregnancy test
155.		November	14/11/2021			Immune diffusion
156.		November	21/11/2021			Immune electrophoresis
157.		February	06/02/2022			Fundamental Techniques of Biotechnology
158.		February	13/02/2022			General Histology and Cell Tissue Culture

159.	Year 02: ZGY026: Animal Biotechnology	February	20/02/2022	9.30am- 11.30pm	Practical	Cell Culture
160.		February	27/02/2022			The Stem cell
161.		March	06/03/2022			Propagation and maintenance of tissue culture
162.		March	13/03/2022			Cell culture from cell line
163.		March	20/03/2022			Applied Biotechnology
164.		March	27/03/2022			Microbiology – testing and evaluation of coliform bacteria
165.		April	03/04/2022			Phytoplankton and Zooplanktons
166.		April	10/04/2022			Production of Pathogen-free plants through meristem culture
167.		April	17/04/2022			Vermitechnology
168.		April	24/04/2022			Penicillin production and testing of antimicrobial activity
169.	Year 02: ZGY027: Toxicology	February	06/02/2022	11.30pm- 1.30pm	Practical	Computation of toxicity- Probit Analysis
170.		February	13/02/2022			Estimation of contact toxicity of insecticide film.
171.		February	20/02/2022			Evaluation of efficacy of mosquito repellent coils
172.		February	27/02/2022			Evaluation of efficacy of mosquito repellent creams
173.		March	06/03/2022			Testing efficacy of household insecticides
174.		March	13/03/2022			Detection of insecticide resistance in hellicoverpa armigera
175.		March	20/03/2022			Nerve cells in insects
176.		March	27/03/2022			Mixed Function oxidizes (MFO) Assay
177.		April	03/04/2022			Assay of carboxyl esterase
178.		April	10/04/2022			Estimation of acetyl cholinesterase in insects
179.		April	17/04/2022			Emulsion Stability test
180.		April	24/04/2022			Determination of pesticide residues in water
181.		February	06/02/2022			General histology and cell Tissue culture
182.		February	13/02/2022			External characters of typical insect (viz. Grasshopper)
183.		February	20/02/2022			Demonstration of chitin in the Integument
184.		February	27/02/2022			Identification of some common orders of class insect.
185.		March	06/03/2022			Identification important pests and their symptoms of

	Year 02: ZGY028: Applied Entomology			2.30pm – 4.30pm	Practical	damage
186.		March	13/03/2022			Identification of important pests stored grains-and their symptoms of damage
187.		March	20/03/2022			Forensic Entomology Practical
188.		March	27/03/2022			Excavation of an Active Termite Mound
189.		April	03/04/2022			Collocation of silk Gland, Appendages, Digestive system
190.		April	10/04/2022			Dissection of Mouth parts of Insects.
191.		April	17/04/2022			Dissection of silk gland appendages digestive system.
192.		April	24/04/2022			Visit to biological control laboratory

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

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	05/09/2021	10.30am- 11.30am	Theory	General Characters and Classification of Viruses, Chemistry and Ultra structure of Viruses
2.		September	12/09/2021			Isolation and Purification of Viruses, Replication and Transmission of Viruses
3.		September	19/09/2021			General Account of Plant, Animal and Human Viral Diseases
4.		September	26/09/2021			General Account and Classification of Eubacteria, Archaeobacteria and Cynobacteria
5.		October	03/10/2021			Ultrastructure, Nutrition and Reproduction of Bacteria
6.		October	10/10/2021			Economic Importance of Bacteria, Mycoplasma
7.		October	17/10/2021			General Characters and Classification of Fungi
8.		October	24/10/2021			Ultrastructure of Cell and Cell Wall Composition, Nutrition in Fungi
9.		October	31/10/2021			Reproduction in Fungi. Hetrothallism, Hetrokaryosis and Parasexuality
10.		November	07/11/2021			Mastigomycotina and Zygomycotina, Ascomycotina, Basidiomycotina, Deuteromycotina
11.		November	14/11/2021			Fungi in Industry, Fungi in Agriculture and Forestry
12.		November	21/11/2021			Fungi as Human and Animal Parasites (Medical Mycology), Fungi as Food
13.	Year 01: BNY012:	September	05/09/2021	11.30am- 12.30pm	Theory	General Characteristics and Classification
14.		September	12/09/2021			Thallus Organization in Algae, Reproduction and Life Cycles of Algae
15.		September	19/09/2021			Life Histories of Some Genera of Chlorophyta – I, Life Histories of Some Genera of Chlorophyta – II
16.		September	26/09/2021			General Characters of Cyanophyta, General Characters

	Biology and Diversity of Algae, Bryophyta and Pteridophyta					of Some Genera Of Xanthophyta and Bacillariophyta
17.		October	03/10/2021			General Characters and Life Histories of Some members of Phaeophyta
18.		October	10/10/2021			General Characters and Life Histories of Rhodophyta, Economic Importance of Algae
19.		October	17/10/2021			General Characters, Classification, Distribution and Economic Importance of Bryophytes
20.		October	24/10/2021			Marchantiales, Jungermanniales, Anthoceratales and Sphagnales
21.		October	31/10/2021			The Evolution of Gametophyte, Evolution of Sporophyte
22.		November	07/11/2021			General Characters and Classification of Pteridophytes, Telome Theory and Stelar Evolution
23.		November	14/11/2021			Structure and Life Histories of Psilotum, Lycopodium, Selaginella and Equisetum
24.		November	21/11/2021			Heterospory and Seed Habit, Fossil Pteridophytes (Rhynia, Psilophyton and Calamites)
25.	Year 01: BNY013: Gymnosperms, Taxonomy and Anatomy of Angiosperms	September	05/09/2021	12.30pm- 1.30pm	Theory	Distribution, General Characteristics, Classification and Economic Importance of Gymnosperms
26.		September	12/09/2021			Morphology and Anatomy of Cycadales, Ginkgoales, Coniferales, Taxales and Gnetales, Reproductive Structures of Cycadales, Ginkgoales, Coniferales, Taxales and Gnetales
27.		September	19/09/2021			Development of Male and Female gametophytes (Cycadales, ginkgoales, coniferales, taxales and gnetales)
28.		September	26/09/2021			Fossil gymnosperms (pteridospermales, bennettitales, pentoxylales and cordaitales)
29.		October	03/10/2021			Origin and phylogeny of angiosperms
30.		October	10/10/2021			Plant nomenclature, Systems of classification
31.		October	17/10/2021			Recent trends in plant taxonomy(anatomy, palynology, embryology, cytology, chemotaxonomy, numerical

						taxonomy and molecular taxonomy)
32.		October	24/10/2021			Biosystematics, General account of orders tubiflorae, helobiales and poales
33.		October	31/10/2021			General account of ranales, centrospermae and amentiferae
34.		November	07/11/2021			Flora and vegetation of Andhra Pradesh, Herbarium methodology
35.		November	14/11/2021			Biodiversity and conservation, Apical meristems of root and shoot, Tissues and tissue systems
36.		November	21/11/2021			Primary structure of root, stem and leaf, Secondary growth, Wood structure
37.	Year 01: BNY014: Biochemistry and Plant Physiology	September	05/09/2021	2.30pm – 3.30pm	Theory	Principles Of Thermodynamics, Enzymes
38.		September	12/09/2021			Carbohydrates, Lipids, Amino Acids
39.		September	19/09/2021			Proteins, Nucleic Acids, Structure And Function Of Membranes
40.		September	26/09/2021			Plant Water Relations
41.		October	03/10/2021			Mineral Nutrition
42.		October	10/10/2021			Photosynthesis-I, Photosynthesis-Ii
43.		October	17/10/2021			Respiration-I, Respiration-Ii
44.		October	24/10/2021			Nitrogen And Sulphur Metabolism
45.		October	31/10/2021			Plant Growth Regulators
46.		November	07/11/2021			Mechanism Of Hormonal Regulation Of Plant Growth And Development
47.		November	14/11/2021			Seed Dormancy And Germination
48.		November	21/11/2021			Physiology Of Flowering, Stress Physiology
49.	Year 01: BNY015: LMR-Biology and	September	05/09/2021	3.30pm- 5.30pm	Practical	Methods of Sterilization, Preparation of Media
50.		September	12/09/2021			Culturing Methods, Staining Techniques
51.		September	19/09/2021			Symptoms of Some Viral and Mycoplasmal Diseases, Models of Bacteriophage and HIV
52.		September	26/09/2021			Transmission of Virus Diseases
53.		October	03/10/2021			Isolation and Enumeration of Bacteria from Soil and

	Diversity of Viruses, Bacteria, and Fungi					Water
54.		October	10/10/2021			Observation of Symptoms of Plant Diseases Caused by Bacterial Pathogens
55.		October	17/10/2021			Isolation of Fungi From Soil ,Water, Litter and Air
56.		October	24/10/2021			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	31/10/2021			Mycorrhizal Colonization in Roots of Parthenium and Tagetes
58.		November	07/11/2021			Morphology of Plant Pathogens, Study of Symptoms of Fungal Diseases
59.		November	14/11/2021			Morphology of Button Oyster,paddy Straw Mushrooms and Amanita, Identification of Ectomycorrhizal Fungi
60.		November	21/11/2021			Genetics of Fungi (Neurospora Ascus)
61.	Year 01: BNY016: LMR-Biology and Diversity of algae, Bryophyta and Pteridophyta	February	06/02/2022	9.30am- 11.30pm	Practical	Nostoc,Lyngbya, Spirulina and Tolypothrix
62.		February	13/02/2022			Clamydomonas, Volvox, Chlorella and Ulva
63.		February	20/02/2022			Enteromorpha,Oedogonium,Cosmarium and Caulerpa
64.		February	27/02/2022			Ectocarpus, Dictyota and Sargassum, Gelidium, Gracilaria, Cyclotella, and Navicula
65.		March	06/03/2022			Collection and Identification of Algae in and Around Local Area, Observation of Algal Blooms and Bioindicators of Water Quality
66.		March	13/03/2022			Preparation of Cultures Media for Micro Algae, Preparation of Herbarium for Macro Algae
67.		March	20/03/2022			Marchantia, and Targionia, Plagiochasma and Fimbriaria
68.		March	27/03/2022			Pelia and Porella, Anthoceros and Notothylas
69.		April	03/04/2022			Funaria and Polytrichum, Lycopodium and Selaginella
70.		April	10/04/2022			Psilotum and Isoetes, Osmunda and Gleichenia
71.		April	17/04/2022			Ophioglossum and Adiantum

72.		April	24/04/2022			Marsiela, Salvinia and Azolla
73.	Year 01: BNY017: LMR-gymnosperms, taxonomy and anatomy of angiosperms	February	06/02/2022	11.30pm- 1.30pm	Practical	Zamia and Ginkgo
74.		February	13/02/2022			Pinus and Thuja
75.		February	20/02/2022			Araucaria and Taxus
76.		February	27/02/2022			Ephedra and Gnetum
77.		March	06/03/2022			Lyginopteris, Medullosa
78.		March	13/03/2022			Ptilophyllum and Glassopteris, Pentoxylon
79.		March	20/03/2022			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	27/03/2022			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	03/04/2022			Construction of Indented and Bracketed Keys for the given Material, Nomenclatural Problems
82.		April	10/04/2022			Herbarium Techniques, Study of Meristematic and Permanent Issues and Tissue Systems
83.	Year 01: BNY018: LMR-biochemistry and plant physiology	April	17/04/2022	2.30pm – 4.30pm	Practical	Secondary growth in Roots and Stems, Leaf Anatomy
84.		April	24/04/2022			Anomalous Secondary Growth, Wood Structure
85.		February	06/02/2022			Estimation of Fructose by Resorcinol Method
86.		February	13/02/2022			Estimation of Aminoacids by Ninhydrin Method
87.		February	20/02/2022			Estimation of Protein by Biuret Method
88.		February	27/02/2022			Separation and Identification of Aminoacids by using TLC Method
89.		March	06/03/2022			Determination of Amylase Activity, Determination of Catalase Activity
90.		March	13/03/2022			Estimation of Reducing Sugars, Determination of Iodine Number of Edible Oils
91.		March	20/03/2022			Determination of Water Potential using Gravimetric Method, Effects of Temperature on Membrane Permeability

92.		March	27/03/2022			Determination of Total and Titrable Acidity, Determination of Stomata Frequency and Index
93.		April	03/04/2022			Stomatal Response to Promoters and Inhibitors, Separation of Chloroplast Pigments by Solvents Extraction Method
94.		April	10/04/2022			Determination of Absorption Spectra of Chlorophylls, Estimation of Chlorophyll-a, Chlorophyll-b and Total Chlorophyll in Leaves of C3 and C4 plants
95.		April	17/04/2022			Determination of Rate of Respiration of Germinating seeds by Continuous Current Method, Estimation of Nitrogen by Micro-Kjeldahl's Method
96.		April	24/04/2022			Estimation of Indole Acetic Acid(IAA), Determination of Seeds Viability
97.	Year 02: BNY021: Cell biology, genetics, biostatistics & ecology	September	05/09/2021	10.30am- 11.30am	Theory	Principles And Application Of Light, Phase Contrast, Fluorescence And Electron Microscopy
98.		September	12/09/2021			Ultra-Structure Of A Cell And Its Organelles, Chromosome
99.		September	19/09/2021			Special Types Of Chromosomes, Cell Cycle And Apoptosis
100.		September	26/09/2021			DNA, Genetic Code
101.		October	03/10/2021			Brief Overview Of Mendelian Inheritance
102.		October	10/10/2021			Chromosomal Aberrations, Mutations
103.		October	17/10/2021			Mean Variance, Applications Of Computers In Biology
104.		October	24/10/2021			Principles, Concepts And Levels Of Ecology, Community Characteristics
105.		October	31/10/2021			Biodiversity, Ecosystem, Global Biogeochemical Cycles
106.		November	07/11/2021			Climate, Soil, Vegetation Pattern Of India
107.		November	14/11/2021			Climate Change And Green House Gases
108.		November	21/11/2021			Environmental Pollution
109.		September	05/09/2021			Role Of Plants In Medicine, Its Origin And

	Year 02: BNY022: Medicinal Plants And Embryology Of Angiosperms			11.30am- 12.30pm	Theory	Development And Different Systems Of Medicine, General Account Of Phytochemistry Of Medinal Plants
110.		September	12/09/2021			Morphology, Active Principles And Medicinal Value-I,
111.		September	19/09/2021			Morphology, Active Principles And Medicinal Value-Ii
112.		September	26/09/2021			Cultivation Of Medicinal Plants, Pharmacognosy And Adulteration Of Plant Drugs
113.		October	03/10/2021			Ethnobotany- History, Scope And Importance, Conservation Of Medicinal Plants
114.		October	10/10/2021			Structure Of Anther And Development Of Male Gametophyte, Fertilization
115.		October	17/10/2021			Structure Of Ovule And Development Of Female Gametophyte, Sexual Incompatibility
116.		October	24/10/2021			Development Of Endosperm, Apomixis
117.		October	31/10/2021			Development Of Embryo, Polyembryony
118.		November	07/11/2021			Parthenocarp
119.		November	14/11/2021			Experimental Embryology
120.	Year 02: BNY023: Applied Mycology and Plant Pathology	November	21/11/2021	12.30pm- 1.30pm	Theory	Applications Of Embryology In Taxonomy, Agriculture And Horticulture
121.		September	05/09/2021			Principles And Applications Of Palynology
122.		September	12/09/2021			General Account And Diversity Of Fungi, Fungal Taxonomy
123.		September	19/09/2021			Mycorrhizae, Edible Mushrooms: Medicinal And Nutritional Value
124.		September	26/09/2021			Mushroom Cultivation, Fungi As Biopesticides
125.		October	03/10/2021			Scope And Techniques Of Fungal Biotechnology
126.		October	10/10/2021			Fungal Enzymes And Metabolites, Industrial Production Of Penicillin, Citric Acid And Alcohol
127.		October	17/10/2021			Fungi In Relation To Pollution, Fungi In Biodegradation
						History And Concepts Of Plant Pathology, Control Plant Diseases

128.		October	24/10/2021			Classification And Symptomatology Of Fungal, Bacterial, Viral, Phytoplasma And Nematode Diseases
129.		October	31/10/2021			Host- Pathogen Interaction-I, Host- Pathogen Interaction-Ii
130.		November	07/11/2021			Lant Diseases Caused By Bacteria, Viruses And Spiroplasmas
131.		November	14/11/2021			Plant Diseases Of Cereals, Pulses And Oil Seeds, Plant Diseases Of Fruits And Vegetables
132.		November	21/11/2021			Plant Diseases Of Cash Crops And Plantation Crops
133.	Year 02: BNY024: Plant Molecular Biology and Biotechnology	September	05/09/2021	2.30pm – 3.30pm	Theory	Genome, Genome Organization In Higher Plants
134.		September	12/09/2021			Chloroplast And Mitochondrial Genomes, Structure And Organization Of Eukaryotic Genes
135.		September	19/09/2021			Gene Expression In Eukaryotes, Regulation Of Gene Expression In Eukaryotes
136.		September	26/09/2021			Restriction Endonucleases, Modifying Enzymes Uesd In Molecular Cloning
137.		October	03/10/2021			Cloning Vectors, Genomic And CDNA Libraries
138.		October	10/10/2021			Polymerase Chain Reaction, Molecular Markers
139.		October	17/10/2021			Introduction To Plant Tissue Culture And In Vitro Morphogenesis
140.		October	24/10/2021			Anther, Pollen And Ovule Culture, Protoplast Culture And Somatic Hybridization
141.		October	31/10/2021			Cryopreservation Of Plant Cells And Tissues And Germplasm Storage
142.		November	07/11/2021			Transgenic Plants, Plant Metabolomics
143.		November	14/11/2021			Plant Genomics And Proteomics
144.		November	21/11/2021			Intellectual Property Rights And Biosafety
145.		September	05/09/2021			Observation of cell and cell organelles
146.		September	12/09/2021			Squash preparation of Onion root Tips to study mitosis
147.		September	19/09/2021			Smear preparation of Maize or onion flower Buds to study Meiosis

148.	Year 02: BNY025: Cell biology, genetics, biostatistics and ecology	September	26/09/2021	3.30pm- 5.30pm	Practical	Karyotype Analysis, Problems of Monohybrid Cross
149.		October	03/10/2021			Problems of Dihybrid Cross, Problems of Trihybrid Cross
150.		October	10/10/2021			Genetic Mapping in Eukaryotes
151.		October	17/10/2021			Designing of Experiments and Random Sampling, Problems on Means and Variations
152.		October	24/10/2021			Problems on F-Ratio and Critical Differences(CD), Problems on Chi- Square Test
153.		October	31/10/2021			Problems on ANOVA, Determination of Minimum size Quadrats by species Area curve
154.		November	07/11/2021			Determination of quantitative characters by random quadrat methods, Evaluation of life form classes of local flora
155.		November	14/11/2021			Morphology and anatomy of common hydrophytes and xerophytes, Interpretation of environmental data and climatogram and plotting techniques
156.		November	21/11/2021			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	06/02/2022	9.30am- 11.30pm	Practical	Analysis of morphological attributes in Selected Medicinal plants
158.		February	13/02/2022			Identification of crude drugs using anatomical characters, Identification of crude drugs using physical properties
159.		February	20/02/2022			Qualitative analysis of crude drugs for different Phytochemicals
160.		February	27/02/2022			Antimicrobial studies and determination of MIC (Minimum Inheritance Concentration)
161.		March	06/03/2022			Anatomical studies of medicinal plants, Histochemical analysis of medicinal plants
162.		March	13/03/2022			Collection of ethno botanical information of Local

						Medicinal Plants
163.		March	20/03/2022			Study of ovules and ovaries and their identification, Pollen grain analysis by acetolysis
164.		March	27/03/2022			Pollen germination studies, Estimation of pollen fertility
165.		April	03/04/2022			Study of endosperm Haustoria, Study of embryos
166.		April	10/04/2022			Study of protandry and protogyny, Study of heterostyly
167.		April	17/04/2022			Fundamentals of microtome technique, Preparation of permanent slides
168.		April	24/04/2022			Anther culture, Callus culture
169.	Year 02: BNY027: LMR-Applied mycology and plant pathology	February	06/02/2022	11.30pm- 1.30pm	Practical	Sterilization Methods, Preparation of Media and Stains
170.		February	13/02/2022			Isolation techniques, Fermentation Methods
171.		February	20/02/2022			Single Spore Isolation, Pure Culture and Conservation of Fungal Germplasm
172.		February	27/02/2022			Isolation of Trichoderma viride and T.harzianum and their evaluation as Biocontrol Agents
173.		March	06/03/2022			Collection and identification of Ectomycorrhizae, Isolation of Keratinophilic fungi
174.		March	13/03/2022			Observation of Hyperparasites and Common Entomogenous Fungi, Testing of some isolates of Penicillium species against pathogenic bacteria
175.		March	20/03/2022			Observation of Plant Disease Symptoms Caused by Bacteria, Viruses and Fungi- In
176.		March	27/03/2022			Observation of Fungal Pathogens and their identification, Isolation of plant pathogens and pure culture preparation
177.		April	03/04/2022			Establishing Koch's postulates for evaluation of pathogenicity, Evaluation of disease index and crop loss
178.		April	10/04/2022			Evaluation of culture filtrates for cellulose, pectinase, protease and amylase, Estimation of protein and amino acids

179.		April	17/04/2022			Spawn preparation of edible mushrooms(Oyster), bed preparation and mushroom production
180.		April	24/04/2022			Evaluation of fungicidal efficacy, Collection of materials with diseases
181.	Year 02: BNY028: LMR-Plant molecular biology and biotechnology	February	06/02/2022	2.30pm – 4.30pm	Practical	Isolation of plasmid DNA from bacteria and agarose gel electrophoresis of DNA
182.		February	13/02/2022			Production of competent cells and bacterial transformation
183.		February	20/02/2022			Isolation of plant genomic DNA, Restriction endonuclease digestion of plasmid and genomic DNA
184.		February	27/02/2022			Isolation of plant RNA, Quantification of DNA,RNA and reassociation kinetics of DNA
185.		March	06/03/2022			Polymerase chain reaction, Southern, Northern and Western Blotting
186.		March	13/03/2022			RAPD Analysis, Gene cloning
187.		March	20/03/2022			Preparation of media, surface sterilization and inoculation of explants
188.		March	27/03/2022			Initiation of callus and suspension cultures
189.		April	03/04/2022			Plant regeneration from callus cultures, Micropropagation of plants
190.		April	10/04/2022			Protoplast isolation and culture, Genetic transformation of plants using Agrobacterium tumefaciens
191.		April	17/04/2022			Induction of hairy root cultures using Agrobacterium rhizogenes, Direct gene transformation of plants using biolistic gun
192.		April	24/04/2022			Sequence alignment, Exploring Genbank Database and Blast Search

V135: Diploma In ENVIRONMENTAL SCIENCE {2021 PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: Course 1: Environmental Science and Biology	September	05/09/2021	10.30am- 11.30am	Theory	Background and scope of environmental science:
2.		September	12/09/2021			Use of technology, media and people in environmental science, decision making and applications of Environmental science
3.		September	19/09/2021			Human impact on environment and its consequences
4.		September	26/09/2021			Definition of Ecology and sub divisions
5.		October	03/10/2021			Community Ecology
6.		October	10/10/2021			Biomes
7.		October	17/10/2021			Principal and Scope of Biology
8.		October	24/10/2021			Classification of ecosystem
9.		October	31/10/2021			Succession
10.		November	07/11/2021			Forest ecology
11.		November	14/11/2021			Effect of fire on forest ecosystem
12.		November	21/11/2021			Marine environment
13.	Sem01: Course 2: Environmental Education, Policies and Legislation	September	05/09/2021	11.30am- 12.30pm	Theory	Environmental Education
14.		September	12/09/2021			Environmental Policy
15.		September	19/09/2021			State of India' s Environment(with respect to)
16.		September	26/09/2021			Emerging environmental concerns in India
17.		October	03/10/2021			Awareness of Society with respect to global terminology
18.		October	10/10/2021			Environmental Awareness
19.		October	17/10/2021			Global Environment Conservation Strategy -1
20.		October	24/10/2021			Global Environment Conservation Strategy - 2
21.		October	31/10/2021			Environmental Conventions and Agreements
22.		November	07/11/2021			Environmental Acts-1
23.		November	14/11/2021			Environmental Acts-2

24.		November	21/11/2021			The National Green Tribunal Act, 2010
25.	Sem01: Course 3: Natural Resources and Their Conservation	September	05/09/2021	12.30pm- 1.30pm	Theory	Definition of resources, biotic and abiotic resources
26.		September	12/09/2021			Biodiversity: Conservation, Global and National Concerns
27.		September	19/09/2021			Biodiversity National Concerns
28.		September	26/09/2021			Wildlife management and conservation
29.		October	03/10/2021			Concept of sustainable use of wildlife
30.		October	10/10/2021			Indian ethos of wildlife conservation
31.		October	17/10/2021			Conservation of Wetlands, Watersheds, Ground water, Surface water
32.		October	24/10/2021			Land use, land cover and soil conservation
33.		October	31/10/2021			Methods of soil conservation and practices
34.		November	07/11/2021			Forest resources, plantations, social forestry
35.		November	14/11/2021			Human population growth and increasing demand for resources
36.		November	21/11/2021			Natural resource -conservation and Natural resource Accounting
37.	Sem01: Course 4: Lab Activities on Course 1, Course 2 and Course 3	September	05/09/2021	2.30pm – 4.30pm	Practical	Study of ecological pyramids (at least four)
38.		September	12/09/2021			Study of food chain – Any one example of fresh water, marine water and terrestrial food chain.
39.		September	19/09/2021			Estimation of Biomass of a given area
40.		September	26/09/2021			Study of pond ecosystem
41.		October	03/10/2021			Estimation of Dissolve oxygen(DO) of water sample
42.		October	10/10/2021			Estimation of CO ₂ of given water sample
43.		October	17/10/2021			Estimation of hardness of water
44.		October	24/10/2021			Preparation of bio-fertilizer and study of its applications
45.		October	31/10/2021			Determination of SAR (sodium absorption ratio) of soil
46.		November	07/11/2021			Study of land degradation
47.		November	14/11/2021			Estimation of Ni & Co elements from soil sample
48.		November	21/11/2021			Measurement of intensity of solar radiations by Lux meter

49.	Sem02: Course 5: Environmental Sustainability [MOOC]	February	06/02/2022	10.30am- 11.30am	Theory	Introduction to environment and society
50.		February	13/02/2022			Introduction to Terms of Significance
51.		February	20/02/2022			Trade & Environment- Concepts, issues and recent developments
52.		February	27/02/2022			The Case of Western Ghats- The Gadgil Report
53.		March	06/03/2022			The Forest Conservation Act, 1980
54.		March	13/03/2022			Managing our environment for sustainability- Solar Energy
55.		March	20/03/2022			Live Examples of Environment Friendly Technologies
56.		March	27/03/2022			Sensitivity towards environment and environmental issues
57.		April	03/04/2022			Awareness through knowledge
58.		April	10/04/2022			Local strategies and innovations in Environmental Protection
59.		April	17/04/2022			Active Participation in the resolution of Environmental Challenges
60.		April	24/04/2022			Motivational Sustainability Environmental Sustainability – the conclusion
61.	Sem02: Course 6: Environmental Chemistry	February	06/02/2022	11.30am- 12.30pm	Theory	Fundamentals of Environmental Chemistry
62.		February	13/02/2022			Soil Chemistry
63.		February	20/02/2022			Properties of water, water pollutants
64.		February	27/02/2022			Chemical composition of Air and Water
65.		March	06/03/2022			Radioactivity, it' s Types, Sources and Hazards
66.		March	13/03/2022			Biological effects of radiation exposure
67.		March	20/03/2022			Water treatment and environmental chemistry1
68.		March	27/03/2022			Water treatment and environmental chemistry 2
69.		April	03/04/2022			Tertiary treatment and Advanced waste water treatments
70.		April	10/04/2022			Classical Methods
71.		April	17/04/2022			Toxic chemicals
72.		April	24/04/2022			Biochemical aspects
73.		February	06/02/2022			Principles

74.	Sem02: Course 7: Environmental geosciences and Computer Applications	February	13/02/2022	12.30pm- 1.30pm	Theory	Interior of the Earth, earth' s materials
75.		February	20/02/2022			The earth systems and biosphere
76.		February	27/02/2022			Elements
77.		March	06/03/2022			Biochemical factors
78.		March	13/03/2022			The Ocean Environment
79.		March	20/03/2022			Climate
80.		March	27/03/2022			Remote Sensing in Environmental Monitoring
81.		April	03/04/2022			Geographical Information System (GIS)
82.		April	10/04/2022			Information and communication technology in Environmental Science
83.		April	17/04/2022			Introduction to web browsing
84.		April	24/04/2022			Computer applications in environmental modelling
85.	Sem02: Course 8: Lab Activities on Course 5, Course 6 and Course 7	February	06/02/2022	2.30pm – 4.30pm	Practical	Analysis of Soil and Water: Physical properties, chemical properties, nutrients, bacterial parameters
86.		February	13/02/2022			Analysis of Total hardness of water
87.		February	20/02/2022			Estimation of halides in water samples
88.		February	27/02/2022			Estimation of sulphate in water samples
89.		March	06/03/2022			Estimation of carbon di-oxide in water samples
90.		March	13/03/2022			Estimation of non-respirable dust in air using dust samples
91.		March	20/03/2022			Studies of models of various rock types
92.		March	27/03/2022			Study of various ground water sources and its quality
93.		April	03/04/2022			Study of various meteorological parameters and climate
94.		April	10/04/2022			Student Tests
95.		April	17/04/2022			Sample manuscript writing
96.		April	24/04/2022			Study and use of various computer applications/models for environmental use

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

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: Course 1: Environmental Science and Biology	September	05/09/2021	10.30am- 11.30am	Theory	Background and scope of environmental science:
2.		September	12/09/2021			Use of technology, media and people in environmental science, decision making and applications of Environmental science
3.		September	19/09/2021			Human impact on environment and its consequences
4.		September	26/09/2021			Definition of Ecology and sub divisions
5.		October	03/10/2021			Community Ecology
6.		October	10/10/2021			Biomes
7.		October	17/10/2021			Principal and Scope of Biology
8.		October	24/10/2021			Classification of ecosystem
9.		October	31/10/2021			Succession
10.		November	07/11/2021			Forest ecology
11.		November	14/11/2021			Effect of fire on forest ecosystem
12.		November	21/11/2021			Marine environment
13.	Sem01: Course 2: Environmental Education, Policies and Legislation	September	05/09/2021	11.30am- 12.30pm	Theory	Environmental Education
14.		September	12/09/2021			Environmental Policy
15.		September	19/09/2021			State of India' s Environment(with respect to)
16.		September	26/09/2021			Emerging environmental concerns in India
17.		October	03/10/2021			Awareness of Society with respect to global terminology
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22.		November	07/11/2021			Environmental Acts-1
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24.		November	21/11/2021			The National Green Tribunal Act, 2010
25.	Sem01: Course 3: Natural Resources and Their Conservation	September	05/09/2021	12.30pm- 1.30pm	Theory	Definition of resources, biotic and abiotic resources
26.		September	12/09/2021			Biodiversity: Conservation, Global and National Concerns
27.		September	19/09/2021			Biodiversity National Concerns
28.		September	26/09/2021			Wildlife management and conservation
29.		October	03/10/2021			Concept of sustainable use of wildlife
30.		October	10/10/2021			Indian ethos of wildlife conservation
31.		October	17/10/2021			Conservation of Wetlands, Watersheds, Ground water, Surface water
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33.		October	31/10/2021			Methods of soil conservation and practices
34.		November	07/11/2021			Forest resources, plantations, social forestry
35.		November	14/11/2021			Human population growth and increasing demand for resources
36.		November	21/11/2021			Natural resource -conservation and Natural resource Accounting
37.	Sem01: Course 4: Lab Activities on Course 1, Course 2 and Course 3	September	05/09/2021	2.30pm – 4.30pm	Practical	Study of ecological pyramids (at least four)
38.		September	12/09/2021			Study of food chain – Any one example of fresh water, marine water and terrestrial food chain.
39.		September	19/09/2021			Estimation of Biomass of a given area
40.		September	26/09/2021			Study of pond ecosystem
41.		October	03/10/2021			Estimation of Dissolve oxygen(DO) of water sample
42.		October	10/10/2021			Estimation of CO ₂ of given water sample
43.		October	17/10/2021			Estimation of hardness of water
44.		October	24/10/2021			Preparation of bio-fertilizer and study of its applications
45.		October	31/10/2021			Determination of SAR (sodium absorption ratio) of soil
46.		November	07/11/2021			Study of land degradation
47.		November	14/11/2021			Estimation of Ni & Co elements from soil sample
48.		November	21/11/2021			Measurement of intensity of solar radiations by Lux meter

49.	Sem03: Course 9: Environmental monitoring and Energy studies	September	05/09/2021	10.30am- 11.30am	Theory	Environmental Quality Assessment and Monitoring
50.		September	12/09/2021			Environmental Impact Assessment
51.		September	19/09/2021			Environmental Impact Assessment Techniques
52.		September	26/09/2021			Remote Sensing in Environmental Monitoring
53.		October	03/10/2021			About Energy
54.		October	10/10/2021			Bio catalysis and nonconventional energy
55.		October	17/10/2021			Biofuel production (bio-ethanol and biodiesel)
56.		October	24/10/2021			Production of biodegradable materials
57.		October	31/10/2021			Energy Use
58.		November	07/11/2021			Energy Conservation and Energy Economics
59.		November	14/11/2021			Solid wastes
60.		November	21/11/2021			Disposal in landfills
61.	Sem03: Course 10: Instrumentation and lab techniques	September	05/09/2021	11.30am- 12.30pm	Theory	Study of machinery, electric motors
62.		September	12/09/2021			Drilling equipment, pumping equipment
63.		September	19/09/2021			Calorimetry and Spectrophotometry
64.		September	26/09/2021			Microscopy
65.		October	03/10/2021			Nanotechnology
66.		October	10/10/2021			Nanomaterials
67.		October	17/10/2021			Environmental Nano Remediation Technology
68.		October	24/10/2021			Nano Filtration
69.		October	31/10/2021			Laboratory safety
70.		November	07/11/2021			Personal Protective Equipment [PPE]
71.		November	14/11/2021			Administrative controls
72.		November	21/11/2021			Response to specific incidents/ accidents
73.	Sem03: Course 11: Environmental Microbiology and	September	05/09/2021	12.30pm- 1.30pm	Theory	Environmental Microbiology
74.		September	12/09/2021			Microbial diversity and Metabolism
75.		September	19/09/2021			Microbial activities
76.		September	26/09/2021			Bio-indicators
77.		October	03/10/2021			Determination of microbiological quality
78.		October	10/10/2021			Biosensor
79.		October	17/10/2021			Toxicology

80.	Toxicology	October	24/10/2021			Environmental Toxicology - 1
81.		October	31/10/2021			Nontoxicity
82.		November	07/11/2021			Environmental Toxicology - 2:
83.		November	14/11/2021			Safety regulations
84.		November	21/11/2021			Pollution of the ecosphere
85.	Sem03: Course 12: Lab Activities on Course 9, Course 10 and Course 11	September	05/09/2021	2.30pm – 4.30pm	Practical	Interpretation of Aerial photographs and preparing weather report based on it.
86.		September	12/09/2021			Determination of relative humidity from the atmosphere
87.		September	19/09/2021			Determination of particulate matter from the industrial area by High Volume Sampler/Settling method
88.		September	26/09/2021			Study of solar cells
89.		October	03/10/2021			Case studies on energy efficiency analysis
90.		October	10/10/2021			Study of various agro wastes as substrates for biofuel production
91.		October	17/10/2021			Separation of a mixture of two amino acids by ascending and horizontal paper chromatography
92.		October	24/10/2021			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	31/10/2021			Isolation and enumeration of microbes from environmental samples
94.		November	07/11/2021			Evaluation of anti-microbial chemical agents
95.		November	14/11/2021			Estimation of metals in soil, plants and animal tissue
96.		November	21/11/2021			Case studies on environmental effects of pesticides
97.	Sem02: Course 5: Environmental Sustainability	February	06/02/2022	10.30am- 11.30am	Theory	Introduction to environment and society
98.		February	13/02/2022			Introduction to Terms of Significance
99.		February	20/02/2022			Trade & Environment- Concepts, issues and recent developments
100.		February	27/02/2022			The Case of Western Ghats- The Gadgil Report
101.		March	06/03/2022			The Forest Conservation Act, 1980
102.		March	13/03/2022			Managing our environment for sustainability- Solar

	[MOOC]					Energy
103.		March	20/03/2022			Live Examples of Environment Friendly Technologies
104.		March	27/03/2022			Sensitivity towards environment and environmental issues
105.		April	03/04/2022			Awareness through knowledge
106.		April	10/04/2022			Local strategies and innovations in Environmental Protection
107.		April	17/04/2022			Active Participation in the resolution of Environmental Challenges
108.		April	24/04/2022			Motivational Sustainability Environmental Sustainability – the conclusion
109.	Sem02: Course 6: Environmental Chemistry	February	06/02/2022	11.30am- 12.30pm	Theory	Fundamentals of Environmental Chemistry
110.		February	13/02/2022			Soil Chemistry
111.		February	20/02/2022			Properties of water, water pollutants
112.		February	27/02/2022			Chemical composition of Air and Water
113.		March	06/03/2022			Radioactivity, it' s Types, Sources and Hazards
114.		March	13/03/2022			Biological effects of radiation exposure
115.		March	20/03/2022			Water treatment and environmental chemistry1
116.		March	27/03/2022			Water treatment and environmental chemistry 2
117.		April	03/04/2022			Tertiary treatment and Advanced waste water treatments
118.		April	10/04/2022			Classical Methods
119.		April	17/04/2022			Toxic chemicals
120.		April	24/04/2022			Biochemical aspects
121.	Sem02: Course 7: Environmental geosciences and Computer Applications	February	06/02/2022	12.30pm- 1.30pm	Theory	Principles
122.		February	13/02/2022			Interior of the Earth, earth' s materials
123.		February	20/02/2022			The earth systems and biosphere
124.		February	27/02/2022			Elements
125.		March	06/03/2022			Biochemical factors
126.		March	13/03/2022			The Ocean Environment
127.		March	20/03/2022			Climate
128.		March	27/03/2022			Remote Sensing in Environmental Monitoring

129.		April	03/04/2022			Geographical Information System (GIS)
130.		April	10/04/2022			Information and communication technology in Environmental Science
131.		April	17/04/2022			Introduction to web browsing
132.		April	24/04/2022			Computer applications in environmental modelling
133.	Sem02: Course 8: Lab Activities on Course 5, Course 6 and Course 7	February	06/02/2022	2.30pm – 4.30pm	Practical	Analysis of Soil and Water: Physical properties, chemical properties, nutrients, bacterial parameters
134.		February	13/02/2022			Analysis of Total hardness of water
135.		February	20/02/2022			Estimation of halides in water samples
136.		February	27/02/2022			Estimation of sulphate in water samples
137.		March	06/03/2022			Estimation of carbon di-oxide in water samples
138.		March	13/03/2022			Estimation of non-respirable dust in air using dust samples
139.		March	20/03/2022			Studies of models of various rock types
140.		March	27/03/2022			Study of various ground water sources and its quality
141.		April	03/04/2022			Study of various meteorological parameters and climate
142.		April	10/04/2022			Student Tests
143.		April	17/04/2022			Sample manuscript writing
144.		April	24/04/2022			Study and use of various computer applications/models for environmental use
145.	Sem04: Course 13: Sustainable Management of Biodiversity [MOOC]	February	06/02/2022	10.30am- 11.30am	Theory	Basic concept of Biodiversity, Origin of Species, Value of Biodiversity
146.		February	13/02/2022			Ecosystem Services, Biodiversity in India
147.		February	20/02/2022			Introduction to Wetland Biodiversity
148.		February	27/02/2022			Genetic resources
149.		March	06/03/2022			Agro biodiversity
150.		March	13/03/2022			Animal Genetic Resources
151.		March	20/03/2022			Drivers of biodiversity loss
152.		March	27/03/2022			Impact of Climate Change on Biodiversity
153.		April	03/04/2022			Invasive Species as a Threat to Biodiversity, Consequences of Biodiversity Loss

154.		April	10/04/2022			Biodiversity conservation and sustainable management
155.		April	17/04/2022			Sustainable Management of Biodiversity
156.		April	24/04/2022			International Instruments to Conserve Biological Diversity
157.	Sem04: Course 14: Statistical Approaches and Modelling in Environmental Sciences	February	06/02/2022	11.30am- 12.30pm	Theory	Basics of Statistics
158.		February	13/02/2022			Statistical methods
159.		February	20/02/2022			Probability
160.		February	27/02/2022			Correlation
161.		March	06/03/2022			Regression
162.		March	13/03/2022			Testing of hypothesis
163.		March	20/03/2022			Introduction-Environmental modelling
164.		March	27/03/2022			Chemical transport models including basic principles and numerical methods
165.		April	03/04/2022			Inverse modelling
166.		April	10/04/2022			Transformation processes
167.		April	17/04/2022			Water quality modelling
168.		April	24/04/2022			Air quality modelling
169.	Sem04: Course 15: Environmental issues and Human Health	February	06/02/2022	12.30pm- 1.30pm	Theory	Environmental pollution
170.		February	13/02/2022			Air sampling and monitoring techniques
171.		February	20/02/2022			Noise Pollution
172.		February	27/02/2022			Aquatic Pollution
173.		March	06/03/2022			Soil Pollution
174.		March	13/03/2022			Radioactive Pollution
175.		March	20/03/2022			Contemporary and emerging environmental issues
176.		March	27/03/2022			Basic principle of environmental health
177.		April	03/04/2022			Industrial Toxicology
178.		April	10/04/2022			Health maintenance
179.		April	17/04/2022			Treatment of variation
180.		April	24/04/2022			Environmental and occupational risk assessment
181.		February	06/02/2022			Project work
182.		February	13/02/2022			Project work

183.	Sem04: Course 16: Project Work	February	20/02/2022	2.30pm – 4.30pm	Practical	Project work
184.		February	27/02/2022			Project work
185.		March	06/03/2022			Project work
186.		March	13/03/2022			Project work
187.		March	20/03/2022			Project work
188.		March	27/03/2022			Project work
189.		April	03/04/2022			Project work
190.		April	10/04/2022			Project work
191.		April	17/04/2022			Project work
192.		April	24/04/2022			Project work

V137: Diploma In Statistics {2021 PATTERN}

C.S. No.	Course Code And Name	Month	Date	Time	Theory/ Practical course	Topic
1.	Sem01: DSS011: Basic Mathematics 01	September	05/09/2021	10.30am- 11.30am	Theory	Logic
2.		September	12/09/2021			Quantifiers
3.		September	19/09/2021			Sets Preliminaries
4.		September	26/09/2021			Properties of set operations, Venn Diagrams, Function or Mapping
5.		October	03/10/2021			The Real Number System
6.		October	10/10/2021			Extended Real Number System, Intervals in R, Bounded sets.
7.		October	17/10/2021			Completeness Axiom, Archimedean property of R, Open, Closed and Countable sets in R.
8.		October	24/10/2021			Algorithm
9.		October	31/10/2021			Basics of Sequences
10.		November	07/11/2021			Convergence of Sequences, Important theorems of Convergence of sequences
11.		November	14/11/2021			Preliminaries of Convergent Series
12.		November	21/11/2021			Series of Non negative terms
13.	Sem01: DSS012: Basic Mathematics 02	September	05/09/2021	11.30am- 12.30pm	Theory	Limit of function, Theorems on Limit.
14.		September	12/09/2021			Continuity, Types of discontinuity.
15.		September	19/09/2021			Theorems on Continuity, Some special types of functions.
16.		September	26/09/2021			Derivative of function, Differentiation Rules, Successive Differentiation.
17.		October	03/10/2021			Leibnitz's Theorem, Partial Differentiation, Euler's Theorem, Mean Value Theorem.
18.		October	10/10/2021			Indeterminate Forms and L' Hospital Rule, Maximum and

						Minimum Values.
19.		October	17/10/2021			Definite Integrals.
20.		October	24/10/2021			Properties of Definite Integrals.
21.		October	31/10/2021			Integrals of Irrational function
22.		November	07/11/2021			Matrix, Various types of Matrices, Arithmetic Operations on Matrices, Multiplication of Matrices, Determinant of Square Matrices, Inverse of Matrix.
23.		November	14/11/2021			Elementary Transformation of Matrix, Rank of matrix, System of simultaneous Linear Equations.
24.		November	21/11/2021			Linear Independence of Vectors, Eigen Value Problems, Cayley-Hamilton Theorem.
25.	Sem01: DSS013: Fundamentals of Statistics	September	05/09/2021	12.30pm- 1.30pm	Theory	Basic Definitions and Concepts, Variables, Levels of Measurement, Distributions
26.		September	12/09/2021			Graphing Distributions: Frequency Tables, Pie Charts, Bar Charts
27.		September	19/09/2021			Graphing Quantitative Distributions: Stem and Leaf Displays, Histogram, Frequency Polygon, Box Plots, Line Graphs, Dot Plots.
28.		September	26/09/2021			Measure of Central Location- Arithmetic Mean, Median, Mode, Geometric Mean. Measure of Variability- Range, Coefficient of Range
29.		October	03/10/2021			Variance, Standard Deviation, Percentiles, Quartiles, z-score, Empirical Rule, Chebyshev's Theorem Moments, Skewness and Kurtosis.
30.		October	10/10/2021			Basic Concepts of Probability
31.		October	17/10/2021			Permutation and Combination, Sample Space
32.		October	24/10/2021			Events and their Probabilities, Complements, Intersections, Unions, Conditional Probability and Independent Events.
33.		October	31/10/2021			Discrete Probability Distributions
34.		November	07/11/2021			Discrete Random Variables, Probability Distributions for Discrete Random Variables, Mean, Standard

						Deviation
35.		November	14/11/2021			Binomial Distribution, Cumulative Probability Distribution Function for Binomial
36.		November	21/11/2021			Standard Discrete Distributions – Uniform, Poisson, Multinomial, Hypergeometric, Geometric, Negative Binomial.
37.	Sem01:DSS014: Excel Applications in Statistics	September	05/09/2021	2.30pm – 4.30pm	Practical	To start MS Excel, Enter Data, Edit and Manage Data.
38.		September	12/09/2021			To apply simple arithmetic operations on data.
39.		September	19/09/2021			To represent raw data using graphs and diagrams: line plot, Bar plot, subdivided bar plot, pie diagram, and histogram.
40.		September	26/09/2021			To draw frequency table for given data (raw, grouped), draw Frequency curve, less than and more than cumulative frequency curve, frequency polygon.
41.		October	03/10/2021			To draw Stem and Leaf diagram, box plot.
42.		October	10/10/2021			To calculate Mean (AM, GM, HM), Median, Mode for Raw Data.
43.		October	17/10/2021			To calculate Mean (AM, GM, HM), Median, Mode for Grouped Data.
44.		October	24/10/2021			To calculate Range, Variance Standard Deviation, Coefficient of Variation.
45.		October	31/10/2021			To calculate Mean Deviation about Mean, Median, Mode.
46.		November	07/11/2021			To find Covariance and Correlation.
47.		November	14/11/2021			To find probabilities for Bernoulli, Binomial, Poisson Distribution.
48.		November	21/11/2021			Fitting of Binomial Distribution, Fitting of Poisson Distribution, Fitting of Normal Distribution.
49.		February	06/02/2022			The Mean and Standard Deviation of the Sample Mean
50.		February	13/02/2022			The Sampling Distribution of Sampling Mean, The Sample Proportion.
51.		February	20/02/2022			Large Sample Estimation of Population Mean, Small

	Sem02: DSS021: Inferential Statistics			10.30am- 11.30am	Theory	Sample Estimation of Population Mean
52.		February	27/02/2022			Large Sample Estimation of Population Proportion, Sample Size Determination.
53.		March	06/03/2022			The Elements of hypotheses Testing, Large Sample Tests for Population Mean, Observed Significance of Test
54.		March	13/03/2022			Small Sample Tests for Population Proportion
55.		March	20/03/2022			Large Sample Tests for Population Proportion, Examples
56.		March	27/03/2022			Comparison of Two Population Mean: Large, Independent Samples.
57.		April	03/04/2022			Comparison of Two Population Mean: Small, Independent Samples
58.		April	10/04/2022			Comparison of Two Population Mean: Paired Samples, Comparison of Two Population Proportions, Sample Size Determination.
59.		April	17/04/2022			Chi-Square Tests and F- Tests: Chi-Square Test for Independence
60.		April	24/04/2022			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	06/02/2022	11.30am- 12.30pm	Theory	Fundamentals of sampling, Simple Random Sampling
62.		February	13/02/2022			Stratified Sampling, Ratio Method of Estimation
63.		February	20/02/2022			Regression Method of Estimation
64.		February	27/02/2022			Varying Probability Sampling, Double Sampling, Two Stage Sampling
65.		March	06/03/2022			Systematic Sampling, Cluster Sampling
66.		March	13/03/2022			Sampling in Successive Occasion, Non Sampling Errors.
67.		March	20/03/2022			Types of Correlation–Positive, Negative, Simple, Multiple, Linear, Nonlinear
68.		March	27/03/2022			Methods of studying Correlation-Scatter Diagram

						Method, „ Graphic Method
69.		April	03/04/2022			Karl Pearson's Coefficient of Correlation Method, Method of Least Squares, Linear Relationships Between Variables, Linear Correlation Coefficient
70.		April	10/04/2022			Simple Linear Regression Model, Goodness of fit of Straight Line to Data
71.		April	17/04/2022			The Least Square Regression Line, The Sum of Standard Errors
72.		April	24/04/2022			Confidence Interval for β_1 , Testing Hypotheses about β_1 , The Coefficient of Determination, Estimation and Prediction.
73.	Sem02: DSS023: Design of Experiment	February	06/02/2022	12.30pm- 1.30pm	Theory	One way classification, Two way classification under Fixed Effect Model
74.		February	13/02/2022			Two way classification without interaction, Two way classification with interaction,
75.		February	20/02/2022			Tukey's Test for nonadditivity, Comparison of Variances, Fixed Effects Models, Random Effects Models, Mixed Effects Models.
76.		February	27/02/2022			Basic terms, Principles of Experimental Design: Randomization, Replication, and Local Control
77.		March	06/03/2022			Complete and Incomplete Block designs, Completely Randomize Designs (CRD): Layout of CRD, Procedure, Analysis, Expectations, Distributions, Decision Rules.
78.		March	13/03/2022			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	20/03/2022			Factorial Experiments with Factors at 2 levels (22 Factorial Experiments) 23 Factorial Experiments
80.		March	27/03/2022			2n Factorial Experiments, Standard Order for Treatment

						Combinations
81.		April	03/04/2022			Confounding Arrangement, Orthogonal Treatment Combinations
82.		April	10/04/2022			Analysis of Variance in case of Confounded effects
83.		April	17/04/2022			Introduction to Analysis of Covariance Model, One way classification
84.		April	24/04/2022			Two way classification (with one observation per cell).
85.	Sem02: DSS024: R Programming for Statistics	February	06/02/2022	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	13/02/2022			To Draw Bar Plot, Multiple Bar Diagram, Sub-divided Bar Diagram, Pie Chart, Stem and Leaf Diagram, Box Plot.
87.		February	20/02/2022			To Draw Frequency Distribution Table, Histogram, Frequency Polygon, Ogive Curve.
88.		February	27/02/2022			To Calculate Mean (A.M., G.M., H.M.) Median, Mode, Quartiles, Percentile.
89.		March	06/03/2022			To Calculate Range, Mean Deviation about (Mean, Median, Mode,), Variance, Coefficient Of Variation, Standard Deviation, Skewness, Kurtosis.
90.		March	13/03/2022			To Find Probabilities Based On Real Life Examples, To Find Probabilities for Binomial, Poisson, Geometric, Negative-Binomial Distributions
91.		March	20/03/2022			To Find Probabilities for Uniform, Exponential, Normal, Standard-Normal, Chi-Square, t, F Distributions.
92.		March	27/03/2022			To Find Correlation Using Scattered Plot, Karl – Pearson's Coefficient Of Correlation.
93.		April	03/04/2022			To Draw Sample From-Simple Random Sampling With Replacement and Without Replacement, Stratified Sampling, Systematic Sampling.
94.		April	10/04/2022			One Sample Z-Test, One Sample t-Test, Two Sample t-

						Test, Paired t-Test.
95.		April	17/04/2022			Chi-Square Goodness Of Fit Test, Chi-Square Test Of Independence.
96.		April	24/04/2022			One-Way ANOVA, Two-Way ANOVA.