	VAC **Theory** **Unit-III** **HEALTH& WELLNESS, YOGA EDUCATION, SPORTS AND FITNESS** **role of yoga in Stress management:** **Holistic approach of catering to moderation in eating (yogic Diet)**	**1**				
June	**MAJOR** **THEORY** **Unit-IV** Concept of Wellness. Components of Wellness. **PRACTICAL** Measurement of Health-related physical fitness	**4** **1**	**THEORY** **CC1D: Physical Fitness and Wellness and Health and First-aid Management** **Unit: III and IV** **Special class** **PRACTICAL** **CC1D: LAB PRACTICAL** **First-aid Practical-Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica.** **Repeat practical Class** **THEORY** **SEC2: GYMNASTICS** **Unit:** **Dive and Forward Roll** **Hand Spring** **Head Spring** **Neck Spring** **Hand Stand and Forward Roll** **Summersaul**	**2** **3** **3**	**THEORY** **DSE2: Stress and Anxiety** **Unit -IV: Stress and Anxiety** **PRACTICAL** **DSE2: LAB PRACTICAL** **Measurement of Reaction Time, Depth Perception and Mirror Drawing** **Repeat practical Class** **SEC4: VOLLEYBALL** **Fundamental skills** **PRACTICAL** **GE2: Fitness Test** **Unit-IV: Queens College Step Test, Harvard Step Test**	**4** **2** **2** **2**
	MINOR **Theory** **Unit-IV** Concept of Wellness. Components of Wellness.	**3**				
	Multi/Interdisciplinary **Theory** **Unit-III** **MEDITATION** Sakshi-Bhava Maitri-Bhava OM-Meditation	**3**				
	Skill Enhancement Course Unit-III Petrissage	**1**				
	VAC **Theory** **Unit-III**	1				

	HEALTH& WELLNESS, YOGA EDUCATION, SPORTS AND FITNESS **Working (the sense of duty as per BG), Entertainment (Moderation), Change in life style**					

Aditya Mondal
Department of Physical Education
Suri Vidyasagar College

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF SUBRATA KUMAR GUPTA

Political Science (Honours) (July 2023– June 2024)

Month	Sem-I MAJOR	No. of Lecture	Sem-III	No. of Lecture	Sem-V	No. of Lecture
July-December,2023	**Honours** **POLS1011: Western Political Thought** Chapter-1 Ancient Greek Political Thought: Plato- Justice; Aristotle- Concept of the State Chapter-3 Renaissance and Machiavelli: Concept of Power and Secularization of Politics	**24** **12** **12**	**Honours** **CC5: Comparative Politics** Chapter-1 Transition from Comparative Government to Comparative Politics- Scope and Objective of Comparative Politics Chapter-2 Conventions and the Rule of Law in UK; Bill of Rights in the USA Chapter-3 Unitary System; UK and France; Federal System: USA	**24** **10** **8** **6**	**Honours** **DSE-1: Select Comparative Political Thought** Chapter -1 Distinctive features of Indian and Western Political Thought Chapter-2 a) Kautilya on State b) Tilak and Gandhi on Swaraj	**22** **10** **12**
	Sem-II (H) MAJOR		**Sem-IV**		**Sem-VI**	
January-June, 2024	**Honours** **POLS2011 : Political Theory** Chapter-1 Meaning of Politics and Political Theory	**10** **10**	**Honours** **CC- 9: Sociology and Politics** Chapter -2 Political Culture: Meaning, Components and Types; Political Socialization: Meaning Role and Agencies Chapter-3 Political Participation: Meaning and Components Chapter-4 Concepts of Power and Authority **SEC- 2: Public Opinion**	**21** **7** **6** **8**	**Honours** **CC-14: Contemporary Issues in India** Chapter-1 Caste system in India- its changing nature and dynamics Chapter-2 Women-discrimination and violence against women Chapter-3 Secularism and communalism	**23** **9** **8** **6**

			and Survey Research Chapter1 Definitions and Characteristics of Public Opinion Chapter-2 Measuring Public Opinion: Methods and types of sampling	**13** **6** **7**		

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF SABIRUL ISLAM

Political Science (Honours) (July 2023 – June 2024)

Month	Sem-I Major	No. of Lecture	Sem-III	No. of Lecture	Sem-V	No. of Lecture
July-December,2023	**Major:** **POLS 1011:** **Western Political Thought** Chapter-4: Hobbes: Concept of Sovereignty; Locke: Foundation of Liberalism; Rousseau: General Will Introduction Hobbes and his life Hobbes as thinker Hobbes's idea of sovereignty Locke as a philosopher Liberalism Lockes's idea of liberalism Rousseau as philosopher Rousseau's idea of general will **Sem-II MAJOR** **POLS2011:** **Political Theory** Chapter-3 The Concept of Sovereignty: a) Monistic b) Pluralist c) Popular Introduction	**24** **24** **1** **2** **2** **4** **2** **4** **3** **2** **4** **23** **9** **1** **3** **2**	**Honours** **CC- 6** **Public Administration** Chapter-1 Public Administration: Meaning, Dimensions and Significance of Public Administration; Evolution of Public Administration as a Discipline; Identity Crisis of Public Administration Introduction Public administration: meaning and dimensions Significance of public administration Evolution of public administration Chapter-2 Classical Theories: Scientific Management(F.W.Taylor); Administrative Mangement (Gullick, Urwick); Ideal type bureaucracy (Weber) Introduction to classical theories Scientific management by Taylor Administrative management by Gullick and Urwick Ideal type of Bureaucracy Chapter-3 Neo-classical Thories: Human Realtions(Elton Mayo); Decision Making	**55** **10** **1** **2** **2** **4** **14** **2** **4** **3** **5** **14**	**Honours** **CC12:** **Elementary Research Methods in Political Science** Chapter-1 a) Theoretical foundation of research: A brief outline of Positivism, Post-Positivism and their Critics b) Methodology of Research: Qualitative and Quantitative Introduction to research Theoretical foundation of research Positivism Post-positivism Methodology of research Qualitative research Quantitative research **DSE-2:** **Democracy and Decentralized Governance** Chapter-1 Evolution of the State	**32** **18** **14** **5** **6** **4** **3** **4** **5** **5** **19**

	The concept of sovereignty Monistic view of sovereignty Pluralist view of sovereignty Popular view of sovereignty Chapter-4 Rights, Liberty and Equality: Meaning and Inter-relationship Liberty Equality Rights Interrelationships	**2** **2** **13** **2** **2** **4** **5**	Theory (Herbert Simon); Motivation Theory (Maslow) Introduction to neo-classical theories of public administration Elton Mayo's Human relation theory Decision making theory of Simon Motivation theory by Abraham Maslow Chapter-4 Contemporary Theories: Ecological Appraoch (Fred Riggs); Innovations and Entrepreneurship (Peter Drucker) Fred Riggs ecological approach Innovation and entrepreneurship Chapter-5 Concepts of Administration: Hierarchy, Span of Control, Unity of Command, Line and Staff, Centralization-Decentralization, Devolution and Delegation Hierarchy Span of control Unity of command Line and staff Centralization Decentralization Devolution delegation	**2** **4** **5** **3** **8** **6** **2** **9** **2** **1** **1** **1** **1** **1** **1**	System and the concept of Sovereignty Introduction Evolution of the state system The concept of sovereignty Chapter-2 Global Economy: Bretton Woods institutions (World Bank, IMF) and WTO Introduction to world economy Bretton woods World bank IMF WTO	**9** **1** **4** **4** **10** **2** **2** **2** **2** **2**
	Sem-II (H)		**Sem-IV**		**Sem-VI**	
			Honours **CC-8: International Relations**	**10**	**Honours** **CC-14: Contemporary**	**10**

January-June, 2024			Chapter-5 Post-Cold War Global Issues: **a)** Globalization **b)** Human Rights **c)** Terrorism Introduction to post cold-war situations Globazation Human rights Terrorism **CC- 9: Sociology and Politics** Chapter-6 Environment and Politics: Environment Movements-an overview; Eco-Feminism Introduction Relation between environment and politics Environment movements Eco-feminism **CC-10** **International Organizations** Chapter-1 Evolution of international organizations International organizations Chapter-2 United Nations: Its Emergence: General Assembly and Security Council: Secretariat: Secretary General: International Court of Justice: Compositions and Functions Introduction to the United Nations Its emergence	**10** **2** **3** **3** **2** **8** **8** **1** **2** **3** **2** **6** **6** **6** **13** **2** **2**	**Issues in India** Chapter-4 Political Economy of Poverty and Inequality The concept of political economy Measurement of poverty Dimensions of poverty The concept of inequality Dimensions of inequality **DSE-3** **Local Government in West Bengal** Chapter-1 Evolution of Rural and Urban local governments in West Bengal since Independence Introduction to local governments Evolution of local government in west Bengal since independence Chapter-2 Structure and functions of Panchayati Raj Institutions in the light of the West Bengal Panchayet Act of 1973(as amended up to date) Structure and functions of panchayati raj Chapter-4	**10** **2** **2** **2** **2** **2** **30** **7** **3** **4** **8** **8**

			General assembly Security council Secretariat International court of justice Chapter-3 Peacekeeping and Peacebuilding role of UN Peacekeeping and peacebuilding role of UN	**2** **3** **2** **2** **4** **4**	Local Government and Empowerment of Women, SCs and STs Empowerment of women, SCs and STs Scope of empowerment of women through local government Scope of empowerment of SCs in local government Scope of STs empowerment through local government Chapter-5 State- Local Government Relations: Financial control of the State The state government behavior towards local government Financial control of the state	**8** **2** **2** **2** **2** **7** **3** **4**

SURI VIDYASAAR COLLEE
DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF MAINAK MANDAL
Political Science (Honours) (July 2023 – June 2024)

	SEMESTER-I	No. of Lecture	SEMESTER-III	No. of Lecture	SEMESTER-V	No. of Lecture
July-December, 2020	**Major:** **POLS1011: Western Political Thought** **Chapter-2**: Medieval Political Thought-main features **Chapter -6**: Marx and Engels: Dialectical and Historical Materialism Marx and Engels: An introduction Dialectical Materialism Historical Materialism	**23** 6 17 2 5 5	**CC5: Comparative Politics** **Chapter- 6**: Legislatures in UK, USA: Composition and Functions Introduction to UK & USA Composition of Legislature of UK Composition of Legislature of USA Functions and utility of Lord Sabha	**27** 14 1 1 1 1 1 2	**CC12: Elementary Research Methods in Political Science** **Chapter-3**: Vocabulary of research: Concept, Variable, Proposition, Hypothesis, Theory Introduction to Research Methodology Concept Variable Proposition	**48** 14 2 2 2 2 4

July-December, 2020	**SEMESTER-II MAJOR** **POLS 2011: Political Theory** Chapter-5 Theory of Justice: Rawls Introduction Rawls as a philosopher Justice Rawls idea of justice		Functions of Common Sabha Functions of Senete Functions of House of Representative Different Committees of Both Houses of Both Countries Compare between Lord Sabha and Senete Chapter -7: Judiciary in UK, USA and France Judiciary in UK Judiciary in USA Judiciary in France	1 4 2 12 3 3 3 3	Hypothesis Theory **Chapter -4**: Components of Research Design: Problemation, Hypothesis formulation, Data collection, and testing of hypothesis Research Design Components of Research Design Problemation Hypothesis formulation Data collection, and	2 16 2 2 2 2 8

	Chapter-6 Ideology: Meaning and Variants(a) Liberalism and Neo- Liberalism (b)Socialism © Fascism and Feminism (total class -10)	10	Compare judiciary system between UK, USA, France	**13**	testing of hypothesis	18
	Ideology: Meaning and Variants	1			**Chapter - 5**: Major methods and techniques of Data Collection: Survey method, Interview and Case Study	6
	Liberalism and Neo-Liberalism	2	**CC- 6: Public Administration**	13		
	Socialism	3			Survey method	6
	Fascism	2	**Chapter - 6**: Major approaches in Public Administration- New Public Administration, New Public Management, New Public Service Approach, Feminist Perspective	2	Interview	6
	Feminism	2			Case Study	**12**
					CC-DSE-1: Select Comparative Political Thought	6
			Introduction to Public Administration	3		3
			New Public Administration		**Chapter-1(b)**: Tilak and Gandhi on Swaraj	3
			New Public Management	3		6

			Public Service Approach Feminist Perspective	3	Tilak on Swaraj Gandhi on Swaraj **Chapter - 2(d)** Nehru Jayprakash Narayan on Democracy Nehru on Democracy Jayprakash Narayan on Democracy	3 3

	SEMESTER-II	No. of Lecture	SEMESTER-IV	No. of Lecture	SEMESTER-VI	No. of Lecture

			CC-8: International Relations	**25**	**CC13: Indian Foreign Policy**	**20**
				9		
					Chapter - 3: India and the major powers- USA, China, Russia	20
			Chapter -3: Balance of Power and Collective Security	3		
				3		5
				3	India's Foreign Policy towards USA	5
			Balance of Power	9		
						5
			Collective Security	1	India's Foreign Policy towards China	5
				3		
				3		
			Difference between Balance of Power and Collective Security	2	India's Foreign Policy towards Russia	2 3
				7		
			Chapter -4: Origin and End of the Cold War	1	**Chapter - 4**: Recent trends in India's Foreign Policy	
				2		**15**
			What is cold war?	3	Base of Indian Foreign Policy	
				1		5
January-June, 2021			Origin of the Cold War	8	Recent trends in India's Foreign Policy	5

			End of the Cold War Significance of Cold War and New World Order **Chapter - 6**: Disarmament: NPT, CTBT, NSG Definition of Disarmament NPT CTBT NSG **CC- 9: Sociology and Politics** Chapter - 5: Feminism: Meaning, Significance and	8 3 5 **9** 3 3 3	**CC-14: Contemporary Issues in India** **Chapter - 5**: Rights of Persons with Disabilities (PWDs) in India **Chapter -6**: Social Backwardness and Protective Discrimination **Chapter-7**: Disaster Risk Reduction and Development Planning **DSE-4: Political Economy of International Relations** **Chapter-1**: Major approaches to the study of Political	5 **6** 6

January-June, 2021			Different Schools Feminism: Meaning, Significance Feminism: Different Schools **SEC- 2: Public Opinion and Survey Research** **Chapter -3**: Interview- Definition and Types **Chapter -4**: Questionnaire: Different Types **Chapter -5**: Prediction in Polling Research		Economy of IR- Robert Gilpin	

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF JAGANNATH BARMAN

Subject: Political Science (Honours) 2023-24

Month	Sem-I	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
July	**Major** Medieval Political Thought: Main features; **SEC** Meaning of Human Rights;	3 3	CC-7: Rural Administration in West Bengal: Panchayati Raj Institutions; Role of BDO.	14	CC-11; Social Movements: Definition. Distinction between "new" and "old" social movements	10
August	**Major** Medieval Political Thought: Main features **SEC** Meaning of Human Rights;	6	CC-7: Urban Administration in West Bengal: Municipalities and Municipal Corporations.	14	CC-11; Positive discrimination and Dalit movements(Panthers) in India	10
September	**Major** Machiavelli and the Renaissance: **SEC** Evolution of the concept of Human Rights	6	CC-7; District Administration: Role of DM, SP & SDO	14	CC-11; Trade Union movements in India: an overview of strength and weaknesses.	10
October	**Major** Machiavelli: Concept of Power **SEC** Evolution of the concept of Human Rights	6	CC-7; State Administration in West Bengal: Chief Secretary; Divisional Commissioner	14	CC-11; Peasant moments in India: Case Study (Telengana and Tebhaga) .	10
November	**Major** Machiavelli: Concept of Power **SEC** Indian Constitution and the protection of Human Rights;	6	CC-7; Administrative Reforms in India	14	CC-11: Women's movements in India: key issues	10
December	**Major** Machiavelli: Secularization Politics; **SEC** Indian Constitution and the protection of Human Rights;	6	CC-7; Impact of Globalization – RTI, Lokpal and Lokayukta	14	CC-11; Environmental Movements in India: Chipko, Narmada Bachao Andolan	10

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF JAGANNATH BARMAN

Subject: Political Science (Honours) 2023-24

	Sem-II		Sem-IV (H)		Sem-VI (H)	
January	**Major** Meaning of Politics and Political Theory; **SEC** Powers and functions of people's representatives at different tiers of governance: Members of Parliament	10	CC-8; National Power: Concepts and Elements	10	CC-13 Key Determinants Of India's Foreign Policy-Geography, Parliament,	10
February	**Major** Meaning and Significance of Political Theory; **SEC** Powers and functions of people's representatives at different tiers of governance: Members of Parliament	10	CC-9; Religion and Politics; Concept of Secularism	10	CC-13; Key Determinants Of India's Foreign Cabinet, PMO	10
March	**Major** Theories of the State:(a) Idealist Minor **SEC** Powers and functions of people's representatives at different tiers of governance: Members of Legislative Assemblies	10	CC-10; Regional Economic Organizations-APEC &OPEC	10	CC-13; India's Foreign Policy towards her neighbours; Recent engagement with Pakistan,	10
April	**Major** Theories of the State (b) Liberal Minor **SEC** Powers and functions of people's representatives at different tiers of governance: Members of Legislative Assemblies.	10	CC-10 Regional security organizations-NATO & ARF.	10	CC-13; India's Foreign Policy towards her neighbours; Recent engagement with Bangladesh	10
May	**Major** Theories of the State (c) Marxist Minor **SEC** Procedure of Budget-making	10	CC-10; Regional Organizations: SAARC and ASEAN	10	CC-13; India's Foreign Policy towards her neighbours; Recent engagement with Nepal,	10
June	**Major** Theories of the State (d) Gandhian Minor **SEC** Procedure of Budget-making.	10	CC-10; Regional Organizations BRICS – Goals and Functioning	10	CC-13; India's Foreign Policy towards her neighbours; Recent engagement with Bhutan	10

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DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF MADHABI LAHA

Political Science (Honours) 2023-2024

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
July	**SEC** National Human Rights Commission: Composition	5	CC-7; 73rd Amendment Act and its implications for rural local-self Government in India.	5	DSE-2 Transnational economic actors	5
August	**SEC** National Human Rights Commission: Composition	5	SEC-1; Powers and functions of people's representatives at different tiers of governance	5	DSE-2; Role of MNC s	5
September	**SEC** National Human Rights Commission: Functions	5	SEC-1: Members of Parliament; State Legislative Assemblies	5	DSE-2; Role of MNC s	5
October	**SEC** National Human Rights Commission: Functions	5	CC-7: 74th Amendment Act and its implications for urban local-self Government in India	5	DSE-2; Global Poverty	5
November	**SEC** Human Rights Movements in India: Basic Features;	5	SEC-1; Supporting the legislative process	5	DSE-2; Global Poverty	5
December	**SEC** Human Rights Movements in India: Basic Features;	5	Sec-1: Law-making procedure, Role of Committees	5	DSE-2; Sustainable Development Goal	5

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF MADHABI LAHA

Political Science (Honours) 2023-2024

	Sem-II (H)		Sem-IV (H)		Sem-VI (H)	
January	**SEC** Law-making procedure in Parliament	5	CC-8: Nature and Scope of International Relations;	5	DSE-4 Globalization:Meaning and debates	5
February	**SEC** Law-making procedure in Parliament	5	CC-8; Idealist Approach in IR	5	DSE-4 Globalization:Meaning and debates	5
March	**SEC** Law-making procedure in Parliament	5	CC-8; Realist and Neo-Realist approaches in IR	5	DSE-4 Globalization:Meaning and debates	5
April	**SEC** Role of Committees in Parliament	5	CC-8; Foreign Policy and Diplomacy: Concepts	5	DSE-4; Impact of Globalization on Indian Economy	5
May	**SEC** Role of Committees in Parliament	5	CC-8; Foreign Policy and Diplomacy: Determinants and Objectives	5	DSE-4; Impact of Globalization on Indian Economy	5
June	**SEC** Role of Committees in Parliament	5	CC-8; Indian Foreign Policy: Basic Tenets	5	DSE-4; Impact of Globalization on Indian Economy	5

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DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF GOPINATH CHOUDHURY

Political Science (Honours) (July 2023– June 2024)

Month	Sem-I	No. of Lecture	Sem-III	No. of Lecture	Sem-V	No. of Lecture
Jul-Dec,2020	**Major:** **Code POLS1051: Human Rights Education** Chapter-5 Human Rights, Terrorism and Counter Terrorism: Interrelationships	**7** **7**	**Honours** **CC5: Comparative Politics** Chapter-4 Parliamentary and Presidential Systems: UK, USA and China Chapter-5 Party system in UK and USA and France, Nigeria and Mexico	**13** **6** **7**	**Honours** **DSE-1: Select Comparative Political Thought** Chapter-2 c) Ambedkar on Social Justice **DSE-2: Democracy and Decentralized Governance** Chapter-5 Dynamics of civil society: New Social Movements, Role of NGOs	**6** **6** **5** **5**
Jan-June, 2021	**Sem-II (H)** **Minor:** **POLS2021: Indian Government and Politics** Chapter-**7** Party System in India Chapter-8 Electoral Process	**6** **6** **7** **7**	**Sem-IV** **Honours** **CC- 9: Sociology and Politics** Chapter -1 Political Sociology and Sociology of Politics: Nature and Scope Chapter-8 State and Civil Society	**11** **6** **5**	**Sem-VI**	

SURI VIDYASAGGAR COLLEGE
DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF SUBRATA KUMAR GUPTA
Political Science (General) (July 2023 – June 2024)

	SEMESTER-I	No. of Lecture	SEMESTER-III	No. of Lecture	SEMESTER-V	No. of Lecture
July-December, 2023		10 10 2 2 2 4	**CC-3/GE-3: Indian Political Thought** Chapter-1 Ancient Indian Political Thought:: Features; Kautilya's theory of Saptanga and the concept of Dandaniti Introduction Main features of ancient Indian Political thought Kautilya's Saptanga Kautilya's Dandaniti	10 10 2 2 4 2	**DSE-1A: Select Comparative Political Thought** Chapter-3 Indian Thought: Thinkers and Themes a) Kautilya on State	5 5

July-December, 2023						

		No. of Lecture	**SEMESTER-IV**	**No. of Lecture**	**SEMESTER-VI**	**No. of Lecture**

January-June, 2024		8 8 2 2 2 2	**CC-4: Indian Government and Politics** Chapter-2 a) Fundamental Rights and duties b) Directive Principles of State Policy Fundamental rights Fundamental duties Directive principle of state policy	12 12 6 2 4	**DSE-1B: Understanding Globalization** Chapter-1 Globalization: Meaning and Debates Introduction Globalization	12 12 2 10

SURI VIDYASAGGAR COLLEGE
DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF SABIRUL ISLAM
Political Science (General) (July 2023 – June 2024)

	SEMESTER-I	No. of Lecture	SEMESTER-III	No. of Lecture	SEMESTER-V	No. of Lecture
July-December, 2023	**POLS 1021: Political Theory** **Political Theory** Chapter-3 The Concept of Sovereignty: a) Monistic b) Pluralist c) Popular Introduction The concept of sovereignty Monistic view of sovereignty Pluralist view of sovereignty Popular view of sovereignty Chapter-4 Rights, Liberty and Equality: Meaning and Inter-relationship Liberty Equality Rights Interrelationships		**CC-3/GE-3: Indian Political Thought** **Chapter-2** **Main Features of Medieval Muslim Political Thought** Introduction to Medieval period Main Features of Muslim Political Thought **Chapter-3** **Rammohan Roy: perception of British Colonial Rule and their role as Modernizers** Introduction to Rammohan Roy as thinker His perception of Nationalism British Colonial Rule Perception of British Rule British's as modernizes **Chapter- 7** **Ambedkar: Social Justice** Introduction The concept of Social	**22** 5 2 3 10 2 2 2 2 2 7 1	**DSE-1A: Select Comparative Political Thought** **Chapter-3** **C) Ambedkar on Social Justice** Introduction The concept of Social Justice Ambedkar as a Reformer Ambedkar's concept of Social Justice **SEC-3: Democratic Awareness through Legal Literacy** **Chapter-1** **Constitution-fundamental rights, fundamental duties and other constitutional rights** Constitution and its importance Fundamental rights	**7** **7** **1** **2** **2** **2** **60** **20** **3** **8** 5

July-December, 2023			Justice Ambedkar as a Reformer Ambedkar's concept of Social Justice	2 2 2	Fundamental duties Other constitutional rights Chapter-2 Laws relating to dowry, sexual harassment and violence against women- laws relating to consumer rights and cyber crimes Laws relating to dowry Sexual harassment Violence against women Consumer rights Cyber crime **Chapter-3** **Anti-Terrorist laws: Implication for security and human rights** Anti-Terrorist Laws Implications for security Protection of human rights: how to be safe **Chapter-4** **System of Courts/ tribunals and their jurisdiction in India- criminal and Civil Courts, writ jurisdiction, specialized courts such as juvenile**	4 13 3 2 4 2 2 12 4 5 3 15

					courts, Mahila courts and tribunal System of courts Tribunals Jurisdiction of tribunals in India Civil and criminal courts Writ jurisdiction Specialized courts Juvenile courts Mahila courts Tribunals	 1 1 2 3 4 1 1 1 1

	SEMESTER-IIs	**No. of Lecture**	**SEMESTER-IV**	**No. of Lecture**	**SEMESTER-VI**	**No. of Lecture**
	POLS2021: Indian Government and Politics **Chapter – 5** **Union Executive: President and Prime**	**20** 10	**CC-4/ GE-4 Indian Government and Politics** **Chapter – 5** **Union Executive: President and Prime Minister: Powers and**	**20** 11	**SEC-4: Human Rights Education** **Chapter-1** **Meaning and a brief history of Human Rights (UDHR)** Introduction to the	**60** 12 2

January-June, 2024	**Minister: Powers and Functions; Governor and Chief Minister: Power and Functions**	4	**Functions; Governor and Chief Minister: Power and Functions**		UDHR	
					The major points in the UDHR	6
	Introduction to Nominal Executive and Real Executive	2	Introduction to Nominal Executive and Real Executive	1	Human rights	4
	President	2	President	1	**Chapter-2 Human rights: Terrorism and counter terrorism**	12
	Powers of the President	2	Powers of the President	1	Human rights security issues	2
	Functions of the President	10	Functions of the President	1	Terrorism	4
	Prime Minister	1	Prime Minister	1	Counter terrorism	4
	Powers of Prime Minister	1	Powers of Prime Minister	1	Implications for human security	2
	Functions of the Prime Minister	2	Functions of the Prime Minister	1	**Chapter-3 Indian constitution and protection of human rights**	10
	Governor	1	Governor	1	Basic rights required to protect human rights	2
	Powers and Functions of Governor	2	Powers and Functions of Governor	1	The concept of fundamental rights and its fit nesses with human rights propounded by the UDHR	8
	Chief Minister	3	Chief Minister	1	**Chapter-4 National Human Rights Commission: composition and functions**	12
	Powers and Functions of Chief Minister		Powers and Functions of Chief Minister	1	Introduction to the NHRC	2
	Chapter -6 Judiciary: Supreme Court and High Courts- Compositions and Functions		**Chapter -6 Judiciary: Supreme Court and High Courts- Compositions and Functions**	10	Composition of NHRC	4
	Introduction to the Judicial System		Introduction to the Judicial System	2	Functions of NHRC	6
	Supreme Court		Supreme Court	1	**Chapter-5 Human rights movements in India: evolution, nature, challenges and prospects**	14
	Composition of Supreme Court		Composition of Supreme Court	1		
	Functions of the Supreme Court		Functions of the Supreme Court	2		
			High Court	1		

January-June, 2024	High Court Composition of High Courts Functions of High Courts		Composition of High Courts Functions of High Courts	1 2	Background to the human rights movements in India Human rights movements in India Evolutions of human rights movements in India Nature of Human rights movements in India Challenges of Human rights movements in India Prospects of Human rights movements in India	3 2 2 2 3 2

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF MAINAK MANDAL
Political Science (General) (July 2023– June 2024)

Month	Sem-I	No. of Lecture	Sem-III	No. of Lecture	Sem-V	No. of Lecture
Jul	**Minor:** **POLS1021: Political Theory** Chapter- 4 Liberalism and Neo-Liberalism- Basic Features	**8** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**8** **2** **2**	**General** **DSE-1A: Select Comparative Political Thought** Chapter - 2(c) Rousseau on inequality Chapter - 3(b) Tilak and Gandhi on Swaraj **GE-1: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship.	**6** **2**
Aug	Chapter- 4 Liberalism and Neo-Liberalism- Basic Features	**4** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**4** **2** **2**	**Honours** **CC11: Plant Physiology** Unit 7: Phytochrome, crytochromes and phototropins **General** **CC11: Plant Physiology** Unit 6: Demonstration on the effect of different concentrations of IAA on Plant (Locally Available) coleoptile elongation (IAA Bioassay). Unit 7: To study the induction of amylase activity in germinating grains.	**6** **4**
Sept	Chapter- 4 Liberalism and Neo-Liberalism- Basic Features	**4** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**8** **2** **2**	Honours: **CC12: Plant Metabolism** Unit 5: ATP-Synthesis **General:** **CC12: Plant Metabolism** Unit 5: To demonstrate activity of Nitrate reductase in germinating leaves of different plant sources. Unit 6: To study the activity of lipases in germinating oil-seeds and demonstrate mobilization of lipids during germination.	**8** **2**
Oct	Chapter- 4 Liberalism and Neo-Liberalism- Basic Features	**7** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**8** **2** **2**	**Honours:** **CC12: Plant Metabolism** Unit 6: Lipid metabolism **General:** **CC12: Plant Metabolism** Unit 7: Demonstration of absorption spectrum of photosynthetic pigments.	**8** **2**
Nov	Chapter- 4 Liberalism and Neo-				**Practical** **CC11: Plant Physiology**	

	Liberalism- Basic Features	**7** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**7** **2** **2**	Practice Classes **Theory** **CC12: Plant Metabolism** Unit 7: Nitrogen metabolism	**2** **8**
Dec	Chapter- 4 Liberalism and Neo-Liberalism- Basic Features	**4** **2**	**General** **CC-3/ GE-3: Indian Political Thought** Chapter-4: Bankim, Vivekananda: Nationalism Chapter -5: Gandhi: Satyagraha, Trusteeship. **SEC-1: Electoral Practice and Procedures**	**3** **1** **1**	**Theory** **CC12: Plant Metabolism** Unit 8: Mechanisms of signal transduction **Practical** **CC12: Plant Metabolism** Special Classes	**4** **1**
Jan	**Sem-II** **<u>General</u>** **POLS2021: Indian Government and Politics** Chapter-3 Nature of Indian Federalism, centre-states relations-Legislative, administrative and financial Chapter -4: Union Legislature	**6** **2**	**Sem-IV** **General** **CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments Chapter -8: Electoral Process: Election Commission and Electoral Reforms	**4** **5** **2** **2**	**Sem-VI** **DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha- Organization, Functions and Law-making Procedure; the Speaker; Procedure of Constitutional Amendment	**5** **2** **12** **2**
Feb	Chapter-3 Nature of Indian Federalism, centre-states relations-Legislative, administrative and financial Chapter -4: Union Legislature	**5** **2**	**CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments Chapter -8: Electoral Process: Election Commission and Electoral Reforms	**5** **5** **2** **2**	**DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha- Organization, Functions and Law-making Procedure; the Speaker;	**2** **4** **2**

					Procedure of Constitutional Amendment	**12** **2**
Mar	Chapter-3 Nature of Indian Federalism, centre-states relations-Legislative, administrative and financial Chapter -4: Union Legislature		**CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments Chapter -8: Electoral Process: Election Commission and Electoral Reforms		**DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha-Organization, Functions and Law-making Procedure; the Speaker; Procedure of Constitutional Amendment	**12** **2** **8** **2**
Apr	Chapter-3 Nature of Indian Federalism, centre-states relations-Legislative, administrative and financial Chapter -4: Union Legislature	**8** **2**	**CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments Chapter -8: Electoral Process: Election Commission and Electoral Reforms	**4** **4** **2** **4**	**DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha-Organization, Functions and Law-making Procedure; the Speaker; Procedure of Constitutional Amendment	**10** **2** **6** **2**
May	Chapter-3 Nature of Indian Federalism, centre-states relations-Legislative, administrative and financial	**8**	**CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments	**4** **2**	**DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization	**8** **8**

	Chapter -4: Union Legislature	**2**	Chapter -8: Electoral Process: Election Commission and Electoral Reforms	**3**	and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha- Organization, Functions and Law-making Procedure; the Speaker; Procedure of Constitutional Amendment	**2** **6** **2**
June	Chapter-3 Nature of Indian Federalism, centre-states relations- Legislative, administrative and financial Chapter -4: Union Legislature	**2** **2**	**CC-4/GE-4: Indian Government and Politics** Chapter -4: Union Legislature Chapter -7: Party system in India, Coalition Governments Chapter -8: Electoral Process: Election Commission and Electoral Reforms	**2** **1** **3**	**DSE-1B: Understanding Globalization** Chapter -3: Globalization and Terrorism Chapter -4: Globalization and new international order Chapter - 5: Globalization and Localization: Dimensions of cultural change **GE-2: Indian Government and Politics** Chapter -4: Union Legislature: Lok Sabha and Rajya Sabha- Organization, Functions and Law-making Procedure; the Speaker; Procedure of Constitutional Amendment	**6** **2** **8** **2**

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF JAGANNATH BARMAN

Political Science (General) 2023-24

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
July	**Minor** Meaning of Political Theory; **MDS/IDS** Political Science: Definition,	5	GE-3/CC-1C Rabindranath Tagore ; State.	10	DSE-1A Distinctive features of Indian and Western political thought	15
August	**Minor** Different Approaches: Traditional Approach **MDS/IDS** Political Science: Nature & Scope;	5	GE-3/CC-1C Rabindranath Tagore ; State.	10	DSE-1A Distinctive features of Indian and Western political thought GE-1; Ancient Indian Political Thought : Features	10 5
September	**Minor** Different Approaches: Traditional Approach **MDS/IDS** Different approaches to the study of Political Science: Traditional Approach;	5	GE-3/CC-1C Rabindranath Tagore ; Society	10	DSE-1A Locke on Rights GE-1 Kautilya's theory of Saptanga.	7 8
October	**Minor** Different Approaches: Behavioural Approach **MDS/IDS** Different approaches to the study of Political Science: Traditional Approach;	5	GE-3/CC-1C Rabindranath Tagore ; Society	10	DSE-1A Kautilya on State GE-1; Kautilya's concept of Dandaniti	7 8
November	**Minor** Different Approaches: Post-Behavioural Approach **MDS/IDS** Different approaches to the study of Political Science: Behavioural Approach	5	GE-3/CC-1C Rabindranath Tagore ; Nation	10	DSE-1A Tilak on Swaraj GE-1 Rabindranath Tagore ; State, Society and Nation	7 8
December	**Minor** Different Approaches: Marxist Approach **MDS/IDS** Different approaches to the study of Political Science: Behavioural Approach	5	GE-3/CC-1C Rabindranath Tagore ; Nation	10	DSE-1A Gandhi on Swaraj GE-1 Rabindranath Tagore ; State, Society and Nation	7 8

DEPARTMENT OF POLITICAL SCIENCE

TEACHING PLAN OF JAGANNATH BARMAN

Political Science (General) 2023-24

	Sem-II (G)		Sem-IV (G)		Sem-VI (G)	
January	**Minor** The Constituent Assembly: Its Composition **MDS/IDS** Salient Features of the Indian Constitution	5	GE-4/CC-1D; The Constituent Assembly:Composition	10	DSE-1B; Globalization: Meaning and debates GE-2; The Constituent Assembly: Composition	7 8
February	**Minor** The Constituent Assembly: Its Role **MDS/IDS** Preamble of Indian Constitution	5	GE-4/CC-1D; The Constituent Assembly: Role	10	DSE-1B; Globalization: Meaning and debates GE-2; The Constituent Assembly: Role	7 8
March	**Minor** Preamble and its Significance **MDS/IDS** Fundamental Rights	5	GE-4/CC-1D; The Preamble and its Significance	10	DSE-1B; Impact of Globalization on Indian Economy GE-2; The Preamble and its Significance	7 8
April	**Minor** Fundamental Rights **MDS/IDS** Fundamental Duties	5	GE-4/CC-1D; Nature of Indian Federalism	10	DSE-1B; Impact of Globalization on Indian Economy GE-2; Nature of Indian Federalism	7 8
May	**Minor** Fundamental Duties **MDS/IDS** Directive Principles of State Policy	5	GE-4/CC-1D; Centre-State Legislative relations.	10	GE-2; Centre-State Legislative relations.	15
June	**Minor** Directive Principles of State Policy **MDS/IDS** Party System in India: Features and Trends; Coalition Government	5	GE-4/CC-1D; Centre-State Administrative and Financial Relations	10	GE-2; Centre-State Administrative and Financial Relations	15

Department of Sanskrit
Suri Vidyasagar College
Teaching Plan [July, 2023 to Dec, 2023]

Name of the Teacher	Stream	SEM-I		SEM-III		SEM-V	
		Topic	**No. of Class**	**Topic**	**No. of Class**	**Topic**	**No. of Class**
Prof. Shyama-prasad Mukherjee	**Hons./Major/ SEC**	SANS1011 Raghuvaṃśam, Canto- XIV (Verses 31- 50)	**30**	CC-6 Poetics and Literary Criticism Section-B (I) Sāhityadarpaṇa –Chapter-X (Śleṣa, Upamā, Rūpaka, Utprekṣā, Atiśayokti, Dṛṣṭānta, Nidarśanā&Arthāntaranyāsa)	**25**	CC-12 Sanskrit Grammar: Section- B Samāsa - (Selected Sūtras upto Dvandva Compound)	**40**
	Gen./Minor/ID	SANS1031 Declensions: All a- kārānta, i- kārānta, u- kārānta, ṛ- kārānta, ā- kārānta, ī- kārānta, ū- kārānta, as-bhāgānta words, vanij, samrāj , All Pronouns & Numericals. ii. Conjugations: bhū, paṭh, gaṃ, dṛś, sev, labh, pac, vṛt, kṛ, dā, śru, jñā-(laṭ, loṭ, laṅ, liṅ & lṛṭ)	**35**			DSE-1A Philosophy, Religion and Culture in Sanskrit Tradition A. The History of Vedic Literature B. The Social, Religious and Cultural Aspects as reflected in the Purāṇas	**33**
Prof. Dinesh Kr. Das	**Hons./Major/SEC**	SANS1011 Kirātārjunīyam, Canto – I SANS1031	**36**	CC-6 Poetics and Literary Criticism: Section-A (I) Vāmana'skāvyālaṁkārasūtr	**42**	CC -11 Vedic Literature: Section-A Ṛgvedasaṁhitā –(Agnisūkta-(2/6) , Indrasūkta-(2/12), Akṣasūkta-(10/34) ,	**44**

		B Sandhi: AC- Sandhi & Hal-Sandhi as in Laghusiddhānta Kaumudi		avṛtti – First Adhikaraṇa--(Chapters –I, II & III) (II) Metrics – A General Concept of Sanskrit Metres and the definitions of the following Meters ---(IndravajrāUpendravajrā,Upajāti, Vaṁśasthavila,Vasantatilaka, Mālinī&Mandākrāntā)		Devīsūkta-(10/125) Section-B (10 classes) Declension of a-stems,Vedic Subjunctive, Vedic Infinitive,The Vedic Accent &Pada-pāṭha	
	Gen./Minor/ID	SANS1021 Kirātārjunīyam, Canto – I SANS1031 Basic Idea of Sandhi Pratyayas : Taddhita (apatyārthaka and Matvarthiya)	**30**				
Prof. Prodip Kr. Sarkar	**Hons.**	SANS1011 The History of Classical Sanskrit Literature: Aśvaghoṣa, Kālidāsa, Bhāravi, Māgha, Bhaṭṭi, Śrīharṣa. SANS1051 i. Declensions: All a- kārānta, i-kārānta, u- kārānta, ṛ- kārānta, ā- kārānta, ī- kārānta, ū- kārānta, as-bhāgānta words, vanij, samrāj , All Pronouns & Numericals. ii. Conjugations: bhū, paṭh, gaṃ, dṛś, sev, labh, pac, vṛt, kṛ, dā, śru, jñā-(laṭ, loṭ, laṅ, liṅ & lṛṭ) (Marks – 20)	**40**	CC -5 Classical Sanskrit Literature (Drāmā): (I)Abhijñānaśakuntala (I-V)	**55**	DSE-2 Elements of Linguistics – (I)Primitive Indo-European, Division of Indo-European, Discipli Indo-Iranian (Aryan),Emergence of Indo-Aryan, ne Non-Aryan Influence on Sanskrit, Vedic and Classical Specific Sanskrit. Elective (II)Some Phonetic Laws and Tendencies - Grimm's Law,Verner'sLaw,Grassmann'sLaw,Collitz's Law, Assimilation, Dissimilation Metathesis, Prothesis, Epenthesis,Anaptyxis and Haplology	**50**

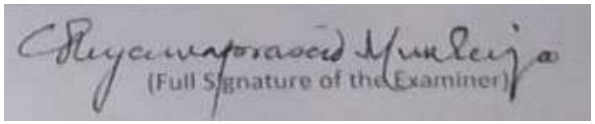
	Gen./Minor/ID	SANS1021 The History of Classical Sanskrit Literature: Aśvaghoṣa, Kālidāsa, Bhāravi, Māgha, Bhaṭṭi, Śrīharṣa. SANS1031 Kṛdanta–tavya/tabyat, anīyar, yat, ṇyat, kyap, śatṛ, śānac, kta and ktavatu, ktva, lyap, tumun, ṇamul Strī-pratyaya, Pratyayānta-sannanta, yaṅanta, ṇijanta, yaṅluṅanta, nāmadhātu.	**36**	CC-3 Discipline -1(Sanskrit) Sanskrit Drama: Section-A (I)Abhijñānaśakuntala (I-V)	**42**		
Prof. Biswajit Raj	**Hons./Major/SEC**	SANS1011 Raghuvaṃśam, Canto- XIV (Verses 51-87) SANS1051 Pratyayas : Taddhita (apatyārthaka and Matvarthiya), Kṛdanta–tavya/tabyat, anīyar, yat, ṇyat, kyap, śatṛ, śānac, kta and ktavatu, ktva, lyap, tumun, ṇamul	**35**	CC-7 Indian Social Institution and Polity: Section-A Manusaṃhitā – Chapter-VII State Politics-(1-15), Upāyacatuṣṭaya-(106-110) &Sāḍguṇya –(161-170) SEC-1 Basic Sanskrit: Section-A Brāhmī Script Writing Section-A Brāhmī Script Writing Section-E Brahmadatta-karkaṭa-kathā-(Aparīkṣitakāraka) – from Pañcatantra	**45**	DSE-1 Dramaturgy -- Sāhityadarpaṇa - Chapter- VI (Rūpaka,Nāndī,Vṛttis(without Aṃgas),Prastāvanā, ArthaprakDisciplirti, Arthopakṣepaka,Patākāsthānakas,Kārya,Avasthā, ne Sandhi(without Aṃgas) &Nāṭikā	**56**
	Gen./Minor/ID	SANS1021 Raghuvaṃśam, Canto- XIV (Verses 31-87)	**30**				

		SANS1031 Selected Stories : i. Brahmadatta- karkaṭa- kathā (Aparīkṣitakāraka) from Pañcatantra. ii. Hāsavidyakathā from Puruṣaparikṣā iii.Śudrakavīravarakathā from Vetālapañcaviṃśati.					
Prof. Kakali Ch. Mishra	**Hons./Major/SEC**	SANS1011 The History of Classical Sanskrit Literature: Rāmāyaṇa, Mahābhārata SANS1051 Strī-pratyaya, Pratyayānta-sannanta, yaṅanta, ṇijanta, yaṅluṅanta, nāmadhātu.		CC-3 Discipline -1(Sanskrit) Sanskrit Drama: CC -5 Classical Sanskrit Literature (Drāmā)Section-A Section-B (I)The History of Sanskrit Literature (Drāmā) (Bhāsa, Kālidāsa, Śūdraka, Viśākhadatta, Śrīharṣa, Bhavabhūti, Bhaṭṭanārāyaṇa)	**50**	CC -11 Vedic Literature: Section-C Iśopaniṣad - Whole	**11**
	Gen./Minor/ID	SANS1021 The History of Classical Sanskrit Literature: Rāmāyaṇa, Mahābhārata	**20**	Section-B (I)The History of Sanskrit Literature Drāmā (Bhāsa, Kālidāsa ,Śūdraka, Viśākhadatta, Śrīharṣa, Bhavabhūti, Bhaṭṭanārāyaṇa)	**21**	SEC-III Sanskrit Composition A. Essay B. Hāsavidyakathā C. Comprehension	**35**

Prof. Munmun Mishra	**Hons./ Major/SEC**	SANS1011 Kirātārjunīyam, Canto – I History of Sanskrit Literature (Drama) - Harṣadeva, Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra	**35**				
	Gen./M	SANS1021		CC -4 Discipline -		DSE-1A	**25+30**

	inor	Kirātārjunīyam, Canto – I History of Sanskrit Literature (Drama) - Harṣadeva, Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra SANS1031 ii. Conjugations: bhū, paṭh, gaṃ, dṛś, sev, labh, pac, vṛt, kṛ, dā, śru, jñā- (laṭ, loṭ, laṅ, liṅ & lṛṭ) Sandhi: AC- Sandhi & Hal- Sandhi as in Laghusiddhānta Kaumudi Selected Stories : i. Brahmadatta- karkaṭa- kathā (Aparīkṣitakāraka) from Pañcatantra. ii. Hāsavidyakathā from Puruṣaparikṣā iii.Śudrakavīravarakathā from Vetālapañcaviṃśati.	**35**	1(Sanskrit) Sanskrit Grammar: Section-C Comprehension Section-B (I)The History of Sanskrit Literature Drāmā (Bhāsa, Kālidāsa ,Śūdraka, Viśākhadatta, Śrīharṣa, Bhavabhūti, Bhaṭṭanārāyaṇa)	**30**	Philosophy, Religion and Culture in Sanskrit Tradition A. The History of Vedic Literature B. The Social, Religious and Cultural Aspects as reflected in the Purāṇas SEC-III Sanskrit Composition A. Essay B. Hāsavidyakathā C. Comprehension	
Prof. Chandrani Agarwala	**Hons./ Major/SEC**	SANS1011 Raghuvaṃśam, Canto- XIV (Verses 31-87) The History of Classical Sanskrit Literature: Aśvaghoṣa, Kālidāsa, Bhāravi, Māgha, Bhaṭṭi, Śrīharṣa.	**34**				
	Gen./Minor	SANS1021 Raghuvaṃśam, Canto- XIV (Verses 31-87) The History of Classical Sanskrit Literature: Aśvaghoṣa, Kālidāsa, Bhāravi, Māgha, Bhaṭṭi, Śrīharṣa.	**40**	CC -5 Classical Sanskrit Literature (Drāmā): (I)Abhijñānaśakuntala (I-V)	**35**	DSE-2 Elements of Linguistics – (I)Primitive Indo-European, Division of Indo-European, Discipli Indo-Iranian (Aryan),Emergence of Indo-Aryan, ne Non-Aryan Influence on Sanskrit, Vedic and Classical Specific Sanskrit. Elective (II)Some Phonetic Laws and	**50**

		SANS1031 Declensions: All a- kārānta, i- kārānta, u- kārānta, ṛ- kārānta, ā- kārānta, ī- kārānta, ū- kārānta, as-bhāgānta words, vanij, samrāj , All Pronouns & Numericals. Basic Idea of Sandhi Pratyayas : Taddhita (apatyārthaka and Matvarthiya) Kṛdanta–tavya/tabyat, anīyar, yat, ṇyat, kyap, śatṛ, śānac, kta and ktavatu, ktva, lyap, tumun, ṇamul Strī-pratyaya, Pratyayānta- sannanta, yaṅanta, ṇijanta, yaṅluṅanta, nāmadhātu.				Tendencies - Grimm's Law,Verner'sLaw,Grassmann 'sLaw,Collitz's Law, Assimilation, Dissimilation Metathesis, Prothesis, Epenthesis,Anaptyxis and Haplology	



Department of Sanskrit
Suri Vidyasagar College
Teaching Plan [January, 2024 to June, 2024]

Name of the Teacher	Stream	SEM-II		SEM-IV		SEM-VI	
		Topic	No. of Class	Topic	No. of Class	Topic	No. of Class
Prof. Shyamaprasad Mukherjee	**Hons./Major/SEC**	SANS2011 History of Sanskrit Literature (Drama) - Bhāsa, Aśvaghoṣa,		CC-10 Sanskrit and World Literature Section-A (I) Sanskrit Studies Across the	**54**	cc-14 Sanskrit Composition and Communication (A) Case-endings and Cases-	**40**

		Kālidāsa, Śūdraka, Viśākhadatta		World- William Jones, Charles Wilkins, H.Wilson, Max Muller, J.G.Buhler, Sri Aurobindo, DayānandaSarasvatī, HaridāsaSiddhāntavāgīśa,ŚrījīvaNyāyatīrtha,NityānadaSmṛtitīrtha, Kshitish Chandra Chatterji, Roma Chaudhuri, PañcānanaTarkaratna&RamaranjanMukherji)		(From First Case-ending and Nominative case to Fifth case ending and Ablative case as in Siddhāntakaumudī (40 classes) (B)Translation and Comprehension. (C) Reporting	
	Gen./Minor/ID	SANS2031 Śrīmadbhagavadgitā - 3 rd Chapter (1st half)		Basic Sanskrit – Part-I Section-D Brahmadattakarkaṭakathā-(Aparīkṣitakāraka)-Pañcatantra	**14**		
Prof. Dinesh Kr. Das	**Hons./Major/SEC**	SANS2011 Abhijñānaśakuntalam (Act: 6-7) SANS2051 Vaidika Sāhitya (General structure of Vedic literature, Different theories on the age of the Vedas, Dialogue hymns of the Ṛgveda, Brāhmana literature, Āranyaka literature, Fundamental doctrines of the Upaniṣads, Six Vedaṅgas).		CC-9 Modern Sanskrit Literature Core Course Section-A (II)Cipiṭakacarvaṇa-ŚrījivaNyāyatīrtha	**30**	CC -13 Indian Ontology and Epistemology Core Course (A)Tarkasaṁgraha – (saptapadārtha, karaṇa, pratyakṣa and sannikarṣa) (B)Vedāntasāra - (Excluding the last portion beginning with Mahāvākyārtha).	**65**
	Gen./Minor/ID	SANS2021 History of Sanskrit Literature (Drama) - Bhāsa, Aśvaghoṣa, Kālidāsa, Śūdraka, Viśākhadatta, Harṣadeva	**25**	Basic Sanskrit – Part-I Section-B (10 classes) Conjugations – (Bhū, Paṭh,Gam, Dṛś,Sev,Labh,Pac,Vṛt, Kṛ,Dā, Śru, Jñā - laṭ, loṭlaṅ,liṅ&lṛṭ)	**12**		
Prof. Prodip Kr.	**Hons./Major/SEC**	SANS2011 Abhijñānaśakuntalam (Act: 1-3)		SEC-2 Spoken SanskritPolitical Thought in Sanskrit Literature		DSE-3 Fundamentals of Āyurveda (A)Concept of AṣṭāngaĀyurveda. Discipli	

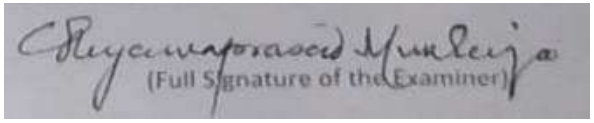
Sarkar		SANS2051 History of Sanskrit Grammar (Pre - Pāṇinian Grammar, Pāṇini, Kātyāyana, Patañjali, , Vāmana- Jayāditya, Bhattoji Dīkṣita, Nāgesa Bhaṭṭa, Kalāpa Vyākaraṇa, Cāndra Vyākaraṇa, Jainendra Vyākaraṇa, Sāraswata Vyākaraṇa, Mugdhabodha Vyākaraṇa, Bhartṛhari.		I.Mudrārākṣasa–(Acts-I & II) II. Arthaśāstra-Śāsanādhikāra(20 claasses)	**25**	(B)Taittirīyopaniṣad – Bhṛguballī- (1-3) (30 classes)	**33**
	Gen./Minor/ID	SANS2021 Abhijñānaśakuntalam (Act: 4-7) SANS2031 Śrīmadbhagavadgitā – 4th Chapter (2nd Half)		CC -4 Discipline -1(Sanskrit) Sanskrit Grammar: Section-B Potential Participles, Nominal Suffixes (Matvarthīya), Causative Verbs, Desiderative Verbs, Frequentative Verbs, Indeclinable Past Participles, Use of Ktvā&Lyap.	**22**	GE-II Ethical Issues in Sanskrit Literature (I) Hitopadeśa –Mitralābha (up to verse no.50) (II)Pañcatantra Mitrabheda Katha (Gomāyudundubhikathā)	**55**
Prof. Biswajit Raj	**Hons./Major/SEC**	SANS2011 Abhijñānaśakuntalam (Act: 4-5) SANS2051 History of Indian Philosophy (General Introduction to Āstika and Nāstika Philosophy)		CC-9 Modern Sanskrit Literature Core Course Section-A Survey of Modern Sanskrit Literature in Bengal		DSE-4 Indian system of Logic Anumānakhaṇḍa&Upamānakhada of Tarkasaṁgraha	
	Gen./Minor/ID	SANS2021 Abhijñānaśakuntalam (Act: 1-3) SANS2031 Śrīmadbhagavadgitā – 4th Chapter (1st Half)		CC -4 Discipline -1(Sanskrit) Sanskrit Grammar: Section-A The Concept of the following Saṃjñās: Sūtra,Vārtika,Bhāṣya,Karma pravacanīya,Nipāta,Gati , Upasarga,Guṇa,Vṛddhi,Ṭi,Ghi,Ghu,Nadī,Upadhā and Samprasāraṇa.	**35**	DSE-1 From Discipline-1B(Sanskrit) DSE-1B Select from DSE Group: Literary Criticism (30 classes) I)Metrics – A General Concept of Sanskrit Metres and the definitions of the following Meters --Indravajrā Upendravajrā,Upajāti, Vaṁśasthavila,Vasantatilaka, Mālinī & Mandākrāntā (I)	**65**

						Sāhityadarpaṇa –Chapter-X (30 classes) (Śleṣa, Upamā, Rūpaka, Utprekṣā, Atiśayokti,Dṛṣṭānta, Nidarśanā & Arthāntaranyāsa)	
Prof. Kakali Ch. Mishra	**Hons./Major/SEC**	SANS2011 History of Sanskrit Literature (Drama) - Harṣadeva, Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra SANS2011 Purāṇa (Definition of Purāṇa, Contents, Mahāpurāṇa, Upapurāṇa)		CC -8 Indian Epigraphy and Chronology Section-A (I) Epigraphy-The History of Epigraphical study in India. Section-B Śilālekha- (a)Rudradāmanśilālipi (b)Meharauli Iron Pillar Inscription of Candra	**33**		
	Gen./Minor	SANS2021 History of Sanskrit Literature (Drama) - Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra SANS2031 Śrīmadbhagavadgitā - 3 rd Chapter (2nd Half)		Basic Sanskrit – Part-I Section-A Declensions (a-kārānta,i-kārānta, u-kārānta and ṛ-kārānta - Masculine,Feminine& Neuter, Pronouns & Number) Translation	**10**	SEC-IV Moral Values In Sanskrit Literature Section-A Dānavīraḥ Karṇaḥ (from Karṇabhāra) Section-B Śaśakasiṁhakathā(from Pañcatantra)	**40**
Prof. Munmun Mishra	**Hons./Major/SEC**	SANS2011 Abhijñānaśakuntalam (Act: 1-7) SANS2051 Vaidika Sāhitya (General structure of Vedic literature, Different theories on the age of the Vedas, Dialogue hymns of the Ṛgveda, Brāhmana literature, Āranyaka literature, Fundamental doctrines of the Upaniṣads, Six Vedaṅgas).	**40+20**				

	Gen./Minor		**25**	CC -4 Discipline -1 Sanskrit Grammar: Section-A The Concept of the following Saṃjñās: Sūtra,Vārtika,Bhāṣya,Karmapravacanīya,Nipāta,Gati , Upasarga,Guṇa,Vṛddhi,Ṭi,Ghi,Ghu,Nadī,Upadhā and Samprasāraṇa. Section-B Potential Participles, Nominal Suffixes (Matvarthīya), Causative Verbs, Desiderative Verbs, Frequentative Verbs, Indeclinable Past Participles, Use of Ktvā&Lyap.	**45**	DSE-1 From Discipline-1B(Sanskrit) DSE-1B Select from DSE Group: (II) Sāhityadarpaṇa –Chapter-X (Śleṣa, Upamā, Rūpaka, Utprekṣā, Atiśayokti,Dṛṣṭānta, Nidarśanā & Arthāntaranyāsa) SEC-IV Moral Values In Sanskrit Literature Section-A Dānavīraḥ Karṇaḥ (from Karṇabhāra) Section-B Śaśakasiṁhakathā(from Pañcatantra)	**30+50**
Prof. Chandrani Agarwala	**Hons./Major/SEC**	SANS2011 History of Sanskrit Literature (Drama) - Bhāsa, Aśvaghoṣa, Kālidāsa, Śūdraka, Viśākhadatta, Harṣadeva, Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra Purāṇa (Definition of Purāṇa, Contents, Mahāpurāṇa, Upapurāṇa) SANS2051 History of Sanskrit Grammar (Pre - Pāṇinian Grammar, Pāṇini, Kātyāyana,	**34+25**				

		Patañjali, , Vāmana- Jayāditya, Bhattoji Dīkṣita, Nāgesa Bhaṭṭa, Kalāpa Vyākaraṇa, Cāndra Vyākaraṇa, Jainendra Vyākaraṇa, Sāraswata Vyākaraṇa, Mugdhabodha Vyākaraṇa, Bhartṛhari. History of Indian Philosophy (General Introduction to Āstika and Nāstika Philosophy)					
	Gen./Minor	SANS2031 Śrīmadbhagavadgitā - 3 rd Chapter (1st half) SANS2021 History of Sanskrit Literature (Drama) - Bhāsa, Aśvaghoṣa, Kālidāsa, Śūdraka, Viśākhadatta, Harṣadeva SANS2021 Abhijñānaśakuntalam (Act: 4-7) SANS2031 Śrīmadbhagavadgitā – 4th Chapter (2nd Half) SANS2021 Abhijñānaśakuntalam (Act: 1-3) SANS2031 Śrīmadbhagavadgitā – 4th Chapter (1st Half) SANS2021 History of Sanskrit Literature (Drama) - Bhavabhūti, Bhaṭṭanārāyaṇa, Rājśekhara, Murāri,Jayadeva, Śrikṛṣṇa Miśra SANS2031		Basic Sanskrit – Part-I Section-D Brahmadattakarkaṭakathā- (Aparīkṣitakāraka)- Pañcatantra Basic Sanskrit – Part-I Section-B (10 classes) Conjugations – (Bhū, Paṭh,Gam, Dṛś,Sev,Labh,Pac,Vṛt, Kṛ,Dā, Śru, Jñā - laṭ, loṭlaṅ,liṅ&lṛṭ) Basic Sanskrit – Part-I Section-A Declensions (a-kārānta,i-kārānta, u-kārānta and ṛ-kārānta - Masculine,Feminine& Neuter, Pronouns & Number) Translation	**45**	GE-II Ethical Issues in Sanskrit Literature (I) Hitopadeśa –Mitralābha (up to verse no.50) (II)Pañcatantra Mitrabheda Katha (Gomāyudundubhikathā) DSE-1 From Discipline-1B(Sanskrit) DSE-1B Select from DSE Group: Literary Criticism I)Metrics – A General Concept of Sanskrit Metres and the definitions of the following Meters -- Indravajrā Upendravajrā,Upajāti, Vaṁśasthavila,Vasantatilaka, Mālinī & Mandākrāntā	**60+25**

		Śrīmadbhagavadgitā - 3 rd Chapter (2nd Half)					



DEPARTMENT OF BOTANY
SURI VIDYASAGAR COLLEGE

TEACHING PLAN OF DR. KALYAN KUMAR BHATTACHARYYA
(Associate Professor)
Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 6: Bryophyta	4	**Theory** **CC7: Economic Botany** Unit 7: Sources of oils and fats **Practical** **CC7: Economic Botany** 1. Cereals: Rice(habit sketch, study of paddy and grain, starch grains, micro-chemical tests). **Theory** **SEC1: Agricultural Botany** Unit: 1 Plant physiology a) Plant water relation, stomatal regulation, mineral nutrition, N_2 cycle.	5 2 2	**Theory** **CC11: Plant Physiology** Unit 1: Plant-water relations Unit 2: Mineral nutrition **Practical** **CC11: Plant Physiology** Unit 1: Determination of osmotic potential of plant cell sap by plasmolytic method.	10 8 2
Aug	**Theory** **Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 6: Bryophyta	4	**Practical** **CC6: Plant systematics** 2. Field visit **Theory** **CC7: Economic Botany** Unit 7: Sources of oils and fats **Practical** **CC7: Economic Botany** 2. Legumes: Soybean, Groundnut, (habit, fruit, seed structure, micro-chemical tests). **Theory** **SEC1: Agricultural Botany** Unit: 1 Plant physiology a) Plant water relation, stomatal regulation, mineral nutrition, N_2 cycle.	1 5 2 2	**Theory** **CC11: Plant Physiology** Unit 3: Nutrient Uptake Unit 4: Translocation in the phloem **Practical** **CC11: Plant Physiology** Unit 2: Determination of water potential of given tissue (potato tuber) by weight method. Unit 3: Study of the effect of Humidity and light on the rate of transpiration in excised twig/leaf.	8 8 2 2
Sept	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 4: Algae	4	**Theory** **CC7: Economic Botany** Unit 8: Natural Rubber **Practical** **CC7: Economic Botany** 3. Sources of sugars and starches: Sugarcane (habit sketch; cane juice-micro-chemical tests),Potato(habit sketch, tuber morphology, T.S. tuber to show localization of starch grains, w.m. starch grains, micro-chemical tests). 4. Spices: Black pepper, Fennel and Clove (Macromorphology). **Theory** **SEC1: Agricultural Botany** Unit: 1 Plant physiology b) Co_2 fixation mechanism in C2,C3,C4 and CAM plants. Transport of water and photosynthate.	3 2 1 2	**Theory** **CC11: Plant Physiology** Unit 5: Plant growth regulators **Practical** **CC11: Plant Physiology** Unit 4: Calculation of stomatal index and stomatal frequency from the two surfaces of leaves of a mesophyte and xerophyte.	14 2
Oct	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 4: Algae	4	**Theory** **CC7: Economic Botany** Unit 9: Drug-yielding plants **Practical** **CC7: Economic Botany** 5. Beverages: Tea (plant specimen, tea leaves), Coffee (plant specimen, beans). **Theory** **SEC1: Agricultural Botany** Unit: 1 Plant physiology b) Co_2 fixation mechanism in	4 2 2	**Theory** **CC12: Plant Metabolism** Unit 1: Concept of metabolism Unit 2: Carbon assimilation **Practical** **CC12: Plant Metabolism** Unit 1: Chemical separation of photosynthetic pigments.	6 4 2

			C2,C3,C4 and CAM plants. Transport of water and photosynthate.			
Nov	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 8: Gymnosperms	4	**Theory** **CC7: Economic Botany** Unit 9: Drug-yielding plants **Practical** **CC7: Economic Botany** 6. Sources of oils and fats: Coconut-T.S. nut (photograph), Mustard-plant specimen, seeds; tests for fats incrushed seeds. **Theory** **SEC1: Agricultural Botany** Unit: I Plant physiology c) Plant development Phytohormones: IAA, GA, Cytokinin, ABA, Ethylene; their role and regulation in plant system d) Physiology of flowering and seed development	4 2 2	**Theory** **CC12: Plant Metabolism** Unit 2: Carbon assimilation Unit 3: Carbohydrate metabolism **Practical** **CC12: Plant Metabolism** Unit 2: To study the effect of light intensity on the rate of photosynthesis. Unit 3: Effect of carbon dioxide on the rate of photosynthesis.	8 2 2 2
Dec	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 8: Gymnosperms	4	**Theory** **CC7: Economic Botany** Unit 11: Fibers **Practical** **CC7: Economic Botany** 7. Essential oil-yielding plants: Habit sketch ofRosaandEucalyptus-specimens/photographs. **Theory** **SEC1: Agricultural Botany** Unit: I Plant physiology c) Plant development Phytohormones: IAA, GA, Cytokinin, ABA, Ethylene; their role and regulation in plant system d) Physiology of flowering and seed development	4 2 1	**Theory** **CC12: Plant Metabolism** Unit 4: Carbon Oxidation **Practical** **CC12: Plant Metabolism** Unit 4: To compare the rate of respiration in different parts of a plant.	10 2
Jan	**Sem-II (H)**	**No. of Lecture**	**Sem-IV (H)**	**No. of Lecture**	**Sem-VI (H)**	**No. of Lecture**
	Theory **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1: Biomolecules **Practical** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1:	2 2	**Theory** **CC9: Biomolecules and Cell Biology** Unit 1: Biomolecules **Practical** **CC9: Biomolecules and Cell Biology** Unit 1: Qualitative tests for carbohydrates, reducing sugars, non-reducing sugars, lipids and proteins.	6 2	**Theory** **DSE4: Industrial and Environmental Microbiology** Unit 1: Scope of microbes in industry and environment **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 4: Assessment of microbiological quality of water-protocol	3 2
Feb	**Theory** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1: Biomolecules **Practical** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 3	2 2	**Theory** **CC9: Biomolecules and Cell Biology** Unit 1: Biomolecules **Practical** **CC9: Biomolecules and Cell Biology** Unit 2: Study of plant cell structure with the help of epidermal peel mount of Onion/Rhoeo/Crinum.	6 2	**Theory** **DSE4: Industrial and Environmental Microbiology** Unit 1: Scope of microbes in industry and environment **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 4: Assessment of microbiological quality of water-protocol	3 2
Mar	**Theory** **Major:** **(BOTN2021)- Biomolecules &**	2	**Theory** **CC9: Biomolecules and Cell Biology** Unit 1: Biomolecules	6	**Theory** **DSE4: Industrial and Environmental Microbiology**	

	Cell Biology Unit 1: Biomolecules **Practical** **Major:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 6:	2	**Practical** **CC9: Biomolecules and Cell Biology** Unit 3: Demonstration of the phenomenon of protoplasmic streaming in Hydrilla leaf.	2	Unit 7: Microbes in agriculture and remediation of contaminated soils	3
Apr	**Theory** **Major:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 4: Cell organelles: Endomembrane system **Practical** **Major:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 7:	2 2	**Theory** **CC9: Biomolecules and Cell Biology** Unit 1: Biomolecules Unit 2: Bioenergenetics **Practical** **CC9: Biomolecules and Cell Biology** Unit 4: Measurement of cell size by the technique of micrometry	2 4 2	**Theory** **DSE4: Industrial and Environmental Microbiology** Unit 7: Microbes in agriculture and remediation of contaminated soils **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 5: A visit to any educational institute/industiy to see an industrial fermenter, and other downstream processing operations.	3 1
May	**Theory** **Major:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 4: Cell organelles: Endomembrane system	2	**Theory** **CC9: Biomolecules and Cell Biology** Unit 3: Enzymes **Practical** **CC9: Biomolecules and Cell Biology** Unit 6: Study the phenomenon of plasmolysis and deplasmolysis.	6 2	**Theory** **DSE4: Industrial and Environmental Microbiology** Unit 7: Microbes in agriculture and remediation of contaminated soils	2
June	**Theory** **Major:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 4: Cell organelles: Endomembrane system	2	**Theory** **CC9: Biomolecules and Cell Biology** Doubt clearing class **Practical** **CC9: Biomolecules and Cell Biology** Unit 7: Study the effect of organic solvent and temperature on membrane permeability.	2 2	**Theory** **DSE4: Industrial and Environmental Microbiology** **Practical** Doubt clearing class **DSE4: Industrial and Environmental Microbiology** Doubt clearing class	1 1

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Department of Botany,
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Suri, Birbhum

Department of Botany ✱ Suri Vidyasagar College ✱ Suri, Birbhum

TEACHING PLAN OF DR. HEMANTA SAHA

(Associate Professor)

Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	2	**Practical** **CC5: Plant Ecology and Phytogeography** 1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter. 2. Determination of pH of various soil and water samples (pH meter, universal indicator and pH paper) **Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms	2 2 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 4: Pollination and fertilization **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 1: Anther :	6 2
Aug	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	2	**Practical** **CC5: Plant Ecology and Phytogeography** 3. Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency from two soil samples by rapid field tests. 4. Determination of organic matter of different soil samples by Walkley & Black rapid titration method. **Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms	2 2 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 5: Self incompatibility **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 1: Anther	5 2
Sept	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	2	**Practical** **CC5: Plant Ecology and Phytogeography** 5. Determination of dissolved oxygen of water samples from polluted and unpolluted sources. **Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms **Practical** **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Malvaceae	2 2 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 5: Self incompatibility **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 2: Pollen grains	5 2
Oct	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	1	**Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms **Practical** **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Fabaceae Euphorbiaceae	2 4	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 6: Embryo, Endosperm and Seed **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 2: Pollen grains	5 2
Nov	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	1	**Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms **Practical** **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Apocynaceae, Asclepiadaceae	2 4	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 6: Embryo, Endosperm and Seed **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 3: Ovule:	5 2
Dec	**Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 3	1	**Theory** **CC6: Plant systematics** Unit 6: Phylogeny of Angiosperms **Practical**	2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Units 7: Polyembryony and	6

			CC6: Plant systematics 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Solanaceae 2. Field visit	2 1	apomixis **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 3: Ovule:	2
Jan	**Sem-II (H)**	**No. of Lecture**	**Sem-IV (H)**	**No. of Lecture**	**Sem-VI (H)**	**No. of Lecture**
	Theory **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 1: Introduction, importance of Palaeobotany. **Practical** **CC8: Palaeobotany& Palynology** **Unit 2:** Pollen morphological studies of Impatiens and Hibiscus pollens form prepared slides	5 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 9: Methods of crop improvement	2
Feb	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 2: Definition of fossil, process of fossilization, types of fossils on the basis of their preservation; concept of Form Genus **Practical** **CC8: Palaeobotany& Palynology** **Unit 2:** Pollen morphological studies of Impatiens and Hibiscus pollens form prepared slides	15 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 9: Methods of crop improvement	2
Mar	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 5: Microsporogenesis; Spore/pollen morphology with reference to polarity, size, shape, symmetry, aperture and sculpture	15	**Theory** **CC13: Genetics & Plant Breeding** Unit 10: Inbreeding depression and heterosis	3
Apr	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 6:Organization of orthotropous ovule, types of ovules; megasporogenesis.	10	**Theory** **CC13: Genetics & Plant Breeding** Unit 10: Inbreeding depression and heterosis	2
May	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 7:Pollination: Types and contrivances.	10	**Theory** **CC13: Genetics & Plant Breeding** Unit 11: Crop improvement and breeding	2
June	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 4: Plant Growth requirements and Media formulation	2	**Theory** **CC8: Palaeobotany& Palynology** Doubt clearing class **Practical** **CC8: Palaeobotany& Palynology** Revise Practical Class	2 2	**Theory** **CC13: Genetics & Plant Breeding** Doubt clearing class	1

Head of the Department,
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Department of Botany
Suri Vidyasagar College
Suri, Birbhum

TEACHING PLAN OF DR. SANDIPAN CHATTERJEE

(Assistant Professor)

Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 2: Bacteria **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Gram staining **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 1	8 2 2	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 5: Ecosystem **Practical** **CC6: Plant systematics** Monocotyledons: Liliaceae **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming a) Microbes used as bio fertilizer	8 2 2	**Theory** **CC11: Plant Physiology** Unit 6: Physiology of flowering **Practical** **CC11: Plant Physiology** Unit 5: To study the phenomenon of seed dormancy (TTZ).	6 2
Aug	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 2: Bacteria **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Study of Algal morphology **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 1	4 4 2	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 6: Population ecology **Practical** **CC6: Plant systematics** Monocotyledons: Poaceae. **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming b) Cyanobacteria isolation and mass multiplication	4 2 2	**Theory** **CC11: Plant Physiology** Unit 7: Phytochrome, crytochromes and phototropins **Practical** **CC11: Plant Physiology** Unit 6: Demonstration on the effect of different concentrations of IAA on Plant (Locally Available) coleoptile elongation (IAA Bioassay). Unit 7: To study the induction of amylase activity in germinating grains.	6 4
Sept	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 3: Viruses **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Structure of TMV & T_2 **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 1	4 2 2	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 7: Plant communities **Practical** **CC6: Plant systematics** Monocotyledons: Liliaceae, **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming c) Mycorrhizal association in Agriculture	8 2 2	.**Theory** **CC12: Plant Metabolism** Unit 5: ATP-Synthesis **Practical** **CC12: Plant Metabolism** Unit 5: To demonstrate activity of Nitrate reductase in germinating leaves of different plant sources. Unit 6: To study the activity of lipases in germinating oil-seeds and demonstrate mobilization of lipids during germination.	8 2 2
Oct	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 3: Viruses **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Specimen study of Fungi **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 2	4 2 2	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 8: Functional aspects of ecosystem **Practical** **CC6: Plant systematics** Monocotyledons: Liliaceae **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming Special class	8 2 2	**Theory** **CC12: Plant Metabolism** Unit 6: Lipid metabolism **Practical** **CC12: Plant Metabolism** Unit 7: Demonstration of absorption spectrum of photosynthetic pigments.	8 2
Nov	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 5: Fungi **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Specimen study of	4 4	**Theory** **CC6: Plant systematics** Unit 3: Botanical nomenclature **Practical** **CC6: Plant systematics** Monocotyledons: Poaceae. **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming Doubt clearing session	7 2 2	**Practical** **CC11: Plant Physiology** Practice Classes **Theory** **CC12: Plant Metabolism** Unit 7: Nitrogen metabolism	2 8

	Fungi **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 2	2				
Dec	**Theory** **Major: (BOTN1011)-Plant Diversity and Evolution** Unit 5: Fungi **Practical** **Major: (BOTN1011)-Plant Diversity and Evolution** Study of Lichen **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 2	4 2 2	**Theory** **CC6: Plant systematics** Unit 3: Botanical nomenclature **Practical** **CC6: Plant systematics** 2. Field visit **Theory** **SEC1: Agricultural Botany** Unit: 2 Organic farming Question Answer session	3 1 1	**Theory** **CC12: Plant Metabolism** Unit 8: Mechanisms of signal transduction **Practical** **CC12: Plant Metabolism** Special Classes	4 1
	Sem-II (II)	**No. of Lecture**	**Sem-IV (II)**	**No. of Lecture**	**Sem-VI (II)**	**No. of Lecture**
Jan	**Theory** **SEC: (BOTN2051)-Organic Cultivation & Protected Agriculture** Unit 1: Organic ferming & its management **Theory** **Major: (BOTN2021)-Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Major: (BOTN2021)-Biomolecules & Cell Biology** Unit 2:	2 2 2	**Theory** **CC10: Molecular Biology** Unit 1: Nucleic acids: Carriers of genetic information Unit 2. The Structures of DNA and RNA / Genetic Material **Practical** **CC10: Molecular Biology** Unit 1: Preparation of LB medium and raising E. coli. **Theory** **SEC2: Biofertilizers** Unit 1: General account about the microbes used as biofertilizer - *Rhizobium*-isolation, Identification, mass multiplication, carrier-based inoculants, Actinorrhizal symbiosis.	4 5 2 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 5: Gene mutations **Practical** **CC14: Plant Biotechnology** Unit 4: Study of methods of gene transfer through photographs: *Agrobacterium*-mediated, direct gene transfer by electroporation, microinjection, microprojectile bombardment. **Theory** **DSE4: Industrial and Environmental Microbiology** Unit 2: Bioreactors/Fermenters and fermentation processes **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 1: Principles and functioning of instalments in microbiology laboratory	5 2 12 2
Feb	**Theory** **SEC: (BOTN2051)-Organic Cultivation & Protected Agriculture** Unit 1: Organic ferming & its management **Theory** **Major: (BOTN2021)-Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Major: (BOTN2021)-Biomolecules & Cell Biology** Unit 4	2 2 2	**Theory** **CC10: Molecular Biology** Unit 2. The Structures of DNA and RNA / Genetic Material Unit 3: The replication of DNA **Practical** **CC10: Molecular Biology** Unit 2: Study of genomic DNA from E. coli. through photographs **Theory** **SEC2: Biofertilizers** Unit 1: General account about the microbes used as biofertilizer - Rhizobium-isolation,Identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.	5 5 2 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 6: Fine structure of gene Unit 7. Population and Evolutionary Genetics **Practical** **CC14: Plant Biotechnology** Unit 4: Study of methods of gene transfer through photographs: *Agrobacterium*-mediated, direct gene transfer by electroporation, microinjection, microprojectile bombardment. **Theory** **DSE4: Industrial and Environmental Microbiology** Unit 3: Microbial production of industrial products **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 1: Principles and functioning of instalments in	2 4 2 12 2

Mar	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 1: Organic ferming & its management **Theory** **Major: (BOTN2021)- Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Major: (BOTN2021)- Biomolecules & Cell Biology** Unit 5:	2 2 2	**Theory** **CC10: Molecular Biology** Unit 3: The replication of DNA Unit 6: Processing and modification of RNA **Practical** **CC10: Molecular Biology** Unit 3: Study of DNA replication mechanisms through photographs (Rolling circle, Theta replication and semi-discontinuous replication). **Theory** **SEC2: Biofertilizers** Unit 2: *Azospirilium*:isolation and mass multiplication -carrier based inoculant, associative effect of differentmicroorganisms.*Azotobacter*: classification, characteristics - crop response to *Azotobacter* inoculum, maintenance and mass multiplication	5 4 2 4	microbiology laboratory **Theory** **CC14: Plant Biotechnology** Unit 2: Recombinant DNA technology **Practical** **CC14: Plant Biotechnology** Unit 5: Study of steps of genetic engineering for production of Bt cotton, Golden rice, through photographs. **Theory** **DSE4: Industrial and Environmental Microbiology** Unit 4: Microbial enzymes of industrial interest and enzyme immobilization **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 2: Study different parts of fermenter as demonstration by photograph	12 2 8 2
Apr	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 1: Organic ferming & its management **Theory** **Major: (BOTN2021)- Biomolecules & Cell Biology** Unit 2: Cell Wall **Practical** **Major: (BOTN2021)- Biomolecules & Cell Biology** Unit 8:	2 2 2	**Theory** **CC10: Molecular Biology** Unit 6: Processing and modification of RNA Unit 7: Translation **Practical** **CC10: Molecular Biology** Unit 4: Study of structures of prokaryotic RNA polymerase and eukaryotic RNA polymerase II through photographs. **Theory** **SEC2: Biofertilizers** Unit 2: *Azospirilium*:isolation and mass multiplication -carrier based inoculant, associative effect of differentmicroorganisms.*Azotobacter*: classification, characteristics - crop response to *Azotobacter* inoculum, maintenance and mass multiplication	4 4 2 4	**Theory** **CC14: Plant Biotechnology** Unit 3: Gene Cloning **Practical** **CC14: Plant Biotechnology** Unit 5: Study of steps of genetic engineering for production of Bt cotton, Golden rice, through photographs. **Theory** **DSE4: Industrial and Environmental Microbiology** Unit 5: Microbes and quality of environment **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 2: Study different parts of fermenter as demonstration by photograph	10 2 6 2
May	**Theory** **SEC: (BOTN2051)- Organic Cultivation & Protected Agriculture** Unit 1: Organic ferming & its management **Theory** **Major: (BOTN2021)- Biomolecules & Cell Biology** Unit 2: Plasma Membrane	2 2	**Theory** **CC10: Molecular Biology** Unit 7: Translation **Practical** **CC10: Molecular Biology** Repeat practical Class **Theory** **SEC2: Biofertilizers** Unit 5: Organic farming	4 2 3	**Theory** **CC14: Plant Biotechnology** Unit 4: Methods of gene transfer Unit 5: Applications of Biotechnology **Practical** **CC14: Plant Biotechnology** Unit 6: Isolation of plasmid DNA – Protocol **Theory** **DSE4: Industrial and Environmental Microbiology** Unit 6: Microbial flora of water **Practical** **DSE4: Industrial and Environmental Microbiology** Unit 3: Hands on sterilization techniques and preparation of culture media.	8 8 2 6 2
June	**Theory** **SEC: (BOTN2051)- Organic Cultivation &**	2	**Theory** **CC10: Molecular Biology** Special class **Practical**	2	**Theory** **CC14: Plant Biotechnology** Unit 5: Applications of Biotechnology **Practical**	6

	Protected Agriculture Unit 1: Organic farming & its management		[illegible]	[illegible]	[illegible]	[illegible]

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TEACHING PLAN OF DR. ANIRBAN PAUL

(Assistant Professor)

Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Slide Preparation of *Pteris* leaflet	2 2	**Theory** **CC6: Plant systematics** Unit 1: Significance of Plant systematics **Practical** **CC6: Plant systematics** 2. Field visit 3. Herbarium Preparation **Theory** **SEC1: Agricultural Botany** Unit:3 Plant breeding, Tissue culture and Biotechnology a) Mass selection and pure line selection, heterosis breeding	6 2 3	**Theory** **DSE1: Natural Resource Management** Unit 1: Natural resources **Practical** **DSE1: Natural Resource Management** Unit 1: Study of solid waste generated by a domestic system (biodegradable and non-biodegradable) and its impact on land degradation	2 2
Aug	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Slide Preparation of *Cycas* leaflet	2	**Theory** **CC6: Plant systematics** Unit 1: Significance of Plant systematics **Practical** **CC6: Plant systematics** 2. Field visit 3. Herbarium Preparation **Theory** **SEC1: Agricultural Botany** Unit:3 Plant breeding, Tissue culture and Biotechnology b) Marker assisted breeding for agronomic crops	6 2 2	**Theory** **DSE1: Natural Resource Management** Unit 2: Sustainable utilization **Practical** **DSE1: Natural Resource Management** Unit 2: Collection of data on forest cover of specific area.	8 2
Sept	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Cycas* frpm permanent slide	2	**Theory** **CC6: Plant systematics** Unit 2: Taxonomic hierarchy **Practical** **CC6: Plant systematics** 2. Field visit 3. Herbarium Preparation **Theory** **SEC1: Agricultural Botany** Unit:3 Plant breeding, Tissue culture and Biotechnology c) Micro propagation techniques, different organ culture	6 2 2	**Theory** **DSE1: Natural Resource Management** Unit 7: Energy Renewable and non-renewable sources of energy **Practical** **DSE1: Natural Resource Management** Unit 3: Measurement of dominance of woody species by DBH (diameter at breast height) method.	6 2
Oct	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Ginkgo* frpm permanent slide	2	**Practical** **CC6: Plant systematics** 2. Field visit 3. Herbarium Preparation **Theory** **CC7: Economic Botany** Unit 1: Origin of Cultivated Plants **Theory** **SEC1: Agricultural Botany** Unit:3 Plant breeding, Tissue culture and Biotechnology d) Agrobacterium mediated transformation, vector mediated transformation, Biolistics	2 3 2	**Theory** **DSE1: Natural Resource Management** Unit 8: Contemporary practices in resource management EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting; Waste management. **Practical** **DSE1: Natural Resource Management** Revise Practical classes	8 2
Nov	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Gnetum* frpm	2	**Practical** **CC6: Plant systematics** 2. Field visit 3. Herbarium Preparation **Theory** **CC7: Economic Botany** Unit 1: Origin of Cultivated Plants **Theory** **SEC1: Agricultural Botany**	2 3	**Theory** **DSE1: Natural Resource Management** Unit 9: National and international efforts in resource management and conservation **Practical** **DSE1: Natural Resource**	4

	permanent slide		Unit:3 Plant breeding, Tissue culture and Biotechnology e) GMO, transgenic plant, patent.	2	**Management** Revise Practical classes	1
Dec	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Gnetum* frpm permanent slide	2	**Theory** **CC6: Plant systematics** Doubt clearing session **Theory** **CC7: Economic Botany** Unit 10: Timber plants **Theory** **SEC1: Agricultural Botany** Unit:3 Plant breeding, Tissue culture and Biotechnology f) Molecular markers used in Agriculture	1 3 2	**Theory** **DSE1: Natural Resource Management** Doubt clearing class **Practical** **DSE1: Natural Resource Management** Revise Practical classes	1 1 2
Jan	**Sem-II (H)**	**No. of Lecture**	**Sem-IV (H)**	**No. of Lecture**	**Sem-VI (H)**	**No. of Lecture**
	Theory **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 4: Cell organelles	4	**Theory** **CC9: Biomolecules and Cell Biology** Unit 4: The cell **Practical** **CC9: Biomolecules and Cell Biology** Unit 5: Cytochemical staining of: DNA- Feulgen and cell wall in the epidermal peel of onion using Periodic Schiffs (PAS) staining technique	4 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 1: Mendelian genetics and its extension **Practical** **CC13: Genetics & Plant Breeding** Unit 1: Meiosis through temporary squash preparation, *Allium cepa*. Mendel's laws through seed Unit 2: ratios. Laboratory exercises in probability and chi-square.	5 2 2
Feb	**Theory** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 4: Cell organelles	4	**Theory** **CC9: Biomolecules and Cell Biology** Unit 5: Cell wall & plasma membrane Unit 6: Cell organelles Nucleus+ Chromosome **Practical** **CC9: Biomolecules and Cell Biology** Unit 8: Study different stages of mitosis of *Allium cepa*	4 4 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 1: Mendelian genetics and its extension **Practical** **CC13: Genetics & Plant Breeding** Unit 3: Chromosome mapping using point test cross data. Unit 4: Pedigree analysis for dominant and recessive autosomal and sex linked traits.	5 2 2
Mar	**Theory** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 4: Cell organelles	4	**Theory** **CC9: Biomolecules and Cell Biology** Unit 6: Cell organelles **Practical** **CC9: Biomolecules and Cell Biology** Unit 8: Study different stages of mitosis of *Allium cepa*.	6 2	**Theory** **CC13: Genetics & Plant Breeding** Unit 2: Extrachromosomal Inheritance Unit 3: Linkage, crossing over and chromosome mapping **Practical** **CC13: Genetics & Plant Breeding** Unit 5: Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4). Unit 6: Photographs / Permanent Slides showing Translocation Ring, Laggards and Inversion Bridge. Unit 7: Testing of goodness of fit with Mendelian mono and dihybrid ratios	2 5 4 1 2
Apr	**Theory** **Major:**	4	**Theory** **CC9: Biomolecules and Cell**		**Theory** **CC13: Genetics & Plant**	

	(BOTN2021)- Biomolecules & Cell Biology Unit 4: Cell organelles		**Biology** Unit 6: Cell organelles **Practical** **CC9: Biomolecules and Cell Biology** Unit 8: Study different stages of meiosis of *Allium cepa*.	6 2	**Breeding** Unit 4: Variation in chromosome number and structure Unit 8: Plant Breeding **Practical** **CC14: Plant Biotechnology** Unit 1: (a) Preparation of MS medium. (b) Demonstration of *in vitro* sterilization and inoculation methods using leaf and nodal explants of tobacco, Datura, Brassica etc.	5 4 2
May	**Theory** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 5: Cell division	4	**Theory** **CC9: Biomolecules and Cell Biology** Unit 7: Cell division & cell cycle **Practical** **CC9: Biomolecules and Cell Biology** Unit 8: Study different stages of meiosis of *Allium cepa*.	6 2	**Theory** **CC14: Plant Biotechnology** Unit 1: Plant Tissue Culture **Practical** **CC14: Plant Biotechnology** Unit 2: Study of anther, embryo and endosperm culture, micropropagation, somatic embryogenesis & artificial seeds through photographs.	8 2
June	**Theory** **Major:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 5: Cell division	4	**Theory and Practical:** Special classes + doubt clearing+ discussions	2	**Theory** **CC14: Plant Biotechnology** Unit 1: Plant Tissue Culture **Practical** **CC14: Plant Biotechnology** Unit 3: Isolation of protoplasts-Protocol	8 1

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TEACHING PLAN OF SHAMIM ALAM

(Assistant Professor)

Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 1: Origin of Life **Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of *Psilotum* **Theory** **SEC: (BOTN1051)- Biofertilizer** Unit 4	2 2 2	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 9: Phytogeography **Practical** **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Scrophulariaceae, Lamiaceae	12 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 1: Introduction **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 4: Female gametophyte through permanent slides / photographs	4 2
Aug	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 1: Origin of Life **Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of *Selaginella* **Theory** **SEC: (BOTN1051)- Biofertilizer** Unit 4	2 2 2	**Theory** **CC6: Plant systematics** Unit 4: Systems of classification **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Verbenaceae, Acanthaceae	12 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 2: Reproductive development **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 5: Embryogenesis	6 2
Sept	**Theory** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 7: Pteridophytes **Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of *Equisetum* **Theory** **SEC: (BOTN1051)- Biofertilizer** Unit 4	2 2 2	**Theory** **CC6: Plant systematics** Unit 5: Biometrics, numerical taxonomy and cladistics **Practical** **CC6: Plant systematics** 1. Study of vegetative and floral characters from the locally available plants of the following families Dicotyledons: Rubiaceae, Asteraceae	10 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 3: Anther and pollen biology **Practical** **DSE1:Reproductive Biology of Angiosperms** Unit 5: Embryogenesis	5 2
Oct	**Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 7: Pteridophytes **Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of *Pteris* **Theory** **SEC: (BOTN1051)-**	2 2 2	**Theory** **CC7: Economic Botany** Unit 2: Cereals Unit 3: Legumes **Practical** **CC7: Economic Botany** 8. Rubber: specimen, photograph/model of tapping, samples of rubber products.	6 6 2	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 3: Anther and pollen biology **Practical** **DSE1:Reproductive Biology of Angiosperms** Doubt clearing class	5 2

	Biofertilizer Unit 5					
Nov	**Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 9: Angiosperms **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 5	**2** **2**	**Theory** **CC7: Economic Botany** Unit 4: Sources of sugars and starches Unit 5: Spices **Practical** **CC7: Economic Botany** 9. Drug-yielding plants: Organoleptic study of specimens ofAndrographisand Catharanthus. 10. Woods: Tectona, Pinns'. Specimen, Section of young stem.	**4** **6** **2**	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 4: Ovule **Practical** **DSE1:Reproductive Biology of Angiosperms** Doubt clearing class	**5** **1**
Dec	**Major:** **(BOTN1011)- Plant Diversity and Evolution** Unit 9: Angiosperms **Theory** **SEC: (BOTN1051)-Biofertilizer** Unit 5	**2** **2**	**Theory** **CC7: Economic Botany** Unit 6: Beverages **Practical** **CC7: Economic Botany** 11. Fiber-yielding plants: Jute	**4** **2**	**Theory** **DSE1:Reproductive Biology of Angiosperms** Unit 4: Ovule **Practical** **DSE1:Reproductive Biology of AngiospermsDoubt** clearing class	**5** **1**
Jan	**Sem-II (H)**	**No. of Lecture**	**Sem-IV (H)**	**No. of Lecture**	**Sem-VI (H)**	**No. of Lecture**
	Theory **SEC: (BOTN2051)-Biofertilizer** Unit 1: Organic cultivation & Protected Agriculture	**2**	**Theory** **CC8: Palaeobotany& Palynology** Unit 3: Stratigraphy **Practical** **CC8: Palaeobotany& Palynology** Unit 1: Study (including mode of preservation) of the following: *Lepidodendron*, (stem in T. S.) **Theory** **SEC2: Biofertilizers** Unit 3: Cyanobacteria	**5** **2** **2**	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 1: Earliest forms of plant life **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 1: Study of vegetative and reproductive structure of aquatic plants (*Nostoc, Chlamydomonas, Oedogonium,*	**6** **3**
Feb	**Theory** **SEC: (BOTN2051)-Biofertilizer** Unit 1: Organic cultivation & Protected Agriculture	**2**	**Theory** **CC8: Palaeobotany& Palynology** Unit 3: Stratigraphy **Practical** **CC8: Palaeobotany& Palynology** Unit 1: Study (including mode of preservation) of the following: *Calamites* (stem in T. S.) **Theory** **SEC2: Biofertilizers** Unit 3: Cyanobacteria	**5** **2** **2**	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 1: Earliest forms of plant life **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 1: Study of vegetative and reproductive structure of aquatic plants *Vaucheria, Polysiphonia*).	**6** **2**
Mar	**Theory** **SEC: (BOTN2051)-Biofertilizer** Unit 1: Organic cultivation & Protected Agriculture	**2**	**Theory** **CC8: Palaeobotany& Palynology** Unit 3: Stratigraphy **Practical** **CC8: Palaeobotany& Palynology** *Bucklandia* (stem, specimen) **Theory** **SEC2: Biofertilizers** Unit 4: Mycorrhizal association	**5** **2** **2**	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 2: Evolutionary trends **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 2: Study of vegetative and reproductive structure of plants of moist shady habitats (*Marchantia, Funaria*).	**6** **2**
Apr	**Theory** **SEC: (BOTN2051)-Biofertilizer** Unit 2: Marketing & Policies	**2**	**Theory** **CC8: Palaeobotany& Palynology** Unit 4: Geologic Time Scale **Practical** **CC8: Palaeobotany& Palynology**	**5**	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 2: Evolutionary trends **Practical**	**6**

			Unit 1: Study (including mode of preservation) of the following: *Glossopteris* (leaf, specimen) **Theory** **SEC2: Biofertilizers** Unit 4: Mycorrhizal association	2 2	**DSE3: Plant Evolution and Biodiversity** Unit 2: Study of vegetative and reproductive structure of plants of moist shady habitats (*Pteris*).	2
May	**Theory** **SEC: (BOTN2051)-Biofertilizer** Unit 2: Marketing & Policies	2	**Theory** **CC8: Palaeobotany& Palynology** Unit 4: Geologic Time Scale **Practical** **CC8: Palaeobotany& Palynology** Unit 1: Study (including mode of preservation) of the following: *Lyginopteris*(stem in T. S.) **Theory** **SEC2: Biofertilizers** Unit 4: Mycorrhizal association	5 2 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 3: Phylogeny of plants **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 3: Leaf anatomy of *Suaeda, Avicennia* (Halophytes)- Photographs	6 2
June	**Theory** **SEC: (BOTN2051)-Biofertilizer** Unit 2: Marketing & Policies	2	**Theory** **CC8: Palaeobotany& Palynology** Doubt clearing class **Practical** **CC8: Palaeobotany& Palynology** Unit 1: Study (including mode of preservation) of the following: *Vertebraria* (root, specimen) **Theory** **SEC2: Biofertilizers** Unit 4: Mycorrhizal association	2 2 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 3: Phylogeny of plants **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 3: Leaf anatomy of *Hertiera* (Halophytes)-Photographs	6 1

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TEACHING PLAN OF MS. MOUSUMI MUKHERJEE

(State Aided College Teacher)

Botany (Honours / Major) (2023-24) (July 2023 – June 2024)

Month	Sem-I (H)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Marchantia*	4	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 1: Introduction **Practical** **CC5: Plant Ecology and Phytogeography** 6. Ecological adaptations of some species: *Ipomoea aquatica* stem, Phyllode of *Acaciaauriculiformis*	4 2	**Theory** **DSE1: Natural Resource Management** Unit 3: Land **Practical** **DSE1: Natural Resource Management** Unit 4: Calculation and analysis of ecological footprint.	8 2
Aug	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Anthoceros*	4	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 1: Introduction Unit 2: Soil **Practical** **CC5: Plant Ecology and Phytogeography** 6. Ecological adaptations of some species: *Nerium* leaf and *Vanda* root	2 2 2	**Theory** **DSE1: Natural Resource Management** Unit 4: Water **Practical** **DSE1: Natural Resource Management** Unit 4: Calculation and analysis of ecological footprint.	8 2
Sept	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Funaria*	4	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 2: Soil **Practical** **CC5: Plant Ecology and Phytogeography** 7. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus, by species area curve method (species to be listed).	4 2	**Theory** **DSE1: Natural Resource Management** Unit 5: Biological Resources **Practical** **DSE1: Natural Resource Management** Unit 5: Ecological modeling	6 2
Oct	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	4	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 3: Water **Practical** **CC5: Plant Ecology and Phytogeography** 8. Field visit to familiarize students with ecology of different sites.	4 2	**Theory** **DSE1: Natural Resource Management** Unit 5: Biological Resources **Practical** **DSE1: Natural Resource Management** Unit 5: Ecological modeling	6 2
Nov	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	4	**Theory** **CC5: Plant Ecology and Phytogeography** Unit 4: Light, temperature, wind and fire **Practical** **CC5: Plant Ecology and Phytogeography** 8. Field visit to familiarize students with ecology of different sites.	4 1	**Theory** **DSE1: Natural Resource Management** Unit 6: Forests **Practical** **DSE1: Natural Resource Management** Revise Practical Class	6 1
Dec	**Practical** **Major:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	4	**Theory** **CC5: Plant Ecology and Phytogeography** Doubt clearing class **Practical** **CC5: Plant Ecology and Phytogeography** Revise Practical Class	1 1	**Theory** **DSE1: Natural Resource Management** Doubt clearing class **Practical** **DSE1: Natural Resource Management** Revise Practical Class	2 1
Jan	**Sem-II (H)**	**No. of**	**Sem-IV (H)**	**No. of**	**Sem-VI (H)**	**No. of**

		Lecture		Lecture		Lecture
	NIL		**Theory** **CC10:Molecular Biology** Unit 4: Central dogma and genetic code Unit 5: Transcription **Practical** **CC10:Molecular Biology** Unit 5: Photographs establishing nucleic acid as genetic material (Messelson and Stahl's, Avery et al, Griffith's, Hershey & Chase's and Fraenkel &Conrat's experiments)	2 2 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 4: Evolutionary theories **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 4: Morphological and anatomical study of *Hydrilla and Vellisneria*	4 3
Feb	NIL		**Theory** **CC10:Molecular Biology** Unit 5: Transcription **Practical** **CC10:Molecular Biology** Unit 5: Photographs establishing nucleic acid as genetic material (Messelson and Stahl's, Avery et al, Griffith's, Hershey & Chase's and Fraenkel &Conrat's experiments)	4 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 4: Evolutionary theories **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 4: Morphological and anatomical study of *Arum*.	4 2
Mar	NIL		**Theory** **CC10:Molecular Biology** Unit 5: Transcription **Practical** **CC10:Molecular Biology** Unit 6: Study of the following through photographs: Assembly of Spliceosome machinery; Splicing mechanism in group I & group II introns; Ribozyme and Alternative splicing.	4 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 4: Evolutionary theories **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 5: Morphological and anatomical study of plants of arid habitat (*Nerium*).	4 2
Apr	NIL		**Theory** **CC10:Molecular Biology** Unit 5: Transcription **Practical** **CC10:Molecular Biology** Unit 6: Study of the following through photographs: Assembly of Spliceosome machinery; Splicing mechanism in group I & group II introns; Ribozyme and Alternative splicing.	4 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 5: Plant diversity around the world **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 5: Morphological and anatomical study of plants of arid habitat (*Pinus*).	4 2
May	NIL		**Theory** **CC10:Molecular Biology** Unit 5: Transcription **Practical** **CC10:Molecular Biology** Revise Practical Class	4 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 5: Plant diversity around the world **Practical** **DSE3: Plant Evolution and Biodiversity** Unit 6: Field visit and report preparation.	4 2
June	NIL		**Theory** **CC10:Molecular Biology** Doubt clearing class **Practical** **CC10:Molecular Biology** Revise Practical Class	2 2	**Theory** **DSE3: Plant Evolution and Biodiversity** Unit 5: Plant diversity around the world **Practical** **DSE3: Plant Evolution and Biodiversity** Revise Practical Class	4 2

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DEPARTMENT OF BOTANY
SURI VIDYASAGAR COLLEGE

TEACHING PLAN OF DR. KALYAN KUMAR BHATTACHARYYA
(Associate Professor)
Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 1. Study of meristems through permanent slides and photographs.	2	NIL	NIL
Aug	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylary elements, Phloem (Permanent slides, photographs)	2	NIL	NIL
Sept	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 7. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous – Through Permanent Slides/Photographs	2	NIL	NIL
Oct	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 8. Female gametophyte: Polygonum (monosporic) type of Embryo sac Development (Permanent slides/photographs).	2	NIL	NIL
Nov	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class	1	NIL	NIL
Dec	**Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	3	**Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class	1	NIL	NIL
Jan	**Sem-II (G)**	**No. of Lecture**	**Sem-IV (G)**	**No. of Lecture**	**Sem-VI (G)**	**No. of Lecture**
	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 5. To study the effect of light intensity and bicarbonate concentration on O_2 evolution in photosynthesis.	2	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 4: Mutations and Chromosomal Aberrations Types of mutations, effects of physical & chemical mutagens. Numerical chromosomal changes: Euploidy, Polyploidy and Aneuploidy; Structural	4

					chromosomal changes: Deletions, Duplications, Inversions & Translocations. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 1. To study prokaryotic cells (bacteria), viruses, eukaryotic cells with the help of light and electron micrographs.	1
Feb	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 6. Comparison of the rate of respiration in any two parts of a plant.	2	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 6: Cell Membrane and Cell Wall The functions of membranes; Models of membrane structure; The fluidity of membranes; Membrane proteins and their functions; Carbohydrates in the membrane; Faces of the membranes; Selective permeability of the membranes; Cell wall. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 3. To study the structure of plant cell through temporary mounts.	6 1
Mar	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 8: Genetic material DNA: Miescher to Watson and Crick- historic perspective, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment, DNA structure, types of DNA, types of genetic material. DNA replication rokaryotes and e karyotes : bidirectional replication, semi– conservative, semi discontinious A priming, Ø theta mode of replication, replication of linear, ds- A, replicating the end of linear chromosome including replication enzymes. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 4. To study the structure of animal cells by temporary mounts-squamous epithelial cell	6 1
Apr	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 9: Transcription (Prokaryotes and Eukaryotes) Types of structures of RNA (mRNA, tRNA, rRNA), RNA polymerase- various types; Translation	6

					(Prokaryotes and eukaryotes), genetic code. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 6. Study of plasmolysis and deplasmolysis on *Rhoeo* leaf.	1
May	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 10: Regulation of gene expression Prokaryotes:Lac operon and Tryptophan operon ; and in Eukaryotes. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 7. Measure the cell size (either length or breadth/diameter) by micrometry.	6 1
June	NIL		**Practical (Generic: Zoology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Doubt clearing class **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Revise Practical Class	1 1

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TEACHING PLAN OF DR. HEMANTA SAHA

(Associate Professor)

Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 2: Bacteria	3	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 7: Embryo and endosperm-Endosperm types **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 3. Stem: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary: Helianthus (only Permanent slides).	2 2	NIL	NIL
Aug	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 2: Bacteria	3	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 7: Embryo and endosperm-structure and functions **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 4. Root: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary: Helianthus (only Permanent slides).	2 2	NIL	NIL
Sept	**Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 9: Angiosperms	3	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 7: Embryo and endosperm-Dicot and monocot embryo **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 5. Leaf: Dicot and Monocot leaf (only Permanent slides)	2 2	NIL	NIL
Oct	**Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 9: Angiosperms	2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 7: Embryo and endosperm-Embryo-endosperm relationship. **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 6. Adaptive anatomy: Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem).	2 2	NIL	NIL
Nov	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 3: Viruses	1	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 9. Pollination types and seed dispersal mechanisms (including appendages, aril, caruncle) (Photographs and specimens).	1 2	NIL	NIL
Dec	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 3: Viruses	1	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Generic: Zoology Hons.)** **CC1C/GE-3: Plant Anatomy**	1	NIL	NIL

			and Embryology Revised Practical class	1		
	Sem-II (G)	No. of Lecture	Sem-IV (G)	No. of Lecture	Sem-VI (G)	No. of Lecture
Jan	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 1	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 1: Plant-water relations - Importance of water **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 5. To study the effect of light intensity and bicarbonate concentration on O_2 evolution in photosynthesis. **Theory** **SEC2: Medicinal Botany** Unit 2: Conservation of endangered and endemic medicinal plants. Definition: endemic and endangered medicinal plants	2 2 2	NIL	NIL
Feb	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 1	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 1: Plant-water relations - water potential and its components **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 6. Comparison of the rate of respiration in any two parts of a plant. **Theory** **SEC2: Medicinal Botany** Unit 2: Conservation of endangered and endemic medicinal plants. Red list criteria; in-situ conservation: Biosphere reserves,sacred groves	2 2 2	NIL	NIL
Mar	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 1	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 1: Plant-water relations - Transpiration and its significance; **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class **Theory** **SEC2: Medicinal Botany** Unit 2: Conservation of endangered and endemic medicinal plants. National Parks; ex-situ conservation: Botanic Gardens, Ethnomedicinal plant Gardens.	2 1 2	NIL	NIL
Apr	**Theory** **Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 2	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 1: Plant-water relations - Root pressure and guttation **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class **Theory** **SEC2: Medicinal Botany** Unit 2: Conservation of endangered and endemic medicinal plants. Propagation of	2 1 2	NIL	NIL

			Medicinal Plants: Objectives of the nursery, its classification.			
May	**Theory** **ID: (BOTN2031)- Medicinal Plants & Phytochemistry** Unit 2	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 8: Plant growth regulators - Discovery and physiological roles of auxins, gibberellins **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class **Theory** **SEC2: Medicinal Botany** Doubt clearing class	3 1 1	NIL	NIL
June	**Theory** **ID: (BOTN2031)- Medicinal Plants & Phytochemistry** Unit 2	2	**Theory** **CC1D/GE-4 Plant Physiology and Metabolism:** Unit 8: Plant growth regulators - Discovery and physiological roles of cytokinins, ABA, ethylene. **Practical (Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class **Theory** **SEC2: Medicinal Botany** Doubt clearing class	3 1 1	NIL	NIL

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TEACHING PLAN OF DR. SANDIPAN CHATTERJEE

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Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Gram staining **Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	2 3	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 3: Secondary Growth- Vascular cambium – structure and function, seasonal activity. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 1. Study of meristems through permanent slides and photographs. **Theory** **SEC1: Biofertilizers** Unit 1:General account about the microbes used as biofertilizer – *Rhizobium* – isolation,identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.	4 2 4	NIL	NIL
Aug	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Study of Algal morphology **Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	4 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 3: Secondary Growth- Secondary growth in root and stem, Wood (heartwood and sapwood). **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylary elements, Phloem (Permanent slides, photographs) **Theory** **SEC1: Biofertilizers** Unit 2: *Azospirillum*:isolation and mass multiplication – carrier based inoculant, associativeeffect of different microorganisms.	4 2 4	NIL	NIL
Sept	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Structure of TMV & T_2 **Theory** **ID: (BOTN1031)- Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	2 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 4: Adaptive and protective system-Epidermis, cuticle, stomata; **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 3. Stem: Monocot: Zea mays; Dicot: Helianthus; Secondary: Helianthus (only Permanent slides). **Theory** **SEC1: Biofertilizers** Unit 2:. Azotobacter: classification, characteristics – cropresponse to Azotobacter inoculum, maintenance and mass multiplication.	4 2 4	NIL	NIL
Oct	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and**	2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 4: Adaptive and protective	4	NIL	NIL

	Evolution Specimen study of Fungi		system- General account of adaptations in xerophytes and hydrophytes. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 4. Root: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary: *Helianthus* (only Permanent slides). **Theory** **SEC1: Biofertilizers** Unit 3:Cyanobacteria (blue green algae),AzollaandAnabaenaazollae association, nitrogenfixation, factors affecting growth, blue green algae and Azolla in rice cultivation.	2 4		
Nov	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Specimen study of Fungi	4	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 5. Leaf: Dicot and Monocot leaf (only Permanent slides) **Theory** **SEC1: Biofertilizers** Doubt clearing class	1 2 1	NIL	NIL
Dec	**Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 2: Study of Lichen	2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class **Theory** **SEC1: Biofertilizers** Doubt clearing class	1 1 1	NIL	NIL
	Sem-II (G)	**No. of Lecture**	**Sem-IV (G)**	**No. of Lecture**	**Sem-VI (G)**	**No. of Lecture**
Jan	**Theory** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1: Biomolecules **Practical** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 2:	2 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 3: Translocation in phloem - Composition of phloem sap, girdling experiment **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 1. Determination of osmotic potential of plant cell sap by plasmolytic method.	3 2	NIL	NIL
Feb	**Theory** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 3: Cell wall & Plasma Membrane **Practical** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 4:	2 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 3: Translocation in phloem - Pressure flow model; Phloem loading and unloading. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 2. To study the effect of two environmental factors (light and wind) on transpiration by excised twig.	3 2	NIL	NIL
Mar	**Theory**	2	**Theory**		NIL	NIL

	Minor: **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 3: Cell wall & Plasma Membrane **Practical** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 5:	**2** **2**	**CC1D/GE-4Plant Physiology and Metabolism:** Unit 6: Enzymes - Structure and properties **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 3. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.	**2** **2**		
Apr	**Theory** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 8:	**2** **2**	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 6: Enzymes - Mechanism of enzyme catalysis and enzyme inhibition. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	**2** **1**	NIL	NIL
May	**Theory** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Repeat or revise	**2** **2**	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 7: Nitrogen metabolism - Biological nitrogen fixation **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	**2** **1**	NIL	NIL
June	**Theory** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Unit 2: Cell architecture **Practical** **Minor:** **(BOTN2021)-** **Biomolecules & Cell Biology** Repeat or revise	**2** **2**	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 7: Nitrogen metabolism - Nitrate and ammonia assimilation. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical Class	**2** **1**	NIL	NIL

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TEACHING PLAN OF DR. ANIRBAN PAUL

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Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	**Theory** **Minor: (BOTN1011)-Plant Diversity and Evolution** Unit 8: Gymnosperms **Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Slide Preparation of *Pteris* leaflet **Theory** **ID: (BOTN1031)-Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	4 2 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 6: Pollination and fertilization Pollination mechanisms and adaptations; **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 6. Adaptive anatomy: Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem).	4 2	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 8: Introduction to biotechnology - History, Definition, aim and scope, Contribution of Indian Scientist Unit 9: Plant tissue culture - Micropropagation **Practical** **DSE-1A: Economic Botany and Biotechnology** 2.Familiarization with basic equipments in tissue culture.	2 3 2
Aug	**Theory** **Minor: (BOTN1011)-Plant Diversity and Evolution** Unit 8: Gymnosperms **Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Slide Preparation of *Cycas* leaflet **Theory** **ID: (BOTN1031)-Biodiversity & its Conservation** Unit 3: Biodiversity Conservation	4 2 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 6: Double fertilization; Seed-structure appendages and dispersal mechanisms. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 7. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous – Through Permanent Slides/Photographs	4 2	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 9: Plant tissue culture - haploid production through androgenesis and gynogenesis; brief account of embryo& endosperm culture with their applications **Practical** **DSE-1A: Economic Botany and Biotechnology** 3.Study through photographs: Anther culture, somatic embryogenesis	5 2
Sept	**Theory** **Minor: (BOTN1011)-Plant Diversity and Evolution** Unit 5: Fungi . **Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Vegetative and reproductive morphology of *Cycas* frpm permanent slide	4 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 8: Apomixis and polyembryony- Definition, types **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 8. Female gametophyte: Polygonum (monosporic) type of Embryo sac Development (Permanent slides/photographs).	4 2	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 10: Recombinant DNA Technique - Enzymes in Recombinant DNA Technology, **Practical** **DSE-1A: Economic Botany and Biotechnology** 3.Study through photographs: endosperm and embryo culture; micropropagation.	5 2
Oct	**Theory** **Theory** **Minor: (BOTN1011)-Plant Diversity and Evolution** Unit 5: Fungi **Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Vegetative and reproductive morphology of *Ginkgo*	4 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 8: Apomixis and polyembryony- practical applications. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** 9. Pollination types and seed dispersal mechanisms (including appendages, aril, caruncle)	4 2	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 10: Recombinant DNA Technique - cloning vector, DNA library, PCR, **Practical** **DSE-1A: Economic Botany and Biotechnology** 4.Basic Conception generation about molecular techniques: PCR, Blotting techniques	5 2

	frpm permanent slide		(Photographs and specimens).			
Nov	**Theory** **Minor: (BOTN1011)-Plant Diversity and Evolution** Unit 1: Origin of Life **Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Vegetative and reproductive morphology of *Gnetum* frpm permanent slide	2 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class	1 1	**Theory** **DSE-1A: *Economic Botany and Biotechnology*** Unit 10: Recombinant DNA Technique - DNA Fingerprinting **Practical** **DSE-1A: *Economic Botany and Biotechnology*** 4.Basic Conception generation about molecular techniques: AGE and PAGE-Protocol	5 2
Dec	**Practical** **Minor: (BOTN1011)-Plant Diversity and Evolution** Vegetative and reproductive morphology of *Gnetum* frpm permanent slide	2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class	1 1	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 10: Recombinant DNA Technique - application of Recombinant DNA Technique **Practical** **DSE-1A: Economic Botany and Biotechnology** Revise Practical Class	3 1
	Sem-II (G)	**No. of Lecture**	**Sem-IV (G)**	**No. of Lecture**	**Sem-VI (G)**	**No. of Lecture**
Jan	**Theory** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 4: Cell organelles **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit I	4 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 2: Mineral nutrition - Essential elements, macro and micronutrients; Criteria of essentiality of elements; Role of essential elements; Transport of ions across cell membrane, active and passive transport, carriers, channels and pumps **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 4. Demonstration of Hill reaction.	4 2	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 2: Cell as a unit of Life 20 The Cell Theory; Prokaryotic and eukaryotic cells; Cell size and shape; Eukaryotic Cell components. Unit 3: Linkage and Crossing over Linkage: concept & history, complete & incomplete linkage, bridges experiment, coupling & repulsion, recombination frequency, linkage maps based on two and three factor crosses. Crossing over: concept and significance, cytological proof of crossing over. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 2. Study of the photomicrographs of cell organelles	2 4 2
Feb	**Theory** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 4: Cell organelles **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 3	4 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 2: Mineral nutrition - Essential elements, macro and micronutrients; Criteria of essentiality of elements; Role of essential elements; Transport of ions across cell membrane, active and passive transport, carriers, channels and pumps **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 5. To study the effect of light intensity and bicarbonate concentration on O_2 evolution in photosynthesis.	4 2	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 5: Cell Organelles Mitochondria: Structure, marker enzymes, composition; Semiautonomous nature **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 5. Study of mitosis and meiosis (temporary mounts and permanent slides).	4 2
Mar	**Theory**	4	**Theory**		**Theory**	

	Minor: (BOTN2021)-Biomolecules & Cell Biology Unit 4: Cell organelles **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 6	2	**CC1D/GE-4Plant Physiology and Metabolism:** Unit 4: Photosynthesis - Photosynthetic Pigments (Chl a, b, xanthophylls, carotene); Photosystem I and II, reaction center, antenna molecules; Electron transport and mechanism of ATP synthesis; C3, C4 and CAM pathways of carbon fixation; Photorespiration. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** 6. Comparison of the rate of respiration in any two parts of a plant	6 2	**DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 5: Cell Organelles *Symbiont hypothesis; Proteins synthesized within mitochondria; mitochondrial DNA.* **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 8. Study the structure of nuclear pore complex by photograph (from Gerald Karp)Study of special chromosomes (polytene &lampbrush) either by slides or photographs.	4 2
Apr	**Theory** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 4: Cell organelles **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 7	4 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 4: Photosynthesis - Photosynthetic Pigments (Chl a, b, xanthophylls, carotene); Photosystem I and II, reaction center, antenna molecules; Electron transport and mechanism of ATP synthesis; C3, C4 and CAM pathways of carbon fixation; Photorespiration. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical class	6 1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 5: Cell Organelles Chloroplast Structure, marker enzymes, composition; semiautonomous nature, chloroplast DNA. ER, Golgi body & Lysosomes: Structures and roles. Peroxisomes and Glyoxisomes: Structures, composition, functions in animals and plants and biogenesis. **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 9. Study DNA packaging by micrographs.	4 2
May	**Theory** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 5: Cell division **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Revision	4 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 9: Plant response to light and temperature - Photoperiodism (SDP, LDP, Day neutral plants); Phytochrome (discovery and structure), red and farred light responses on photomorphogenesis; Vernalization. **Practical (Generic: Physiology & Microbiology Hons.)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise Practical class	3 1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 5: Cell Organelles Nucleus: Nuclear Envelopestructure of nuclear pore complex; chromatin; molecular organization, DNA packaging in eukaryotes, euchromatin and heterochromatin, nucleolus and ribosome structure (brief). **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** 10. Preparation of the karyotype and ideogram from given photograph of somatic metaphase chromosome.	4 2
June	**Theory** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Unit 5: Cell division **Practical** **Minor: (BOTN2021)-Biomolecules & Cell Biology** Revision	4 2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 9: Plant response to light and temperature - Photoperiodism (SDP, LDP, Day neutral plants); Phytochrome (discovery and structure), red and farred light responses on photomorphogenesis; Vernalization. **Practical (Generic: Physiology**	3	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 7: Cell Cycle Overview of Cell cycle, Mitosis and Meiosis; Molecular controls **Practical** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Revise Practical class	6 1

			& Microbiology Hons.) CC1D/GE-4Plant Physiology and Metabolism: Revise Practical class	1		

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TEACHING PLAN OF SHAMIM ALAM

(Assistant Professor)

Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 5: Structural organization of flower Structure of anther and pollen **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 6. Adaptive anatomy: Xerophyte (Nerium leaf); Hydrophyte (Hydrilla stem). 7. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous – Through Permanent Slides/Photographs 8. Female gametophyte: Polygonum (monosporic) type of Embryo sac Development (Permanent slides/photographs). 9. Pollination types and seed dispersal mechanisms (including appendages, aril, caruncle) (Photographs and specimens). **Theory** **SEC1: Biofertilizers** Unit 4: Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrenceand distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.	2 4	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 1: Origin of Cultivated Plants-Concept of centres of origin, their importance with reference to Vavilov's work Unit 2: Cereals-Wheat - Origin, morphology, uses **Practical** **DSE-1A: Economic Botany and Biotechnology** 1.Study of economically important plants: Wheat\ through specimens and sections	4 2 1
Aug	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 5: Structure and types of ovules **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 6. Adaptive anatomy: Xerophyte (*Nerium* leaf); Hydrophyte (*Hydrilla* stem). **Theory** **SEC1: Biofertilizers** Unit 4: Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrenceand distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.	2 2 4	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 3: Legumes - General account with special reference to Gram and soybean **Practical** **DSE-1A: Economic Botany and Biotechnology** 1.Study of economically important plants: Gram through specimens and sections	4 1
Sept	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 5: Types of embryo sacs **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 7. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous/ campylotropous –	2 2	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 4: Spices - General account with special reference to clove and black pepper (Botanical name, family, part used, morphology and uses) **Practical**	6

			Through Permanent Slides/Photographs **Theory** **SEC1: Biofertilizers** Unit 5:Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and Industrial wastes – biocompost making methods,types and method of vermicomposting – field Application.	3	***DSE-1A: Economic Botany and Biotechnology*** *1.Study of economically important plants: Black pepper through specimens and sections*	1
Oct	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 5: Organization and ultrastructure of mature embryo sac. **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 8. Female gametophyte: Polygonum (monosporic) type of Embryo sac Development (Permanent slides/photographs). **Theory** **SEC1: Biofertilizers** Unit 5:Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and Industrial wastes – biocompost making methods,types and method of vermicomposting – field Application.	2 2 3	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 6: Oils and Fats - General description with special reference to groundnut **Practical** **DSE-1A: Economic Botany and Biotechnology** 1.Study of economically important plants:, Clove through specimens and sections	4 1
Nov	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 9. Pollination types and seed dispersal mechanisms (including appendages, aril, caruncle) (Photographs and specimens). **Theory** **SEC1: Biofertilizers** Doubt clearing class	1 2 1	**Theory** **DSE-1A: Economic Botany and Biotechnology** Unit 7: Fibre Yielding Plants- General description with special reference to Cotton (Botanical name, family, part used, morphology and uses) **Practical** **DSE-1A: Economic Botany and Biotechnology** 1.Study of economically important plants: Groundnut through specimens and sections	4 1
Dec	NIL		**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise practical class **Theory** **SEC1: Biofertilizers** Doubt clearing class	1 1 1	**Theory** **DSE-1A: Economic Botany and Biotechnology** Doubt clearing class **Practical** **DSE-1A: Economic Botany and Biotechnology** Revise practical class	1 1
	Sem-II (G)	**No. of Lecture**	**Sem-IV (G)**	**No. of Lecture**	**Sem-VI (G)**	**No. of Lecture**
Jan	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit	2	**Theory** **SEC2: Medicinal Botany** Unit 1: History, Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences; Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu andtridosha concepts	5	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 1: Techniques in Biology Principles of microscopy; Light Microscopy; Phase contrast	1

					microscopy	
Feb	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 3	2	**Theory** **SEC2: Medicinal Botany** Unit 1: Rasayana, plants used in ayurvedic treatments, Siddha: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations.	5	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 1: Fluorescence microscopy, Confocal microscopy, Sample Preparation for light microscopy	1
Mar	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 3	2	**Theory** **SEC2: Medicinal Botany** Unit 3: Ethnobotany and Folk medicines. Definition; Ethnobotany in India: Methods tostudy ethnobotany; Applications of Ethnobotany:	5	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 1: Electron microscopy (EM)- Scanning EM and Scanning Transmission EM (STEM)	1
Apr	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 4	2	**Theory** **SEC2: Medicinal Botany** Unit 3: National interacts, folk medicines of ethnobotany, ethnomedicine, ethnic communities of India. Application of natural products to certain diseasesJaundice, cardiac, infertility, diabetics,Blood pressure and skin diseases.	5	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Unit 1: Sample Preparation for electron microscopy; X-ray diffraction analysis.	1
May	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 4	2	**Theory** **SEC2: Medicinal Botany** Doubt clearing class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Doubt clearing class	1
June	**Theory** **ID: (BOTN2031)-Medicinal Plants & Phytochemistry** Unit 4	2	**Theory** **SEC2: Medicinal Botany** Doubt clearing class	1	**Theory** **DSE-1B: Cell Biology, Genetics and Molecular Biology** Doubt clearing class	1

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TEACHING PLAN OF MS. MOUSUMI MUKHERJEE

(State Aided College Teacher)

Botany (General/Minor/ID) (2023-24) (July 2023 – June 2024)

Month	Sem-I (G)	No. of Lecture	Sem-III (G)	No. of Lecture	Sem-V (G)	No. of Lecture
Jul	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 6: Bryophyta **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Marchantia*	4 4	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 1: Meristematic and permanent tissues Root and shoot apical meristems; Simple and complex tissues. **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 1. Study of meristems through permanent slides and photographs.	4 2	NIL	NIL
Aug	**Theory** **Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 6: Bryophyta **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Anthoceros*	4 4	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 1: Meristematic and permanent tissues Root and shoot apical meristems; Simple and complex tissues. **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylary elements, Phloem (Permanent slides, photographs)	4 2	NIL	NIL
Sept	**Theory** **Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 6: Bryophyta **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Vegetative and reproductive morphology of *Funaria*	4 4	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Unit 2: Organs (4 Lectures) Structure of dicot and monocot root stem and leaf **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 3. Stem: Monocot: *Zea mays*; Dicot: Helianthus; Secondary: Helianthus (only Permanent slides).	4 2	NIL	NIL
Oct	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 4: Algae **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	4 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 4. Root: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary: Helianthus (only Permanent slides).	2 2	NIL	NIL
Nov	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and**	4	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class	2	NIL	NIL

	Evolution Unit 4: Algae **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	2	**Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** 5. Leaf: Dicot and Monocot leaf (only Permanent slides)	2		
Dec	**Theory** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Unit 4: Algae **Practical** **Minor:** **(BOTN1011)- Plant Diversity and Evolution** Morphology of Angiosperms	4 2	**Theory** **CC1C/GE-3: Plant Anatomy and Embryology** Doubt clearing class **Practical (Bio General)** **CC1C/GE-3: Plant Anatomy and Embryology** Revise Practical Class	2 1	NIL	NIL
	Sem-II (G)	**No. of Lecture**	**Sem-IV (G)**	**No. of Lecture**	**Sem-VI (G)**	**No. of Lecture**
Jan	**Theory** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1: Biomolecules	2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 5: Respiration - Glycolysis, anaerobic respiration **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 1. Determination of osmotic potential of plant cell sap by plasmolytic method.	2 2	NIL	NIL
Feb	**Theory** **Minor:** **(BOTN2021)- Biomolecules & Cell Biology** Unit 1: Biomolecules	2	**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 5: Respiration - TCA cycle; Oxidative phosphorylation **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 2. To study the effect of two environmental factors (light and wind) on transpiration by excised twig.	2 2	NIL	NIL
Mar	NIL		**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Unit 5: Respiration - Glyoxylate pathway **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 3. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.	2 2	NIL	NIL
Apr	NIL		**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Doubt clearing class **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** 4. Demonstration of Hill reaction.	2 2	NIL	NIL
May	NIL		**Theory** **CC1D/GE-4Plant Physiology and Metabolism:**		NIL	NIL

			Doubt clearing class **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise practical class	1 1		
June	NIL		**Theory** **CC1D/GE-4Plant Physiology and Metabolism:** Doubt clearing class **Practical (Generic- Zoology Hons.& Bio General)** **CC1D/GE-4Plant Physiology and Metabolism:** Revise practical class	1 1	NIL	NIL

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DEPARTMENT OF CHEMISTRY

TEACHING PLAN OF DR. TRIJIT BHATTACHARYYA
Chemistry (Honours) (2023-24) (July 2023 – June 2024)

Month	Sem-I (MAJOR)	No. of Lecture	Sem-III (H)	No. of Lecture	Sem-V (H)	No. of Lecture
Jul	**Theory:** Paper code: CHEM1011 Electron displacement phenomena and physical properties: inductive effect, field effect, hyperconjugation, mesomeric effect, resonance energy, bond polarization and bond polarizability, electromeric effect	**4**	**Theory** **CC7:** *Chemistry of alkenes* **Practical** **CC7:** *Qualitative Analysis of Single Solid Organic Compounds part 1*	**6** **2**	**Theory** **CC12:** Heterocyclic compounds Part I **Practical** **CC12:** TLC separation of a mixture containing 2/3 amino acids 2. TLC separation of a mixture of dyes (fluorescein and methylene blue)	**6** **2**
Aug	**Theory:** Paper code: CHEM1011 steric effect, steric inhibition of resonance, influence of hybridization on bond properties, bond dissociation energy (BDE) and bond energy, bond distances, bond angles, concept of bond angle strain (Baeyer's strain theory	**4**	**Theory** **CC7: :** *Chemistry of alkynes* **Practical** **CC:** *Qualitative Analysis of Single Solid Organic Compounds Part 2*	**4** **2**	**Theory** **CC12:** Heterocyclic compounds Part II **Practical** **CC12:** Paper chromatographic separation of a mixture containing 2/3 amino acids	**6** **4**
Sept	**Theory:** Paper code: CHEM1011 melting point/boiling point and solubility of common organic compounds in terms of covalent & non-covalent intermolecular forces, polarity of molecules and dipole moments, relative stabilities of	**4**	**Theory** **CC7:** *Carbonyl and Related Compounds Part1* **Practical** **CC7:** Melting point of the given compound Preparation of one derivative of the given sample Part1 ,	**6** **2**	.**Theory** **CC12:** Cyclic Stereochemistry **Practical** **CC12:** Column chromatographic separation of mixture of dyes	**8** **2**

	isomeric hydrocarbons in terms of heat of hydrogenation, heat of combustion and heat of formation, calculation of formal charges and double bond equivalent (DBE)					
Oct	**Theory:** Paper code: CHEM1011 Reactive intermediates: carbocations (carbenium and carbonium ions), carbanions, carbon radicals, carbenes, benzynes and nitrenes, generation and stability, structure using orbital picture and electrophilic/nucleophilic behaviour of the reactive intermediates (elementary idea)	**4**	**Theory** **CC7:** *Carbonyl and Related Compounds Part II* **Practical** **CC7:** Preparation of one derivative of the given sample Part 2	**6** **2**	**Theory** **CC12:** Pericyclic reactions Part I **Practical** **CC12:** Spectroscopic Analysis of Organic Compounds: Part 1	**8** **2**
Nov	**Theory:** Paper code: CHEM1011 Concept of aromaticity: Hückel's rules for aromaticity up to [10]-annulene (including mononuclear heterocyclic compounds up to 6-membered ring), concept of antiaromaticity and homoaromaticity, non-aromatic molecules, Frost diagram, elementary idea about α and β, measurement of delocalization energies in terms of β for buta-1,3-diene,		**Theory** **CC7:** *Organic Name reactions* **Practical** **CC7: Detection of unknown organi sample**	**7** **2**	**Theory** **CC12:** Pericyclic reactions Part II **Practical** **CC12:** Spectroscopic Analysis of Organic Compounds: Part 2	**4** **4**

	cyclobutadiene, hexa-1,3,5-triene and benzen					
Dec	**Theory:** Paper code: CHEM1011 Revision	**4** **2**	**Theory** **CC6:** *Mechanism of hydrolysis of ester and related compounds* **Practical** **CC7: Revision**	**3** **1**	**Theory** **CC12: Doubt clearing** **Practical** **CC12: Revision**	**4** **1**
Jan	**Sem-II (MAJOR)** Theory Paper code: CHEM2011 Stereochemistry-I Bonding geometries and representation of carbon compounds: tetrahedral nature of carbon and concept of asymmetry: Fischer, sawhorse, flying-wedge and Newman projection formulae and their inter translations	**4**	**Sem-IV (H)** **Theory** **CC10** *The Logic of Organic Synthesis:* Retrosynthetic analysis **Practical** **CC10 1.** Estimation of glucose by titration using Fehling's solution	**5** **2**	**Sem-VI (H)** **Theory** **DSE-3:** Twelve principles and goals of green Chemistry, **Practical** **DSE-3:** Benzoin condensation using Thiamine Hydrochloride as a catalyst	**3** **2**
Feb	Theory Paper code: CHEM2011 Chirality and symmetry: symmetry elements and point groups (Cv, Cnv, Cnh, Cn, Dh, Dnh, Dnd, Dn, Sn (Cs, Ci), molecular chirality and centre of chirality, asymmetric and dissymmetric molecules, enantiomers and diastereomers,	**4**	**Theory** **CC10:** *The Logic of Organic Synthesis:* Strategy of ring synthesis **Practical** **CC10:** 3. Estimation of aromatic amine (aniline) by bromination (Bromate-Bromide) method .	**5** **2**	**Theory** **DSE-3:** Green solvents Part1 **Practical** **DSE-3:** Photoreduction of benzophenone to benzopinacol in the presence of sunlight.	**3** **4**

	epimers, stereogenicity, chirotopicity and pseudoasymmetry, chiral centres and number of stereoisomerism, systems involving 1/2/3-chiral centre(s)- AA, AB, ABA and ABC types Relative and absolute configuration: D/L and R/S descriptors, erythro/threo and meso nomenclature of compounds, syn/anti nomenclatures for aldols, E/Z descriptors- C=C, conjugated diene, triene, C=N and N=N systems, combination of R/S- and E/Z-isomerisms					
Mar	Theory Paper code: CHEM2011 Optical activity compounds: optical rotation, specific rotation and molar rotation, racemic compounds, racemisation, resolution of acids, bases and alcohols via diastereomeric salt formation, optical purity and enantiomeric excess.	**4**	**Theory** **CC10:** *Organic Spectroscopy, IR spectra* **Practical** **CC10:** Estimation of formaldehyde (Formalin)	**4** **2**	**Theory** **DSE-3:** Green solvents Part2 **Practical** **DSE-3:** Preparation of propene by two methods can be studied, Other types of reactions, like addition, elimination, substitution and rearrangement should also be studied for the calculation of atom economy. .	**4** **2**
Apr	Theory Paper code: CHEM2011 General Treatment of Reaction		**Theory** **CC10:** *Organic Spectroscopy, NMR spectra, Part 1*	**6**	**Theory** Rightfit pigment, **Practical**	**3** **2**

	Mechanism Free energy profiles: one-, two- and three-step reactions, catalyzed reactionselectrophilic and nucleophilic catalysis, kinetic control and thermodynamic control of reactions, isotope effect-primary and secondary kinetic isotopic effect (kH /kD), principle of microscopic reversibility **Tautomerism** ring-chain tautomerism, composition of the equilibrium in different systems factors affecting keto-enol tautomerism, application of thermodynamic principles in tautomeric equilibria	**4**	**Practical** **CC10** 7. Estimation of urea (hypobromite method)	**2**	**DSE-3: Revision**	
May	Theory Paper code: CHEM2011 Nucleophilic substitution reactions	**4**	**Theory** **CC10:** *Organic Spectroscopy: NMR Spectra PartII* **Practical** **CC10: Revision**	**6** **2**	**Theory** **DSE-3:** Healthier Fats and oil by Green Chemistry, Ultrasound assisted reactions: Simmons-Smith reaction. **Practical** **DSE-3: Revision**	**4** **2**
June	Theory Paper code: CHEM2011 Elimination reactions	**4**	**Theory** **CC10: Application Of Spectroscopyand Doubt clearing** **Practical** **CC10: Practical Revision**	**2** **1**	**Theory** **CC14:** Microwave assisted reactions in water, . Future scope of	**6**

				3	green chemistry **Practical** **DSE-3: Revision** .	**2**

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DEPARTMENT OF CHEMISTRY

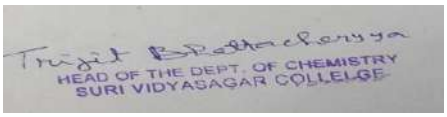
TEACHING PLAN OF PROF PANKAJ ROY
Chemistry (Honours) (2023-24) (July 2023 – June 2024)

Month	Sem-I (MAJOR)	No. of Lectures	Sem-III (H)	No. of Lectures	Sem-V (H)	No. of Lectures
Jul		**8** **2**	**Theory** **CC5:** *Transport Processes:* Fick's law: . **Practical** **CC5;** Study of saponification reaction conductometrically.	**6** **4**	**Theory** **DSE1: Statistical Thermodynamics:**Configuration: Macrostates, microstates and configuration; ; **Practical :** DSE1:Computer Programming :Basic idea. .	**6** **4**
Aug		**8** **2**	**Theory** **CC5:** Viscosity. **Practical** **CC5:** Study of viscosity of unknown liquid.	**8** **4**	**Theory** **DSE1:Statistical Thermodynamics** Boltzmann distribution. **Practical:** DSE1:Computer Programming ; Roots of equations. .	**6** **4**
Sept		**8** **4**	**Theory:** **CC5:**Conductance and transport number. **Practical :** **CC5:** Conductometric titration.	**12** **6**	.**Theory: Statistical Thermodynamics:** Partition function. **Practical :** DSE1: Computer Programming;Numerical differentiation .	**8** **4**
Oct		**6** **2**	**Theory :** **CC5:** Conductance,Kohlrausch's law. **Practical :** **CC5:** Verification of Ostwald's dilution law.	**4** **2**	**Theory :** **DSE1:Special selected topics:** Specific heat of solid. **Practical :** DSE1: Computer Programming **;**Numerical differentiation.	**6** **4**

Nov		**8** **4**	**Theory :** **CC5:**Nernst's distribution law; **Practical :** **CC5:**1. Determination of partition coefficient .	**7** **4**	**Theory: DSE1:** 3rd law: Absolute entropy, Nernst heat theorem. **Practical:DSE1:** Computer Programming ;Numerical integration	**4** **2**
Dec		**4** **2**	**Theory :** **CC5:** Thermodynamic parameters of mixing; Concept of standard states. **Practical** **CC5:** . Determination of Keq for KI + I2 = KI3,	**4** **4**	**Theory :** **DSE1:** Special classes. **Practical:** DSE1: Computer Programming Practice;	**4** **2**
Jan	**Sem-II (MAJOR)**		**Sem-IV (H)**		**Sem-VI (H)**	
			Theory : **CC8:***Application of Thermodynamics – II :*Colligative properties: Raoult's law; **Practical :** **CC8:** Determination of solubility of sparingly soluble salt.	**4** **4**	***Theory :*** ***CC14;Surface phenomenon;*** Surface tension and energy: ***Practical :*** ***CC14:***Determination of surface tension of a liquid. ***Theory :*** ***DSE3:*** Introduction and history of polymeric materials **.** ***Practical :*** ***DSE4: Polymer Synthesis*** 1. Preparation of nylon 66/6 .	**8** **4** **4** **4**
Feb			**Theory :** **CC8:** *Application of Thermodynamics – II* Colligative properties;Relative lowering of vapour pressure, Elevation of boiling point, Depression of freezing point,Osmotic pressure.	**10**	**Theory :** **CC14:**Surface phenomenon; Adsorption: **Practical :** **CC14:** Determination of CMC from surface tension measurements. **Theory :** **DSE3:**Determination of molecular weight of	**8** **2** **4**

			Practical : **CC8:** Determination of solubility of sparingly soluble salt in water.	**4**	polymers ;Molecular weight distribution and its significance. **Practical :** **DSE3:** Determination of hydroxyl number of a polymer.	**2**
Mar			**Theory :** **CC8:** *Application of Thermodynamics – II ;*Phase rule : **Practical:** **CC8;** Study of phenol-water phase diagram.	**8** **4**	**Theory :** **CC14:**Surface phenomenon & heterogenous catalysis . **Practical :** **CC14:** Determination of CMC from surface tension measurements. **Theory:** **DSE3:**Functionality and its importance ; **Practical :** **DSE3:**Polymer Characterization ;	**6** **4** **4** **4**
Apr			**Theory :** **CC8:***Application of Thermodynamics – II ;*Phase rule ;Phase diagram for water, CO2, Sulphur. **Practical :** **CC8;**Effect of ionic strength.	**6** **4**	**Theory :** **CC14:**Colloids: **Practical :** **CC14:** Determination of pH of unknown buffer, spectrophotometrically. **Theory :** **DSE3;**Properties of Polymer ; **Practical :** **DSE3;** Preparations of novalac resin/ resold resin.	**6** **2** **4** **2**
May			**Theory :** **CC8:** *Application of Thermodynamics – II;*Binary solutions: Liquid-liquid phase diagram. **Practical :** **CC8;** Determination of Ksp for AgCl.	**6** **4**	**Theory** **CC14: Surface phenomenon :** zeta potential; Micelle **Practical :** **CC14:**Verification of Beer and Lambert's Law. **Theory :** **DSE3:**Kinetics of Polymerization ;	**4** **2** **4**

					Practical : **DSE3:**Polymer Characterization.	**4**	
June			**Theory :** **CC8:** *Application of Thermodynamics – II* Special classes	**4**	**Theory :** **CC14:**Rate of Photochemical processes: HI decomposition, H_2-Br_2 reaction, **Practical :** **CC14:** Determination of pH of unknown buffer, spectrophotometrically. **Theory :** **DSE3:** Glass transition temperature. **Practical :** **DSE3:** Polymer Analysis:	**6** **4** **2** **2**	



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TEACHING PLAN OF DEBABRATA SAHA
Chemistry (Honours) 2022-23) (July 2022-June 2023)

Month	SEM-I (H)	SEM-III(H)	SEM-V(H)
Jul	No Inorganic Core Course for SEM-I Honours. No Classes.	**CC-6** **MODULE-1B** **UNIT-I & II** Covalent bond: Polarizing power and polarizability, ionic potential, Fazan's rules. Lewis structures, formal charge. Valence Bond Theory. The hydrogen molecule (Heitler-London approach), directional character of covalent bonds, hybridizations, equivalent and non-equivalent hybrid orbitals.	**CC-11** **MODULE-02** **UNIT-1 (Transition Elements):** General comparison of 3d, 4d and 5d elements in term of electronic configuration, oxidation states, redox properties, coordination chemistry.
Aug		**CC-6** **MODULE-1B** **UNIT-III** Bent's rule, Dipole moments, VSEPR theory, shapes of molecules and ions containing lone pairs and bond pairs (examples from main groups chemistry) and multiple bonding (σ and π bond approach).	**MODULE-03** **UNIT-I (Lanthanoids and Actinoids):** General Comparison on Electronic configuration, oxidation states, colour, spectral and magnetic properties; lanthanide contraction, separation of lanthanides (ion-exchange method only).
Sept		**CC-6** **MODULE-2B** **UNIT-I** Metallic Bond: Qualitative idea of valence bond and band theories. Semiconductors and insulators, defects in solids stoichiometric and non-stoichiometric.	**DSE-2** **MODULE-01 (Qualitative and quantitative aspects of analysis):** **UNIT-I** Sampling, evaluation of analytical data, errors, accuracy and precision, methods of their expression. **UNIT-II** Normal law of distribution, indeterminate errors, statistical test of data; F, Q, t test, rejection of data& confidence intervals.
Oct		**CC-6** **MODULE-2C** **UNIT-I** Weak Chemical Forces: van der Waals forces, ion-dipole forces, dipole-dipoleinteractions, induced dipole interactions, Instantaneous dipole-induced dipole interactions. Repulsive forces.	**DSE-2** **MODULE-02 (Optical methods of analysis):** **UNIT-I** Origin of spectra, fundamental laws of spectroscopy and selection rules, validity of Beer-Lambert's law. **UNIT-II** UV-Visible Spectrophotometry: Basic principles of instrumentation (choice of source, monochromator and detector) for single and double beam instrument;
Nov		**CC-6** **MODULE-02** **UNIT-II** Intermolecular forces: Hydrogen bonding (theories of hydrogen bonding, valence bond treatment), receptor-guest interactions, Halogen bonds. Effects of chemical force, melting and boiling points.	**DSE-2** **MODULE-02** **UNIT-V** Flame Atomic Absorption and Emission Spectroscopy: Basic principles of instrumentation (choice of source, monochromator, and detector, choice of flame and Burner designs. Techniques of atomization and sample introduction; background correction, sources of chemical interferences and their removal. Techniques for the quantitative estimation of trace level of metal ions from environmental samples.
Dec		**CC-6** **MODULE-03** **UNIT-I** Nuclear stability and nuclear binding energy. Nuclear forces: meson exchange theory. Nuclear models (elementary idea): Concept of nuclear quantum number, magic numbers.	**DSE-2** **MODULE-05 (Separation techniques):** **UNIT-I** Solvent extraction: Classification, principle and efficiency of the technique. Mechanism of extraction: extraction by solvation and chelation. **UNIT-II** Technique of extraction: batch, continuous and counter current extractions. **UNIT-III** Qualitative and quantitative aspects of solvent extraction: extraction of metal ions from aqueous solution, extraction

			of organic species from the aqueous and nonaqueous media. **UNIT-IV** Chromatography: Classification, principle and efficiency of the technique. Mechanism of separation: adsorption, partition & ion exchange.
	SEM-II(H)	**SEM-IV (H)**	**SEM-VI(H)**
Jan	**CC-3** **MODULE-02** **UNIT-I & II** Modern IUPAC Periodic table, Effective nuclear charge, screening effects and penetration, Slater's rules.	**CC-9** **MODULE-02** **UNIT-I** Relative stability of different oxidation states, diagonal relationship and anomalous behaviour of first member of each group. Allotropy and catenation.	**MODULE-08** **UNIT-I** Significant figures, precision and accuracy, errors – systematic and random, mean, variance, standard deviation, different forms of standard deviations, sample and universal standard deviations. **UNIT-II** Qualitative idea about different frequency distribution, normal distribution, mathematical expression for normal distribution, calculation of area under normal distribution curve by numerical integration, relation between probability and area. **UNIT-III** Propagation of errors, general and specific cases, functions involving multiplication, division, exponential and logarithmic calculations.
Feb	**CC-3** **MODULE-02** **UNIT-III & IV** Atomic radii, ionic radii (Pauling's univalent), covalent radii, lanthanide contraction. Ionization potential,electron affinity and electronegativity (Pauling's, Mulliken's and Allred-Rochow's scales) and factors influencing these properties, group electronegativities.	**CC-9** **MODULE-02** **UNIT-II** Study of the following compounds with emphasis on structure, bonding,preparation, properties and uses. Beryllium hydrides and halides. Boric acid and borates.	**MODULE-08** **UNIT-IV** The t-distribution and application, confidence limit, significance testing, least-squares analysis, sensitivity and detection limit. **MODULE-9A** **UNIT-I** Acid-base reaction: polyprotic acids, mixture of monoprotic acids, reactions in non-aqueous solvents, levelling effect, titration in basic solvents and in glacial acetic acid.
Mar	**CC-3** **MODULE-02; UNIT-V** Group trends and periodic trends in these properties in respect of s-, p- and d-block elements. Secondary periodicity, Relativistic Effect, Inert pair effect. **MODULE-03; UNIT-I** Acid-Base concept: Arrhenius concept, theory of solvent system (in H2O, NH3, SO2 and HF), Bronsted-Lowry's concept, relative strength of acids, Pauling's rule.	**CC-9** **MODULE-02** **UNIT-III & IV** Boron nitrides, borohydrides (diborane) and graphitic compounds, silanes. Oxides and oxoacids of nitrogen, phosphorus, sulphur and chlorine. Peroxo acids of sulphur.	**MODULE-9A** **UNIT-II** Redox reaction: Redox titrations: feasibility, indicator, different types like chromometry,permangonometry, iodometry and iodimetry. **UNIT-III** Complexometric reaction: different multidentate ligands as complexometric titrants, applications ofEDTA, metal ion indicator, typical examples of EDTA titration, masking/demasking agent. **UNIT-IV** Precipitation reaction: a few typical examples like Vohlard titration, use of adsorption indicators.
Apr	**CC-3** **MODULE-03; UNIT-II & III** Lux-Flood concept, Lewis concept, group characteristics of Lewis acids, solvent levelling and differentiating effects. Thermodynamic acidity parameters, Drago-Wayland equation. Superacids, Gas phase acidity and proton affinity	**CC-9** **MODULE-02** **UNIT-V&VI** Sulphur-nitrogen compounds, Basic properties of halides and polyhalides, interhalogen compounds, polyhalides, pseudohalides, fluorocarbons and chlorofluorocarbons.	**MODULE-9C** **UNIT-I** Spectrophotometric analysis; Principle and terminology, Lambert-Beer's law and its limitations. **UNIT-II** Colorimetric determination of single analyte, spectrophotometric determination of multicomponent analytes, atomic absorption/emission spectrometry: principles and instrumentations, estimation of sodium and potassium in water samples.
May	**CC-3** **MODULE-03; UNIT-IV** .HSAB principle. Acid-base equilibria in aqueous solution (Proton transfer equilibria in water), pH, buffer. Acid-base neutralization curves; indicator, choice of indicators.	**CC-9** **MODULE-03** **UNIT-I** Noble Gases: Occurrence and uses, rationalization of inertness of noble gases, Clathrates; preparation, structures (VSEPR theory) and properties of XeF2, XeF4 and XeF6; Nature of bonding in noble gas compounds (Valence bond treatment and MO treatment for	**MODULE-10** **UNIT-I** Methodologies in separational chemistry; Basic principle of solvent extraction, distribution ratio, extraction equilibria and effect of pH, Craig,counter-current extraction: basic principle, simple applications. **UNIT-II** TLC/column chromatography: Rf-value and itssignificance, elution, migration rate, column efficiency, column resolution, band broadening; ion-exchangeseparation: basic principle, exchange capacity.