Maris Stella College
(AUTONOMOUS)

COs, PSOs & POs

and

Mapping 2020-23

VISION

Empower, Enrich, Excel, Transform

To contribute to a just and equitable society
through quality education for leadership
and social responsibility in an environment of
academic excellence and sound values.

MISSION

The mission of the college is to empower young
women through a transformative education to form
intellectually component, morally upright, socially committed
and spiritually inspired women imbued with the values
of humanism in the service of society

CORE VALUES

- Truth, Charity and Personal Integrity.
- Transformative Education.
- Inclusiveness, Excellence and Social justice.
- Holistic growth.
- Protection and Preservation of Environment

PROGRAM OUTCOMES (POs)
(UG & PG)

S.No.	Programme	Programme Code	Programme Outcomes (POs)
	UG PRGRAMMES		
1	BA (HEP) History, Economics, Political Science	101	**At the end of the programme students will have:** **PO1: Essential Knowledge:** Comprehensive discipline knowledge and understanding, the ability to engage with different schools of thought and to apply their knowledge in practice including in multi-disciplinary or multi-professional contexts. **PO2: Creative and critical thinking and problem solving abilities:** Be effective problem solvers, able to apply critical and evidence-based thinking to conceive innovative responses to future challenges. **PO3: Teamwork and communication skills:** Be able to convey ideas and information effectively to a range of audiences for a variety of purposes and contribute in a positive and collaborative manner to achieving common goals. **PO4: Motivation and preparation in life-long learning:** Exhibit life-long skills; broad based multiple career oriented general skills; self and field based learning skills; digital skills; social responsibility and compassionate commitment; preparedness for living, learning and working in any environment. **PO5: Professionalism and leadership readiness:** Be able to engage in professional behaviour and have the potential to be entrepreneurial and take leadership roles in their chosen occupations and communities. **PO6: Intercultural and ethical competency:** Be responsible and effective global citizens whose personal values and practices are consistent with their roles as responsible members of society. **PO7: Self-awareness and emotional intelligence:** Be self-aware and reflective, flexible and resilient and act with integrity and take responsibility for their actions as empowered women. **PO8: Social responsibility**: Be sensitive to and demonstrate agency in matters of environment, gender and other social issues to promote an equitable society**.**
2	BA (HElP) History, English Literature, Political Science	102	
3	BA (HElT) History, English Literature, Travel and Tourism Management	103	
4	BA (SwEP) Social Work, Economics, Political Science	104	
5	BA (JElP) Journalism, English Literature, Political Science	107	
6	B.Com. (G)	201	
7	B.Com. (T)	202	
8	B.Com. (C)	203	
9	BMS	501	
10	BBA Digital Marketing	502	
11	B.Sc.(MPC) Mathematics, Physics, Chemistry	301	
12	B.Sc.(MPCs) Mathematics, Physics, Computer Science	303	
13	B.Sc. (MSCs) Mathematics, Statistics, Computer Science	304	
14	B.Sc. (CBZ) Chemistry, Botany, Zoology	305	
15	B.Sc. (MECs) Mathematics, Electronics, Computer Science	306	
16	B.Sc. (BByC) Botany, Biotechnology, Chemistry	307	
17	B.Sc. (FMC) Food Science, Microbiology, Chemistry	308	
18	B.Sc. (MCCs) Mathematics, Chemistry, Computer Science	309	
19	B.Sc. (MByC) Microbiology, Biotechnology, Chemistry	310	
20	B.Sc. (FMBc) Food Science, Microbiology, Bio Chemistry	311	
21	B.Sc. (A & R) Agriculture & Rural Development	312	
	PG & MBA		
22	MA Economics	1201	
23	MA English	1201	
24	M.Com.	1301	
25	MSc. Mathematics	1401	
26	MBA	1501	

PROGRAMME SPECIFIC OUTCOMES (PSOs)

BA PROGRAMMES

S.No.	Programme	Programme Code	Programe Specific Outcomes (PSOs)
1	BA (HEP) History, Economics, Political Science	101	**At the end of the Programme the student will be able to** **PSO1**: Demonstrate fundamental knowledge of domain areas. **PSO2**: Acquire competence to apply and communicate principles, techniques and skills to analyze and interpret texts and data and draw conclusions. **PSO3**: Demonstrate problem-solving skills in real-life situations by drawing from imbibed theories and principles **PSO4**: Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.
2	BA (HElP) History, English Literature, Political Science	102	
3	BA (HElT) History, English Literature, Tourism and Travel Management	103	
4	BA (SwEP) Social Work, Economics, Political Science	104	
5	BA (JElP) Journalism, English Literature, Political Science	107	

B.Sc. PROGRAMMES

PHYSICAL SCIENCES

S.No.	Programme	Programme Code	Programme Specific Outcomes (PSOs)
1	B.Sc. (MPC) Mathematics, Physics, Chemistry	301	**At the end of the Programme the student will be able to** **PSO1:** Interpret principles, classifications, concepts, theories and mechanisms. **PSO2:** Analyse hypothesis, procedures, properties, and experimental facts and draw conclusions. **PSO3:** Apply techniques in solving problems, results, sample analysis and production. **PSO4:** Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.
2	B.Sc. (MPCs) Mathematics, Physics, Computer Science	303	
3	B.Sc. (MSCs) Mathematics, Statistics, Computer Science	304	
4	B.Sc. (MECs) Mathematics, Electronics, Computer Science	306	
5	B.Sc. (MCCs) Mathematics, Chemistry, Computer Science	309	

LIFE SCIENCES

S.No.	Programme	Programme Code	Programme Specific Outcomes (PSOs)
1	B.Sc. (CBZ) Chemistry, Botany, Zoology	305	**At the end of the Programme the student will be able to** **PSO1**: Summarize the concepts, principles, classifications, theories and mechanisms. **PSO2**: Discuss hypothesis, procedures, results and draw conclusions. **PSO3:** Apply tools and techniques in solving problems, sample analysis and production. **PSO4:** Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.
2	B.Sc. (BByC) Botany, Biotechnology, Chemistry	307	
3	B.Sc. (FMC) Food Science, Microbiology, Chemistry	308	
4	B.Sc. (MByC) Microbiology, Biotechnology, Chemistry	310	
5	B.Sc. (MByC) Microbiology, Biotechnology, Chemistry	311	
6	B.Sc. (A & R) Agriculture & Rural Development	312	

GENERAL ENGLISH							
S. No.	**Sem**	**Course Code**	**Course Title**	**Course Outcomes (COs)**		**Program Specific Outcomes (PSOs)**	**Program Outcomes(POs)**
1	I	20ENFCEP13	English Praxis I	CO1	Use grammar effectively in writing and speaking.	PSO1, PSO2	PO1,PO2,PO4,PO8
				CO2	Demonstrate the use of good vocabulary	PSO1, PSO2, PSO3	PO1,PO2,PO4,PO8
				CO3	Develop writing skills.	PSO2, PSO3	PO1,PO2,PO4,PO8
				CO4	Acquire ability to use Soft Skills in professional and daily life..	PSO2, PSO3, PSO4	PO1,PO2,PO3,PO4, PO5,PO7,PO8
2	II	20ENFCEP23	English Praxis II	CO1	Use reading skills effectively and comprehend different texts.	PSO1	PO1,PO2,PO4,PO8
				CO2	Analyze what is being read and use good writing strategies	PSO1, PSO2, PSO3	PO1,PO2,PO4,PO8
				CO3	Build up a repository of active vocabulary and apply it to everyday situations	PSO1, PSO2, PSO3	PO1,PO2,PO4,PO8
				CO4	Improve writing skills independently for future needs	PSO2, PSO3, PSO4	PO1,PO2,PO3,PO4, PO5,PO7,PO8
3	III	20ENFCEP33	English Praxis III	CO1	Understand texts from various linguistic, critical and creative concepts and categories.	PSO1, PSO2, PSO3	PO1,PO2,PO4,PO8
				CO2	Situate one's own reading in terms of society, religion, caste, region, gender and politics.	PSO1, PSO2, PSO3	PO1,PO2,PO4,PO8
				CO3	Use digital resources for gathering information.	PSO2, PSO3, PSO4	PO1,PO2,PO3,PO4, PO5,PO7,PO8
TELUGU							
S. No.	**Sem ester**	**Course Code**	**Course Title**	**Course Outcomes (COs)**		**Program Specific Outcomes (PSOs)**	**Program Outcomes(POs)**
1	I	20TLFCOG13	Old Poetry &Grammar	CO1	భావ ప్రకటనా సామర్థయ్ముపెంపెందెంరబడును.	PSO1, PSO2,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8
				CO2	భాష నైపుణ్య ములు పెందుదురు.	PSO1, PSO2,PSO3.	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8
				CO3	పాఠ్య ెంశాల ద్వా రా భార్ధతీయ సెంసక ృతి, సెంప్రద్వయెం, వార్ధసత్ా ెం, నైతికవిలువల రటల అవగాహన పెందుదురు.	PSO1,PSO2,PSO4.	PO1,PO2,PO3,PO4, PO8
				CO4	వయక్తత్ిా వికాసమునకు తోడ్ప డును.	PSO4.	PO1,PO2,PO3,PO4, PO8
				CO5	ఉనన త్ ప్రమాణాలతో కూడిన విద్వయ సముపార్ధనజ కు ప్ేరెంరబడును.	PSO4.	PO1,PO2,PO3,PO4, PO8
2	II	20TLFCML23	Modern Telugu Literature.	CO1	భావ ప్రకటనా సామర్థయ్ము పెంపెందెంరబడును.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8
				CO2	భాష నైపుణ్య ములు పెందుదురు.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8
				CO3	పాఠ్య ెంశాల ద్వా రా భార్ధతీయ సెంసక ృతి,సెంప్రద్వయెం, వార్ధసత్ా ెం, నైతికవిలువల రటలఅవగాహన పెందుదురు.	PSO1,PSO2,PS04	PO1,PO2,PO3,PO4, PO8
				CO4	వయక్తత్ిా వికాసమునకు తోడ్ప డును.	PSO4.	PO1,PO2,PO3,PO4, PO8
				CO5	ఉనన త్ ప్రమాణాలతో కూడిన విద్వయ సముపార్ధనజ కు ప్ేరెంరబడును.	PSO4.	PO1,PO2,PO3,PO4, PO8
3	II	20SDCPA2	Performing arts.	CO1	లలిత్కళల ప్రదర్ధశ నలలోప్ాధమిక ానానాినపెందుదురు	PSO1	PO1,PO4,PO7,PO8
				CO2	వివిధ తెలుగు ానరద కళలప్ాధమిక ానానాినపెందుదురు	PSO1	PO1,PO4,PO7,PO8
				CO3	దశవిధ రూరకములలో అభినయ నైపుణ్యం పెందుదురు.	PSO1,PSO3, PSO4	PO1,PO2,PO3,PO4, PO5,PO6,PO8
4	III / IV	20TLFCCW33	Creative Writing	CO1	తెలుగు సాహిత్య అభ్యసన ద్వారా నేర్చుకున్న నైపుణ్యాలను సృజనాత్మక నైపుణ్యలుగా మార్చుకోనగలరు.	PSO1,SO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO2	లిఖితనైపుణ్యాలను మెరుగుపరుచుకోనగలరు	PSO1,PSO2,PSO4	PO3,PO4,
				CO3	అనువాద రంగములో నైపుణ్యాలను సంపాదించుకోగలరు.	PSO1,PSO2,PSO4	PO1,PO3,,PO4, PO6.
				CO4	ప్రసార మాధ్యమము లోని సృజనాత్మక అంశాల నైపుణ్యాలను సంపాదించుకోగలరు.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO6 ,,PO8.
5		CERTD	Telugu DTP	CO1	Create Documents and Templates.	PSO1,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8

				CO2	Add Text into documents using various methods.	PSO1,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8
				CO3	Apply different formatting styles to characters and paragraphs.	PSO1,PSO3	PO1,PO2,PO3,PO4, PO5,PO6,PO7,PO8

HINDI

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes
1	I	20HNFCPO13	Prose, Short Stories & Grammar I	CO1	भाषा पर अधकिार बढ़ाना।	PSO1, PSO2,PSO3	PO1,PO2, PO3,PO4, PO7,PO8.
				CO2	भारतीय संस्कृति- सभ्यता पर प्रकाश डालना।	PSO1, PSO2,PSO3.	PO3,PO4.
				CO3	महात्माओं की जीवनयिों के द्वारा आत्म नरि्भता , देश भक्ति, आदि गुणों की महमिा का वर्णन करना।	PSO1,PSO2 ,PSO4.	PO1,PO4,PO6, PO7,PO8
2	II	20HNFCPM23	Prose, Short Stories, Grammar II	CO1	भाषा पर अधकिार बढ़ाना।	PSO1,PSO2, PSO3	PO1,PO2, PO3,PO4, PO7,PO8
				CO2	भारतीय संस्कृति- सभ्यता पर प्रकाश डालना।	PSO1,PSO2, PSO3	PO3,PO4,
				CO3	महात्माओं की जीवनयिों के द्वारा आत्म नरि्भता , देश भक्ति, आदि गुणों की महमिा का वर्णन करना।	PSO1,PSO2, PS04	PO1,PO4,PO6, PO7,PO8
3	III	20HNFCLG33	Hindi Literature& Grammar	CO1	भाषा पर अधकिार बढ़ाना।	PSO1	PO1,PO4,PO6, PO7,PO8
				CO2	भारतीय संस्कृति- सभ्यता पर प्रकाश डालना।	PSO1	PO1,PO4,PO6, PO7,PO8
				CO3	व्याकरण के द्वारा भाषा पर अधकिार भावों को प्रकट करना।	PSO1,PSO4	PO1,PO4,PO6 .PO8

SANSKRIT

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes
1	I	20SNFCPP 13	Poetry, Prose & Grammar- I	CO1	१. साहित्यकार, ऋषि, कवि हृदय विवेचनम् ।	PSO1, PSO2,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	२. मानवीयमूल्यसम्पादनाभिलाषः।	PSO1, PSO2, PSO3.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
				CO3	३. मौलिकव्याकरणज्ञानेन प्रयोगे अर्थात् पठन लेखन वेलासु भाषाशुद्धये प्रयत्नः।	PSO1, PSO2, PSO4.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
2	II	20SNFCPP 23	Poetry, Prose & Grammar II	CO1	१. संस्कृतकवीनां पदवाक्यप्रयोगसरणेरवगतिः।	PSO1, PSO2, PSO3.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
				CO2	२. संस्कृतकवीनां भावगाम्भीर्यपरिज्ञानम् ।	PSO1, PSO2, PSO3.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
				CO3	३. वाक्यरचनायां दोषराहित्य प्रप्तिः ।	PSO1, PSO2, PSO4.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
3	III	20SNFCDH33	Drama and History of Sanskrit Literature	CO1	पात्रपोषणे,रसनिरूपणे नाटककार कौशलं विज्ञातम	PSO1	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
				CO2	कवि, शास्त्रकारयोगदानज्ञानात् तद्रचनासु पठनपरिशीलनानुरागवृद्विः।	PSO1	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO8
				CO3	भाषाप्रयोगे अलङ्कारादिविवेचनदृष्टिरासादिता ।	PSO1, PSO3, PSO4.	PO1, PO2, PO3, PO4,PO5, PO6, PO7, PO15

UG PROGRAMMES							
HISTORY							
S. No.	**Semester**	**Course Code**	**Course Title**		**Course Outcomes (COs)**	**Program Specific Outcomes (PSOs)**	**Program Outcomes**
1	I	20HSCCAH14	Ancient Indian History & Culture (From 3200 BC to 13th C. AD)	CO1	Summarize the various sources and their relevance to the study of History.	PSO1	PO1
				CO2	Compare the progress of History & Culture over the ages.	PSO2	PO2
				CO3	Explain the emergence of Empires from Territorial States	PS01,PS02	PO3
				CO4	Interpret the different facets of society, polity and culture in South India	PS03	PO2
				CO5	Estimate the contribution of various rulers and their relevance to the society	PSO4	PO1
2	II	220HSCCMH24	Medieval Indian History & Culture (1206-1764 A.D)	CO1	Examine various sources for the study of Medieval Indian History and History of Marathas and the socio, economic and cultural conditions of medieval India.	PS01	PO3
				CO2	Describe the advent of Islam in India and the traces of political and cultural expansion of Turks & Afghans	PSO2	PO4
				CO3	Explain the contribution of the Vijayanagar rulers, the Mughals, and the Marathas	PS01	PO3
				CO4	Summarize the establishment and consequences of the British rule in India	PS03	PO2
				CO5	Analyze the emergence of a composite culture in India.	PS04	PO4
3	II/III	20LSCNC2	National Cadet Corps– I	CO1	Identify the concepts of NCC Motto, NCC Flag, Aims of NCC, Cardinal points of NCC.	PSO1	PO1
				CO2	Comprehend the concepts of Personality Development and Leadership.	PSO2	PO1, PO3
				CO3	Analyze the contribution of Youth towards Social Welfare.	PSO3, PSO4	PO6, PO8, PO5
4	II/III	20SDCNC2	National Cadet Corps– II	CO1	Understand the concept of Civil Defense, its duties & services .	PSO1	PO1
				CO2	Remember how to Assist in Removal of Debris, Collection and Distribution of Aid Material and comprehend the characteristics of Home Nursing and preparation of sick room.	PSO2	PO1, PO3
				CO3	Estimate the own position from map to ground and ground to	PSO3, PSO4	PO6, PO8, PO5
5	II/III	20LSCIS2	Indian Culture & Science	CO1	Understand the sources available by gathering additional knowledge from the internet and use of modern ICT tools for the reconstruction of Mughal History.	PSO1	PO1
				CO2	Remember the important historians and their contributions.	PSO2, PS03	PO5
				CO3	Analyze the causes for the rise of Marathas and Sikhs	PS04	PO6
6	III	20HSCCMC34	Modern Indian History & Culture (1764-1947 AD)	CO1	Summarize nature and consequences of the British rule in India.	PSO1	PO1
				CO2	Assess the causes and effects of Reform Movements	PS02	PO2
				CO3	Explain the complexities of the Freedom Struggle in India.	PS03	PO3
				CO4	Evaluate the rise of communal politics.	PS04	PO8
7	IV	20HSCCCA44	History & Culture of Andhra (15612-1956 AD) (1453-1821)	CO1	Summarize the advent and relevance of Europeans	PS01, PS02	PO1
				CO2	Relate the key historical developments during the medieval period in coastal Andhra and Telangana regions	PS03	PO2
				CO3	Interpret the gradual changes in Andhra society	PS04	PO2
				CO4	Explain the dominance of the English East India Company and the impact of colonial policies on Andhra.	PS05	PO4
				CO5	Outline the laws and policies of colonial administration towards issues relating to social reform	PSO1	PO5
8	IV	20HSCCMW44	History of Modern World (15thC. – 1945 AD)	CO1	Understand the various concepts and systems of the medieval period in modern world.	PS01, PS02	PO1
				CO2	Compare the facts and ideas of renaissance and their impact on the society	PS02	PO2
				CO3	Analyze the various events, reformation, French Revolution, rise of Nation Sates, etc., by using additional study materials using modern ICT tools	PS03	PO2

				CO4	Evaluate the impact of changing polity on the society	PS03	PO6
				CO5	Create renewed interest in the revolution especially the French revolution	PS04	PO8
9	V/VI Set 1	20HSSEC11AS4	Archival Sources and Technique (1821-1945) General Elective	CO1	Understand the archival sources and techniques as professional tools	PSO1	PO1
				CO2	Identify the intellectual and physical content in historical sites and records.	PSO2	PO4
				CO3	Develop the ability to preserve and create access for a historic record.	PSO2	PO5
				CO4	Recognize the importance of archives in history writing.	PSO3	PO2
				CO5	Manage, budget and implement projects.	PSO1	PO5
10	V/VI Set 1	20HSSEC12HW4	Techniques of History Writing	CO1	Understand the meaning of history, scope and various concepts in historical writings	PSO1	PO1
				CO2	Identify various historical sources for writing history of a person / event / place/organization/ monument/ etc	PSO2	PO2
				CO3	Understand the different ways to organize sources and interpretation	PSO3	PO4
				CO4	Summarize the changing ideas and approaches to a particular topic of history	PSO1	PO2
				CO5	Learn skills related to choosing and writing of a comprehensive history of a small unit	PSO4	PO3
11	V/VI Set 2	20HSSEC21TH4	Tourism & Hospitality Services	CO1	Understand hospitality as a career	PSO1	PO1
				CO2	Inculcate interpersonal skills	PSO4	PO3
				CO3	Develop the ability for multitasking and crisis management	PSO3	PO4
				CO4	Demonstrate the spirit of teamwork	PSO3	PO3
				CO5	Acknowledge the importance of Guest service and satisfaction	PSO4	PO1
12	V/VI Set 2	20HSSEC22TO4	Tourism Guidance & Operating Skills	CO1	Acquire tour guiding, operating and soft skills	PSO1	PO5
				CO2	Understand different situations under which one has to work	PSO2	PO2
				CO3	Cultivate cultural awareness and flexibility	PSO4	PO6
				CO4	Understand and apply team spirit	PSO3	PO3
				CO5	Plan and organize tour operation efficiently	PSO3	PO5
13	V/VI Set 4	20HSSEC31PA4	Modern Principles & Techniques of Archaeolog	CO1	Identify the relationship between archaeology and other disciplines	PSO1	PO1
				CO2	Understand the data retrieval techniques in Archaeology	PSO1	PO4
				CO3	Demonstrate post excavation analysis, recording and interpretation of data	PSO3	PO3
				CO4	Differentiate the dating methods in Archaeology	PSO2	PO4
				CO5	Analyze the conservation and preservation methods in Archaeology	PSO3	PO2
14	V/VI Set 4	20HSSEC32MM4	Museum Management	CO1	Gain Awareness about the History, Context and Concepts of Museums	PSO1	PO1
				CO2	Understand Curatorial Responsibilities and Ethics of Collection	PSO3	PO8, PO5
				CO3	Document and Classify Museum Objects and Acquire Skills to Manage and Demonstrate them in Museum	PSO1	PO5
				CO4	Evaluate the Intricacies of Exhibition Design and Develop Skills related to various aspects of Museum Exhibitions	PSO1	PO2
				CO5	Analyze the Changing Dynamics between Museums and Culture and Job opportunities in this Field	PSO3	PO7

ECONOMICS

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes (PSOs)	Program Outcomes
1	I	20ECCCMI14	Microeconomic Analysis	CO1	Differentiate microeconomic analysis and macroeconomic analysis	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	Analyse various laws and principles of consumption and production	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Illustrate the various terms and concepts relating to microeconomic analysis	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	Determine the price and output in different markets.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	Represent diagrammatically the application of laws and principles of micro economic analysis.	PSO1, PSO2, PSO3	PO1,PO2,PO4
2	I	20ECCCBE14	Business Economics	CO1	Demonstrate basic knowledge of nature and scope of business economics	PSO1, PSO2,PSO3	PO1,PO2,PO4
				CO2	Analyze the concepts of supply and demand .	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Evaluate the factors affecting the behavior of firms.	PSO1, PSO2, PSO3	PO1,PO2,PO4

				CO4	CO4: Illustrate price determination under various markets.	PSO1, PSO2, PSO4	PO1,PO2,PO4
				CO5	Analyse business cycles and national income	PSO2, PSO3,PSO4	PO1,PO2,PO4
3	I	20LSCHP2	Human Values & Professional Ethics	CO1	Explain the types of values and their need.	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5, PO6
				CO2	Display agency in furthering harmonious human relationships.	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5, PO6
				CO3	Demonstrate professional ethics in education.	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5, PO6
4	II	20ECCCMA24	Macroeconomic Analysis	CO1	Differentiate various concepts and components of national income and methods of measurement	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	Analyze the theories of consumption and employment	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Examine the functions of commercial banks and central bank	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	Analyse inflation and business cycles in day to day situations	PSO1,PSO2, PSO3	PO1,PO2,PO4
				CO5	Examine financial markets and insurance	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO4
5	II	20SDCRM2	Research Methodology Research Methodology	CO1	Describe the components of a research study	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO2	Demonstrate the process of data collection and presentation	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO3	Develop skills in writing reports.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
6	III	20ECCCDE34	Development Economics	CO1	Explain the concept of economic growth and development.	PSO2, PSO3	PO2,PO4,PO5
				CO2	Identify the indicators of economic growth and evaluate rate.	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO3	Examine theories of economic development	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO4	List the strategies of economic growth and development.	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO5	Assess the role of financial institutions	PSO2, PSO3	PO2,PO4,PO5
7	III	20SDCFM2	Financial Markets	CO1	Explain Indian financial systems	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5
				CO2	Describe the functions and elements of capital market	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5
				CO3	Illustrate components of the money market.	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5
8	III	20SDCDM2	Disaster Management	CO1	Classify different types of disasters.	PSO1, PSO2, PSO3, PSO4	PO5,PO6,PO8
				CO2	Outline different aspects of disaster management and role of organizations ,citizens and technology	PSO1, PSO2, PSO3, PSO4	PO5,PO6,PO8
				CO3	Explain post disaster management and service activities	PSO1, PSO2, PSO3, PSO4	PO5,PO6,PO8
9	IV	20ECCCIA44	Indian & AP Economy	CO1	Analyze demographic trends , population dividend and income inequalities	PSO1, PSO2, PSO3, PSO4	PO4,PO5,PO6 PO8
				CO2	Examine the trends in the Indian agricultural sector	PSO1, PSO2, PSO3, PSO4	PO4,PO5,PO6 PO8
				CO3	Evaluate the Indian industrial policies and service sector.	PSO1, PSO2, PSO3	PO4,PO5,PO6 PO8
				CO4	Examine the various economic reforms in the three sectors.	PSO1, PSO2, PSO3	PO4,PO5,PO6 PO8
				CO5	Apply the structure of five year plans to the present	PSO1, PSO2, PSO3, PSO4	PO4,PO5,PO6 PO8
10	IV	20ECCCQM44	Quantitative Methods for Economics	CO1	Apply the different sampling methods	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO2	Compare and interpret primary and secondary data.	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO3	Compute and interpret measures of central tendency and dispersion	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO5
				CO4	Calculate and interpret the correlation and regression between two variables	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO5	Construct index numbers and apply various methods of time series analysis	PSO1, PSO2, PSO3	PO2,PO4,PO5
11	V/VI Set 1	20ECSEC11RE4	Rural Entrepreneurship	CO1	Explain the basic theories and essentials of entrepreneurship	PSO1, PSO2, PSO4	PO1,PO2,PO4, PO5
				CO2	Identify and analyze the entrepreneurship opportunities available in local rural area .	PSO1, PSO2, PSO4	PO1,PO2,PO4, PO5
				CO3	Apply the theories of entrepreneurship to the conditions of local rural area and formulate appropriate business ideas	PSO1, PSO2, PSO4	PO1,PO2,PO4, PO5
				CO4	Demonstrate practical skills that will enable them to start rural entrepreneurship	PSO1, PSO2, PSO4	PO1,PO2,PO4, PO5
				CO5	Analyse Government Schemes for promotion of Rural Entrepreneurship	PSO1, PSO2, PSO4	PO1,PO2,PO4, PO5
12	V/VI Set 1	20ECSEC12FO4	Farmer Producer	CO1	Explain the concept and organization of FPO and	PSO1, PSO2,	PO1,PO2,PO4,

			Organizations		its economic activities	PSO3	PO5
				CO2	Identify and analyse the opportunities related to FPO in local rural area.	PSO1, PSO2, PSO3	PO3,PO4,PO5, PO6
				CO3	Apply the concepts to the identified FPO related opportunities available in the local area and formulate business ideas.	PSO1, PSO2, PSO3	PO3,PO4,PO5, PO6
				CO4	Demonstrate practical skills that will enable them to start a FPO or earn wage employment in it	PSO1,PSO2, PSO3	PO3,PO4,PO5, PO6
				CO5	Analyse Government Schemes for promotion of FPOs	PSO1, PSO2, PSO3, PSO4	PO3,PO4,PO5, PO6
13	V/VI Set 2	20ECSEC21UE4	Urban Entrepreneurship and MSMEs	CO1	Explain the basic theories and essentials of entrepreneurship	PSO2, PSO3	PO2,PO3,PO4, PO5
				CO2	Identify and analyze the entrepreneurship opportunities available in local urban area.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO3	Apply the theories of entrepreneurship to the conditions of local urban area and formulate appropriate business ideas.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO4	Demonstrate practical skills that will enable them to start urban entrepreneurship	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO5	Government Schemes for promotion of Urban Entrepreneurship and MSMEs	PSO2, PSO3	PO2,PO3,PO4, PO5
14	V/VI Set 2	20ECSEC22RM4	Retail and Digital Marketing	CO1	Explain the concepts and principles about the retail and digital marketing	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO5
				CO2	Identify and analyse the opportunities related to retail and digital marketing available in the local area	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO5
				CO3	Apply the concept to formulate the new strategies related to retail and digital marketing	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO4	Demonstrate the practical skills required to get employment in retail and digital marketing or to start own digital marketing	PSO1, PSO2, PSO3	PO2,PO4,PO5
				CO5	Analyze Marketing Models of Retail and Digital Market Companies/Shops	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO5
15	V/VI Set 3	20ECSEC31IS4	Insurance Services	CO1	Explain the concept and principles of insurance service and functioning of insurance service agencies	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO2	Identify and analyse the opportunities related insurance services in local rural area	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO3	Apply the concepts and principles of insurance to build a career in Insurance services	PSO1, PSO2, PSO3, PSO4	PO2,PO3,PO4, PO6
				CO4	Demonstrate practical skills to enable them to start insurance service agency or earn wage employment in it.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO5	Analyzing Ethical Behavior in Insurance	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
16	V/VI Set 3	20ECSEC32BFS4	Banking and Financial Services	CO1	Explain the concept and essentials banking and financial services	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO2	Identify and analyse the employment opportunities related to banks and other financial institutions	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO3	Apply the concepts to banking and financial opportunities and formulate ideas related to them.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO4	Demonstrate practical skills to enable them to get employment in Banks and other financial institutions as marketing agents.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO5	Analyzing Market Finance Service Company	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
17	V/VI Set 4	20ECSEC41ISP4	Inferential Statistics and Software Packages	CO1	Explain Theorems of Probability	PSO1, PSO2, PSO3,PSO4	PO2,PO4,PO6
				CO2	Demonstrate the knowledge related to the techniques of inferential statistics	PSO1, PSO2, PSO3,PSO4	PO2,PO4,PO6
				CO3	Application of Testing of Hypotheses	PSO1, PSO2, PSO3,PSO4	PO2,PO4,PO6
				CO4	Calculate correlation, regression coefficients and interpret the results.	PSO1,PSO2, PSO3,PSO4	PO2,PO4,PO6
				CO5	Use Excel sheets and SPSS package to analyse the data and derive the results..	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO6
18	V/VI Set 4	20ECSEC42PDRW4	Project Designing and Report Writing	CO1	Demonstrate the knowledge relating to research in social sciences in general and economics in particular	PSO2, PSO2,PSO3	PO1,PO2,PO3, PO4
				CO2	Analytical Evaluation Research	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4
				CO3	Undertake a field survey to collect relevant data and information relating to project work	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4
				CO4	Formulate a good research design to undertake mini research projects with a view to studying the socio-economic problems of the society	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4
				CO5	Develop capacity to write a simple project report	PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4

POLITICAL SCIENCE							
S. No.	**Semester**	**Course Code**	**Course Title**		**Course Outcomes (COs)**	**Program Specific Outcomes (PSOs)**	**Program Outcomes**
1	I	20PSCCIP14	Introduction to Political Science	CO1	Explain the nature, scope, and approaches to Political Science	PSO1, PSO2	PO1, PO2,
				CO2	Outline the major theories of origin of the state, its elements and nature	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	List the sources, kinds and features of liberty, equality, justice and sovereignty	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Classify and relate the rights and duties in a civil society.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Identify and estimate the impact of political ideologies	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
2	I	20SDCPR2	Public Relation	CO1	Discuss the evolution and advancements in public relations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain the concepts and tools of public relations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate writing skills required in public relations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3	II	20PSCCBG24	Basic Organs of Government	CO1	Explain the origin, evolution and classification of constitutions	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Identify the organs of government and estimate their impact	PSO1, PSO2, PSO3	PO1, PO2
				CO3	Classify the forms of government and illustrate their nature.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Discuss the types of democracy and methods of representation	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO5	Classify political parties and the role of pressure groups and public opinion	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	III	20PSCCGP34	Indian Government and Politics	CO1	Examine the philosophical foundations of the Indian Constitution	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Discuss the composition and functioning of the Union Government.	PSO1, PSO2, PSO3	PO1, PO2
				CO3	Identify the structure and functioning of the State Government	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Examine the Indian judicial system and reforms.	PSO1, PSO2, PSO3	PO1, PO2, PO3,PO4
				CO5	Discuss the nature and recent trends in the federal system.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
5	IV	20PSCCPP44	Indian Political Process	CO1	Evaluate the nature of the political system in India	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Discuss the Indian electoral system and reforms	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Examine the constitutional base and functioning of local governments	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Identify the dynamics and challenges of Indian Politics.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO5	Evaluate the functioning of regulatory institutions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4
6	IV	20PSCCWP44	Western Political Thought	CO1	Examine the fundamental contours of Ancient Western Political Philosophy	PSO1, PSO2, PSO3, PSO4	PO1, PO2,
				CO2	Identify the basic features of medieval political thought and the shift from Medieval to Modern era	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Analyse the Social Contract Theory	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO4	Assess the liberal trends in Western political thought	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Examine the influence of Marxist philosophy on Western political thought	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	V/VI Set 1	20PSSEC11PR4	Political Reporting	CO1	Discuss the need, scope and concepts inPolitical Reporting	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Identify various sources for Political Reporting.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Interpret the political phenomena from the grass root level to the Parliament.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO4	Develop insights and enhance skills in a professional manner in the age of mass media.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline reporting skills and enhance job opportunities.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,
8	V/VI Set 1	20PSSEC12LL4	Legal Literacy-Rights Awareness	CO1	Outline the structure and functioning of the legal system in India.	PSO1, PSO2	PO1, PO2
				CO2	Examine the procedure of criminal jurisdiction.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Identify the legal securities and protections of rights.	PSO1, PSO2, PSO3	PO1, PO2, PO3

				CO4	Discuss the system of courts both civil and criminal.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	llustrate the mechanism of legal services.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
9	V/VI Set 2	20PSSEC21EG4	E-Governance	CO1	Outline the evolution of E-Governance.	PSO1, PSO2	PO1, PO2
				CO2	Identify the nature and evolution of E-Governance in India.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Analyze the role of ICT in administration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO4	Discuss the role of Information Technology in governance towards transparency.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Identify the issues and challenges of E-Governance.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	V/VI Set 2	20PSSEC22LA4	Local Administration	CO1	Define the context of Localdminstration in India.	PSO1, PSO2	PO1, PO2
				CO2	Discuss the evolution of Local Administration after Independence.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Categorize the financial resources of local governments.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Examine the financial, administrative and political constraints and challenges to local administration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Elaborate the methods and functioning of Local Administration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11	V/VI Set 3	20PSSEC31OM4	Office Management	CO1	Explain the organisation of Office Management.	PSO1, PSO2	PO1, PO2
				CO2	Discuss the structure of Office Organisation.	PSO1, PSO2	PO1, PO2, PO3
				CO3	Outline the importance and essentials of office record management.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Identify the role of office communication and its barriers.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	List the skills required for office management and examine its recent trends.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12	V/VI Set 3	20PSSEC32PA4	Personnel Administration	CO1	Discuss the organization of Personnel administration and the role of bureaucracy in the modern state.	PSO1, PSO2	PO1, PO2
				CO2	Identify the types and methods of recruitment for All India. Central and State Services.	PSO1, PSO2	PO1, PO2, PO3, PO4
				CO3	Examine the need of training and its significance in personnel administration.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Estimate the role of administrative ethics and code of conduct in employee and employer relations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the role of grievance mechanism in personnel administration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
13	V/VI Set 4	20PSSEC41EV4	Electoral Politics and Voting Behaviour	CO1	Summarize the nature of electoral democracy in pre and post Independence.	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Discuss the structure and functioning of Election Commission of India.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Examine the issues in electoral politics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO4	Identify the role of public opinion in democratic politics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the organization and system of election management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
14	V/VI Set 4	20PSSEC42LP4	Legislative Procedures and Practices	CO1	Outline the procedures and practices of legislative bodies.	PSO1, PSO2	PO1, PO2
				CO2	Discuss the role of people's representatives in the legislative process at national, state and local governments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain the lawmaking process.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Identify and Discuss the role of Legislative Committees in India.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Outline the process of budgeting in the legislature.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

ENGLISH LITERATURE

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20ENCCBL14	Background to Literature I	CO1	Understand the literary texts and periods of literary history.	PSO1, PSO2	PO1,PO2
				CO2	Gain knowledge of the literary forms, genres and movements.	PSO1, PSO2, PSO3	PO1, PO2,PO6, PO8
				CO3	Critically analyze the texts in terms of literary forms, genres and movements.	PSO1,PSO2, PSO3	PO2,PO6, PO8
2	II	20ENCCBL24	Background to Literature II	CO1	Understand and develop insights into the literary texts and periods of literary history	PSO1,PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
				CO2	Cultivate a better understanding of the literary forms, genres and movements.	PSO1, PSO4. PSO5	PO3,PO4,PO5
				CO3	Apply the concepts and theories to prescribed texts and contemporary situations.	PSO1	PO1

				CO4	Analyze the texts and develop critical thinking while practicing writing skills.	PSO1, PSO2, PSO3	PO1,PO2, PO6,PO8
3	III	21ENCCMB34	Modern British Literature	CO1	Develop an understanding of different forms and types of British Literature	PSO1, PSO2, PSO3	PO1,PO2, PO6,PO8
				CO2	Appreciate and analyze the texts in the larger socio-political and religious contexts of the time.	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
				CO3	Demonstrate an awareness of the nuances of the English language and its varieties.	PSO1, PSO2, PSO3	PO1,PO2, PO6,PO8
				CO4	Extend the knowledge of life in literature (of the environment, gender, politics, nationalities, personal and ideological differences) living situations.	PSO1, PSO2, PSO3	PO1,PO2, PO6,PO8
4	IV	21ENCCGW44	Glimpses of World Literature	CO1	Understand the aspects of literature from all over the world	PSO1	PO1
				CO2	Analyse the artist's response in different contexts	PSO1, PSO2, PSO3	PO1, PO2, PO6, PO8
				CO3	Apply the concepts to the current world situation and trends.	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
				CO4	Interpret how different forms contribute to the reflection of life across the world.	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
5	IV	21ENCCWW44	Women's Writings	CO1	Explore literary texts through the feminist perspective and contextualize them within historical, social and cultural contexts.	PSO1	PO1
				CO2	Articulate connections between global, regional, and local issues and their relationship to women's experiences with an awareness of the importance of context.	PSO1, PSO2, PSO3	PO1, PO2, PO6, PO8
				CO3	Demonstrate adequate skills in listening, speaking, reading and writing effectively,	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
				CO4	Practice critical thinking and apply feminist theoretical perspectives in real life situations.	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
				CO5	Synthesize the ideas from the course and present their own analytical arguments in writing.	PSO2, PSO3, PSO4	PO2,PO6, PO8,PO3, PO4,PO5
6	V/VI Set 1	20ENSEC11ET4	English Language Teaching Skills	CO1	Understand the central principles of Teaching English.	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO2	Acquire the skills of Teaching English	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO3	Demonstrate different classroom management techniques.	PSO3,PSO4,PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO4	Teach English in a systematic way.	PSO1, PSO2 PSO3	PO1, PO2, PO6, PO8
				CO5	Make use of Technology for Teaching English.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
7	V/VI Set 1	20ENSEC12ST4	Skills and Procedures of Translation	CO1	Understand the central issues of Translation	PSO1, PSO2,PSO3	PO1, PO2, PO6, PO8
				CO2	Use the methods of Translation	PSO3, PSO4	PO2, PO3, PO4, PO5, PO6,PO8
				CO3	Translate from English to Telugu and Vice-versa.	PSO3, PSO4	PO2, PO3, PO4, PO5, PO6,PO8
				CO4	Translate different genres.	PSO3,PSO4	PO2, PO3, PO4, PO5, PO6,PO8
				CO5	Make use of technology for translation.	PSO3,PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
8	V/VI Set 2	20ENSEC21TO4	Teaching English Online	CO1	Understand online Teaching of English	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO2	Acquire skills of teaching online.	PSO3, PSO5	PO2, PO3, PO4, PO6 PO7, PO8
				CO3	Identify online resources for teaching.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,

				CO4	Conduct classes online.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO5	Use Technology for evaluating students' performance.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
9	V/VI Set 2	20ENSEC22EJ4	English for Journalism & Advertising	CO1	Understand the Principles of Journalism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5,PO6, PO8
				CO2	Acquire Language Skills for effective communication.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO3	Identify online resources for personal improvement	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO4	Demonstrate Speaking Skills for the media.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO5	Analyze events for authentic reporting	PSO2, PSO3, PSO5	PO2, PO3 PO4, PO6, PO7, PO8,
10	V/VI Set 3	20ENSEC31WM4	Writing for the Media	CO1	Write with confidence.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
				CO2	Use Correct Grammar, Punctuation and Appropriate Style.	PSO1, PSO2, PSO3	PO1, PO2, PO6, PO8
				CO3	Differentiate between various types of media writing.	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO4	Gather and synthesize information from authentic sources.	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO5	Use digital resources for media writing.	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
11	V/VI Set 3	20ENSEC32CL4	Creative Writing and Literary Appreciation	CO1	Understand and define the art of Creative Writing.	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO2	Identify different literary genres	PSO1, PSO2, PSO4	PO1,PO2, PO3,PO4, PO5
				CO3	Review the published works of others	PSO3, PSO4	PO2, PO3, PO4, PO5, PO6,PO8
				CO4	Deliver presentations on the literary works	PSO3, PSO4	PO2, PO3, PO4, PO5, PO6,PO8,
				CO5	Demonstrate the creative writing skills	PSO3, PSO4, PSO5	PO2,PO3, PO4,PO5, PO6, PO7 PO8,
10	V/VI Set 4	20ENSEC41LP4	Literary Theory & Practice	CO1	Understand different aspects of literary studies known as theory.	PSO1, PSO2, PSO5	PO1,PO2, PO4,PO5
				CO2	Gain perception on the evaluation of literary theories.	PSO1, PSO2, PSO3, PSO4	PO1,PO2, PO6,PO7
				CO3	Learn various literary concepts and theories.	PSO1,PSO2, PSO3	PO1,PO2, PO3, PO4, PO6, PO7 PO8
				CO4	Analyze and evaluate critically a work of art	PSO1,PSO2, PSO3, PSO5	PO2, PO3, PO4, PO5,
11	V/VI Set 4	20ENSEC42AW4	Academic Writing	CO1	Produce writing with appropriate language and content.	PSO1, PSO3, PSO4 PSO5	PO1,PO2, PO3,PO4, PO5
				CO2	Make reference to appropriate sources	PSO3, PSO4, PSO5	PO3,PO4, PO5,PO8
				CO3	Evaluate and justify information and ideas obtained from sources.	PSO1, PSO2, PSO3	PO1,PO2 PO4,PO6 PO7
				CO4	Plan and structure writing effectively Understand and define the art of Creative Writing.	PSO3, PSO4,PSO5	PO3, PO5 PO6, PO7 PO8

TOURISM AND TRAVEL MANAGEMENT							
S. No.	**Semester**	**Course Code**	**Course Title**		**Course Outcomes (COs)**	**Program Specific Outcomes (PSOs)**	**Program Outcomes (POs)**
1	I	20TTCCCT14	Concepts of Tourism	CO1	Explain the nature, concept and scope of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explain the types and typologies of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Summarize the growth of tourism over the ages	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Explain the role of various sectors of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Relate the socio-economic impact of tourism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
2	SEM I SDC	20SDCTG2	Tourism Guidance	CO1	Explain the basic concepts of tourism and tourism guidance.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO2	Apply tourism guidance concepts to manage group tours	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
				CO3	Demonstrate guest relation management, leadership and social skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
3	II	20TTCCTR24	Tourism Resources of India	CO1	Explain the importance of tourism resources to the development and promotion of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Summarize the cultural and natural resources of Andhra Pradesh	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain the existing infrastructure conducive to the development of Tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Explain the impact of tourism on the environment.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Relate the socio-economic impact of Tourism	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
4	II LSC	20LSCGS2	Gender Studies	CO1	Explain the concept of gender and its social construction	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO7, PO8
				CO2	Outline the challenges faced by women and legal protection	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO7, PO8
				CO3	Explain the role of education and employment in women's empowerment	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO7, PO8
5	III	20TTCCTT34	Travel and Tourism Management	CO1	Explain the role of the travel agencies and tour operators in the promotion of tourism	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO2	Apply the concept of tour packaging to the development of tourism and the business of a tour operator/travel agent.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain the concept and relevance of management to tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO4	Relate the role of various travel organizations in the promotion of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Explain the concepts of accommodation management and types of accommodation	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
6	IV	20TTCCTP44	Tourism Policy, Planning and Development	CO1	Explain the nature , types and importance of tourism planning	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Relate the various planning approaches to different forms of tourism	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain the tourism policy of India	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO4	Explain the tourism resources of Andhra Pradesh	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Explain the tourism policy of of Andhra Pradesh	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
7	IV	20TTCCTM44	Tourism Marketing	CO1	Explain the concept and terminology of marketing	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explain the concepts of marketing research, primary and secondary data	PSO1, PSO2, PSO3	PO1, PO2, PO3

				CO3	Relate the concept of marketing mix in the tourism industry	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO4	Outline the major tools of promotion mix and factors influencing the distribution policy	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Summarize the necessary attributes for an ideal tourist destination and its creation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
8	IV	20TTSTP4	Study Tour Project	CO1	Acquire knowledge of the various tourist and historical sites	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5
				CO2	Understand the importance of tourist resources and their management	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5,
				CO3	Analyze the touristic facilities and their role in the promotion of Tourism	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5,
				CO4	Evaluate the pattern of Touristic behaviour and their use of touristic sites	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
				CO5	Create interest in travel and travel writing	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5, PO6, PO8
9	IV	20TTCIP4	Corporate Internship	CO1	Acquire practical knowledge in the various sectors of Tourism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Acquire in depth practical knowledge about the Tourism industry	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Write a comprehensive report based on their practical knowledge.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Analyze the collected material, compile and prepare a Project Report	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Evaluate the role of the Tourism industry in the socio-economic development of the country.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
10	V/VI Set 1	20TTSEC11PT3	Package Tours	CO1	Understand the importance of Package Tours	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Relate the components of tour package	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Learn various steps in tour package	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Learn about Itinerary preparation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Learn about tour operation documentation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
11	V/VI Set 1	20TTSEC12CH3	Cargo Handling	CO1	Understand the importance of civil aviation in India.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Learn about air transport operators like AITA & ICAO	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Learn about International carriage of cargo regulations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Understand the terminology related to cargo handling.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Learn about Cargo operations, rates and charges	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
12	V/VI Set 2	20 TTSEC 21GT3	Geography for Tourism	CO1	Understand the importance of geography to Tourism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Describe important tourist attractions around the World	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Relate the elements of weather and climate to Tourism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Analyze the physical & geographical features and their relevance to Tourism and Itinerary planning.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Study the map of India with major Tourist circuits	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,

							PO5, PO7, PO8
13	V/VI Set 2	20TTSEC22HM3	Hotel Management	CO1	Understand the importance of the Hospitality industry.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Learn about Hotel organization and Front Office	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Learn about Food and Beverage service	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Learn about the importance of House keeping	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Learn about behaviour management	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
14	VI	20TTSIP30	Specialization Internship Project	CO1	Acquire practical knowledge in the various sectors of Tourism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO2	Acquire in depth practical knowledge in the specialized area of study	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO3	Write a comprehensive report based on their practical knowledge.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO4	Appreciate and evaluate the inter-linkage among different functions of an Organization	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8
				CO5	Develop a realistic managerial perspective about organizations in their totality.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7, PO8

SOCIAL WORK

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20SWCCFS14	Foundations of Social Work	CO1	Develop a deeper insight into the concept of social work	PSO1,PSO2, PSO4	PO1,PO2,PO3, PO4
				CO2	Apply social work goals to guide professional practices	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO3	Apply the values , ethics and principles of social work in various fields	PSO1,PSO2, PSO4	PO1,PO2,PO3
				CO4	Outline a framework for social work as a profession	PSO2,PSO3, PSO4	PO1,PO2,PO3, PO4
				CO5	Describe the concepts of social service for the development of people	PSO1,PSO3, PSO4	PO1,PO2,PO4
2	I	20SECCFP11	Field Practicum -1	CO1	Understand the functions of NGOs, GOs.	PSO2,PSO1, PSO4	PO1,PO2,PO3
				CO2	Apply skill in field work like rapport building, report writing, observation and analysis	PSO1,PSO2, PSO3	PO1,PO2,PO3,
				CO3	Experience and exposure to practice of social work methods at micro and macro level	PSO1, PSO3, PSO2	PO1,PO2,PO3, PO4
				CO4	Analyze the social realities at ground level	PSO1, PSO3, PSO4	PO1,PO2,PO3, PO4
3	II	20SWCCPS24	Psycho –Social Concepts	CO1	Explain the sociological concepts underlying society	PSO2, PSO2, PSO4	PO1,PO2,PO3, PO4
				CO2	Demonstrate the notions of society and their processes	PSO1, PSO2, PSO3	PO1,PO2,PO3
				CO3	Discuss theories of human behavior and personalities	PSO1, PSO4, PSO3	PO1,PO2,PO3
				CO4	Analyze the stages of human growth and development	PSO2,PSO3, PSO4	PO1,PO2,PO3, PO4
				CO5	Outline a frame work for different types of counseling	PSO1,PSO3, PSO4	PO1,PO2,PO3
4	II	20SECCFP21	Field Practicum -2	CO1	Understand the functions of NGOs, GOs.	PSO1,PSO3, PSO4	PO1,PO2,PO3
				CO2	Apply skill in field work like rapport building, report writing, observation and analysis	PSO1,PSO2, PSO4	PO1,PO2,PO3,
				CO3	Experience and exposure to practice of social work methods at micro and macro level	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Analyze the social realities at ground level	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
	II	20SDCCP2	Counseling and Psychotherapy	CO1	Understand the concept of counseling and psychotherapy	PSO2,PSO3, PSO4	PO1,PO2,PO4
				CO2	Demonstrate the coping methods	PSO3,PSO2, PSO4	PO1,PO2,PO3,
				CO3	Develop skills in counseling	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4

5	III	20SWCCSA34	Social Work Methods and Applications	CO1	Identify the primary methods of social work	PSO1, PSO4, PSO3	PO1,PO2,PO3, PO4
				CO2	Develop a framework for secondary methods of social work	PSO2,PSO3, PSO4	PO1,PO2,PO3, PO4
				CO3	Analyze the application of social work research methods in the problem solving process.	PSO1, PSO2, PSO3	PO1,PO2,PO3
				CO4	Apply social work methods in different settings	PSO1, PSO4, PSO3	PO1,PO2,PO3, PO4
				CO5	Explain the legislations related to social problems	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
6	III	20SECCFP31	Field Practicum -3	CO1	Understand the functions of NGOs and GOs. level.	PSO2,PSO3, PSO4	PO1,PO2,PO4
				CO2	Apply skill in field work like rapport building, report writing, observation and analysis.	PSO3,PSO2, PSO4	PO1,PO2,PO3,
				CO3	Experience and exposure to practice of social work methods at micro and macro	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Analyze the social realities at ground level.	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
7	IV	20SWCCHS44	Human Rights and Social Justice	CO1	Develop a framework for the basic concepts of human rights	PSO2,PSO4, PSO3	PO1,PO2,PO3, PO4
				CO2	Demonstrate ability to apply human rights to various practice domains of the profession	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
				CO3	Formulate comprehensive assessments for social work interventions	PSO2, PSO3, PSO1	PO1,PO2,PO3
				CO4	Analyze issues of social justice in India	PSO2, PSO3, PSO4	PO1,PO2,PO3
				CO5	Evaluate the legislations pertaining to social issues in India	PSO2,PSO3, PSO4	PO1,PO2,PO3, PO4
8	IV	20SECCFP41	Field Practicum -4	CO1	Understand the functions of NGOs and GOs. level.	PSO2,PSO3, PSO4	PO1,PO2,PO4
				CO2	Apply skill in field work like rapport building, report writing, observation and analysis.	PSO3,PSO2, PSO4	PO1,PO2,PO3,
				CO3	Experience and exposure to practice of social work methods at micro and macro	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Analyze the social realities at ground level.	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
9	IV	20SWCCRSD44	Rural Sociology and Development	CO1	Understand the rural Sociology in the global context	PSO2,PSO3, PSO4	PO1,PO2,PO3
				CO2	Formulate comprehensive assessments to know rural social structure	PSO1,PSO2, PSO3	PO1,PO2,PO3,
				CO3	Critically analyze the rural problems	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Demonstrate the evolution of refer movement	PSO1, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO5	Develop skills in problem solving	PSO1,PSO3, PSO4	PO1,PO2,PO3, PO4
10	IV	20SECCFP51	Field Practicum -5	CO1	Understand the functions of NGOs and GOs. level.	PSO2,PSO3, PSO4	PO1,PO2,PO4
				CO2	Apply skill in field work like rapport building, report writing, observation and analysis.	PSO3,PSO2, PSO4	PO1,PO2,PO3,
				CO3	Experience and exposure to practice of social work methods at micro and macro	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Analyze the social realities at ground level.	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
11	V/VI Set 1	20SWSEC11ID3	Social Work Intervention in Disaster Management	CO1	Understand key concepts and typologies of disasters	PSO1,PSO3, PSO4	PO1,PO2,PO3
				CO2	Identify Processes of disaster mitigation and disaster management	PSO1,PSO2, PSO4	PO1,PO2,PO3, PO4
				CO3	Develop skills and promote intervention strategies to assess the vulnerability and prepare modules for the future eventualities	PSO1, PSO3, PSO4	PO1,PO2,PO3,
				CO4	Demonstrate knowledge and capacity to work with different agencies at international, national and local levels	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
12	V/VI Set 1	20SWSEC12SD3	Social Work with Disability	CO1	Identify different types of disabilities and barrier free environmental learning	PSO1,PSO2, PSO4	PO1,PO2,PO3
				CO2	Gain knowledge on government policies and legislations on disabilities	PSO2,PSO3, PSO4	PO1,PO2,PO3, PO4
				CO3	Analyze the growth and development of persons with disabilities	PSO1, PSO3, PSO4	PO1,PO2,PO3,
				CO4	Demonstrate the importance of social work and disabilities	PSO1, PSO3, PSO4	PO1,PO2,PO3, PO4
13	V/VI Set 2	20SWSEC21WD3	Women & Child Development	CO1	Understand the role and status of women in India	PSO1,PSO2, PSO4	PO1,PO2,PO3
				CO2	Demonstrate knowledge on gender and gender related problems	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4

				CO3	Gain knowledge on concept of child and the services available for children	PSO1, PSO3, PSO4	PO1,PO2,PO3,
				CO4	Outline the institutions that cater the needs of children and women	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
14	V/VI Set 2	20SWSEC22CC3	Criminology & Correctional Administration	CO1	Understanding the concept of crime, causes and theories	PSO1,PSO3, PSO4	PO1,PO2,PO3
				CO2	Analyze the methods of crime prevention and its strategies.	PSO1,PSO2, PSO3	PO1,PO2,PO3,
				CO3	Explore the role of experts in crime investigation and detection	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Illustrations of social legislation related to crime and remedial service	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4
15	V/VI Set 3	20SWSEC31GE3	Gender Equality and Social Work	CO1	Understand basics concept of gender	PSO1,PSO3, PSO4	PO1,PO2,PO3
				CO2	Demonstrate an understanding of Gender perspective in development	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO3	Identify the Gender mainstreaming, and Sexual minority	PSO2, PSO3, PSO4	PO1,PO2,PO3
				CO4	Develop a framework of knowledge on Policy and Programmes	PSO2, PSO3, PSO4	PO1,PO2,PO3,
16	V/VI Set 3	20SWSEC32SH3	Social Work and Health Care	CO1	Understand the Concept of Health in Social work	PSO1,PSO3, PSO4	PO1,PO2,PO3
				CO2	Identify the classification of diseases and their causes	PSO1,PSO2, PSO3	PO1,PO2,PO3,
				CO3	Gain knowledge on Mother and Child Health Services	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4
				CO4	Analyze the Health policies and services	PSO2, PSO3, PSO4	PO1,PO2,PO3

JOURNALISM

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20JLCCCC14	Introduction to Communication Journalism	CO1	Understand the basic foundation of communication the basic foundation of communication and its functioning in day to day activities.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand the different models of communication and their implication	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Analyze the different theories of communication	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Comprehend the growth of the press in Indian society	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Evaluate the role of the press in social issues	PSO1, PSO2, PSO3	PO1, PO2, PO3
2	II	20JLCCWS24	Introduction to Writing Skills and Reporting	CO1	Demonstrate knowledge of types of news and techniques in gathering information for news writing	PSO1, PSO2, PSO3	PO1, PO2
				CO2	Understand the concepts of news and news structure.	PSO1, PSO2, PSO3	PO1, PO2
				CO3	Apply the techniques of different types of reporting in different fields	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Understand the role and responsibilities of an editor.	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO5	Use the appropriate style for feature and magazine writing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3	II	20SDCJR2	Journalistic Reporting	CO1	Understand the evolution of journalism with a focus on its development in India.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Realize the ethical aspects of Journalism in India	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Develop basic writing skills for newspapers, radio and television.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	III	20JLCCPE34	Print, Electronic Media & Editing	CO1	Familiarize themselves with the basics of editing	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand the Organizational setup of a newspaper.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Create understanding of various print media and Electronic media content	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Inculcate the knowledge of Editing and its Significance in Journalism.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Understand and evaluate the important rules for writing headlines	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
5	IV	20JLCCAP44	Radio & Television Scripting	CO1	Electronic media content creation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Knowledge of script writing.	PSO1, PSO2,	PO1, PO2,

						PSO3, PSO4	PO3, PO4
				CO3	Develop the knowledge of photography	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Write scripts of television news stories, special stories and on the spot reporting	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Cover events and news based stories using mobile phones, video cameras	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
6	IV	20JLCCAP44	Advertising & Public Relations	CO1	Understand the role of advertising and Public Relations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Familiarize themselves with basic concepts of advertising and its development	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Understanding on Planning, designing advertisements.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Inculcate the knowledge on ethics and laws of public relations	PSO1, PSO2, PSO3	PO1, PO2, PO3
7	V/VI Set 1	20JLSEC11MH3	Media Laws & Human Rights	CO1	Demonstrate an understanding of the privileges under the Right to Freedom of Speech and reasonable restrictions imposed on it	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Critically analyze different laws related to Indian media with case studies	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Practice reporting with an understanding of do's and don'ts as per the law and ethics	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss the origin and growth of Human Rights Journalism in India and the world	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Demonstrate various human rights case studies in India	PSO1, PSO2, PSO3	PO1, PO2, PO3
8	V/VI Set 1	20JLSEC12NT3	New Media & Technology	CO1	Explain basic concepts and theory of new media	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Understand pros and cons of technology for various communication messages and solutions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Develop writing skills for online media and cyber media	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Demonstrate linear and non-linear writing skills	PSO1, PSO2, PSO3	PO1, PO2, PO3
9	V/VI Set 2	20JLSEC21DC4	Development Communication	CO1	Disseminate the information on the real concept of development communication	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand and learn about different theories of development around the world	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Familiarise the dominant and alternative paradigms of development	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Analyse the Development Communication Case StudiesAnalyse the Development Communication Case Studies	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Understand the importance of multimedia approach for development programmes.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	V/VI Set 2	20JLSEC22ES4	Environmental Studies	CO1	Understanding the concepts of environmental studies.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Utilize media for different promotional activities for protecting the environment.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Understanding how media professionals can contribute in creating awareness about environmental issues.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Create awareness about environmental issues in society.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Analyze the consequences of issues like global warming or climate change.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11	V/VI Set 3	20JLSEC31CE4	Communicative English	CO1	Inculcate the knowledge of compositional and comprehension skills.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Develop the knowledge of various forms of English literature.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Understand societal cultural perspectives.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12	V/VI Set 3	20JLSEC32CR4	Communication Research	CO1	Identify the types, steps, methods and importance of research.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand the basic concepts, research design and hypothesis testing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Know the knowledge about the methods of data collection.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Improve the selection of method and use of statistics in communication research	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss sampling, scaling techniques and data collection tools.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

COMMERCE & MANAGEMENT STUDIES							
S. No.	**Semester**	**Course Code**	**Course Title**		**Course Outcomes (COs)**	**Program Specific Outcomes (PSOs)**	**Program Outcomes (POs)**
1	I	20CMCCFA14	Financial Accounting	CO1	Demonstrate an understanding of the concepts and principles of accounting.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Prepare different types of subsidiary books.	PSO1, PSO3	PO1,PO3,PO4, PO5
				CO3	Identify and rectify errors in bank reconciliation statements.	PSO3	PO1,PO3,PO4, PO5
				CO4	Compile data for preparation of financial statements.	PSO2	PO1,PO2,PO3, PO4,PO5
2	I	20CMCCBM14	Business Organisation and Management	CO1	Explain fundamental concepts of business statistics.	PSO1,PSO3	PO1,PO3,PO4, PO5
				CO2	Demonstrate incorporation of a company	PSO1, PSO3	PO1,PO3,PO4, PO5
				CO3	Evaluate nature and functions of managemen	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO4	Build the process of organising	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
3	I	20CMCCIT14	Income Tax Law and Practice- I	CO1	Demonstrate an understanding of the concepts of Income tax.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Determine Residential status of a person.	PSO3	PO1,PO3,PO4, PO5
				CO3	Identify the exempted incomes as per income tax act 1961.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO4	Compute agricultural, Salary and House property income.	PSO2	PO1,PO2,PO3, PO4,PO5
4	I	20LSCED2	Entrepreneurship Development	CO1	Explain the concepts of entrepreneurship	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Develop creativity and innovative products and services	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
5	I	20SDCIP2	Insurance Promotion	CO1	Understand the field level structure and functioning of insurance sector and its role	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO2	Acquiring skills and their application for promoting insurance	PSO2	PO1,PO2,PO3, PO4,PO5
6	I	20SDC0S2	Office Secretaryship	CO1	Demonstrate business report writing	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Identify different roles and responsibilities of secretariats in different organizations	PSO3	PO1,PO3,PO4, PO5
7	II	20CMCCFA24	Financial Accounting-II	CO1	Demonstrate the concepts and principles of depreciation	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Prepare different types of provisions and reserves	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO3	Explain concepts and principles of bills of exchange and consignment	PSO1,PSO2, PSO3	PO1,PO3,PO4, PO5
				CO4	Compile data for preparation of financial statements of joint ventures	PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
8	II	20CMCCBT24	Banking Theory and Practice	CO1	Describe banking concepts, theories and issues in practice.	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO2	Identify various procedural operations of banking institutions	PSO3	PO1,PO3,PO4, PO5
				CO3	Determine the functioning of Regional Rural Banks and NABARD.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO4	Explain the relationship between the banker and the customer	PSO1	PO1,PO2,PO3, PO4,PO5
9	II	20CMCCBM24	Business Organisationand Management	CO1	Explain concepts and types of Business	PSO1,PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Demonstrate incorporation of a company	PSO1, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Evaluate nature and functions of management	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO4	Build the process of organising	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
10	II	20CMCCIT24	Income Tax Law and Practice- II	CO1	Compute Business/Professional incomes	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Compute Capital gains & income from other sources.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Determine the incomes to be clubbed and losses to be set off and carry forward and deductions under 80.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Compute total income and tax liability	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
11	II	20CMCCBE24	Business Environment	CO1	Demonstrate an understanding of the concepts of the Business Environment	PSO1,PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Identify the factors contributing to the Economic Development.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Describe different Economic Policies contributing to	PSO4	PO1,PO2,PO3,

					the development of the Indian economy.		PO4,PO5,PO8
				CO4	Explain the social, political and legal factors influencing Indian economy.	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
12	II	20SDCAM2	Agricultural Marketing	CO1	Identify the various agricultural products and the irmovement	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Demonstrate the structure and functioning of agricultural marketing systems	PSO3	PO1,PO3,PO4, PO5
13	II	20SDCBC2	Business	CO1	Demonstrate communication process and barriers in organisation.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Describe various types of organizational communication	PSO1	PO1,PO2,PO3, PO4,PO5
14	II	20SDCLS2	Logistics and Supply chain management	CO1	Explain different concepts & principles of Logistics and supply chain management.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Identify different participants of the Supply Chain process at national and global	PSO3	PO1,PO3,PO4, PO5
15	II	20SDCAD2	Advertising	CO1	Demonstrate the role and importance of Advertising	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Explain the elements of public relations and types of advertising	PSO2	PO1,PO2,PO3, PO4,PO5
16	III	20CMCCAA34	Advanced Accounting	CO1	Explain the statement of affairs	PSO1, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Explain the concept on Hire purchase	PSO1	PO1,PO2,PO3, PO4,PO5
				CO3	Demonstrate different stages of partnership	PSO3	PO1,PO3,PO4, PO5
				CO4	Preparation of company financial statements	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
17	III	20BACCMK34	Marketing	CO1	Demonstrate an understanding of fundamental concepts of Marketing	PSO1, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Apply Marketing Mix for products and services.	PSO2	PO1,PO2,PO3, PO4,PO5
				CO3	Examine the process of Marketing in corporate organizations	PSO3	PO1,PO3,PO4, PO5
				CO4	Analyse the strategies applied by Marketing Managers to solve business problems	PSO2	PO1,PO2,PO3, PO4,PO5
18	III	20CMCCIT34	Income tax practices and procedure-I	CO1	Categorise various methods of assessment procedures	PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Computation of total income	PSO3	PO1,PO3,PO4, PO5
				CO3	Compute the assessment of individuals and HUF	PSO3	PO1,PO3,PO4, PO5
				CO4	Determine penalties as per income tax rules and regulations	PSO2	PO1,PO2,PO3, PO4,PO5
19	III	20SDCOB2	Personality development and enhancemen	CO1	Demonstrate an understanding of fundamental concepts of Marketing.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Apply Marketing Mix for products and services.	PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO3	Examine the process of Marketing in corporate organizations.	PSO2	PO1,PO2,PO3, PO4,PO5
				CO4	Analyse the strategies applied by Marketing Managers to solve business problems.	PSO5	PO1,PO2,PO3, PO4,PO6
20	III	20SDCOB2	Online Business	CO1	To understand the online business and its advantages and disadvantages	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	To analyze the procurement, payment process, security and shipping in online business	PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
21	III	20SDCRT2	Retailing	CO1	Explain the fundamental concepts of retailing	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Identify various formats and store layouts to setup an organised retail store	PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
22	III	20SDCTY2	Tally	CO1	Demonstrate an understanding of the basic concepts of computerised accounting	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Create inventory and cost centres of trading and manufacturing organisations	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
23	IV	20CMCCCA44	Corporate Accounting	CO1	Explain accounting procedures for share capital and debentures	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO2	Determine the value of goodwill and equity share of afirm	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO3	Explain concepts of management accounting	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO4	Analyse Financial Statements of various organizations.	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
24	IV	20CMCCCM44	Cost and management accounting	CO1	Explain cost concepts and classifications.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Determine the elements of cost	PSO3	PO1,PO3,PO4, PO5
				CO3	Explain concepts of management accounting	PSO1	PO1,PO2,PO3, PO4,PO5
				CO4	Analyse Financial Statements of various organizations	PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO8

25	IV	20CMCCIL44	Income tax law and practice	CO1	Demonstrate an understanding of concepts of income tax	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Determine the residential status of a person	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO3	Compute the income under different heads of income.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	ComputeTotal Income & Tax liability	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
26	IV	20CMCCIT44	Income tax practice and procedure-II	CO1	Compute total income & tax liability of partnership firm and AOP	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO2	Assess the total income of companies.	PSO3	PO1,PO3,PO4, PO5
				CO3	Demonstrate an understanding of powers of income tax authorities	PSO3	PO1,PO3,PO4, PO5
				CO4	Demonstrate an understanding of powers of income tax authorities	PSO2,PSO4	PO1,PO2,PO3, PO4,PO5,PO8
27	IV	20CMCCBL44	Business Law	CO1	Explain concepts of management accounting.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Analyse Financial Statements of various organizations.	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO3	Apply optimal managerial decisions for organisational effectiveness	PSO3	PO1,PO3,PO4, PO5
				CO4	Evaluate overall financial position of the concern.	PSO3	PO1,PO3,PO4, PO5
28	IV	20CMCCAT44	Auditing	CO1	Identify the financial state of affairs and corporate frauds.	PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO2	Classify different types of Audit in various forms of organisation.	PSO1,PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO3	Develop an audit programme for checking and internal controlling of an organisation.	PSO1,PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Analyse and interpret cash and trading transactions of a business.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
29	IV	20CMCCGS44	Fundamentals of GST	CO1	Demonstrate an understanding of human resource accounting models.	PSO1,PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Identify social accounting of business activities.	PSO2	PO1,PO2,PO3, PO4,PO5
				CO3	Apply techniques in inflation accounting.	PSO2,PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Explain special areas in accounting.	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
30	IV	20CMCCEC44	Entrepreneurship development	CO1	Understand the meaning, features, and skills of Entrepreneurs	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO2	Demonstrate the development programmes for Entrepreneurship and sources of Innovation in business	PSO3	PO1,PO3,PO4, PO5
				CO3	Analyse the Social Entrepreneurs and their objectives for Women	PSO2,PSO4	PO1,PO2,PO3, PO4,PO5,PO8
				CO4	Enable students to identify different business plans and venture capital issues and role played by commercial banks.	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
31	IV	20CMCCFM44	Financial Management	CO1	Explain the role of finance function in an organization.	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO2	Identify various sources of finance.	PSO1	PO1,PO2,PO3, PO4,PO5
				CO3	Discuss different capital structures.	PSO3	PO1,PO3,PO4, PO5
				CO4	Evaluate working capital management	PSO4	PO1,PO2,PO3, PO4,PO5,PO8
32	IV	20CMCCHR44	Human Resource Management	CO1	Understand the concept of human resource management and to understand its relevance in organizations	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO2	Demonstrate descriptive knowledge of the field of industrial relations	PSO3	PO1,PO3,PO4, PO5
				CO3	Familiarize elements of the HR functions like recruitment, selection, training and development, etc	PSO1	PO1,PO2,PO3, PO4,PO5
				CO4	Analyse the strategic issues and strategies required to select and develop manpower resources.	PSO2,PSO4	PO1,PO2,PO3, PO4,PO5,PO8
33	IV	20CMCCPM44	Production and Operations Management	CO1	Describe the concepts of Production and Operations Management	PSO1	PO1,PO2,PO3, PO4,PO5
				CO2	Explain the process of plant layout and plant location	PSO1,PSO2	PO1,PO2,PO3, PO4,PO5
				CO3	Determine the Production planning and Production control	PSO3	PO1,PO3,PO4, PO5
				CO4	Enumerate the work study methods and quality Management techniques	PSO2,PSO4	PO1,PO2,PO3, PO4,PO5,PO8
34	V/VI Set 1	20CMSEC11MA4	Management Accounting	CO1	Understand the nature and scope of management accounting, financial accounting and cost accounting.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Compute ratios and draw inferences.	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Analyze the performance of the organization by	PSO2, PSO3,	PO1, PO2,

					preparing funds flow statement and cash flow statements	PSO4	PO3, PO4, PO5, PO8
				CO4	Prepare cash budget, fixed budget and flexible budget.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
35	V/VI Set 1	20CMSEC12CC4	Cost Control Techniques	CO1	Explain the cost control concepts	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Apply overheads on the basis of Activity Based Costing.	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Evaluate techniques of cost audit and rules for cost record.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Interpret marginal cost and standard cost techniques	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
36	V/VI Set 2	20CMSEC21AM4	Advertising and Media Planning	CO1	Explain the legal and ethical issues in advertising	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the skills on creating and developing advertisements	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Identify the advances in the current media industry.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO4	Build a plan for an advertising media campaign.	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
37	V/VI Set 2	20CMSEC22SP4	Sales Promotion & Practice	CO1	Explain the concepts of creativity in sales promotion	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate new trends in sales Promotion	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Apply designing techniques for sales promotion events	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Evaluate sales territories to reach targets	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
38	V/VI Set 3	20CMSEC31EC4	E Commerce	CO1	Understand the mechanism of e commerce	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Extend the specialization in website designing for e commerce	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Enhance their skills in operational services of e commerce	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize the activities of e commerce	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
39	V/VI Set 3	20CMSEC32EF4	E-Filing	CO1	Understand and apply basic knowledge of Indian Tax System	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Equip specialization in taxation system	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Enhance their skills in presenting returns	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Involve in activities of Charted Accountants for filing returns	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
40	V/VI Set 3 (TPP)	20CMSEC31TP4	Tax Planning and Procedure	CO1	Understand the concept of foreign income.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Apply the provisions for relief of Double Taxation for Domestic companies	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO3	Ability to file online returns of income.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Prepare TDS/TCS and online filing of Tax returns.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
41	V/VI Set 3 (TPP)	20CMSEC32TG4	Tally with GST	CO1	Understand the concept of Liability and Payment of GST	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Generate financial and VAT reports for managerial decisions.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Prepare a new company in Tally with GST components and establish an environment for GST Voucher entry.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Apply for online payment of GST through GST Portal.	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
42	V/VI (BMS & BBA) Set 3	20CMSEC31PM4	Financial Institutions and Markets	CO1	Explain the Components of Indian Financial System	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the structure of the Indian Financial Institutions	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Analyse the operations of capital and money markets	PSO3	PO1, PO3, PO4, PO5
				CO4	Organise different financial instruments in the business	PSO3, PSO4	PO1, PO2,

							PO3, PO4, PO5
43	V/VI (BMS & BBA) Set 3	20CMSEC32FS4	Project Management	CO1	Demonstrate the fundamental concepts of project management.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Evaluate project planning and implementation in the changing environment	PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the processes a practitioner undertakes to achieve project goals.	PSO3	PO1, PO3, PO4, PO5
				CO4	Analyse the contemporary project management tools and methodologies	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
44	V/VI Set 4	20CMSEC41AC4	Advanced Corporate Accounting	CO1	Understand Corporate Accounting environment	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the recording transactions relating to Purchasing of Business and Amalgamation	PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the situations in Liquidations	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Analyze the calculations relating to Amalgamations and holding companies	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
45	V/VI Set 4	20CMSEC42SS4	Software Solutions To Accounting	CO1	Understand the various versions of Tally and other software.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Highlight the major accounting software in India.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Apply basics of accounting software into business firms for accounting transactions.	PSO3	PO1, PO3, PO4, PO5,
				CO4	Integrate the concept of different Accounting software for accounting purpose.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
46	V/VI Set 5	20CMSEC51LS4	Logistics Services & Practice	CO1	Appraise the Principles of Logistics and its informatics.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Examine the Financial Issues in Logistics sector performance.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Describe basic EOQ model and ABC analysis.	PSO3	PO1, PO3, PO4, PO5
				CO4	Determine warehouse safety rules, concepts of Retail Logistics and strategies of Supply Chain Management	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
47	V/VI Set 5	20CMSEC52EI4	Export Import Procedure &Practice	CO1	Understand the significance of Export and Import Management and its role in Economy and as job careers	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Acquire knowledge on Procedures of export and import	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Involve in pre and post EXIM activities	PSO3	PO1, PO3, PO4, PO5, PO8
				CO4	Enhance their skills by practicing in foreign trade	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
48	V/VI Set 6	20CMSEC61SM4	Stock Markets	CO1	Explain the functions of Share Market in Financial Sector	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Study the functioning of capital markets and create awareness among the public	PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Involve in activities of Mutual Funds and stock market firms	PSO3	PO1, PO3, PO4, PO5
				CO4	Acquire knowledge on operations of Share Market and Research skills.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
49	V/VI Set 6	20CMSEC62SM4	Stock Markets Analysis	CO1	Explain the importance of stock market analysis.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Identify the need for Security Analysis	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Examine the activities of Mutual Funds.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Enhance the skills by involving activities of Share Market analysis	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
50	V/VI Set 7	20CMSEC71LI4	Life Insurance with Practice	CO1	Identify the Features of Life Insurance, schemes and policies and insurance companies in India	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Explain various schemes and policies related to Life Insurance sector	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Examine the suitable insurance policy for given situation and respective persons	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Enhance the skill of settlement of claims under various circumstances	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
51	V/VI Set 7	20CMSEC72GI4	General Insurance Procedure and Practice	CO1	Identify the Features of General Insurance and Insurance Companies in India	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Explain the various schemes and policies related to General Insurance sector	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5

				CO3	Examine the suitable insurance policy under Health, Fire, Motor, and Marine Insurances	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Enhance the skills for settlement of claims under various circumstances	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
52	V/VI Set 8	20CMSEC81IT4	Income Tax Assessment Procedures And Practice	CO1	Understand the basic concepts in computation of tax liability under all heads of income of the individual	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Compute taxable income and tax liability of individuals and firms.	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Acquire the ability to file online returns of income.	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Acquire skills of TDS/TCS and online filing of Tax returns.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
53	V/VI Set 8	20CMSEC82GS4	Goods And Services Tax With Tally	CO1	Understand the concept of Liability and Payment of GST	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Create a new company in Tally with GST components and establish environment for GST Voucher entry.	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Comprehend the utilization of input tax credit, and the reverse charge mechanism in GST	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Acquire Skills of preparation of GST Returns in accordance with GST Law and Tally	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4, PO5,PO8
54	V/VI Set 9	20CMSEC91DM4	Digital Marketing	CO1	Analyze online Micro and Macro Environment	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Design and create website	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Discuss search engine marketing	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Create and share content	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
55	V/VI Set 9	20CMSEC92SM4	Services Marketing	CO1	Discuss the reasons for growth of the service sector.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Examine the marketing strategies of Banking Services, insurance and education services.	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Review conflict handling and customer Responses in services marketing	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Suggest measures to improve services quality and their service delivery	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5

BUSINESS ADMINISTRATION - DIGITAL MARKETING

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20BACCMK14	Principles of Marketing	CO1	Understand how organizations identify customers and their wants/needs.	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Comprehend marketing decisions, based upon the combination of Product, Price, Promotion, and distribution elements.	PSO1,PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Understand that marketing is carried out by an organization to meet the requirements of domestic and international buyers, both households and businesses, within the bounds of ethics and the legal environment.	PSO3	PO1, PO3, PO4, PO5
				CO4	Apply key frameworks and methods, and develop analytical skills to solve marketing problems.	PSO2,PSO4	PO1, PO3, PO4, PO6
2	I	20BACCPM14/ 20CMCCPM14	Principles of Management	CO1	Explain concepts and principles of Management	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate various functions of Management	PSO2,PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Evaluate organizational effectiveness	PSO3,PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Build communication and leadership skills.	PSO2,PSO3,PSO4	PO1, PO3, PO4, PO5, PO8
3	II	20BACCOB24	Organisational Behaviour	CO1	Demonstrate the models of OB	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Explain the individual determinants of OB.	PSO1,PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Describe the group dynamics	PSO3	PO1, PO3, PO4, PO5
				CO4	Identify Organizational development through Organizational change.	PSO4	PO1, PO3, PO4, PO5, PO8

4	II	20BACCDM24	Principles of Digital Marketing	CO1	Explain basic concepts of digital marketing.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Distinguish digital branding and physical branding.	PSO2,PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Identify the role of gamification and media planning.	PSO2	PO1, PO2, PO3, PO4, PO5
				CO4	Develop content for digital brand building.	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
5	II	20CMCCBE24	Business Environment	CO1	Demonstrate an understanding of the concepts of the Business Environment	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Identify the factors contributing to the Economic Development	PSO2,PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Describe different Economic Policies contributing to the development of the Indian economy.	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Explain the social, political and legal factors influencing the Indian economy.	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
6	III	20CMCCBR34	Business correspondence and report writing	CO1	Demonstrate communication process and barriers in organisation	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Describe various types of organizational communication	PSO1	PO1, PO2, PO3, PO4, PO5
				CO3	Draft effective business correspondence	PSO2,PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Enable the student to frame an effective business letters	PSO4	PO1, PO2, PO3, PO4, PO5, PO8
7	III	20BACCSM34	Social Media Marketing	CO1	Understand the landscape of traditional, digital, and social media marketing	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Enable student to choose right social media platforms and learn how to create social media policies	PSO2,PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO3	Demonstrate the role of major social media platforms in marketing	PSO3	PO1, PO2, PO3, PO4, PO5, PO9
				CO4	To analyse various social media strategies	PSO2,PSO3	PO1, PO2, PO3, PO4, PO5, PO10
8	IV	20BACCHR44	Human Resource Management	CO1	Understand the concept of human resource management and to understand its relevance in organizations	PSO1,PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate descriptive knowledge of the field of industrial relations	PSO3	PO1, PO2, PO3, PO4, PO6
				CO3	Familiarize elements of the HR functions like recruitment, selection, training and development, etc	PSO1	PO1, PO2, PO3, PO4, PO5
				CO4	Analyse the strategic issues and strategies required to select and develop manpower resources.	PSO2,PSO4	PO1, PO2, PO3, PO4, PO5, PO8
9	IV	20BACCPM44	Production and operation management	CO1	Understand the concepts of Production and Operations Management	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Enumerate the work study methods	PSO1,PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Determine the Production planning and Production control	PSO3	PO1, PO2, PO3, PO4, PO5, PO8
				CO4	Demonstrate the Quality Management techniques	PSO2,PSO4	PO1, PO2, PO3, PO4, PO5, PO8
10	IV	20BACCED44	Entrepreneurship Development	CO1	Understand the meaning, features, and skills of Entrepreneurs	PSO1,PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the development programmes for Entrepreneurship and sources of Innovation in business	PSO3	PO1, PO2, PO3, PO4, PO5, PO8
				CO3	Analyse the Social Entrepreneurs and their objectives for Women	PSO2,PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Enable students to identify different business plans and venture capital issues and role played by commercial banks.	PSO4	PO1, PO2, PO3, PO4, PO5
11	IV	20BACCAF44	Affiliate Marketing	CO1	Understand the principles, benefits and pitfalls of affiliate marketing	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Analyse the impact of affiliates in a website and its promotion	PSO2,PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Demonstrate the measurement and evaluation affiliate marketing program	PSO3	PO1, PO3, PO4, PO5
				CO4	Enable students to strategize which affiliates best suit their business	PSO2,PSO4	PO1, PO3, PO4, PO6
12	IV	20BACCAM44	Accounts for Managers	CO1	Demonstrate the concepts and principles of accounting.	PSO1	PO1, PO2, PO3, PO4, PO5

				CO2	Prepare different types of subsidiary books	PSO1, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Identify and rectify errors in books of accounts	PSO3	PO1, PO3, PO4, PO5
				CO4	Compile data for preparation of financial statements	PSO2	PO1, PO2, PO3, PO4, PO5
13	IV	20BACCEC44	E-Commerce	CO1	Explain the fundamental concepts of E - commerce.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate different models and methods of E - payments.	PSO3	PO1, PO3, PO4, PO5
				CO3	Examine the ethical, social and security issues in E - Trade.	PSO4	PO1, PO3, PO4, PO6
				CO4	Develop web page for business enterprises.	PSO4	PO1, PO3, PO4, PO7
14	V/VI Set1	20BASEC11AD4	Advanced Digital Marketing	CO1	Outline the key concepts of digital marketing	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Apply the SEO to a website	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Use the key PPC concepts to draw visitors to a business's websites	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Use Campaign Management to manage the marketing concepts	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
15	V/VI Set1	20BASEC12OR4	Online Reputation Marketing	CO1	Study various techniques to know the effectiveness of businesses online	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO2	Use tools for brand monitoring and online reputation management	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
				CO3	Learn how to respond to complaints and criticism effectively	PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Engage customers and make use of brand evangelists	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8
16	V/VI Set 2	20CMSEC31PM4	Financial Institutions and Markets	CO1	Explain the Components of Indian Financial System	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the structure of the Indian Financial Institutions	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Analyse the operations of capital and money markets	PSO3	PO1, PO3, PO4, PO5
				CO4	Organise different financial instruments in the business	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
17	V/VI Set 2	20CMSEC32FS4	Project Management	CO1	Demonstrate the fundamental concepts of project management.	PSO1	PO1, PO2, PO3, PO4, PO5
				CO2	Evaluate project planning and implementation in the changing environment	PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the processes a practitioner undertakes to achieve project goals.	PSO3	PO1, PO3, PO4, PO5
				CO4	Analyse the contemporary project management tools and methodologies	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO8

MATHEMATICS

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20MTCCDE15	Differential Equations	CO1	Classify and solve analytically differential equations based on their order and degree	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Apply appropriate method to solve differential equations of first order and first degree	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Apply the acquired knowledge to solve first order and higher degree differential equations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Identify family of orthogonal trajectories for a family of curves	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Apply suitable method to solve higher order differential equations with constant and variable coefficients	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
2	II	20MTCCAG25	Analytical Solid Geometry	CO1	Distinguish the geometry of planes, lines, spheres, cones and cylinders and describe their properties	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain concepts in planes and lines and solve problems	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain concepts in spheres and cones and solve problems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Analyze methods to solve problems on planes, lines, spheres and cones and apply an appropriate method to solve them.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Demonstrate 2D & 3D geometry using GeoGebra in interactive mode	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3	III	20LSCAS2	Analytical Skills	CO1	Explain arithmetic and business concepts and develop	PSO1, PSO2,	PO1, PO2,

					the associated skills	PSO3, PSO4	PO3, PO4
				CO2	Exhibit acquired skills and competencies in the related areas	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Solve problems pertaining to quantitative ability, logical and verbal reasoning	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	III	20MTCCAA35	Abstract Algebra	CO1	Describe structure of group, substructures, cyclic group and their properties	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Analyse a group by the notion of a coset and apply Lagrange's theorem for finite groups	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Analyse properties of group isomorphism to describe the isomorphic groups and its generalization, group homomorphism	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Classify non abelian group of functions (permutations) and illustrate its characteristics	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Classify algebraic systems equipped with one and two binary operations and describe different types of rings and substructures	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
5	IV	20MTCCRA45	Real Analysis	CO1	Identify the nature of a sequence whether bounded, monotonic and convergent by employing relevant results	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the nature of a series by applying a suitable test of convergence	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Illustrate the significance of real number system, real valued and real variable functions, mean value theorems, fundamental theorem and applications	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Identify continuity of a function and type of discontinuity	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Categorize real valued and real variable functions as continuous, differentiable and integrable functions by applying learned principles and results	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
6	IV	20MTCCLA45	Linear Algebra	CO1	Describe the algebraic systems vector space, subspace and inner product space and their properties	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Demonstrate a basis for a finite dimensional vector space and an orthonormal basis for a finite dimensional inner product space	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Analyse a linear transformation on a finite dimensional vector space and describe the dimension of range space and null space	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Apply suitable technique to find rank of a matrix and solve the system of linear equations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Determine the eigen values and Eigen vectors for a square matrix and apply suitable method to find the inverse of it	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	V/VI Set 1	20MTSEC11 NM5	Numerical Methods	CO1	Employ calculus of finite differences and interpolation techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Apply numerical methods to obtain approximate solutions whenever analytical methods are not applicable	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Identify the significance of numerical methods and analyze the accuracy of employing them	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Evaluate derivative and integral of a tabulated function using suitable numerical method and compute error.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Solve 1st order and 1st degree initial value problems applying appropriate numerical method and compute errors	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
8	V/VI Set 1	20MTSEC12SF5	Special Functions	CO1	Apply Beta and Gamma functions to evaluate certain definite integrals.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	CO2: Describe Legendre polynomials and their properties.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	CO3: Express Bessel functions and their properties.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	CO4: Discuss Hermite polynomials and their properties.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	CO5: Explain Laguerre polynomials and their properties.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
9	V/VI Set 2	20MTSEC21MV5	Multiple Integrals & Vector Calculus	CO1	Evaluate double and triple integrals of different functions over different regions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Apply double integral to determine plane and	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Determine gradient of a scalar function, divergence and curl of a vector function and explain their properties.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Evaluate line, circulation, surface & volume integrals of scalar and vector functions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain the significance of Gauss, Green and Stoke theorems and apply them to evaluate certain integrals.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	V/VI Set 2	20MTSEC22IT5	Integral Transforms	CO1	Evaluate Laplace and inverse Laplace transforms of certain functions, derivatives and integrals	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Apply Laplace transforms to solve ordinary differential equations with constant and variable	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

					coefficients		
				CO3	Solve simultaneous and partial differential equations with boundary conditions using Laplace transforms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Employ Laplace transforms to solve integral equations, convert differential equations into integral equations and vice versa	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain properties and significance of Fourier transforms and determine finite Fourier transforms of functions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11	V/VI Set 3	20MTSEC31 PF5	PDE & Fourier Series	CO1	Classify partial differential equations of order one, describe their formation and solve them using appropriate method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Solve Cauchy's problem for first order equations and Lagrange's equations of different types using suitable rule.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Determine integral surface passing through a given curve and surfaces orthogonal to a given system of surfaces.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Solve non-linear partial differential equations of order one by Char pit's, Clairaut's and Jacobi's methods	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Identify Fourier series expansions of some functions and applications of Parseval's theorem and draw conclusions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12	V/VI Set 3	20MTSEC32NT5	Number Theory	CO1	Describe properties of integers, elements of number theory and their significance.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Solve linear congruences and identify applications of Fermat, Wilson, Euler and Chinese remainder theorems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss properties and applications of number theoretic and multiplicative functions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Solve quadratic congruences and determine quadratic residues using Euler's criterion.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Evaluate Legendre symbols using Gauss lemma and quadratic reciprocity law.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

PHYSICS

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20PHCCMW14	Mechanics, Waves and Oscillations	CO1	Apply the knowledge of Gauss and Stoke's theorems in understanding the theory in other areas of physics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the motion of Rockets, types of fuels used and its applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Compute the Euler equations in mechanics of rigid bodies and the applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline the concepts of Central forces, Kepler's laws and the basics of Global Positioning system.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize types Elastic constants of isotropic solids, their relations and applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
2	I	20PHP1MW11	Mechanics, Waves and Oscillations - Practical	CO1	Outline the operations of basic measuring instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Measure viscosity of liquid by the flow method and surface tension by capillary rise method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Apply the knowledge of elastic constants to measure Young's Modulus of material of a rod by uniform bending methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Verify the concept of acceleration due to gravity using Simple Pendulum by method of errors.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Determine the rigidity modulus of material of a wire using Torsional Pendulum.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3	I	20SDCEA2	Low Temperature Electrical Appliances	CO1	Explain the working principles of refrigeration, air conditioning and cold storage units.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Identify problems in refrigeration, air conditioning and cold storage units.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	II	20PHCCWO24	Wave Optics	CO1	Describe S.H.M of suspended bodies and its applications using superposition theorem.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Interpret the damped and forced oscillators and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Analyze sine wave, square wave, triangular wave, sawtooth wave using Fourier theorem.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline the concepts of propagation of waves in strings and bars and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the basics of Ultrasonics, their role in research and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
5	II	20PHCCWO24	Wave Optics-Practical	CO1	Determine the radius of curvature of a given convex lens by forming Newton's rings and thickness of a thin paper by wedge method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Determine the dispersive power of a prism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

				CO3	Determine of wavelength of light using diffraction grating-minimum deviation method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Determine the refractive index of a liquid-hollow prism.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Determine refractive index of liquid by Boy's method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
6	II	20SDCSE2	Solar Energy	CO1	Describe solar radiation principles, collecting techniques and its storage.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Summarize the solar photovoltaic technology principles and their	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Outline the working principles of solar appliances	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	III	20PHCCHT34	Heat and Thermodynamics	CO1	Relate different types of aberrations in lenses, their theory and minimizing techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Compare the facts, principles and ideas of the theory of interference and its applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Distinguish between the concepts of Fraunhofer and Fresnel diffraction and their modern applications in life.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Summarize the concepts of polarization, the polarized nature of light, specific rotation and applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline characteristics, working principles of LASERS, Optical fibres and holography and their applications in daily life.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
8	III	20PHP3HT31	Heat and Thermodynamics-Practical	CO1	Explain thermal conductivity phenomenon and measure it for good, bad conductors and extend this knowledge to real time applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Determine heating efficiency of an electrical kettle with varying voltages and extend this knowledge to other electrical appliances.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Study the thermal behaviour of an electric bulb and make wise use of it.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Measure the coefficient of variation of resistance of the given material with temperature using thermistor and realize its real time applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Determine the band gap of a given junction diode by studying its characteristics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
9	IV	20PHCCEM44	Electricity, Magnetism & Electronics	CO1	Apply Gauss's law to get relations connecting dielectric parameters and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Derive expressions for the magnetic field at a point due to current carrying conductors using Biot Savart Law.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Distinguish self and mutual inductance phenomena and their real-time applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Compute Maxwell's electromagnetic wave equations and their role in communications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the basic concepts of semiconductors and digital electronics and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	IV	20PHP4EM41	Electricity, Magnetism & Electronics-Practical	CO1	Describe the resonance condition in LCR series and parallel circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Study the variation of magnetic field along the axis of a circular coil carrying current using Stewart and Gee's apparatus.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Sumarize the operation of PN junction diode, Zener diode and a transistor and their V-I characteristics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Verify De Morgan's Theorems, Half and Full Adders.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the basic concepts of semiconductors, and digital electronics and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11	IV	20PHCCMP44	Modern Physics	CO1	Examine the postulates of kinetic theory of gases and transport phenomena that find industrial applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Outline the fundamental ideas, laws of thermodynamics, Principle & working of Carnot's engine, reversible and irreversible processes, entropy of the universe and applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Derive Maxwell's equations and their applications using thermodynamic potentials.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Summarize the fundamentals of low temperature physics and their application.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss the postulates of Quantum theory of radiation and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12	IV	20PHP5MP41	Modern Physics-Practical	CO1	Determine Planck's constant from photocell characteristics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Verify inverse square law of light using photovoltaic cell.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Determine Planck's constant using LEDs and filters of different colours.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Determine M & H of a short magnet.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Determine energy gap of a semiconductor using	PSO1, PSO2,	PO1, PO2,

					junction diode and a thermistor.	PSO3, PSO4	PO3, PO4
13	V/VI Set1	20PHSEC11OI3	Optical Instruments and Optometry	CO1	Apply Gauss's law to get relations connecting dielectric parameters and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Derive expressions for magnetic field at a point due to current carrying conductors using Biot Savart Law.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Distinguish self and mutual inductance phenomena and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Compute Maxwell's electromagnetic wave equations and their role in communications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the basic concepts of semiconductors and digital electronics and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
14	V/VI Set1	20PHP611OI2	Optical Instruments and Optometry-Practical	CO1	CO1: List out, identify and handle various equipment like binoculars, telescopes and microscopes.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	CO2: Describe the procedures of operation of various optical instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	CO3: Demonstrate skills on testing the power of lenses, improving the resolution of telescopes and microscopes.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	CO4: Determine the power, focal length and different refractive errors of the eye.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	CO5: Outline the technique of operation of Computer eye testing and evaluation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
15	V/VI Set1	20PHSEC12OP3	Optical Imaging and Photography	CO1	Identify the types of cameras and camera lenses according to different purposes and their focal length.	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
				CO2	Explain natural and artificial sources of light and their application in photography.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills of camera usage especially Digital Cameras.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Describe the various Image development and editing techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the concept of different types of common shooting techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
16	V/VI Set1	20PHP712OP2	Optical Imaging and Photography-Practical	CO1	CO1: List out, identify and understand various image formation techniques including Eye.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	CO2: Describe the procedures of operation of Analog and Digital cameras.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	CO3: Demonstrate skills on the focusing techniques of Analog and Digital cameras.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	CO4: Demonstrate skills in the editing and development of photos and videos.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	CO5: Demonstrate some experimental skills related to images, videos using the equipment available in the lab or in a local studio.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
17	V/VI Set2	20PHSEC21LT3	Low Temperature Physics & Applications	CO1	Identify various methods and techniques used to produce low temperatures in the Laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain refrigeration and air conditioning.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills through hands on experience about refrigeration components and their accessories in a Refrigerator.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Describe the classification, properties of refrigerants and their effects on environment.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the applications of Low Temperature Physics and refrigeration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
18	V/VI Set2	20PHP621LT2	Low Temperature Physics & Applications-Practical	CO1	List out, identify and handle equipment used in low temperature lab.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the procedures of preparation of Freezing Mixtures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on developing various Freezing mixtures and materials.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain the various methodologies of creating very low temperatures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the applications of low temperature physics in day to day life.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
19	V/VI Set2	20PHSEC22SE3	Solar Energy and Applications	CO1	Identify various methods and techniques used to produce low temperatures in the Laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain refrigeration and air conditioning.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills through hands on experience about refrigeration components and their accessories in a Refrigerator.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Describe the classification, properties of refrigerants and their effects on environment.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the applications of Low Temperature Physics and refrigeration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
20	V/VI Set2	20PHP722SE2	Solar Energy and Applications-Practical	CO1	List out, identify various components of solar thermal collectors and systems, solar photovoltaic modules and systems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the procedures for measurement of direct, global and diffuse solar radiation, I - V characteristics	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

					and efficiency analysis of solar cells and modules.		
				CO3	Demonstrate skills in evaluating the performance of solar cell / module in connecting them appropriately to get required power output.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Identify and eliminate damaged panels without affecting the output power in a module / array.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline procedures and techniques related to general maintenance of solar thermal and photovoltaic modules.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
21	V/VI Set3	20PHSEC31AE3	Applications Of Electricity & Electronics	CO1	Analyze the concepts, construction, working, characteristics of FET and MOSFET and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Summarize the basics of operational amplifiers (IC 741), its parameters and its practical applications in electronic circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Describe the internal architecture IC 555 Timer and its application as astable and monostable multivibrator.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Compile simple logic operations and code conversions using combinational logic circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the working of sequential logic circuits and conversion of Flip flops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
22	V/VI Set3	20PHP631AE2	Applications Of Electricity & Electronics-Practical	CO1	List out, identify and handle various equipment in Electrical & Electronics laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the procedures of designing simple electrical circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on the utility of different electrical components and devices.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Skilful to operate, maintain and handle troubleshooting of various Devices in the lab.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Comprehend Summarize the different applications of Electromagnetic induction.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
23	V/VI Set3	20PHSEC32EI3	Electronic Instrumentation	CO1	Identify various facilities required to set up a basic Instrumentation Laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Discuss the function of various Electrical Instruments used in the Laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands on experience.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain the principle and operation of different display devices used in the display systems and different transducers	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oxymeter etc. and know the handling procedures with safety and security.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
24	V/VI Set3	20PHP732EI2	Electronic Instrumentation-Practical	CO1	List out, identify and handle various equipment in Instrumentation Laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain the operational principles of various instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on handling, maintenance & trouble shooting of different instruments used in the Labs.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Measure various electrical and electronic quantities.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Measure certain physiological parameters like body temperature, B.P. and sugar levels etc using Biomedical Instrumentation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
25	V/VI Set4	20PHSEC41AD3	Analog and Digital Electronics	CO1	Summarize the basics of operational amplifiers (IC 741), its parameters and its practical applications in electronic circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the internal architecture IC 555 Timer and its application as astable and monostable multivibrator.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Compile simple logic operations and code conversions using combinational logic circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline the working of sequential logic circuits and conversion of Flip flops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Analyze the concept of registers & Counters.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
26	V/VI Set4	20PHP641ADE2	Analog and Digital Electronics-Practical	CO1	Describe the functioning of operational Amplifiers for various mathematical operations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Verify the various applications of operational Amplifiers. .	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate the applications of combinational circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Demonstrate the applications of sequential circuits.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the contribution of analog and digital electronics in other fields.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
27	V/VI Set4	20PHSEC42EE3	Electrical & Electronic Instrumentation	CO1	Explain the capabilities and limitations of test instruments and measurement practices in terms of validity and accuracy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

				CO2	Summarize measurement principles involved in the determination of basic electrical parameters using multimeters and CRO.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Outline the functioning of transformers and their applications in electronic circuits and electrical power transfer systems in daily life.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain the characteristics of transducers and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Describe the working of Display Devices and their applications.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
28	V/VI Set4	20PHP742EE2	Electrical & Electronic Instrumentation-Practical	CO1	List out, identify and handle various equipments like multimeter, CRO, transducers and display devices.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the procedures of operation of various electrical and electronic instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on identifying the troubleshoots and solve it.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Determine the various parameters using electrical and electronic Instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Outline the characteristics of a few transducers and display devices.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

CHEMISTRY

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20CHCCIP14	Inorganic & Physical chemistry	CO1	Describe the basic concepts of p-, d-, and f- block elements	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Summarize the theories of bonding in metals	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain laws, relations, concepts relevant to solid, liquid and gaseous states	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Outline the behavior of different liquid systems and explain colligative properties	PSO1, PSO3, PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Solve concept-based problems	PSO3	PO1, PO2, PO4, PO5
2	I	20CHP1SM11	Analysis of Salt Mixture - Practical	CO1	Analyze inorganic Mixture by adapting systematic procedure	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Apply the concepts of common ion effect and solubility product in mixture analysis	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Use glassware, equipment and chemicals and follow experimental procedures in the laboratory	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
3	II	20CHCCOG24	Organic & General Chemistry	CO1	Describe the preparations, properties of cycloalkanes, halogenated hydrocarbons, alkenes and alkynes.	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the mechanisms pertinent to addition, substitution, elimination reactions.	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the concepts of aromaticity, orientation and stereoisomerism	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Describe colloidal systems, isotherms and different types of volumetric titrations	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Solve concept-based problems	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
4	II	20CHP2VA21	Volumetric Analysis - Practical	CO1	Estimate the amount of substances by volumetric analysis.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain principle of volumetric titrations, functionality of indicators	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Prepare standard solutions and solutions of different concentrations.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
5	II	20SDCFA2	Food Adulteration	CO1	Summarize how common foods are adulterated and the impact on health	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Test and Identify the different adulterants in food.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Describe the laws for prevention of food adulteration and consumer protection	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
6	III	20CHCCOS34	Organic Chemistry & Spectroscopy	CO1	Explain the preparations and properties of alcohols, phenols, carbonyl compounds, active methylene compounds, carboxylic acids and their	PSO1	PO1, PO2, PO4
				CO2	Outline the mechanisms of certain chemical reactions	PSO1,PSO2	PO1, PO2, PO4
				CO3	Summarize and apply the concepts of spectroscopy to interpret molecular	PSO2,PSO3	PO1, PO2, PO4, PO5
				CO4	Solve concept-based problems	PSO3, PSO4	PO1, PO2, PO4,PO3, PO5
7	III	20CHP3OS31	Organic Preparations & IR Spectral Analysis - Practical	CO1	Perform common laboratory techniques including reflux, distillation, re-crystallization, vacuum filtration.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5
				CO2	Handle reflux apparatus, M.P apparatus, Vacuum pump for filtration, electronic balance etc	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Apply concepts of spectroscopy to analyze spectra /	PSO1, PSO2,	PO1,PO2,PO3,

					data of different functional groups.	PSO3, PSO4	PO4,PO5
8	IV	20CHCCIO44	Inorganic, Organic & Physical Chemistry	CO1	Classify the organometallic compounds, and summarize the rules/laws,concepts of metal carbonyls, photochemistry concepts of metal carbonyls, photochemistry	PSO1, PSO3	PO1, PO2,PO4, PO5
				CO2	Explain structures, preparations, properties and concepts in carbohydrates, amino acids, heterocyclic compounds, nitro compounds and amines	PSO1, PSO2	PO1, PO2, PO4
				CO3	Outline the mechanisms of certain chemical reactions	PSO1, PSO2	PO1, PO2, PO4
				CO4	Deduce relations between the fundamental terms in thermodynamics and discuss the laws of thermodynamics.	PSO1, PSO3	PO1, PO2,PO4, PO5
				CO5	Solve concept-based problems	PSO3, PSO4	PO1, PO2, PO4,PO3, PO5
9	IV	20CHP4OA41	Organic Qualitative Analysis - Practical	CO1	Adapt systematic procedure and perform organic compound analysis to identify the organic functional group and name of the compound.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3,PO4, PO5
				CO2	Determine the boiling/melting point of the given organic compound	PSO1, PSO2, PSO3, PSO4	PO1,PO2, PO3,PO4,PO5
10	IV	20CHCCIP44	Inorganic & Physical Chemistry	CO1	Summarize stereochemistry, theories of bonding and stability of complex compounds.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Elucidate the inorganic reaction mechanism pathways and outline the role of essential elements in biological processes	PSO1, PSO3	PO1, PO2,PO4, PO5
				CO3	Apply phase rule to one and two component systems.	PSO1	PO1, PO2, PO4
				CO4	Describe the electrochemical concepts and their applications in electro-analytical techniques	PSO1, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Explain enzyme catalysis, concepts and theories of chemical kinetics and deduce expressions.	PSO1, PSO2, PSO3	PO1, PO2,PO4
				CO6	Solve concept-based problems	PSO3	PO3,PO5
11	IV	20CHP5PC41	Physical chemistry -practical	CO1	Handle potentiometer, conductivity meter and perform experiments in electrochemistry.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Determine the order and average rate constant of chemical reactions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Use glassware, equipment, chemicals and follow experimental procedures in the laboratory.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
12	V/VI Set 1	20CHSEC11SO3	Synthetic Organic chemistry	CO1	Summarize different types of pericyclic reactions	PSO1, PSO2	PO1, PO2,PO4
				CO2	Explain protection and deprotection concepts in synthetic organic chemistry	PSO1, PSO2	PO1, PO2,PO3,PO4, PO5
				CO3	Outline the concepts of retro synthesis and reagents in organic chemistry	PSO1, PSO2	PO1, PO2, PO3, PO4,PO5
				CO4	Outline the mechanisms of certain chemical reactions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO5	Solve concept-based problems	PSO1, PSO2, PSO3, PSO4	PO1, PO2
13	V/VI Set 1	20CHP611SO2	Synthetic Organic chemistry-Practical	CO1	Perform the organic qualitative analysis for the detection of N using the green procedure.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO2	Learn the procedure for the separation of mixture of amino acids using Paper Chromatography	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3,PO4, PO5
14	V/VI Set 1	20CHSEC12AO3	Analysis of Organic Compounds	CO1	Apply spectroscopy to analyse molecular structure	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss basic principle, instrumentation, experimental procedures,applications of solvent extraction and chromatography methods(CC,PC, TLC, HPLC)	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Solve concept-based problems	PSO1, PSO2, PSO3, PSO4	PO1, PO2
15	V/VI Set 1	20CHP712AO2	Analysis of Organic Compounds-Practical	CO1	Handle separatory funnel, TLC sheets, chromatography papers, applicator, UV chamber etc.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Perform experiments on PC, TLC and Solvent extraction .	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO3	Apply spectroscopic data for structural elucidation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
16	V/ VI Set 2	20CHSEC 21AM3	Analytical Methods in Chemistry - I	CO1	Summarize general lab practices and concepts.	PSO1, PSO2	PO1, PO2, PO5
				CO2	Explain various operations of gravimetric analysis.	PSO1, PSO2	PO1, PO2, PO5
				CO3	Classify errors and describe basic methods, concepts in data analysis.	PSO1, PSO2, PSO3	PO1, PO2, PO5
				CO4	Discuss the principle, instrumentation and applications of spectrophotometry, Potentiometry, AAS.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Solve concept- based problems	PSO1, PSO3	PO2
17	V/VI Set 2	20CHP621AM2	Analytical Methods in Chemistry - I-Practical	CO1	Handle instruments potentiometer, colorimeter etc.and perform experiments on them.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Analyze water samples for certain parameters	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5,PO8
18	V/VI Set 2	20CHSEC 22AM3	Analytical Methods in Chemistry - II	CO1	Discuss basic principle, instrumentation, experimental procedures, applications of solvent extraction and chromatography methods (CC, PC, TLC, HPLC, GC).	PSO1, PSO2	PO1, PO4

				CO2	Explain the concept of ion exchange method.	PSO1, PSO2	PO1, PO4
				CO3	Solve concept-based problems.	PSO3, PSO4	PO2
19	V/VI Set 2	20CHP722AM2	Analytical Methods in Chemistry - II-Practical	CO1	Handle separatory funnel, TLC sheets, chromatography papers, applicator, UV chamber etc.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO2	Perform experiments on PC, TLC and Solvent extraction.	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5
20	V/VI Set 3	20CHSEC 31AM3	Analytical Methods in Chemistry	CO1	Classify errors and describe basic methods, concepts in data analysis	PSO1,PSO2	PO1, PO4
				CO2	Explain various operations of gravimetric analysis.	PSO1,PSO2	PO1, PO4
				CO3	Summarize basic principle, instrumentation, experimental procedures, applications of spectrophotometry, solvent extraction, chromatography and ion exchange methods	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO4	Solve concept-based problems.	PSO1, PSO3	PO1,PO2
21	V/VI Set 3	20CHP631AM2	Analytical Methods in Chemistry-Practical	CO1	Handle colorimeter/ spectrophotometer, separatory funnel, TLC sheets, chromatography papers, applicator, UV chamber etc.	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5
				CO2	Perform experiments on colorimeter, PC, TLC and Solvent extraction.	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5
22	V/VI Set 3	20CHSEC 32CP3	Cosmetics and Pharmaceutical Chemistry	CO1	Summarize the terminology and nomenclature of drugs, different formulations.	PSO1,PSO2	PO1, PO4
				CO2	Classify formulations and discuss the properties of drugs.	PSO1,PSO2	PO1, PO4
				CO3	Outline the synthesis and therapeutic action of different types of drugs	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO4	Discuss the preparation and uses of certain Cosmetics & perfumes.	PSO1,PSO2	PO1, PO4
				CO5	Solve concept based problems	PSO1, PSO3	PO1, PO2
23	V/VI Set 3	20CHP732CP2	Cosmetics and Pharmaceutical Chemistry-Practical	CO1	Prepare cosmetics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5
				CO2	Prepare anti-inflammatory drug aspirin.	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5
				CO3	Perform experiments on solubility and pH conditions of drugs	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO3, PO4, PO5

ELECTRONICS

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20ETCCNA14	Network Analysis & Analog Electronics	CO1	Explain the basic concepts of electrical quantities and use circuit laws and simplify resistive circuits.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Apply reduction techniques using network theorems, nodal analysis and mesh analysis.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Demonstrate the functioning of various solid-state devices	PSO2, PSO3	PO1, PO2, PO4
				CO4	Examine the principle and operation of rectifiers, feedback amplifiers and oscillators.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
2	I	20ETP1AE11	Analog Electronics-Practical	CO1	Explain the role of basic electronic components.	PSO1	PO1, PO2, PO4
				CO2	Apply network theorems to find the various parameters for a given circuit.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Understand the voltage-current characteristics of different electronic devices.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO4	Design simple analog circuits through the skill acquired.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
3	II	20ETCCLD24	Linear & Digital Integrated Circuits	CO1	Explain the fundamentals of integrated circuits and describe their applications	PSO1	PO1, PO2, PO4
				CO2	Categorise number system and perform number conversions..	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Examine the operation of basic logic gates and perform systematic reduction of Boolean expressions.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO4	Construct and implement combinational and sequential logic circuits of medium complexity.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
4	II	20ETP2DE21	Digital Electronics-Practical	CO1	Understand the function of linear and digital ICs to build circuits.	PSO1	PO1, PO2, PO4
				CO2	Apply the knowledge of linear ICs to construct basic circuits and their applications.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Implement various combinational and sequential digital circuits using various logic gates.	PSO2, PSO3	PO1, PO2, PO4
				CO4	Design simple digital circuits through the skill acquired.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
5	III	20ETCCCE34	Communication Electronics	CO1	Identify the fundamental concepts and various components of analog communication system.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO2	Illustrate different modulation and demodulation techniques used in analog communication.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Analyze various digital modulation systems.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Apply the concepts of mobile communication and	PSO2, PSO3,	PO1, PO2,

					cellular technologies.	PSO4	PO3, PO4, PO5
6	III	20ETP3AD31	Analog & Digital Communication-Practical	CO1	Use the knowledge of analog communication techniques to construct modulation and demodulation circuits.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Construct pulse modulation circuits for generation and detection.	PSO2, PSO3	PO1, PO2, PO4
				CO3	Apply the basics of digital modulation techniques and understand their generation and detection.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
7	IV	20ETCCMP44	Microprocessors	CO1	Explain the basics, internal architecture and operation of microprocessors.	PSO1	PO1, PO2, PO4
				CO2	Exhibit programming proficiency using various instructions.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Design and develop assembly language programs using microprocessors.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Examine the internal structure and organization of ARM processor	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
8	IV	20ETP4MP41	Microprocessor Programming-Practical	CO1	Understand the instruction set of 8086 microprocessor to write assembly language programs.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Apply the knowledge of the MASM to execute assembly language programs.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Develop programs to convert one form of number system to the other.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
9	IV	20ETCCMC44	Microcontroller & Interfacing	CO1	Explain the basics, internal architecture and operation of microcontroller	PSO1	PO1, PO2, PO4
				CO2	Exhibit programming proficiency using various instructions	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Design and develop assembly language programs using 8051 microcontroller	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize the interfacing of different peripheral devices to the microcontroller	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
10	IV	20ETP5MC41	Microcontroller Programming-Practical	CO1	Understand the instruction set of 8051 microcontroller to write assembly language programs.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Apply the knowledge of the KIEL to execute assembly language programs.	PSO2, PSO3	PO1, PO2, PO4
				CO3	Use the knowledge of interfacing and interface peripheral devices to 8051 microcontroller.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
11	V/VI Set 1	20ETSEC11EI3	Electronic Instrumentation	CO1	Explain the fundamentals of measurements and instrumentation system.	PSO1, PSO3	PO1, PO2, PO4
				CO2	Demonstrate the working principle of different measuring instruments.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Examine the basic design techniques of electronic equipment.	PSO1, PSO2	PO1, PO2, PO4
				CO4	Assess electronic instruments more effectively for various measurements.	PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
12	V/VI Set 1	20ETP611IN2	Instrumentation – Practical	CO1	Apply the knowledge of ac and dc bridges to determine various measurements.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Construct different types of transducers and study their characteristics.	PSO2, PSO3	PO1, PO2, PO4
				CO3	Analyse different parameters of various measuring instruments.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
13	V/VI Set 1	20ETSEC12ES3	Embedded Systems	CO1	Explain the concepts of embedded systems.	PSO1	PO1, PO2, PO4
				CO2	Understand hardware and software design requirements of embedded systems.	PSO1, PSO2	PO1, PO2, PO4
				CO3	Design and develop assembly language programs.	PSO2, PSO3	PO1, PO2, PO4
				CO4	Demonstrate the interfacing of different peripheral devices with microcontrollers.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
14	V/VI Set 1	20ETP712EP2	Embedded Programming – Practical	CO1	Understand the instruction set to write programs.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Apply the knowledge of programming to execute programs.	PSO2, PSO3	PO1, PO2, PO4
				CO3	Use the knowledge of interfacing and interface peripheral devices.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
15	V/VI Set 2	20ETSEC21OE3	Opto Electronic Devices	CO1	Interpret basic laws and phenomena that define behaviour of optoelectronic devices.	PSO1, PSO3	PO1, PO2, PO4
				CO2	Identify key performance parameters of lasers, LEDs, and optical detection devices.	PSO1, PSO2	PO1, PO2, PO4
				CO3	Apply the basic concepts to characterize optoelectronic sources and detectors.	PSO1, PSO2	PO1, PO2, PO4
				CO4	Demonstrate an understanding of the basic design requirements for optoelectronic integration.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
16	V/VI Set 2	20ETP621OE2	Opto Electronics - Practical	CO1	Understand the characteristics of opto electronic devices.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Construct circuits to study various parameters.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Examine the operation of opto couplers.	PSO3	PO1, PO2
17	V/VI Set 2	20ETSEC22FS3	Fundamentals of Solid State Lighting	CO1	Compare the basics of different types of lighting.	PSO1	PO1, PO2, PO4
				CO2	Demonstrate the importance of solid state lighting, specifications of lighting sources and energy efficiencies.	PSO1, PSO2	PO1, PO2, PO4

				CO3	Examine the transformation of an LED chip into LED lamp by way of driver circuitry.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Assess the energy consumption of traditional and SSL-based lighting approaches.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
18	V/VI Set 2	20ETP722SS2	Solid State Lighting - Practical	CO1	Examine the optical performance of various light sources.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Analyse the electrical performance of LED luminaries.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Study the thermal performance of LED luminaries.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
19	V/VI Set 3	20ETSEC31PE3	Power Electronics	CO1	Relate basic semiconductor physics to properties of power devices.	PSO1	PO1, PO2, PO4
				CO2	Demonstrate the basic operation and compare performance of various power semiconductor devices.	PSO1, PSO2	PO1, PO2, PO4
				CO3	Analyze the performance of various types of chopper circuits and power inverters.	PSO2, PSO3	PO1, PO2, PO4
				CO4	Evaluate the operation of electric machines, such as motors, generators and their controls.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
20	V/VI Set 3	20ETP631PE2	Power Electronics - Practical	CO1	Outline of different types of power semiconductor devices and their switching characteristics.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Examine power devices and their performance parameters.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Understand the operation of chopper circuits.	PSO3	PO1, PO2
21	V/VI Set 3	20ETSEC32CO3	Consumer Electronics	CO1	Explain the basics of various electrical appliances.	PSO1	PO1, PO2, PO4
				CO2	Describe the operation of various types of electrical appliances.	PSO1, PSO2	PO1, PO2, PO4
				CO3	Analyze the applications of digital devices.	PSO2, PSO3	PO1, PO2, PO4
				CO4	Assess the performance of various electrical appliances.	PSO2, PSO4	PO1, PO2, PO3, PO4, PO5
22	V/VI Set 3	20ETP732CO2	Consumer Electronics - Practical	CO1	Examine the process of installation of various audio and video systems.	PSO1, PSO2	PO1, PO2, PO4
				CO2	Apply the knowledge of the function of electrical appliances to conduct surveys on the usage of appliances.	PSO1, PSO2, PSO3	PO1, PO2, PO4
				CO3	Assembly and disassembly various digital devices.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

COMPUTER SCIENCE

B. Sc. Programme

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes(PSOs)	Program Outcomes (POs)
1	I	20CSCCPM14	Programming Methodologies	CO1	Explain fundamental concepts of programming and problem solving techniques.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3
				CO2	Analyse and debug control statements and functions.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply concepts of arrays and strings to design programs.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO4	Differentiate and demonstrate the concepts of pointers, structures and unions.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Describe the basic object oriented programming concepts.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
2	I	20CSP1PC11	Programming with C++ - Practical	CO1	Apply the programming concepts and write simple programs in C++.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Develop simple code to solve a problem.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Implement the programming with real time concepts.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
3	I	20LSCCA2	Basic Computer Applications	CO1	Demonstrate basic understanding of computer hardware and software.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Create personal, academic, business documents, spreadsheets, charts and presentations.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO3	Analyze data using charts and spread sheets.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
4	II	20CSCCDS24	Data Structures Using C++	CO1	Identify data structures to represent data items in the real worl	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Analyse the working principles and applications of data structures	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO3	Develop programs by applying various operations on data structures.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO4	Apply various sorting, searching and hashing techniques.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
5	II	20CSP2DS21	Data Structures Using C++ - Practical	CO1	Identify and apply the suitable data structure for the given real world problem.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Implement various kinds of searching and sorting	PSO1,PSO2,	PO1,PO2,PO3,

					techniques.	PSO3,PSO4	PO4
				CO3	Implement data structures such as stacks, queues and Search trees to solve various computing problems.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
6	II	20LSCIT2	Information & Communication Technology	CO1	Apply skills to use various social networking sites, online forums, docs, spreadsheets, etc for communication, collaboration and Research.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3
				CO2	Learn a few GOI digital initiatives in higher education.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3
				CO3	Acquaint with internet threats and security mechanisms.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5,PO6,PO7,PO8
7	III	20CSCCDB34	Database Management Systems	CO1	Demonstrate the important computer system resources and the role of operating system in their management policies, algorithms and classify the evolutions in operating systems.	PSO1,PSO2,PSO3	PO1,PO2,PO3
				CO2	Identify how communication between client-server systems exists in Operating System and different Services and System Calls.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO3	Inspect the policies for Process scheduling, mutual exclusion, Deadlock prevention techniques of OS.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO4	Analyse memory management and its allocation policies: Paging, Page Replacement algorithms.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
				CO5	Create and manage simple file processing operations by using UNIX/Linux utilities, organize directory structures with appropriate security, and develop shell scripts to perform more complex tasks	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
8	III	20CSP3DB31	Database management Systems-Practical	CO1	Understand the basics of SQL and create database tables and establish relationships between tables.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO2	Design and create relational database systems.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4
				CO3	Formulate queries using SQL DML/DDL/DCL commands.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
11	IV	20CSCCPJ44	Object Oriented Programming through Java	CO1	Recall the concepts of object oriented programming and Java syntax	PSO1,PSO2,PSO3	PO1,PO2,PO3
				CO2	Apply concepts such as arrays, strings, classes and inheritance	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO3	Develop programs on polymorphism, abstract classes, exceptions and packages.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO4	Make use of the concepts of file streams and multi threading.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
				CO5	Develop skills in internet programming using applets and JDBC	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
10	IV	20CSP4PJ41	Object Oriented Programming through Java-Practical	CO1	Write Java application programs using OOP principles	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO2	Develop Java programs to solve real world problems	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4
				CO3	Develop skills in internet programming using applets	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
11	IV	20CSCCOS44	Operating Systems	CO1	Relate the basic functions and types of operating system.	PSO1,PSO2,PSO3	PO1,PO2,PO3
				CO2	Describe different services of the operating system	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO3	Analyse process management and scheduling algorithms.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO4	Correlate various memory concepts.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
				CO5	Compile LINUX commands on UNIX/LINUX Operating System	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
12	IV	20CSP5OS41	Operating Systems-Practical	CO1	Apply various Linux commands on a standard UNIX/LINUX Operating system.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO2	Apply shell programming on UNIX/LINUX OS.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4
				CO3	Develop skills in shell programming.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
13	V/VI Set 1	20CSSEC11WT3	Web Interface Designing Technologies	CO1	Understand and appreciate the web architecture and services.	PSO1,PSO2,PSO3	PO1,PO2,PO3
				CO2	Gain knowledge about various components of a website.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO3	Demonstrate skills regarding creation of a static website and an interface to dynamic website.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4
				CO4	Learn how to install and configure word press.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
				CO5	Apply knowledge of installing various plugins to use in their websites.	PSO1,PSO2,PSO3,PSO4	PO1,PO2,PO3,PO4,PO5
14	V/VI Set 1	20CSP611WD2	Web Designing - Practical	CO1	Create a basic website with the help of HTML and CSS.	PSO1,PSO2,PSO3	PO1,PO2,PO3,PO4

				CO2	Acquire the skill of installing word press and various plugins of Word press.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Apply various themes for their websites using Word press.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
15	V/VI Set 1	20CSSEC12WA3	Web Applications Development using PHP & MYSQL	CO1	Understand how to use regular expressions, handle exceptions, and validate data using PHP.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Apply In-Built functions and Create User defined functions in PHP programming.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Design PHP scripts to handle HTML forms.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Learn how to work with various components in PHP.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Gain knowledge on how to use PHP with MySQL database and can write database driven web pages.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
16	V/VI Set 1	20CSP712PM2	PHP & MYSQL-Practical	CO1	Write, debug and implement the Programs by applying concepts and error handling techniques of PHP.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Create a website with reports generated from a database.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Write programs to create an interactive website for e-commerce sites like online shopping, etc.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
17	V/VI Set 2	20CSSEC21IT3	Internet of things	CO1	Understand various concepts, terminologies and applications of IoT systems.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Learn how to use various sensors and wireless technologies for design of IoT.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Gain knowledge on how to connect various things to Internet.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Understand Arduino Simulation Environment.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Apply skills to develop simple IOT Devices.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
18	V/VI Set 2	20CSP621IT2	IoT-Practical	CO1	Connect various sensors, actuators, etc to Arduino board.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Design a small mobile app to control the sensors.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Deploy a simple IoT device.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
19	V/VI Set 2	20CSSEC22AD3	Application development using python	CO1	Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Demonstrate proficiency in handling Exceptions and File Systems.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Learn how to use Regular Expressions and threads.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Implement GUI and web programming as used in Python.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Apply concepts of Python programming in various fields related to IOT, Web Services and Databases in Python.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
20	V/VI Set 2	20CSP722PP2	Programming in Python-Practical	CO1	Implement programs related to various data structures like lists, dictionaries, etc.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Implement programs related to files.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Implement applications related to databases, Web services and IOT.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
21	V/VI Set 3	20CSSEC31DS3	Data Science	CO1	Develop relevant programming abilities.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Demonstrate proficiency with statistical analysis of data.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	Develop the ability to build and assess data-based models.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	Demonstrate skill in data management.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Apply data science concepts and methods to solve problems in real-world contexts .	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
22	V/VI Set 3	20CSP631DS2	Data Science-Practical	CO1	Apply data science solutions to real world problems.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Implement the programs to get the required data, process it and present the outputs using Python language.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Execute statistical analyses with Open source Python software.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
23	V/VI Set 3	20CSSEC32PD3	Python for Data Science	CO1	Identify the need for data science and solve basic problems using Python built-in data types and their methods.	PSO1,PSO2, PSO3	PO1,PO2,PO3
				CO2	Design an application with user-defined modules and packages using OOP concept.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO3	Employ efficient storage and data operations using NumPy arrays.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO4	Apply powerful data manipulations using Pandas.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4

				CO5	Do data pre-processing and visualization using Pandas.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
24	V/VI Set 3	20CSP732PD2	Python for Data Science - Practical	CO1	Implement simple programs in Python.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Implement programs related to various structures like arrays, lists, Data frames, etc.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Implement applications related to data science.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
B. Com. (C) Programme							
S.No.	**Semester**	**Course Code**	**Course Title**	**Course Outcomes (COs)**		**Program Specific Outcomes (PSOs)**	**Program Outcomes (POs)**
1	I	20CSCCIT13	Information Technology	CO1	Explain the fundamental computer organisation and vocabulary.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3
				CO2	Develop professional documents.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Utilise MS-Excel to generate reports.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO4	Create presentations using MS-PowerPoint.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Develop database using MS-Access.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
2	I	20CSP1MO11	MS Office - Practical	CO1	Apply appropriate menu options to create professional documents and presentations	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Build spreadsheets to perform calculations, display data and conduct analysis	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Design and construct databases to store, extract and analyze real world data	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
3	II	20CSCCWD23	E-commerce & Web Designing	CO1	Explain the foundations and importance of e-commerce.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Describe the process of the e-payment system.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Differentiate the various types of online business transactions.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO4	Apply web designing concepts to create web pages.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO5	Explain security issues and countermeasures in e-commerce.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
4	II	20CSP2WD21	Web Designing-Practical	CO1	Analyze a web page and identify its elements and attributes.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Create web pages using HTML and Cascading Style Sheets.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO3	Apply web designing concepts to create web pages	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
5	III	20CSCCPC33	Programming with C & C++	CO1	Explain the basic concepts of programming language, including the use of algorithms.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3
				CO2	Develop programs on arrays and strings.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply the concepts of functions, structures and unions.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO4	Differentiate between structured and object-oriented programming.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Apply various forms of inheritance.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
6	III	20CSP3PC31	Programming With C & C++-Practical	CO1	Develop programming skills using the fundamentals and basics of C & C++ Languages.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Solve computing problems.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply various forms of inheritance.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
7	IV	20CSCCDM43	Database Management System	CO1	Explain the basic concepts of database management system.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3
				CO2	Analyse file-based system and database approach.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Explain entity-relationship model and relational database design.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO4	Formulate and apply SQL queries to relational databases.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Discuss triggers and stored procedures.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
8	IV	20CSP4DM41	Database Management	CO1	Use the basics of SQL and create database tables and establish relationships between tables.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4

			System-Practical	CO2	Formulate queries using SQL DML/DDL/DCL commands.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply SQL queries to relational databases.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
9	V/VI Set 1	20CSSEC11BD3	Big data Analytics using R	CO1	Explain data and classification of digital data.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO2	Explain Big Data Analytics.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Load data in to R.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO4	Organize data in the form of R objects and manipulate them as needed.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Perform analytics using R programming.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
10	V/VI Set 1	20CSP511RP1	R Programming-Practical	CO1	Load data in to R.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Organize data in the form of R objects and manipulate them as needed.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Perform analytics using R programming.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
11	V/VI Set 1	20CSSEC12DP3	Data Science using Python	CO1	Explain the basic concepts of data science	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO2	Understand why python is a useful scripting language for developers.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Use standard programming constructs like selection and repetition.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO4	Use aggregated data (list, tuple, and dictionary).	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Implement functions and modules.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
12	V/VI Set 1	20CSP612PP1	Python Programming-Practical	CO1	Use standard programming constructs like selection and repetition.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Use aggregated data (list, tuple, and dictionary).	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Implement functions and modules in python.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
13	V/VI Set 2	20CSSEC21MA3	Mobile Application Development	CO1	Identify basic terms ,tools and software related to android systems	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO2	Describe components of IDE, understand features of android development tools.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Describe the layouts and controls.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO4	Explain the features of services and able to publish android Application.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO5	Developing interesting Android applications using MIT App.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
14	V/VI Set 2	20CSP521AP1	Android Programming-Practical	CO1	Explain the android platform.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Explain the features of services and able to publish android Application.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO3	Design and implementation of various mobile applications.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
15	V/VI Set 2	20CSSEC22CM3	Cyber Security and Malware	CO1	Explain the computer networks, networking tools and cyber security.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO2	Describe about NIST Cyber Security Framework	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO3	Explain the OWASP Vulnerabilities.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO4	Implement various Malware analysis tools.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO5	Explain about Information Technology act 2000	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
16	V/VI Set 2	20CSP622CS1	Cyber Security-Practical	CO1	Implement the concepts of switch, router and packet.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO2	Implement the features of services and able to publish Networking Applications.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO3	Implement various Malware analysis tools.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
17	V/VI Set 3	20CSSEC31EA3	E– Commerce Applications	CO1	Apply knowledge in all fields of business studies by drafting a website presence plan.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5
				CO2	Understand the factors needed in order to be successful in e-commerce.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5

				CO3	Gain skills to gather about the different components of building a web presence	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO4	Solve problems and issues that might pop up during the establishment of the web presence	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO5	Apply Word Press as a content management system (CMS) and design a website.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
18	V/VI Set 3	20CSP531EC1	E– Commerce-Practical	CO1	Gain skills to gather about the different components of building a web presence.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	Apply Word Press as a content management system (CMS).	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
				CO3	Design a website.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8
19	V/VI Set 3	20CSSEC32RG3	Real Time Governance System	CO1	Appreciate the terms regarding Governance, E-Governance and RTGS	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Learn about E-Governance Infrastructure	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Understand the E-Governance implementation in several countries	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO4	Understand the E-Governance implementation in several Indian states	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Analyse the applications of RTG	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
20	V/VI Set 3	20CSP632RG1	RTGS-Practical	CO1	Understand the E-Governance implementation in several countries	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO2	Understand the E-Governance implementation in several Indian states	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Analyze the applications of RTG	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4

STATISTICS

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20STCCDS14	Descriptive Statistics	CO1	Interpret diagrammatic data presentation which makes it easier for a common man to understand the given data.	PSO1	PO1
				CO2	Determine the reliability of an average and compare variability of two or more series and solve problems using moments	PSO1,PSO2, PSO3	PO1,PO2,PO4
				CO3	Determine the reliability of an average and compare variability of two or more series	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO4
				CO4	Derive the correlation and regression between two variables.	PSO1,PSO2, PSO3	PO1,PO2,PO3, PO4
				CO5	Differentiate between quantitative and qualitative data and apply association and contingency techniques using attributes.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
2	I	20STP1DS11	Descriptive Statistical Methods-Practical	CO1	Interpret diagrammatic data presentation which makes it easier for a common man to understand the given data.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Determine the reliability of an average and compare the variability of two or more series	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Interpret problem solving skills using moments	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO4	Apply the curve fitting methods to forecast the data related to cost, production, profits, etc.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Derive the correlation and Regression between two variables.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO6	Apply Association and Contingency techniques for qualitative data using Attributes	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
3	II	20STCCPD24	Probability Theory and Distributions	CO1	Explain the basics of probability, types, theorems and applications in real life.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Interpret Univariate & bi-variate random variables.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply mathematical expectations applications to real data.	PSO1,PSO2, PSO3	PO1,PO2,PO4
				CO4	Identify different real life problems and apply discrete and continuous distributions to draw valid inferences.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
4	II	20STP2PD21	Probability Distributions-Practical	CO1	Identify different real life problems	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Apply discrete distributions (Binomial, Poisson, Negative Binomial and Hypergeometric) to the real life situations to draw valid conclusions	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4

				CO3	Interpret continuous distributions (Uniform, Normal and Exponential) in day to day life to draw valid inferences.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
5	II	20LSCES2	Elementary Statistics	CO1	Explain the scope and limitations of statistics, collection and representation of data	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Interpret central tendency and dispersion measures to the given	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Estimate the degree of relationship between variables using the concepts of correlation and regression	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
6	III	20STCC SI34	Statistical Inference	CO1	Interpret t, F and $\chi 2$ distributions in terms of statistics of a sample from a normal distribution	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Examine different methods of estimation	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Explain the definitions and concepts of hypothesis testing	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO4	Differentiate the types of sample sizes and apply large and small sample tests to real data.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Distinguish between parametric and non-parametric tests	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
7	III	20STP3SI31	Statistical Inference-Practical	CO1	Apply Large sample tests and small sample tests to different real life situations	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Distinguish between the Parametric and the non-parametric tests and apply them for real life data	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
8	III	20STCCBS34	Business Statistics	CO1	Interpret diagrammatic data presentationwhich makes easier for a common man to understand the data.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Determine the reliability of an average and compare variability of two or more series.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Derive the correlation between two series of data.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
9	IV	20STCCSD44	Sampling techniques and Designs of Experiments	CO1	Design and implement surveys using sampling techniques.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO4
				CO2	Interpret the results of ANOVA through computation	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Summarize the principles, phases and scope of designs	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO4
				CO4	Analyze and interpret basic designs (CRD, RBD and LSD).	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Demonstrate the analysis of full factorial designs.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
10	IV	20STP4SD41	Sampling & Designs-Practical	CO1	Design and implement surveys with the sampling designs (simple random, systematic, stratified).	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Compute and interpret the results of ANOVA and F-test.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply the Basic designs (CRD, RBD and LSD) to real life situations.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Demonstrate how to analyse the results of the full Factorial designs.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
11	IV	20STCCAS44	Applied Statistics	CO1	Interpret chronological data to derive trends in economy.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO2	Analyze the standard of living in different countries using index	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO3	Explain the importance of demography in the development of society	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Apply the methods of obtaining birth and death rates to draw inferences regarding demography.	PSO1,PSO2, PSO3,PSO4	PO1,PO2,PO3, PO4
				CO5	Construct the life table for different age groups to examine the reproduction rates	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
12	IV	20STP5AS41	Applied Statistical Methods-Practical	CO1	Apply Trend derivation methods to different chronological series in real life situations.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Analyze the economy and standard of living in different countries using Index Numbers	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Interpret the methods of obtaining birth and death rates	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Construct the Life table for living beings from different age groups	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
13	V/VI Set 1	20STSEC11OR3	Operations Research -I	CO1	Identify and develop operational research models from the verbal description of the real system.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Understand the mathematical tools that are needed to solve optimization problems	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	CO3: Differentiate between IBFS and OBFS and obtain the solution for LPP	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Differentiate the primal and dual and solve the given LPP and to derive the primal-dual relationship	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
14	V/VI Set 1	20STP611OR2	Operations Research -I-Practical	CO1	To construct a linear programming problem to the given data.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	To apply the mathematical tools to solve optimization problems	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4

				CO3	To calculate IBFS and OBFS to the given LPP	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
15	V/VI Set 1	20STSEC12OR3	Operations Research -II	CO1	Analyze various types of deterministic models like transportation Problem and Assignment problem by solving them using different techniques.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Minimize the total elapsed time in an industry and in a waiting line by efficient allocation of suitable jobs /techniques to the data.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Evaluate real time problems related to queues, CPM and PERT.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Demonstrate and solve the simple model of Game theory	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
16	V/VI Set 1	20STP712OR2	Operations Research -II-Practical	CO1	Apply and analyze various types of deterministic models like transportation Problem and Assignment problem	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Maximize the work time and profits of an industry by efficient allocation of jobs to the suitable persons	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Minimize the elapsed time of the projects by using CPM , PERT and queuing models.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Solve the simple models of game theory.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
17	V/VI Set 2	20STSEC21SQC3	Statistical Process and Quality control	CO1	Differentiate the concepts of Quality Control(SQC) and Statistical Process Control (SPC)	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Construct different control charts for Variables and attributes	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Identify different acceptance sampling plans and differentiate them.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Evaluate the probabilities of sampling plans using Binomial and Poisson distributions	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO5	Understand the structure of OC and ASN curves	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
18	V/VI Set 2	20STP621SQC2	Statistical Process and Quality control-Practical	CO1	Construct the control charts for variables and attributes	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Infer whether the process is within control for the given data by calculating the OC, ASN curves	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Determine the single and double sampling plans.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
19	V/VI Set 2	20STSEC22CTR3	Computational Techniques and R Programming	CO1	Understand the basic functioning of a computer	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Acquire skills in handling business and organizational data using Excel	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Perform simple analytics using Excel	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Understand the R programming language and its importance in analyzing the data	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO5	Analyze the real life situations statistically using R language.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
20	V/VI Set 2	20STP722CTR2	Computational Techniques and R Programming-Practical	CO1	Perform simple analytics using Excel	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Apply R programming language the data pertaining to different fields	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Analyze the real life situations statistically using R language.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
21	V/VI Set 3	20STSEC31EM3	Econometrics	CO1	Understand various important econometric models	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Understand the assumptions upon which different econometric methods are based and their implications	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Explain core concepts and techniques in econometrics, with a special focus on the classical linear regression model	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Interpret heteroscedasticity and its inherent concepts including its consequences	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
22	V/VI Set 3	20STP631EM2	Econometrics-Practical	CO1	Estimate the parameters of general linear trend.	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Forecast the general linear trend	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Diagnose the Multicollinearity, Autocorrelation and Heteroscedasticity	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO4	Evaluate the consequences of Multicollinearity, Autocorrelation and Heteroscedasticity	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
23	V/VI Set 3	20STSEC32RA3	Regression Analysis	CO1	Understand Linear and Multiple Linear regression	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Apply statistical tests of hypotheses on regression coefficients	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4

				CO4	Interpret the best regression model	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
24	V/VI Set 3	20STP732RA2	Regression Analysis-Practical	CO1	Analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO2	Apply statistical tests of hypotheses on regression coefficients	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4
				CO3	Derive the best regression model	PSO1,PSO2, PSO 3,PSO4	PO1,PO2,PO3, PO4

BOTANY

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20BTCCMN14	Fundamentals of Microbes and Nonvascular Plants	CO1	Explain the origin of life on the earth.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Able to understand prospects and cultivation of edible mushrooms.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Distinguish the use of biofertilizers and chemical fertilizers.	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
2	I	20BTP1MN11	Microbes & Non – Vascular Plants – Practical	CO1	Learn the techniques to use of lab equipment, preparing slides and identify the material and draw diagrams exactly as it appears	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Observation and identify microbes and lower groups of plants on their own.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Learn the techniques of inoculation, preparation of media.	PSO1, PSO2, PSO3	PO1, PO2, PO3
3	I	20SDCNG2	Plant Nursery & Gardening	CO1	Outline the basic concepts of plant nursery and management.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explain techniques, methods in nursery and gardening.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Summarize different types of gardening techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	II	20BTCCVP24	Basics of Vascular plants and Phytogeography	CO1	Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Justify evolutionary trends in tracheophytes to adapt for land habitat.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain the process of fossilization and compare the characteristics of extinct and extant plants.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Critically understand various taxonomical aids for identification of Angiosperms.	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO5	Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
5	II	20BTP2VP21	Vascular plants & Phytogeography – Practical	CO1	Compare and contrast the morphological, anatomical and reproductive features of vascular plants.	PSO2, PSO3	PO1, PO2, PO3
				CO2	Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Exhibit skills of preparing slides, identifying the given twigs in the lab and drawing figures of plant twigs, flowers and floral diagrams as they are.	PSO1, PSO2, PSO3	PO1, PO2, PO3
6	II	20SDCFV2	Preservation of fruits and Vegetables	CO1	Identify various types of fruits and vegetables and explain their nutritive values.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Understand the fragile nature of fruits and vegetables and causes for their damage.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Evaluate various methods of preservation for fresh fruits and vegetables.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	III	20BTCCAE34	Anatomy & Embryology of Angiosperms, Plant Ecology & Biodiversity	CO1	Explain the organization of tissues and tissue systems in plant.	PSO2, PSO3	PO1, PO2, PO3
				CO2	Illustrate and interpret various aspects of embryology.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Outline the basic concepts of plant ecology and its interaction with both biotic and abiotic factors.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Explain the qualitative and quantitative dynamism of population and community.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Summarize the importance of biodiversity and conservation strategies	PSO1, PSO2, PSO3	PO1, PO2, PO3
8	III	20BTP3AE31	Anatomy & Embryology of Angiosperms, Plant Ecology & Biodiversity – Pratical	CO1	Handle the techniques of section making, staining and microscopic study of vegetative, anatomical and reproductive structure of plants	PSO2, PSO3	PO1, PO2, PO3
				CO2	Observe Extremely snd under microscope , identify and draw exact diagrams of the lower plant material in the lab	PSO1, PSO2, PSO3	PO1, PO2, PO3

				CO3	Demonstrate application of methods in plant ecology and conservation of biodiversity and quantitative aspects related related to population and communities of plants	PSO1, PSO2, PSO3	PO1, PO2, PO3
9	III	20SDCEA2	Environmental Audit	CO1	Outline the basic concepts of environmental health	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explain the regulatory aspects of environmental laws and policies	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Summarize the scope and requisites of environmental audit.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	IV	20BTCCPP44	Plant Physiology & Metabolism	CO1	Outline the importance of water and its transport mechanism in plants.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain the role of minerals and enzymes in plant nutrition, metabolism and deficiency symptoms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Summarize the processes of photosynthesis and photorespiration.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Explain the metabolism of nitrogen and lipids.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Outline the effect of physiological factors on plant growth under normal and stress conditions.	PSO1, PSO2, PSO3	PO1, PO2, PO3
11	IV	20BTP4PP41	Plant Physiology and Metabolism-Practical	CO1	Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals and plant material.	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO2	Estimate the quantities and qualitative expressions using experimental results and calculations	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate the factors responsible for growth and development in plants.	PSO1, PSO2, PSO3	PO1, PO2, PO3
12	IV	20BTCCCG44	Cell Biology, Genetics & Plant Breeding	CO1	Explain the organization of an eukaryotic chromo some and the structure of genetic material.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Demonstrate techniques to observe the cell and its components under a microscope.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Elucidate the role of extrachromosomal genetic material for inheritance of characters	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Evaluate the structure, function and regulation of genetic material.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
13	IV	20BTP5CG41	Cell Biology, Genetics and Plant Breeding Practical	CO1	Handle microscopes, identify and demonstrate the stages of Mitosis and Meiosis in the laboratory.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explain the cellular parts of a cell through models or pictures	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Solve the problems related to crosses and gene interactions.	PSO1, PSO2, PSO3,	PO1, PO2, PO3,
14	V/VI Set 1	20BTSEC11PP3	Plant propagation	CO1	Explain various plant propagation structures and their utilization.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand advantages and disadvantages of vegetative, asexual and sexual plant propagation methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Assess the benefits of asexual propagation of certain economically valuable plants using apomictics and adventive polyembryony.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Demonstrate skills related to vegetative plant propagation techniques such as cuttings, layering, grafting and budding.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Apply a specific macro-propagation technique for a given plant species.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
15	V/VI Set 1	20BTP611PP2	Plant Propagation – Practical	CO1	Make use of different plant propagation structures for plant multiplication.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Explore the specialized organs or asexual propagules in some plants for their proliferation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on micropropagation of plants through vegetative propagation techniques	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
16	V/VI Set 1	20BTSEC12ST3	Seed Technology	CO1	Explain the causes for seed dormancy and methods to break dormancy.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Understand critical concepts of seed processing and seed storage procedures.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Acquire skills related to various seed testing methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Identify seed borne pathogens and prescribe methods to control them.Understand the legislations on seed production and procedure of seed certification.	PSO1, PSO2, PSO3	PO1, PO2, PO3
17	V/VI Set 1	20BTP712ST2	Seed Technology – Practical	CO1	Demonstrate skills on various methods to break the seed dormancy.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Determine seed moisture, seed germination percentage, seed viability and vigour.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Identify the seed borne pathogens and prescribe methods to prevent or control them	PSO1, PSO2, PSO3	PO1, PO2, PO3
18	V/VI Set 2	20BTSEC21VC3	Vegetable crops-Cultivation	CO1	Identify different vegetable plants and realize their value in human nutrition.	PSO1, PSO2, PSO3	PO1, PO2, PO3

			Practices	CO2	Analyse the types of soils to cultivate vegetable crops.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate skills on agronomic practices for cultivation of vegetable crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Acquire knowledge on water, weed and disease managements in vegetable farming.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Comprehend aspects related to harvesting and storage of produce.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
19	V/VI Set 2	20BTP621VC2	Vegetable Crops – Cultivation Practices – Practical	CO1	List out, identify and handle different garden implements.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Identify the important vegetable crops grown in their locality.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate various skills in cultivation of vegetable crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
20	V/VI Set 2	20BTSEC22VP3	Vegetable crops- Post harvesting practices	CO1	Understand various practices for vegetable produce from harvesting to marketing.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Demonstrate skills on storage, processing and preservation of vegetables.	PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO3	Summarize causes for spoilage of vegetables before and during storage and methods to prevent and control them.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Make use of preservation methods to reduce the loss of vegetable produce.	PSO1, PSO2, PSO3	PO1, PO2, PO3
21	V/VI Set 2	20BTP722VP2	Vegetable Crops – Post harvest Practices – Practical	CO1	Identify stages of maturity in vegetable crops.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Handle material for storage of vegetables.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Identify physical and biological causes for spoilage of vegetables.	PSO2, PSO3, PSO4	PO2, PO3, PO4
22	V/ VI Set 3	20BTSEC31PT3	Plant tissue culture	CO1	Comprehend the basic knowledge and applications of plant tissue culture.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Identify various facilities required to set up a plant tissue culture laboratory.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Acquire a critical knowledge on sterilization techniques related to plant tissue culture.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Demonstrate skills of callus culture through hands on experience.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Understand the biotransformation technique for production of secondary metabolites.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
23	V/VI Set 3	20BTP631PT2	Plant Tissue Culture –Practical	CO1	List out, identify and handle various equipment in plant tissue culture lab.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Learn the procedures of preparation of media.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate skills on inoculation, establishing callus culture and Micro propagation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
24	V/ VI Set 3	20BTSEC32MC3	Mushroom cultivation	CO1	Understand the structure and life of a mushroom and discriminate edible and poisonous mushrooms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Identify the basic infrastructure to establish a mushroom culture unit.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate skills preparation of compost and spawn.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Acquire a critical knowledge on cultivation of some edible mushrooms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain the methods of storage, preparation of value-added products and marketing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
25	V/VI Set 3	20BTP732MC2	Mushroom Cultivation-Practical	CO1	Identify and discriminate different mushrooms based on morphology.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand facilities required for mushroom cultivation	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate skills on preparation of spawn, compost and casing material.	PSO1, PSO2, PSO3	PO1, PO2, PO3
26	V/ VI Set 4	20BTSEC41GL3	Gardening and Landscaping	CO1	Acquire a critical knowledge about the aesthetic value, types and styles of gardens.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Perform filed operations in a garden by understanding the role of a gardener.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Identify various ornamental plants and explain the growth habits.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Propagate garden plants through various propagation techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Demonstrate skills of designing and developing a garden.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
27	V/VI Set 4	20BTP641GL2	Gardening and Landscaping-Practical	CO1	Perform various skills related to gardening.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Identify the living and non-living components required for garden development	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Identify the pests and diseases of garden plants and control the same	PSO1, PSO2, PSO3	PO1, PO2, PO3
28	V/ VI Set 4	20BTSEC42AF3	Agroforestry	CO1	Understand the concepts and economic value of agroforestry.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

				CO2	Acquire a critical knowledge on systems and design of agroforestry.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain silviculture practices in relation to agroforestry.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Understand the role of agroforestry to reclaim the waste lands.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Perform skills in relation to tree measurement techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
29	V/VI Set 4	20BTP742AF2	Agroforestry – Practical	CO1	Identify suitable tree species for agroforestry and their products.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Demonstrate skills on raising tree species from seeds and by vegetative propagation.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Perform skills on measurements related to wood-based products	PSO1, PSO2, PSO3	PO1, PO2, PO3
						PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

ZOOLOGY

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20ZLCCAN14	Animal diversity-Biology of Non chordates	CO1	Demonstrate the taxonomic position of non-chordates in an animal Kingdom	PSO1, PSO2, PSO3	PO1, PO2,PO4,
				CO2	Apply appropriate method to classify the invertebrates up to class level based on their unique characters.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Apply acquired knowledge to the process of evolution from phylum Protozoa to Phylum Echinodermata	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Comprehend the advanced phylum Annelida to Hemichordate on the basis of life processes..	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Apply suitable skills in identification of the beneficial and non-beneficial organisms, culturing methods of beneficial organisms (Vermiculture, Sericulture, shellfish cultures) and to get employment	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
2	I	20ZLP1SN11	Study of non chordates-Practical	CO1	To understand the importance of preservation of museum specimens	PSO1,PSO2	PO1,PO2,PO4
				CO2	To identify animals based on special identifying characters	PSO1,PSO3	PO1,PO2,PO4
				CO3	To understand different organ systems through demo or virtual dissections	PSO2,PSO3	PO1,PO2,PO4
3	II	20ZLCCAC24	Animal diversity-Biology of Chordates	CO1	Distinguish the difference between various species and the evolution of complexity in each system & strong foundation on systematics and phylogeny of various vertebrate phyla.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO2	Explain critical concepts in understanding how endoskeleton changed from a notochord to vertebral column	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Examine the diversity and explain the Physiological activities of higher animals.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Analyze methods to adopt the economic importance of commercially important animals and their rearing methodologies –Aquaculture and acquire skill through Fishery by-products and preservation methods.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Demonstrate Skills and employment required in aquaculture (Fisheries and fish farms) methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
4	II	20ZLP2SC21	Study of chordates-Practical	CO1	To understand the taxi dermic and other methods of preservation of chordates.	PSO1,PSO2	PO1,PO2,PO4
				CO2	To identify chordates based on special identifying characters and classification.	PSO1,PSO3	PO1,PO2,PO4
				CO3	To understand internal anatomy of animals through demo or virtual dissections, thus directing the student for “empathy towards the fellow living beings.	PSO2,PSO3	PO1,PO2,PO4
5	I/II	20SDCDOT1	Dairy Technology	CO1	Explain the prerequisites for starting a Dairy Form, maintain the health of livestock	PSO1, PSO2, PSO3	PO1
				CO2	Exhibit different breeds of cows and buffaloes with safety skills as a source of income	PSO1, PSO2, PSO3, PSO4	PO1
				CO3	Solve problems pertaining to release recommendations on feed, vaccination ,nutrients ,water for live stock	PSO1, PSO2, PSO3, PSO4	PO1
6	II/III	20LSCHH2	Health & Hygiene	CO1	Explain the course is designed to provide a complete guidance on health and hygiene systems, guidelines for implementing and role of government and public in maintaining a healthy life. At the end of the course the student shall be able to understand	PSO1, PSO2, PSO3	PO1
				CO2	The importance of health,hygiene and nutrition for a healthy life.	PSO1, PSO2, PSO3, PSO4	PO1
				CO3	Basic concept of health impact assessment as a means of assessing the policies, plans and projects using quantitative and qualitative techniques. Importance of community and personal health & hygiene measures, of food, social tenets, mental condition, physical activity on health Learning .	PSO1, PSO2, PSO3, PSO4	PO1

7	III	20ZLCCCG34	Cell& Molecular Biology,Genetics,Evolution	CO1	Describe the basic structure of a cell in all living organisms and differentiate the organisms by their unique characters and functions of a eukaryotic cell.	PSO2, PSO3	PO1,PO2,PO4
				CO2	Analyze the detailed concepts of gene, gene interaction, hereditary and variations.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Articulate various aspects of genes involved in sex determination, human karyotyping aberrations and chromosomal mutations that cause different disorders.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	Illustrate DNA characteristic & clarify the central dogma of molecular level of hereditary concept genetic information in Protein synthesis.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	Comprehend the origin of life, process of evolution and the forces operating in evolution of new species and classify the same to develop new and advanced varieties of animals for the benefit of the society.	PSO2, PSO3	PO1,PO2,PO4
8	III	20ZLP3CG31	Cell & Molecular Biology, Genetics, Evolution-Practical	CO1	Prepare different phases of cell division by experimentation,develop skills on human karyotyping and identification of chromosomal disorders.	PSO1,PSO2	PO1,PO2,PO4
				CO2	Apply the basic concept of inheritance for applied research.	PSO1,PSO3	PO1,PO2,PO4
				CO3	Identify phylogeny and eeological history of origin & evolution of animals.	PSO2,PSO3	PO1,PO2,PO4
9	IV	20ZLCCPE44	Physiology,Cellular metabolism &Embryology	CO1	Identify the functions of important animal physiological systems and metabolism with a special knowledge of hormonal control of human reproduction	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Illustrate the significance of the basic metabolic activities pertaining to catabolism and anabolism of various biomolecules	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Identify continuity of the key events in early embryonic development starting from the formation of gametes up to gastrulation and formation of primary germ layers.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Categorize the real proficiency in laboratory techniques in biochemistry and orient them to apply the scientific method to the processes of experimentation and hypothesis testing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	IV	20ZLP4PE41	Physiology,Cellular metabolism & Embryology-Practical	CO1	Identify the histological structure of various organ systems and to interpret human health based on the composition of blood cells	PSO1,PSO2	PO1,PO2,PO4
				CO2	To impart skills on handling of instruments to demonstrate various activities of enzyme in vitro	PSO1,PSO3	PO1,PO2,PO4
				CO3	To Identify different stages of early embryonic development in animals	PSO2,PSO3	PO1,PO2,PO4
11	IV	20ZLCCIB44	Immunology & Animal Biotechnology	CO1	Describe the systematic concept on immunity, types and immune systems.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO2	Identify the basis for principles, procedures practice with lab techniques.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Analyze the concept about antigens and antibodies and their interactions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Apply a suitable blotting techniques common in Animal Biotechnology studies.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Apply the Knowledge on the PCR and Applications of Animal Biotechnology.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
12	IV	20ZLP5IB41	Immunology & Animal Biotechnology-Practical	CO1	Differentiate immune organs and Immune techniques.	PSO1,PSO2	PO1,PO2,PO4
				CO2	Hands on experience –Chromatography and Blotting techniques	PSO1,PSO3	PO1,PO2,PO4
				CO3	Demonstration of PCR and Immunoelectrophoresis.	PSO2,PSO3	PO1,PO2,PO4
13	V/VI Set 1	20ZLSEC11SA3	Sustainable Aquaculture Managment	CO1	Evaluate the current status of aquaculture at the National and Global level.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5,PO8
				CO2	Classify the different types of ponds used in aquaculture	PSO1,PSO2, PSO3	PO1, PO2, PO4, PO5
				CO3	Demonstration of induced breeding techniques of Carp fishes.	PSO3,PSO4	PO1, PO2, PO4, PO5
				CO4	Acquire critical knowledge on commercial importance of shrimps	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Identification of fin and shell fish diseases. Develop skill in breeding techniques to set up ponds.	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5,PO8
14	V/VI Set 1	20ZLP611SA2	Sustainable Aquaculture Management-Practical	CO1	Laboratory identification of the characters Indian Major carps.	PSO1,PSO2	PO1,PO2,PO4
				CO2	Estimate physico chemical characteristics of water used for aquaculture	PSO1,PSO3	PO1,PO2,PO4
				CO3	Visiting a Hatchery/Farm/ Aqua diagnostic center to examine the diseases of fin and shell fish .	PSO2,PSO3	PO1,PO2,PO4
15	V/VI Set 1	20ZLSEC12PT3	Postharvest Technology of Fish and Fisheries	CO1	Identify the types of preservation methods employed in aquaculture	PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO2	Choose the suitable Processing methods in aquaculture	PSO1,PSO2, PSO3	PO2, PO3, PO4, PO5

				CO3	Maintain the standard quality control protocols laid down in aqua industry	PSO3,PSO4	PO1, PO2, PO3, PO4
				CO4	Identify the best Seafood quality assurance system	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Understand the Quality Assurance, Management and Certification.	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5,PO8
16	V/VI Set 1	20ZLP712PT2	Postharvest Technology of Fish and Fisheries-Practical	CO1	Identify the quality of aqua processed products.	PSO1,PSO2	PO1,PO2,PO4
				CO2	Determine the quality of fishery by products.	PSO1,PSO3	PO1,PO2,PO4
				CO3	Analyze the protocols of aqua processing	PSO2,PSO3	PO1,PO2,PO4
17	V/VI Set 2	20ZLSEC21PM3	Poultry Management-I Poultry farming	CO1	Evaluate the status of Indian Poultry Industry	PSO2, PSO3, PSO4	PO1, PO2, PO4, PO,PO8
				CO2	Explain the Scientific Poultry keeping and constraints.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO5
				CO3	Compare the diversified Poultry practices and yield	PSO3,PSO4	PO1, PO2, PO3, PO4
				CO4	Inspect the different breeds of chicken-egg type,meat type and dual purpose type.	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Understand poultry farming practices and farming management.	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5,PO8
18	V/VI Set 2	20ZLP621PM3	Poultry Management - I Poultry farming-Practical	CO1	Identify different types of Poultry rearing practices	PSO1,PSO2	PO1,PO2,PO4
				CO2	Evaluate the efficacy of different types of poultry practices in maximizing yield	PSO1,PSO3	PO1,PO2,PO4
				CO3	Understand the importance of different hybrid breeds in poultry	PSO2,PSO3	PO1,PO2,PO4
19	V/VI Set 2	20ZLSEC22PM3	Poultry Management-II Poultry farming	CO1	Identify different types of Poultry rearing practices-Deep litter and Cage system of rearing.	PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO2	Evaluate the efficacy of different types of poultry practices in maximizing yield.	PSO1,PSO2, PSO3	PO1, PO2, PO4, PO5
				CO3	Understand the importance of different hybrid breeds in poultry.	PSO3,PSO4	PO1, PO2, PO3, PO4
				CO4	Elaborate the poultry Breeder flock management	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Differentiate the poultry hatchery practices	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5,PO8
20	V/VI Set 2	20ZLP722PM2	Poultry Management - II Poultry Farming-Practical	CO1	Identify different types of Poultry rearing practices	PSO1,PSO2	PO1,PO2,PO4
				CO2	Evaluate the efficacy of different types of poultry practices in maximizing yield	PSO1,PSO3	PO1,PO2,PO4
				CO3	Understand the importance of different hybrid breeds in poultry	PSO2,PSO3	PO1,PO2,PO4
21	V/VI Set 3	20ZLSEC31LM3	Livestock Management Dairy Technology-I	CO1	Selection of the suitable breeds of livestock for rearing	PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5
				CO2	Relate the anatomy of udder with letdown of milk with other yielding breeds.	PSO1,PSO2, PSO3	PO1, PO2, PO4, PO5
				CO3	Identify and manipulate the reproductive behavior of cattle	PSO3,PSO4	PO1, PO2, PO3, PO4
				CO4	Inspect the economics of dairy farming	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO5
				CO5	Appraise the various breeding techniques employed in livestock	PSO2,PSO3, PSO4	PO1, PO4, PO5, PO8
22	V/VI Set 3	20ZLP631LM2	Livestock Management Dairy-Practical	CO1	Examine the points of dairy cow	PSO1,PSO2	PO1,PO2,PO4
				CO2	Understand the behavioral changes of cow during the reproductive period	PSO1,PSO3	PO1,PO2,PO4
				CO3	Differentiate the merits and demerits of cross breeds in cattle	PSO2,PSO3	PO1,PO2,PO4
23	V/VI Set 3	20ZLSEC32DT3	Livestock Management Dairy Technology-II	CO1	Identify and suggest the suitable housing system for the dairy farming	PSO2, PSO3, PSO4	PO1, PO2, PO4, PO8
				CO2	Understand management practices for dairy farming.	PSO1,PSO2, PSO3	PO1, PO2, PO4, PO8
				CO3	Learning the process of milk pasteurization .	PSO3,PSO4	PO1, PO2, PO4, PO8
				CO4	Preparation of cream from milk	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO8
				CO5	Identify various important management practices in dairy farming	PSO2,PSO3, PSO4	PO1, PO2, PO4, PO8
24	V/VI Set 3	20ZLP732LM2	Livestock Management Dairy Technology-II - Practical	CO1	Design a model dairy farm layout	PSO1,PSO2	PO1,PO2,PO4
				CO2	Understand procedure of milk pasteurization at milk processing centers	PSO1,PSO3	PO1,PO2,PO4
				CO3	Identify various important management practices in dairy farming	PSO2,PSO3	PO1,PO2,PO4

BIOTECHNOLOGY							
S. No.	**Semester**	**Course Code**	**Course Title**	**Course Outcomes (COs)**		**Program Specific Outcomes (PSOs)**	**Program Outcomes (POs)**
1	I	20BYCCCG14	Introduction to Biotechnology, Cell Biology	CO1	Explain the scope and applications of biotechnology and the various components of the eukaryotic cell	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Outline the stages of cell cycle, cell division and	PSO1, PSO2,	PO1, PO2, PO3

			& Genetics		apoptosis	PSO3	
				CO3	Explain the structures and organization of chromosomes in eukaryotic cells.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Summarize gene mutations and the mechanisms of repair.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Recall the postulates of Mendel laws and the basic concept of inheritance.	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
2	I	20BYP1CG11	Cell Biology & Genetics - Practical	CO1	Experiment and observe the stages of Mitosis, Meiosis	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Design the Karyotyping and pedigree charts	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Gain the knowledge on genetics	PSO1, PSO2, PSO3	PO1, PO2, PO3
3	II	20BYCCME24	Macromolecules & Enzymology	CO1	Classify carbohydrates, amino acids, lipids and proteins.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Illustrate the structures of biomolecules	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Summarize the metabolism of biomolecules.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Explain the concepts of enzymology.	PSO1,PSO2, PSO3	PO1, PO2, PO3
				CO5	Discuss the quantitative and qualitative analysis of carbohydrates, proteins and amino acids.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
	II	20BYP2ME21	Macromolecules & Enzymology – Practical	CO1	Evaluate the types of biomolecules through quantitative analysis.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Demonstrate the isolation of starch and immobilization of enzymes.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Learn the immobilization and isolation.	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
4	III	20BYCCBT34	Biophysical Techniques	CO1	Explain the laws, principles and applications of different instruments	PSO2, PSO3	PO1, PO2
				CO2	Apply laws to draw inferences, using instruments.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain Chromatography techniques and electrophoresis	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Outline the principles and applications of microscopy and spectroscopy.	PSO1, PSO2, PSO3	PO1, PO2, PO3
5	III	20BYP3BT31	Biophysical Techniques Practical	CO1	Analyze the given biomolecule through chromatography, TLC, Centrifuge, Colorimeter and spectrophotometer.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Demonstrate the gel electrophoresis of proteins and Spectrophotometric analysis of DNA denaturation.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Evaluate the titration of mixture of strong and weak acid	PSO1, PSO2, PSO3	PO1, PO2, PO3
5	IV	20BYCCIT44	Immunology & Immunotechnology	CO1	Classify and explain the types of antigen-antibody and hypersensitivity reactions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Discuss the mechanism, manifestations of clinical transplantations and autoimmune deficiency diseases.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Enumerate the types of tumour antigens and explain cancer induction by oncogenes.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Summarize the preparation of vaccines and monoclonal antibodies.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Explain the principle and applications of various immunological techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
6	IV	20BYP4IT41	Immunology & Immunotechnology Practical	CO1	Experiment on antigen- antibody reactions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Analyze the Total RBC count and Total leucocytes count.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Analyze the Widal and VDRL	PSO1, PSO2, PSO3	PO1, PO2, PO3
7	IV	20BYCCMB44	Microbial Biotechnology	CO1	Summarize the concepts of microbial growth and types of fermenters.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Discuss downstream processing.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain microbial metabolites and enzyme technology.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline the types of environmental pollution and bioremediation.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Demonstrate the microbial degradation of pollutants.	PSO1, PSO2, PSO3	PO1, PO2, PO3
8	IV	20BYP5MB41	Microbial Biotechnology-Practical	CO1	Expertise in fermentation technology	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Know the production of alcohol , wine aspartic acid from various fungal species.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Out line the microbes and Degradation of pesticides	PSO1, PSO2, PSO3	PO1, PO2, PO3
9	V/VI Set 1	20BYSEC11AB3	Applications of Biotechnology	CO1	Explain the assessment methods and treatment of municipal waste water.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

				CO2	Demonstrate the process of paper and pulp treatment and explain about Biogeochemical cycles.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Explain about bioremediation, bioleaching and bio Nano sensors.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Summarize the process of biodegradation of Xenobiotic and concepts of Bio fertilizers	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Schematize the process of enzyme immobilization, stem cell therapy, gene therapy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
10	V/VI Pair 1	20BYP611AB2	Applications of Biotechnology-Practical	CO1	Know about IMVIC tests	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Isolate Rhizobium from root nodules	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Identify the BOD of Water Sample	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
11	V/VI Set 1	20BYSEC12PA3	Plant & Animal Biotechnology	CO1	Explain the basic requirements of plant tissue culture laboratory and describe the method of plant tissue culture.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Summarize the concept of protoplast culture, transgenic plants and somatic Hybridization.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain about plant growth promoting bacteria, nitrogen fixation and bio control of pathogens.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO4	Summarize the basic requirements of animal tissue culture media and characteristics of cell lines.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Schematize the process of invitro fertilization and study of transgenic animal models.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
12	V/VI Pair 1	20BYP712PA2	Plant & Animal Biotechnology-Practical	CO1	Extract tissue from animal cell cultures	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Isolate protoplast from leaves	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Learn about transgenic Plants and Animals	PSO1, PSO2, PSO3	PO1, PO2, PO3
13	V/VI Set 2	20BYSEC21MP3	Medical & Pharmaceutical Biotechnology	CO1	Schematize current strategies of vaccine development.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Understand the scope of biotech products in pharmaceutical industry.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Demonstrate DNA Finger printing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Summarize the uses of recombinant DNA technology.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Isolate the compounds and design the drugs	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
14	V/VI Pair 2	20BYP621MP2	Medical & Pharmaceutical biotechnology-Practical	CO1	Isolate plasmid from E. Coli.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Demonstrate the screening of recombinants	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Enhance the transformation skills.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
15	V/VI Set 2	20BYSEC22BB3	Biostatistics, Bioethics & Bioinformatics	CO1	Demonstrate the importance of IPR and Patent.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO2	Summarize the concepts of biosafety, GLP and GMP.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Explain the concepts of measures of central tendency and measures of dispersion.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO4	Summarize biological databases and Human Genome Project.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain about types of sequence alignments and microarray technology.	PSO1, PSO2,	PO1, PO2
16	V/VI Pair 2	20BYP722BB2	Biostatistics, Bioethics & Bioinformatics-practical	CO1	Learn the statistical methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO2	Understand the product development and design	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Understand the ANOVA.	PSO1, PSO2,	PO1, PO2
17	V/VI Set 3	20BYSEC31BT3	Bioprocess technology & Industrial fermentations	CO1	Demonstrate the design of bioprocess vessel.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Illustrate the principles of upstream and downstream processing precisely.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Articulate the primary and secondary metabolic products and the principles of metabolic engineering.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Describe the production of biofuels and various microbial products in detail.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Identify the recombinant proteins that have therapeutic and Diagnostic applications.	PSO1, PSO2, PSO3	PO1, PO2, PO3
18	V/VI Pair 3	20BYP631BT2	Bioprocess technology & Industrial fermentations-Practical	CO1	Produce lysine from Corynebacterium sp.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Produce wine from apples	PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO3	Expertise in production of aspartic acid glucose.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
19	V/VI	20BYSEC32GR3	Gene regulation &	CO1	Illustrate the operon concept with examples.	PSO2, PSO3,	PO1, PO2,

	Set 3		r-DNA technology			PSO4	PO3, PO4
				CO2	Summarize the tools of gene manipulation.	PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO3	Describe different types of vectors with examples	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Demonstrate the construction of r-DNA molecule and explain about various gene transfer methods and screening of r-DNA molecule.	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO5	Explain the various strategies of r-DNA technology.	PSO1, PSO2, PSO3	PO1, PO2,PO3
20	V/VI Pair 3	20BYP732GR2	Gene regulation & r- DNA technology-Practical	CO1	Describe the PCR techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Isolate RNA from yeast	PSO1, PSO2, PSO3	PO1, PO2, PO3
				CO3	Discuss the blotting techniques	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

MICROBIOLOGY							
S. No.	**Semester**	**Course Code**	**Course Title**	**Course Outcomes (COs)**		**Program Specific Outcomes (PSOs)**	**Program Outcomes (POs)**
1	I	20MBCCIM14	Introduction to Microbiologyand microbial diversity	CO1	the contributions made by prominent scientists and classification of Microbes.	PSO1, PSO2, PSO3	PO1,PO2,PO3
				CO2	Analyze different characteristics of microbes and difference of cell wall components in bacteria and arch bacteria	PSO1, PSO2, PSO3	PO1,PO2,PO3
				CO3	Summarize the techniques used to stain ,and observe the microorganism under microscope.	PSO1, PSO3	PO1,PO2,PO3
				CO4	Demonstrate different isolation ,preservation techniques	PSO1, PSO2, PO3	PO1,,PO3
				CO5	Analyze various method used for sterilization and disinfection techniques.	PSO1, PSO2, PSO3	PO1,,PO3
	I	20MBP1IM11	Basics techniques in Microbiology-Practical	CO1	Isolate different types of microbes from soil samples	PSO4, PSO2, PSO3	PO1, PO2, PO4,PO8
				CO2	Handle microscope and identify various types of bacteria and fungi under Microscope	PSO2, PSO4	PO1, PO2, O3,PSO4
2	II	20MBCCMP24	Microbial Physiology and Biochemistry	CO1	Summarize different of Biomolecules with their structure and functions..	PSO1, , PSO3	PO1,PO2,PO3
				CO2	Explain various analytical techniques used to separate Bio molecules.	PSO1, PSO2, PSO4	PO1,PO2,PO3
				CO3	Describe the properties ,,structure and functions of enzymes.	PSO1, PSO2,	PO1,PO2,PO3
				CO4	Discuss the role of nutrients in microbial growth.and reproduction,metods used to estimate Bacterial growth.	PSO1,PSO2, PSO4	PO1,PO2,PO3
				CO5	Discuss the concept of central dogma of molecular biology, types, ,biosynthesis and functions of RNA.and protein synthesis in prokaryotes and eukaryotes	PSO1, PSO2, PSO4, PSO4	PO1,PO2,PO3
	II	20MBP2QA21	Qualitative &Quantitative Analysis of Bio molecules-Practical	CO1	To estimate different biomolecules by analytical techniques	PSO3, PSO4	PO1, O2, PSO4,PO8
				CO2	To isolate genetic material from microbes	PSO2, PSO4, PSO3	PO1, PO2, PO4,PO8
3	III	20MBCCGM34	Medical Microbiology and Immunology	CO1	Illustrate the basic concepts of different types of Immunity. And role of cells and organs related to Immune System	PSO1, PSO2, PSO3, PSO4	PO1,PO7,PO8
				CO2	Discuss the chemical nature,,types, properties and functions of immunoglobulins .and process ,role of antigen antibody reactions in clinical diagnosis	PSO1, PSO2, PSO3,	PO1,PO7,PO8
				CO3	Summarize the concepts of hypersensitivity, principals of diagnostic microbiology. And role of normal flora, antibacterial substances, in Human body.	PSO1, PSO2, PSO3	PO1,PO7,PO8
				CO4	Explain various chemotherapeutic agents and their mode of actions	PSO1, PSO2, PSO4	PO1,PO7,PO8
				CO5	Discuss general account of various communicable diseases and their preventive methods	PSO1, PSO2, PO4	PO1,PO7,PO8
	III	20MBP3MG31	Medical Microbiology and Immunology-Practical	CO1	Perform Blood Grouping test	PSO2, PSO3, PSO4,	PO1, PO2, PO4,PO8
				CO2	Perform different types of test like Hemoglobin test and leucocyte count.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
4	IV	20MBCCMG44	Microbial genetic and molecular biology	CO1	Summarize different modes of transfer mechanisms in Bacteria, molecular techniques used in various types of mutations.	PSO2, PSO3	PO1,PO4,PO7
				CO2	Explain the structures ,regulation of Lac Operon with gene expression in bacteria	PSO1, PSO2, PSO3	PO1,PO4,PO7
				CO3	Summarize the concepts of hypersensitivity, principals of diagnostic microbiology. And role of normal flora, antibacterial substances, in Human body.	PSO1, PSO2, PSO4	PO1,PO4,PO7

				CO4	Discuss the role of Vectors in genetic engineering, and it	PSO1, PSO2, PSO3	PO1,PO4,PO7
				CO5	Role of normal flora, antibacterial substances, in Human body.	PSO2, PSO3	PO1,PO4,PO7
	IV	20MBP4MG41	Microbial Genetic and Molecular Biology- Practical	CO1	Separate ,Identify DNA by Agarose gel electrophoresis.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	Isolate genomic DNA from Bacteria, Onion.	PSO2, PSO4	PO1, PO2, PO3,PO4
5	IV	20MBCCIM44	Industrial Microbiology	CO1	Explain the parameters that induce food spoilage, and process of intoxication ,in food born diseases	PSO1, PSO2,	PO1.PO2,PO6, PO8
				CO2	Illustrate the principles of food preservation techniques, and role of microbes as food supplement ,and probiotics	PSO1, PSO2, PSO3	PO1.PO2,PO6, PO8
				CO3	Summarize the importance of industrially used microbes, and screening techniques used, various method for strain improvement for microbial products	PSO1, PSO2, PSO3, PSO4	PO1.PO2,PO6, PO8
				CO4	Demonstrate various types of fermentation processes, design, of fermenter and media used in microbial products	PSO1, PSO2, PSO4	PO1.PO2,PO6, PO8
				CO5	Summarize the down stream processing methods for isolation of microbial products	PSO1, PSO2, PSO4	PO1.PO2,PO6, PO8
	IV	20MBP5IM41	Industrial Microbiology - Practical	CO1	To separate Metabolites produced by microbes	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	To produce ethanol by invitro technique from microbes	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
6	V/VI Set 1	20MBSEC11FA3	Food, Agriculture and Environmental Microbiology	CO1	Understand different parameters for food spoilage and preservation	PSO1, PSO2, PSO3,PSO4.	PO1, PO2, PO4,PO8
				CO2	Develop various food products	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO4,PO8
				CO3	Discuss the importance of microbes in agriculture for crop production	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO6,PO7
				CO4	Explain the role of microbes in waste water treatment.	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO6,PO8
				CO5	Summarized the role of microbes in Environment	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO6,PO7
	V/VI Set 1	20MBP611FA2	Food, Agriculture and Environmental Microbiology - Practical	CO1	To isolate microbes from different samples	PSO2, PSO3, PSO4	PO1, PO2, PO6,PO7,PO8
				CO2	To analyze micro flora in water	PSO2, PSO3, PSO4	PO1, PO2, PO6,PO7,PO8
7	V/VI Set 1	20MBSEC12DM3	Management of Human Microbial Diseases and Diagnosis	CO1	Discuss the diseases caused by Bacteria, Fungi, Viruses.	PSO1, PSO2, PSO3	PSO1, PSO2, PSO6,PSO7, PO8
				CO2	Explain different method of sample collection.	PSO1, PSO2, PSO3	PO1, PO2, PO6,PO7,PO8
				CO3	Describe different media used to diagnosis diseases caused by	PSO1, PSO2, PSO3	PO1, PO2, PO6,PO7,PO8
				CO4	Perform different serological techniques for diagnosis of infectious diseases.	PSO1, PSO2, PSO3	PO1, PO2, PO6,PO7,PO8
				CO5	Determine the sensitivity and resistance of various antibiotics.	PSO1, PSO2, PSO3	PO1, PO2, PO6,PO7,PO8
	V/VI Set 1	20MBP712MD2	Microbial Diagnosis in Health Clinics - Practical	CO1	To collect samples by using different Techniques	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	To estimate the amount of Hemoglobin ,Glucose concentration in blood samples.	PSO2, PSO4	PO1, PO2, PO4,PO8
8	V/VI Set 2	20MBSEC21MB3	Microbial Biotechnology and r –DNA Technology	CO1	Summarize the importance of biotechnology in human welfare.	PSO1, PS2, PSO3 PSO4	PO1, PO2, PO6,PO7
				CO2	Understand various techniques involved in biotechnology.	PSO1, PS2, PSO3 PSO4	PO1, PO2, PO6,PO7
				CO3	Discuss different parameters required for cloning techniques.	PSO1, PS2, PSO3 PSO4	PO1, PO2, PO6,PO7
				CO4	Perform different methods of gene sequence.	PSO1, PS2, PSO3 PSO4 PSO1, PS2, PSO3 PSO4	PO1, PO2, PO3,,PO7
				CO5	Discuss the advantages and disadvantages of genetically modified strains.	PSO1, PS2, PSO3 PSO4	PO1, PO2, PO3,PO7
	V/VI Set 2	20MBP621MB2	Microbial Biotechnology and r –DNA Technology- Practical	CO1	To isolate, estimation DNA from various samples	PSO2, PSO3, PSO4	PSO1, PSO2, PSO4,PSO8
				CO2	To extract ethanol from various samples.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
9	V/VI Set 2	20MBSEC22BB3	Biostatistics and Bioinformatics	CO1	Summarize nature and scope of bioinformatics.	PSO1, PS2, PSO3	PO1, PO2, PO6,PO8
				CO2	Understand various biological data bases	PSO1, PS2, PSO3 PSO4,	PO1, PO2, PO6,PO8
				CO3	Discuss measures of central tendency and distribution	PSO1, PS2, PSO3,PO4	PO1, PO2, PO6,PO8
				CO4	Construction of Phylogenetic tree.	PSO1, PS2, PSO3,PO4	PO1, PO2, PO6,PO8
				CO5	Discussion of Protein3D structure prediction.	PSO1, PS2,	PO1, PO2,

						PSO3,PO4	PO6,PO8
	V/VI Set 2	20MBP722BB2	Biostatistics and Bioinformatics-Practical	CO1	To Construct Phylogenetic tree	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	To perform compare biological data	PSO2, PSO3, PSO4	PO1, PO2, PO3,PO7
10	V/VI Set 3	20MBSEC31M I3	Microbial Quality Control, Instrumentation and Techniques	CO1	Understand different methods involved in assessment of microbial quality control.	PSO1, PS2, PSO3	PO1, PO2, PO6,PO7.
				CO2	Discuss different types of media used for identification of Disease.	PSO1, PS2, PSO3	PO1, PO2, PO6,PO7
				CO3	Perform important techniques for enumeration of microbes in different samples.	PSO1, PS2, PSO3	PO1, PO2, PO6,PO7
				CO4	Understand and handle different types of Microscopes.	PSO1, PS2, PSO3	PO1, PO2, PO6,PO7
				CO5	Perform preparative and analytical techniques for separation of components.	PSO1, PS2, PSO3	PO1, PSO2, PO6,PSO7
	V/VI Set 3	20MBP631MI2	Microbial Instrumentation and Bio techniques - Practical	CO1	To separate biological compounds by using different techniques.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	To perform cultural media for Diagnosis microbial Diseases.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
11	V/VI Set 3	20MBSEC32DI3	Drug Design, Discovery and Intellectual Property Rights	CO1	Discuss molecular mechanism of disease and drug mode of action on organ.	PSO1, PSO2, PSO3	PO1, PO2, PO4,PO6
				CO2	Understand drug development process.	PSO1, PS2, PSO3	PO1, PO2, PO4,PO6
				CO3	Acquire knowledge on preparation of vaccine and genetic disorders.	PSO1, PS2, PSO3	PO1, PO2, PO4,PO6
				CO4	Explain the importance of biotechnology in research and various industries.	PSO1, PS2, PSO3	PO1, PO2, PO4,PO6
				CO5	Discuss the importance of IPR in research.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
	V/VI Set 3	20MBP732MDI2	Drug Design, Discovery and IPR	CO1	To isolate ,identify antibiotic producing microbes from different soil samples.	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8
				CO2	To acquire knowledge on case study – Patent, Copy right	PSO2, PSO3, PSO4	PO1, PO2, PO4,PO8

BIOCHEMISTRY

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20BCCCBM14	Biomolecules	CO1	Summarize the role of biological solvents in industrial and biological processes.	PSO1, PSO2, PSO3, PSO4	PO1, PO3, PO4, PO5, PO7, PO8
				CO2	Explain the classification, structures and physico - chemical properties of biomolecules.	PSO1, PSO2, PSO3	PO1, PO3, PO4
				CO3	Outline different models of bio membranes.	PSO1, PSO2	PO1
				CO4	Explain the importance of biomolecules in living organisms	PSO1, PSO2	PO1, PO3, PO4, PO5
2	I	20BCP1QA11	Qualitative Analysis - Practical	CO1	Gain of knowledge for preparing all the reagents, buffer, and solutions by themselves	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Analysis of biological or non-biological biomolecule sample	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Identification of its chemical composition of Biomolecules	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Calibration of pH meter, Weighing machine.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
3	II	20BCCCBT24	Biophysical Techniques & Microbiological Methods	CO1	Explain the principles, types and applications of different biophysical techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Summarize the principles and working of biophysical Instruments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline different staining, identification and sterilization techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO4	Apply separation techniques and identify the biomolecules.	PSO1, PSO2, PSO3, PSO4	PO1, PO4, PO5, PO7
4	II	20BCP2BT21	Biophysical Techniques-Practical	CO1	Analyse the biomolecules using Chromatography	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO7
				CO2	Identify biologically relevant compounds by isolation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO3	Evaluation of Biological relevant compounds	PSO1, PSO2, PSO3, PO4	PO1, PO2, PO3, PO4, PO5
5	III	20BCCCIM34	Enzymology, Bioenergetics & Intermediary Metabolism	CO1	Explain the physiological importance of enzymes	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Summarize the concepts of thermodynamics and energy transformations.	PSO1, PSO2	PO1, PO2, PO3, PO4, PO5
				CO3	Outline the metabolism of different biomolecules.	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO5,
				CO4	Explain the pathophysiology of metabolic diseases	PSO1, PSO2,	PO1, PO4,

						PSO3, PSO4	PO5, PO7
6	III	20BCP3EN31	Enzymology - Practical	CO1	Perform assays for different enzymes	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Examine different biologically important parameters	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
7	IV	20BCCCCB44	Physiology, Nutrition & Clinical Biochemistry	CO1	Describe different Physiological systems	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Classify the Hormones based on functions	PSO1	PO1
				CO3	Explain the details of nutrient requirements	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO5, PO8
				CO4	Analyse different parameters in blood and serum	PSO1, PSO2, PSO3,	PO1, PO2, PO4
				CO5	Summarize the pathophysiology of organs in Health and diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO7, PO8
8	IV	20BCP4CB41	Clinical Biochemistry - Practical	CO1	Diagnose and monitor diseased conditions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO7, PO8
				CO2	Examine to compare the normal versus diseased condition	PSO1, PSO2, PSO3, PSO4	PO1, PO5
9	IV	20BCCCMB44	Molecular biology. Immunology & Microbiology	CO1	Outline the different interdisciplinary fields	PSO1, PSO2, PSO3, PSO4	PO1, PO5
				CO2	Classify microorganisms	PSO1, PSO2, PSO3, PSO4	PO1, PO5, PO7
				CO3	Explain nitrogen utilization.	PSO1, PSO2, PSO3, PSO4	PO1, PO5, PO7
				CO4	Analyse different biochemical processes	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO4, PO5.PO6
				CO5	Summarize the basic concepts of immunology and molecular biology	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO6, PO7
10	IV	20BCP4AB41	Applied Biochemistry-Practical	CO1	Analyse biological samples	PSO1, PSO2,	PO1, PO2, PO4
				CO2	Understand the different biological processes	PSO1, PSO2,	PO1, PO2, PO4
11	V/VI Set 1	20BCSEC11FB3	Forensic Biochemistry	CO1	Understand the importance of forensic studies	PSO1, PSO3	PO1, PO2, PO3, PO4, PO7
				CO2	Summarize the different types of forensic methods	PSO3, PSO4	PO1, PO2, PO3, PO4, PO7
				CO3	Analyse and evaluate of forensic problems using biochemical methods	PO!,PO2,PO3, PO4	PO1,PO2,PO4, PO5,PO6,PO8
				CO4	Identify and suggest means for forensic problems	PSO2,PSO3, PSO4	PO2,PO3,PO4
12	V/VI Set 1	20BCP611FB2	Forensic Biochemistry-Practical	CO1	Develop scientific temper on DNA fingerprinting	PSO1	PO1, PO2, PO3, PO4,PO7
				CO2	To demonstrate DNA profiling techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3,PO4, PO5, PO7
13	V/VI Set 1	20BCSEC12BI3	Bioinformatics	CO1	Understand the importance of Bioinformatics in Research	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,PO5, PO7
				CO2	Acquire knowledge to retrieve data from the available databases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,PO5, PO7,
				CO3	Analyse the data by using bioinformatic tools	PSO1,PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5
				CO4	Skills to collect, process and obtain biological information	PSO1,PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5
14	V/VI Set 1	20BCP711BI2	Bioinformatics - Practical	CO1	Retrieval, identification and alignment of sequences	PSO1, PSO2	PO1, PO2, PO3, PO4, PO6
				CO2	Construction of Phylogenetic tree and identify related and non-related species	PSO1, PSO2	PO1, PO2, PO4, PO5,
15	V/VI Set 2	20BCSEC21RM3	Research Methodology	CO1	Understand the objectives of doing scientific research.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO6,PO5
				CO2	Identify the possible area of research	PSO1, PSO2	PO1, PO2, PO3, PO4, PO6
				CO3	Learn to write research project proposal (for grants)	PSO1,PSO2, PSO3,PO4	PO1,PO2,PO3, PO4,PO5
				CO4	Acquire the skills of research design, collection and analysis	PSO1,PSO2, PSO3,PO4	PO1,PO2,PO3, PO4,PO5
16	V/VI Set 2	20BCP621RM2	Research Methodology-Practical	CO1	Understand the fundamental principles for doing research and Evaluate hypothesis testing	PO1,PO2,PO3, PO4	PO1,PO2,PO3, PO4
				CO2	Learn to compute, document, analyse and summarize their findings	PO1,PO2,PO3, PO4	PO1,PO2,PO3, PO4
				CO3	Evaluate hypothesis through testing	PSO1,PSO2, PSO3,PO4	PO1,PO2,PO3, PO4
				CO4	Learn to compute, document, analyse and summarize their findings	PSO1,PSO2, PSO3,PO4	PO1,PO2,PO3, PO4
17	V/VI	20BCSEC22BS3	Biostatistics	CO1	Apply the principles of biological data management in	PSO1, PSO3,	PO1, PO2,

	Set 2				real-life situations.	PSO4	PO3, PO5
				CO2	Its relation with the other sciences	PSO4	PO1, PO2, PO3, PO4
				CO3	Understand the nature of variability	PSO1	PO1, PO5
				CO4	Define some concepts about hypothesis testing	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5
18	V/VI Set 2	20BCP722BS2	Biostatistics-Practical	CO1	Deriving general laws from small samples.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Identify data relating to variable/variables	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
19	V/VI Set 3	20BCSEC31DB3	Diagnostic Biochemistry	CO1	Acquire knowledge on the principles of Biochemical diagnostic tests.	PSO1, PSO2, PSO3	PO1, PO2, PO4, PO5, PO6, PO7
				CO2	Understand their use in assessing health condition	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO4, PO5, PO6, PO7
				CO3	Analysis of samples using biochemical tests	PSO2, PSO3, PSO4	PO1, PO2, PO3,PO5
				CO4	Utilize different techniques to draw improved inferences	PSO2, PSO3, PSO4	PO2, PO3, PO6,PO5
20	V/VI Set 3	20BCP622DB2	Diagnostic Biochemistry - Practical	CO1	Acquire knowledge a performing different enzyme assay	PSO1,PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4.PO6PO5
				CO2	Understand biochemical basis about hormone specific assays	PSO1,PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4,PO6PO5
21	V/VI Set 3	20BCSEC31CE3	Clinical Endocrinology	CO1	Acquire knowledge on hormone activations both at hypo and hyper levels.	PSO1	PO1,PO4,PO5
				CO2	Identify the disease caused by impaired endocrine glands and hormonal actions	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO4,PO5
				CO3	Analyse the pathological conditions of the patients based on clinical reports	PSO1, PSO2	PO1, PO2,PO4,PO5
				CO4	Realize the importance of hormones in the reproductive biology	PSO3, PSO4	PO1, PO2,PO4,PO5
22	V/VI Set 3	20BCP732CE2	Clinical Endocrinology – Practical	CO1	Acquire knowledge a performing different enzyme assay	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO4,PO5
				CO2	Understand biochemical basis about hormone specific assays	PSO1, PSO2, PSO3, PSO4	PO1, PO2,PO4,PO5

FOOD SCIENCE & TECHNOLOGY

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20FTCCIF14	Introduction to food science	CO1	Classify different types of food groups and explain characteristics of balanced diet.	PSO1	PO1
				CO2	Compare different cooking methods.	PSO1, PSO3,PSO4	PO2,PO5
				CO3	Relate nutritive values and cookery concepts of cereals, pulses, fats and oils	PSO1,PSO3	PO1,PO6
				CO4	Differentiate classification, composition, selection and nutrient losses between fruits and vegetables.	PSO1,PSO2, PSO4	PO2, PO4
				CO5	Identify physical and chemical properties of milk, meat and egg.	PSO1, PSO3	PO1, PO4
2	I	20FTP1CT11	Cooking Techniques-Practical	CO1	Evaluate the germination of pulses, gelatinization of legumes and enzymatic reactions for fruits and vegetables, animal foods	PSO1,PSO3, PSO4	PO2,PO5
				CO2	Analyse Bulls eye and poached egg, green ring formation and nutritional status parameters.	PSO1 PSO3	PO1,PO6
				CO3	Differentiate between conventional and microwave cooking methods.	PSO1, PSO2, PSO4	PO2,PO4
3	II	20FTCCBN24	Basic Nutrition	CO1	Identify functions of food and types of malnutrition.	PSO1,PSO2, PSO4	PO1,PO3
				CO2	Classify various types of carbohydrates.	PSO1	PO2,PO3
				CO3	Compare the composition, classification and food sources of proteins and lipids.	PSO1,PSO3	PO5,PO6
				CO4	Infer various types of minerals.	PSO1,PSO4	PO3,PO6
				CO5	Explain the concepts of meal planning and nutritional labelling	PSO1,PSO2, PSO4	PO1,PO3
4	II	20FTP2BN21	Basic Nutrition-Practical	CO1	Identify the seasonal availability of nutrient rich foods, sources, prices, low cost nutrient rich foods.	PSO1	PO2,PO3
				CO2	Evaluate the nutritive value of different foods and saponification value.	PSO1,PSO3	PO5,PO6
				CO3	Design the meal plans for different age and income groups.	PSO1,PSO3	PO6
5	III	20FTCCFP34	Food Technology & Preservation	CO1	Explain the principles and classification of food preservation.	PSO1 PSO3	PO6
				CO2	Outline various food preservation technologies.	PSO1	PO3

						PSO3	PO5
				CO3	Classify food and microorganism and explain factors affecting shelf life of food.	PSO1 PSO3	PO2
6	III	20FTP3FP31	Food Technology & Preservation - Practical	CO1	Practice food preservative techniques.	PSO1 PSO3	PO3 PO5
				CO2	Prepare sauces, ketchup, squashes & syrups.	PSO1 PSO3	PO2
				CO3	Perform pasteurization of fluids and blanching of plant foods.	PSO1 PSO3 PSO4	PO2
7	IV	20FTCCFP44	Food Processing Techniques	CO1	Explain the processing of major cereals after harvesting	PSO1,PSO3	PO3, PO6
				CO2	Outline the preparations of fruit and vegetable products	PSO1,PSO3	PO3
				CO3	Summarize the technology of milk and milk products.	PSO3	PO3,PO6
				CO4	Summarize the technology of meat and meat products	PSO1,PSO4	PO3,PO6
				CO5	Explain the properties, processing and products of spices and oil seeds.	PSO1,PSO3	PO1,PO4
8	IV	20FTP4FP41	Food Processing Techniques-Practical	CO1	To detailed learning on the processing of fruits in making different products.	PSO1 PSO3	PO3
				CO2	Identification of cereals and cereal products	PSO3	PO3 PO6
				CO3	Learn about processing of milk and milk products.	PSO3	PO3 PO6
9	IV	20FTCCNF44	Nutraceuticals & Functional foods	CO1	Categorise and explain various aspects of health food.	PSO3,PSO4	PO2,PO6
				CO2	Outline various aspects of pharma and designer foods and their therapeutic applications.	PSO3,PSO4	PO2,PO6
				CO3	Explain the details of dietary supplements and low-fat foods.	PSO3,PSO4	PO2,PO3
				CO4	Summarize the basics of food biotechnology.	PSO3,PSO4	PO3,PO6
10	IV	20FTP5NF51	Nutraceuticals & Functional foods - Practical	CO1	Practise the testing of newly developed product.	PSO1, PSO3	PO3 PO5
				CO2	Prepare score cards, ranking & rating cards.	PSO1, PSO3	PO2
				CO3	Perform shelf life studies on developed products.	PSO1, PSO3 PSO4	PO2
11	V/VI Set 1	20FTSEC11DT3	Dietetics	CO1	Discuss the role of dietician	PSO3, PSO4	PO2 PO6
				CO2	Correlate dietary modifications for obesity and leanness	PSO3 PSO4	PO2 PO6
				CO3	Summarize the importance of diet plan for gastrointestinal disorders	PSO3 PSO4	PO2 PO3
				CO4	Analyse dietary treatment for kidney and liver diseases.	PSO3 PSO4	PO3 PO6
12	V/VI Set 1	20FTP611DT2	Dietetics-Practical	CO1	Gain knowledge on the principles of diet therapy and different therapeutic diets.	PSO3, PSO4	PO2 PO6
				CO2	Develop aptitude for taking up dietetics as a profession.	PSO3 PSO4	PO2 PO6
13	V/VI Set 1	20FTSEC12FQ3	Food safety and Quality Control	CO1	Summarize the basic concepts of food safety and standards.	PSO3, PSO4	PO2 PO6
				CO2	Illustrate the role of international standards for quality control and management.	PSO3 PSO4	PO2 PO6
				CO3	Impart knowledge on different techniques used to detect food adulteration.	PSO3 PSO4	PO2 PO3
				CO4	Discuss the role of quality management in food industries.	PSO3 PSO4	PO3 PO6
14	V/VI Set 1	20FTP712FQ2	Food safety and quality control - Practical	CO1	Analyse the common adulterants in different foods	PSO3, PSO4	PO2 PO6
				CO2	Developing product following the food safety & quality parameter	PSO3 PSO4	PO2 PO6
15	V/VI Set 2	20FTSEC21NH3	Nutrition in Health	CO1	Impart knowledge on planning a diet to pregnant & lactating women.	PSO3, PSO4	PO2 PO6
				CO2	Understand the concept of BMI calculation	PSO3 PSO4	PO2 PO6
				CO3	Demonstrate the dietary requirements for infants & school going children	PSO3 PSO4	PO2 PO3
				CO4	Understand the Nutritional status assessment.	PSO3 PSO4	PO3 PO6
				CO5	Explain the importance of nutrition during adolescent & adulthood	PSO3 PSO4	PO3 PO6
16	V/VI Set 2	20FTP621NH2	Nutrition in Health - Practical	CO1	Impart knowledge on planning and preparation of nutritious snacks	PSO3, PSO4	PO2 PO6
				CO2	Discuss the role of diet during pregnancy & lactation	PSO3 PSO4	PO2 PO6
				CO3	Understand the record analysis of 24-hour dietary recall	PSO3 PSO4	PO2 PO3
17	V/VI Set 2	20FTSEC22BT3	Bakery Technology	CO1	Discuss the basic concepts of the bakery industry.	PSO3, PSO4	PO2 PO6
				CO2	Summarize the process of bread making.	PSO3 PSO4	PO2 PO6

				CO3	Correlate the processes, quality characters for cakes, biscuits and cookies.	PSO3 PSO4	PO2 PO3
				CO4	Develop different bakery food products.	PSO3 PSO4	PO3 PO6
18	V/VI Set 2	20FTP722BT2	Bakery Technology - Practical	CO1	Analyse the quality of bakery products	PSO3, PSO4	PO2 PO6
				CO2	Preparation of modified bakery products	PSO3 PSO4	PO2 PO6
19	V/VI Set 3	20FTSEC31FM3	Food service Management	CO1	Demonstrate the importance of food services and management	PSO3, PSO4	PO2 PO6
				CO2	Correlate the factor responsible for food cost and maintenance of equipment.	PSO3 PSO4	PO2 PO6
				CO3	Discuss the importance of environmental hygiene and sanitation in food service centres.	PSO3 PSO4	PO2 PO3
				CO4	Define the processes of accounting and different types of cash books.	PSO3 PSO4	PO3 PO6
20	V/VI Set 3	20FTP631FM2	Food service Management - Practical	CO1	Impart knowledge on planning a physical layout of food service institutions	PSO3, PSO4	PO2 PO6
				CO2	Understand the role of kitchen layout in hospital institutions	PSO3 PSO4	PO2 PO6
				CO3	Demonstration on the importance of Mid-day meal programmes in schools.	PSO3 PSO4	PO2 PO3
21	V/VI Set 3	20FTSEC32PT3	Food Packaging Technology	CO1	Summarize food packing process and types of packaging material.	PSO3, PSO4	PO2 PO6
				CO2	Explain various tests for packaging materials.	PSO3 PSO4	PO2 PO6
				CO3	Describe the packaging requirements for raw and processed foods.	PSO3 PSO4	PO2 PO3
				CO4	Demonstrate different types of packaging machinery	PSO3 PSO4	PO3 PO6
				CO5	Extract importance and functions of package labelling.	PSO3 PSO4	PO3 PO6
22	V/VI Set 3	20FTP732PT2	Food Packaging Technology - Practical	CO1	Analyse the bursting strength of packaging materials to prevent food contamination.	PSO3, PSO4	PO2 PO6
				CO2	Demonstrate the importance of packaging by using various packaging materials.	PSO3 PSO4	PO2 PO6
				CO3	Understand the importance of packaging requirements for raw and processed foods	PSO3 PSO4	PO2 PO3

AGRICULTURE & RURAL DEVELOPMENT

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	AGRO 101	Fundamentals of Agronomy	CO1	Explain the history and development of agriculture in India.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain crop production techniques and crop growth in relation to the environment.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Outline the principles and practices of weed management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss the classification, nomenclature, mode of action and selectivity of herbicides.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Compare the traditional and technology-supported practices in agriculture.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
2	I	AGRO 101P	Fundamentals of Agronomy-Practical	CO1	Analyse the crop production techniques and crop growth in relation to environment.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Describe the Zero and minimum tillage: their basics and application.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Explain Precision agriculture and Precision farming, their concepts and application.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
3	I	BICM 101	Fundamentals of Plant Biochemistry and Soil Science	CO1	Explain scope and importance of biochemistry in agriculture and structural classification of biomolecules	PSO1, PSO2, SO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Summarize the properties and mechanism of enzyme activity.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline the metabolism of biomolecules.	PSO1, PSO2, PSO3, PSO4	PO1, PO3, PO4, PO5
				CO4	Classify rocks, minerals and soils and explain various aspects of soil.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss the importance of nitrogen fixation, role of phosphorous and organic matter in enhancing soil fertility.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
4	I	BICM 101P	Fundamentals of Plant Biochemistry and Soil Science-Practical	CO1	Describe the Biochemistry as a discipline and milestone discoveries in life sciences that led to establishment of biochemistry as separate discipline.	PSO1, PSO2, SO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain about Fundamental properties of elements, their role in formation of biomolecules and in chemical reactions within living organisms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

				CO3	Discuss about plant cell structure, organization, and apply specific bio chemical functions to compartments of the plant cell.	PSO1, PSO2, PSO3, PSO4	PO1, PO3, PO4, PO5
				CO4	Explain about amino acid structures and relate their chemical properties to the synthesis and function of proteins and enzymes.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Describe about protein structural hierarchy and relate structure to function.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
5	I	AECO 141	Fundamentals of Agricultural Economics	CO1	Apply concepts and terms of economics to the agricultural sector.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO5
				CO2	Explain characteristics of wealth, welfare, needs and surplus and laws of marginal utility	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline different aspects of demand and supply, essentials of market, pricing and competition.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize the concepts of national income, classification and cannons of taxation, features of public and private finance, sources of public revenue	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Explain principles and meaning of public expenditure, concepts of inflation, types, causes and control of inflation.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
6	I	HORT 181	Fundamentals of Horticulture	CO1	Define, classify and outline the climate and soil conditions for horticultural crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain principles and methods of plant propagation, training and pruning.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize principles and steps in establishment of various orchards and types and purposes of gardens	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss unfruitfulness, pollination and fertilization.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	List medicinal and aromatic plants, spices and condiments and explain the role of plant bio regulators, irrigation and fertilizers in horticulture crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	I	HORT 181P	Fundamentals of Horticulture-Practical	CO1	Explain plant vegetative structure.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Describe the basic principles, processes and plant propagation methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain propagate plant, manage and harvest a variety of plant.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Students will understand recognize various crop harvesting, transportation, and processing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
8	I	AEXT 191	Rural Sociology, Educational Psychology and Human Values	CO1	Explain the relevance of rural, sociology in agricultural extension characteristics of rural society, classification and stratification of social groups.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline cultural concepts and social values, classification and training of leaders.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO5
				CO3	Summarize the meaning, scope and importance of educational psychology in agricultural extension.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain meaning, definition and steps of extension teaching and risk benefit analysis.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarize the implications of competence and professional ethics, collegiality and loyalty.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
9	I	AGRO 102	Introductory Agro Meteorology and Climate Change	CO1	Explain the earth's atmosphere and weather variables.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline types of precipitation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize artificial rain making, monsoon mechanism and weather hazards.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Relate weather conditions to agriculture.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss weather forecasting and impact of climate change on agriculture.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
10	I	20SDCVP2	Vermicomposting	CO1	Identify raw materials needed for vermicomposting.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Demonstrate the preparation and management of vermicompost beds.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain nutrient value of vermicompost and advantages and disadvantages of vermicomposting.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
11	II	AGRO 102P	Introductory Agro Meteorology and Climate Change-Practical	CO1	Classify Earth atmosphere, composition, extent and structure; Atmospheric weather variables; Atmospheric pressure, its variation with height.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Nature and properties of solar radiation, solar constant, depletion of solar radiation, short wave, long wave and thermal radiation, net radiation, albedo.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Discuss about Atmospheric humidity, concept of saturation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

				CO4	Explain Artificial rainmaking; Monsoon, mechanism and importance in Indian agriculture.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss Weather forecasting, types of weather forecast and their uses.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
12	II	GPBR 111	Fundamentals of Genetics	CO1	Discuss details of cell cycle and structures of cell organelles.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Explain heredity and laws of inheritance in genetics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Compare gene interactions, recessive and dominant traits	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Outline the concepts of karyotype, sex linkage and mutations.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Summarize the central dogma of genetic material and genetic code.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
13	II	GPBR 211P	Fundamentals of Genetics- Practical	CO1	Explain about Pre Mendelian concepts of heredity.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Summarize the Chromosome - Structure of chromosome, types of chromosomes.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Explain about Linkage.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Discuss about Sex determination in plants.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Outline about Cell division, Cell cycle, Mitosis.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
14	II	ENT0 131	Fundamentals of Entomology- I	CO1	Classify insecta and account for their abundance and dominance	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Explain the morphology and anatomy of insects.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Discuss the life cycle and endocrine systems of insects	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Summarize the taxonomical features in various orders of insecta.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
15	II	ENT0 131P	Fundamentals of Entomology- I-Practical	CO1	Explain History of Entomology in India	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Summarize the Structure and modifications of insect antennae, mouth parts, legs, wing venation, modifications and wing coupling apparatus.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Classify the Types of reproduction in insects	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Explain about Insect Taxonomy	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Classify of class Insect up-to orders.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
16	II	AENG 151	Soil and Water Conservation Engineering.	CO1	Discuss types of soil erosion, and control measures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Explain the concept of irrigation water measurements.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline different water harvesting techniques.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
17	II	AENG 151P	Soil and Water Conservation Engineering-Practical	CO1	Outline the soil and water conservation and causes of soil erosion.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Explain Wind erosion –Mechanics of wind erosion, types of soil movement.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize Open channel hydraulics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Explain Soil loss estimation by universal soil loss equation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Discuss Functional components of micro irrigation systems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
18	II	PATH 171	Fundamentals of	CO1	Explain the scope and concepts of	PSO1, PSO2,	PO1, PO2,

			Plant Pathology-I		plant pathology.	PSO3, PSO4	PO3, PO4, PO5, PO6
				CO2	Compare morphological and anatomical characters of fungi	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline the rules of nomenclature and classification of fungi.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Identify viruses and classify plant parasites.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Explain different plant nematodes and characters.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
19	II	PATH 171P	Fundamentals of Plant Pathology-I-Practical	CO1	Explain the Importance of plant diseases, scope and objectives of Plant Pathology.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Summarize Diseases and symptoms due to abiotic causes. Fungi: General characters, definition of fungus, somatic structures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Nomenclature, Binomial system of nomenclature, rules of nomenclature.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Summarize the Basic methods of classification and reproduction.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Explain Nematodes: General morphology and reproduction.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
20	II	20SDCZF2	Zero Budget Natural farming	CO1	Explain the methods of preparation of zero budget natural farming, nutritive value and advantages and disadvantages.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Identify the materials used to make natural fertilizers.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Demonstrate procedure for the preparation of natural fertilizers.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
21	III	AGRO 201	Crop Production Technology – I (Cereals, Millets and Pulses)	CO1	Explain importance and special features of cereal crops in Andhra Pradesh.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Outline the agronomical conditions for the cultivation of agricultural cereal crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Summarize agronomical conditions to grow millet crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss the agronomical conditions necessary for the cultivation of pulses and lentils.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	List the agronomical characteristics of various agricultural field crops.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
22	III	AGRO 201P	Crop Production Technology – I (Cereals, Millets and Pulses) - Practical	CO1	Understand about Introduction and development of agriculture.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Nutrient management with special emphasis on nitrogen dynamics, micro nutrients -INM	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Learn about Harvesting -Yield attributes - yield - post harvest operations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Land Preparation - seeds and sowing - nutrient management - water management - weed management - climate resilient technologies	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Understand about Maize- Origin- geographical distribution	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
23	III	GPBR211	Fundamentals of Plant Breeding	CO1	Explain historical development, concepts, nature and role of plant breeding and modes of reproduction.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss plant introduction and centres of origin/diversity.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	List and explain the different plant breeding methods.	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize the development of resistance and tolerance mechanisms.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO6.
24	III	GPBR211P	Fundamentals of Plant Breeding-Practical	CO1	Understand about Historical developments, concept, nature and role of plant breeding	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Modes of reproduction and apomixes, Asexual reproduction (vegetative reproduction and apomixis) and sexual reproduction	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Understand about Modes of pollination, Classification of crop species	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5

				CO4	Understand about Hybridization techniques, Hybridization	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO6.
				CO5	Understand about Handling of segregating population, Pedigree method, Procedure	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO6.
25	III	AERD 201	Economics for Rural Development	CO1	Explain the nature, scope and development of rural economics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Outline the features of rural resources management in India.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Explain the different aspects of rural demography.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Outline the nature and structure of rural occupations and the concept of work participation rates.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Examine the phenomena of rural poverty and unemployment.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
26	III	ENTO231	Fundamentals of Entomology II (Insect Ecology & Concepts Of IPM)	CO1	Explain biotic and abiotic factors affecting insect ecology.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the methods of integrated pest management, surveillance and forecasting and principles of host-plant resistance.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize pest management tools and different methods of pest control.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Explain different formulations of insecticides and application techniques.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
27	III	ENTO231P	Fundamentals of Entomology II (Insect Ecology & Concepts Of IPM) Practical	CO1	Understand about Biotic and biotic factors affecting insect ecology	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about pest surveilliance pest forecasting recent methods.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about Beneficial insect and their mass multiplication	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Understand about Atmospheric pressure and its effect on behavior.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Understand about Insect Ecology	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
28	III	AECO141	Agricultural Finance and Co-Operation	CO1	Explain the concepts of agricultural finance, principles of credit and credit analysis	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Outline social control and nationalisation, lead bank schemes and crop loan systems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Outline the meaning and scope of financial inclusion and schemes and agencies for financing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Summarize the role of various international bodies and features of crop insurance and agricultural projects	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
29	III	AECO241P	Agricultural Finance and Co-Operation Practical	CO1	Understand Definitions of agricultural finance and meaning and significance of micro and macro finance.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Understand Credit analysis.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Understand social control and nationalisation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Understand Origin, objectives, functions of RRBs in Andhra Pradesh.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Understand World Bank (WB) - Objectives and functions	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6
30	III	AENG251	Farm Machinery and Power	CO1	Explain the working principles of different farm engines.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the ignition and power transmission system of I.C engines.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize ploughing, sowing, plant protection, harvesting and threshing equipment and seed cum fertilizer drills.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain dusters and tractor mounted equipments.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
31	III	AENG251P	Farm Machinery and Power Practical	CO1	Understand Internal combustion engine, Different components and their functions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Learn Ignition and power transmission system of I.C	PSO1, PSO2,	PO1, PO2,

					engine	PSO3, PSO4	PO3, PO4, PO5
				CO3	Understand sowing equipment, Seed cum fertilizer drills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand Comparison between diesel and petrol engine	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Understand Types of sprayers, constructional features of knapsack sprayer, hand compression sprayer, foot sprayer, rocker sprayer and power sprayer, care and maintenance of sprayers.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
32	III	CPHY261	Eco- Physiology	CO1	Explain concepts and components of ecophysiology and its influence on crop distribution.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO2	Outline the impact of different environments on biotic and abiotic components.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Distinguish between iconic and osmotic balance and types of competition in agriculture cropping.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain the scope of allelopathy and phyto-remediation in agriculture	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
33	III	CPHY261P	Eco- Physiology Practical	CO1	Understand about Basic principles of physiology and environment	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO2	Learn about control mechanism and environment.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about impact of different environments on life processes	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Understand about Iconic and osmotic balance	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Understand about water, cell membrane channels and transport	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO6	Understand about Respiration and circulation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
34	III	PATH271	Fundamentals of Plant Pathology-II	CO1	Explain the history, concepts, patterns of survival and dispersal of plant pathogens.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the phenomenon of infections and pathogenesis.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize the principles of plant disease management and different defence mechanisms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain methods of eradication for phytopathogens	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
35	III	PATH271 P	Fundamentals of Plant Pathology-IIPractical	CO1	Uderstand about Survival of plant pathogens and kinds of inoculum primary and secondary inoculum, pattern of survival	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Toxins - pathotoxins, phytotoxins and vivotoxins, selective (host specific) and non-selective (host non-specific) toxins	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about Dispersal of plant pathogens - active dispersal	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Defense mechanisms in plants - pre-existing structural defense mechanisms	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
36	III	HORT281	Production Technology for Vegetables and Spices	CO1	Classify and explain the importance of vegetables and spices in human nutrition and national economy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Outline the agronomical practices for vegetables, fruits and spices.	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize physiological disorders of vegetables, fruits and spices.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain disease and pest control and in vegetables, fruits and spices and seed production techniques.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
37	III	HORT281P	Production Technology for Vegetables and Spices Practical	CO1	Understand about origin, and area climate, soil, improved varieties and cultivation practices	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Understand about Physiological disorders Disease and pest control and seed production.	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5
				CO3	Learn about transplanting techniques, Planting distance, Fertilizer requirements Irrigation, Weed management, Harvesting, Yield, Storage	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Okra and Leafy vegetables (Amaranthus and Gogu) Botanical name, Family, Origin, area -Production	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Understand about Importance of vegetables and spices in human nutrition and national economy	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
38	III	AEXT291	Fundamentals Of Agricultural Extension	CO1	Explain the concepts and development of different types of extension education.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	List and explain agriculture extension development programmes of GoI and new trends in agricultural extension.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize different systems and schemes for community and rural development.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Examine programmes for social justice, women development and explain training in rural leadership, extension administration and also for professional	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5

					qualification.		
				CO5	Outline different extension systems, communication models, agricultural journalism, innovation and adoption processes.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
39	III	AEXT29P	Fundamentals Of Agricultural Extension Practical	CO1	Understand about Education, Meaning, definition and Types	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand Objectives and principles of extension education.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Understand extension efforts in pre-independence era	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Learn about Extension / Agriculture development programme launched by ICAR / Govt. of India	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Understand new trends in agriculture extension	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
40	III	20SDCBK2	Bee keeping	CO1	Explain suitable bee keeping species for bee keeping	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss maintain the bee hives	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline methodologies of extracting, preservation and marketing of honey and other products of honey bee.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
41	IV	AGRO202	Crop Production Technology–II (Oil Seeds, Fiber,Sugar, Tobacco And Fodder Crops)	CO1	Explain the cultivation of oil seed crops and their importance in Indian economy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the cultivation of fibre crops and their importance in Indian economy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize agronomical practices for sugar and tuber crops and their contribution to the Indian economy.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss farming practices for tobacco crops and their significance in the Indian economy.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Explain the cultivation of forage crops and their importance.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
42	IV	AGRO202P	Crop Production Technology–II (Oil Seeds, Fiber,Sugar, Tobacco And Fodder Crops) Practical	CO1	Learn about Importance of oilseed crops- edible and non – edible oils – nutritional value importance in Indian economy	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Learn about Soil and climatic requirements - types - growth stages - land Preparation -seeds and sowing- seed treatment-seed rate-spacing-season-time and method of sowing varieties	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about Nutrient management- water management- weed management yield attributes – yield- Harvesting – post harvest operations- quality considerations – cropping systems	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Nursery management-seeds and sowing for different types- seed treatment-seed rate-spacing-season-time and method of sowing	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Understand about ratoon cane management – factors affecting quality of sugarcane – arrowing– jaggery making clarification	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
43	IV	AGRO203	Irrigation water management, farming systems and Sustainable Agriculture	CO1	Summarize the farming and cropping systems in India	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	List and explain different allied enterprises.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the techniques of sustainable agriculture and development of integrated farming systems, including models for different agri-climatic zones	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss the properties and relationship of natural resources and their importance in integrated farming systems.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarize different aspects and methods of irrigation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
44	IV	AGRO203P	Irrigation water management, farming systems and Sustainable agriculture Practical	CO1	Learn about Farming Systems, scope of farming system, importance and principles of farming system	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Learn about Types of farming systems, advantages and limitations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Learn about Allied enterprises on sericulture, moriculture and silkworm rearing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Learn about agro-forestry systems suitable for dry land farming	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Learn about Problems related to soil, water and environment, adaptation and mitigation strategies and indicators of sustainability	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
45	IV	SSAC221	Manures, fertilizers and soil fertility management	CO1	Discuss the conceptual framework of soil fertility and plant nutrition.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Classify plant nutrients and explain nutrient cycles.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize the deficiency and toxicity symptoms in plants and corrective measures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss the methods of soil fertility evaluation and plant analysis.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Explain the use and control of natural, chemical and	PSO1, PSO2,	PO1, PO2,

					mixed fertilizers in agriculture.	PSO3, PSO4, PSO5	PO3, PO4
46	IV	SSAC221P	Manures, fertilizers and soil fertility management Practical	CO1	Understand about History of soil fertility and plant nutrition Concepts of soil fertility, soil productivity.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Essential nutrients, Classification and their functions in plants	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about Deficiency symptoms of nutrients, Corrective measures, Toxicity symptoms of different nutrients	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Methods of application of nutrients under rainfed and irrigated Conditions	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Understand about Introduction and importance of organic manures	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4
47	IV	SMCA201	Statistical method	CO1	Explain the importance and limitations of statistics in agriculture	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Interpret agricultural data using central tendency and dispersion measures.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain the importance of probability and testing of hypothesis measures in agricultural field data.	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4
				CO4	Apply the correlation and regression methods to interpret agricultural data.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Design the layouts and apply ANOVA methods to agricultural data.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
48	IV	SMCA201P	Statistical method Practical	CO1	Understand about Importance of Statistics in agriculture - limitations of statistics.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Frequency Distribution	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Understand about Measures of Dispersion	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4
				CO4	Understand about Testing of Hypothesis	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
49	IV	PMRD201	Rural Development Planning and Management	CO1	Explain types of planning process in rural development.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss the decentralization of planning.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Elaborate on different levels of planning.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss strategies for sustainable development in rural areas.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
50	IV	LSPM201	Livestock and poultry management	CO1	Elaborate on the demographic distribution and population dynamics of livestock	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain the design and construction of livestock and poultry buildings.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Categorize the breeds of livestock and explain their management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss the nutritional management of livestock and poultry.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarize the disease management of livestock and poultry.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
51	IV	LSPM201P	Livestock and poultry management Practical	CO1	Understand about Demographic distribution of live-stock population	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Population dynamics of live-stock and role in Indian economy	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Understand about Design and construction of live-stock and poultry buildings	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand about Students will understand about Incubation, hatching and brooding	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Understand about Classification of feedstuffs for live-stock and poultry	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
52	IV	AECO241	Agricultural Marketing, Trade and Prices	CO1	Explain different aspects of agricultural marketing.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss facilitating functions, market functionaries, supply chain management, market promotion	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Outline the factors affecting demand and supply of agricultural farm products	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain marketing concepts like segmentation, integration, cost, regulated markets and government interventions.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss national, international cooperative marketing agencies.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
53	IV	AECO242P	Agricultural Marketing, Trade and Prices Practical	CO1	Learn Demand and supply of agri-commodities, factors affecting the demand and supply of farm products	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand Marketing process and functions	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Understand Packing and packaging, branding, grading, standardization, FAQs major crop produce, quality	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

					control and labeling - AGMARK, HACCP FSSAI, CODEX		
				CO4	Understand Marketing mix - Meaning, 4Ps of marketing - Product, price, place and promotion Their importance and characteristics in agriculture	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
54	IV	AENG242	Renewable Energy and Green Technology	CO1	Explain the classification, advantages and disadvantages of renewable energy sources.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Classify gasifiers and briquettes and explain the uses.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Outline the methods of tapping solar energy and its applications	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize the types, construction and applications of wind mills.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss the characteristics of biofuels and production of biodiesel and ethanol from biomass.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
55	IV	AENG252P	Renewable Energy and Green Technology Practical	CO1	Understand Importance of biomass, classification of energy production - Principles of combustion, pyrolysis and gasification	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand Classification, types of biogas plants.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Understand Types of gasifiers	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Understand Solar energy	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
56	IV	HORT282	Production Technology for Ornamental Crops, Medicinal and Aromatic Plants and Landscaping	CO1	Explain the principles of land scaping and importance of ornamental plants.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss the production technology of different types of ornamental crops	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Examine the production technology of medicinal and aromatic crops.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss the methods of value addition in ornamental, medicinal and aromatic crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
57	IV	HORT282P	Production Technology for Ornamental Crops, Medicinal and Aromatic Plants and Landscaping Practical	CO1	Understand about Importance and scope of ornamental crops and landscaping	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand about Principles of landscaping	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO3	Understand about Production technology of cut flowers under protected conditions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Understand about Production technology of cut flowers	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Understand about Production technology of loose flowers	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
58	IV	AEXT292	Entrepreneurship Development and Business Communication	CO1	Explain concepts of entrepreneur, entrepreneurship and its development in the Indian agricultural sector.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline the use of SWOT analysis to assess agri-enterprises and various skills required for successful entrepreneurship.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize governmental and non-governmental agencies in entrepreneurship development in the Indian agriculture sector.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Classify the types of agri enterprises	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Explain the features of supply chain and marketing management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
59	IV	AEXT292P	Entrepreneurship Development and Business Communication Practical	CO1	Learn Concept of entrepreneur, entrepreneurship	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Understand Characteristics of entrepreneur opportunities for entrepreneurship and rural entrepreneurship	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Learn Entrepreneurship development programmes (EDPs).	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Learn SWOT Analysis	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Understand Institutional support - Financial Institutions and other agencies in entrepreneurship development	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
60	IV	20SDCMC2	Mushroom cultivation	CO1	Explain important types of Mushrooms and their cultivation	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain maintenance of mushroom in hygienic and scientific way	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain value added products of mushroom	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
61	V	AGRO 301	Geo Informatics and nanotechnology for precision farming and practical crop production	CO1	Explain AGRO Precision agriculture: concepts and techniques-Issues and concerns for Indian agriculture	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5
				CO2	Summarize AGRO Geo-informatics- definition, concepts, tools and techniques and their use in Precision Agriculture.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Outline AGRO Crop discrimination and Yield monitoring techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

				CO4	Explain AGRO Spatial data and their management in GIS	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarize AGRO Application of nanotechnology in agriculture - tillage, seed, water, fertilizers, plant protection for scaling-up farm productivity	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
62	V	**AGRO 301P**	Geo Informatics and nanotechnology for precision farming and practical crop production Practical	CO1	Explain the SSAC GIS software, spatial data creation and editing and processing software	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5
				CO2	Summarise AGRO Supervised and unsupervised classification and acreage estimation.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO3	Explain soil fertility based on GIS	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Outline productivity and management zones and Fertilizers recommendations based of VRT and STCR techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
63	V	BICM 300	Principles of food science and nutrition	CO1	Discuss Concepts of food science - Definitions of food, specific nutrients in foods and their functions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Food physical characteristics and food composition	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize biomolecules of Carbohydrates, Nucleic acids, Lipids, and Proteins	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain preservative and preservation by heat treatment and irradiation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarize balanced diet and energy metabolism	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
64	V	**BICM 300P**	Principles of food science and nutrition Practical	CO1	Explain concepts of food science	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss food composition	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain structure and functions of proteins	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain functions of fats and oils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss vitamins and vitamins	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
65	V	GPBR 311	Crop improvement-I and Intellectual Property Rights	CO1	Explain Introduction – General Breeding Objectives, Concepts of breeding self-pollinated, cross pollinated and vegetatively propagated crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss Cereals, Rice, Origin, Distribution of species – Wild relatives and forms –Breeding objectives – Major breeding procedures	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Cereals - Wheat and Barley - Origin – Distribution of species – Wild relatives and forms – Breeding objectives – Major breeding procedures	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO4	Outline Pulses - Pigeonpea - Origin – Distribution of species – Wild relatives and forms – Breeding objectives – Major breeding procedures	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss Oilseeds - Castor and Sesame - Origin – Distribution of species – Wild relatives and forms – Breeding objectives – Major breeding procedures	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
66	V	**GPBR 311P**	Crop improvement-I and Intellectual Property Rights Practical	CO1	Explain Hybridization techniques and precautions to be taken, Floral morphology, selfing, emasculation and crossing techniques in field crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Hybridization techniques and precautions to be taken, Floral morphology, selfing, emasculation and crossing techniques in millets	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Hybridization techniques and precautions to be taken, Floral morphology, selfing, emasculation and crossing techniques in peas	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain Hybridization techniques and precautions to be taken, Floral morphology, selfing, emasculation and crossing techniques in beans.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
67	V	SSAC 321	Problematic soils and their management	CO1	Explain Problem soils –Definition – Different types of problematic soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss Salt affected soils – Origin and formation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Saline soils – Visual symptoms for identification of saline soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Outline Sodic soils - Visual symptoms for identification of sodic soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Identify Acid soils and Polluted soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
68	V	**SSAC 321P**	Problematic soils and their management Practical	CO1	Explain identification of problematic soils and their management	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss infiltration rates of light soils and infiltration rates of heavy soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain pH, EC of acid, saline and sodic soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Outline ESP, GR and LR of sodic soils	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

				CO5	Explain lime content (CaCO3) of calcareous soil	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
69	V	AENG 351	Protected cultivation and postharvest technologies	CO1	Explain Definition, greenhouse effect, advantages of green houses.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Outline types of greenhouses - Greenhouses based on shape, utility, construction, covering materials and cost, shade nets.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize criteria and constructional details of greenhouses - Construction of pipe framed greenhouses, material requirement, preparation of materials and procedure of erection.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain Irrigation system used in greenhouses - Rules of watering, hand watering, perimeter watering, overhead sprinklers, boom watering and drip irrigation	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Explain postharvest equipment based on physical and thermal properties	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
70	V	**AENG 351P**	Protected cultivation and postharvest technologies Practical	CO1	Explain different types of greenhouses based on shape and functions and systems of green houses.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss postharvest technology	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain determination of moisture content in grains	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Discuss size, space, porosity, bulk density of grains	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Explain Cleaning and grading of grains, pulses and oilseeds.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
71	V	ENTO 331	Pests of field crops and stored grains	CO1	Outline general account on nature and type of damage by different arthropod pests	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Introduction of Economic Entomology and Economic Classification of Insect Pests	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Summarize Pests of rice	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain Pests of sorghum and other millets	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize Pests of cotton	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
72	V	**ENTO 331P**	Pests of field crops and stored grain and their management Practical	CO1	Explain identification and symptoms of damage by various phytophagous insects	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Summarise Calculations on the doses of insecticides and their application techniques	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain pests of pulse crop and their damage symptoms. Identification of insect pests of oil seed crops and their damage symptoms	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain Mite pests of crops and their damage symptoms	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarise Nematode pests of crops and their damage symptoms	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
73	V	PATH 371	Diseases of field and Horticultural crops and their management-I	CO1	Explain Rice diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Maize diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Sorghum diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize Bajra diseases and Tobacco diseases	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Discuss Sugarcane diseases and Bengal gram diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
74	V	**PATH 371P**	Diseases of field and Horticultural crops and their management-I Practical	CO1	Explain symptoms, identification and histopathological studies of rice, Wheat, Sorghum and Bajra diseases.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain symptoms, identification and histopathological studies of Maize and Finger millet	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain symptoms, identification and histopathological studies of Sugarcane and ground nut	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain symptoms, identification and histopathological studies of Sunflower and Safflower diseases	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Explain symptoms, identification and histopathological studies of Castor and sesamum diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
75	V	PATH 372	Principles of Integrated pest and disease management	CO1	Explain Guava, Papaya, Ber and Sapota diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss Citrus, Guava, Papaya, Ber and Sapota diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain Banana diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Summarize Pomegranate diseases and vegetables diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Explain Turmeric and ginger diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
76	V	**PATH 372P**	Principles of Integrated pest and	CO1	Explain symptoms, Identification and histopathological studies of citrus and mango	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

			disease management Practical	CO2	Explain symptoms, Identification and histopathological studies of Ber, guava and sapota diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Discuss symptoms, Identification and histopathological studies of Papaya, banana and pomegranate diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Explain symptoms, Identification and histopathological studies of Grape and Apple diseases.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarise symptoms, Identification and histopathological studies of Chilli, brijnal and Bhendi diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
77	V	RERD 303	Rural industrialization and entrepreneurship	CO1	Explain Rural Industrialisation Concept, Need and Importance	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Summarize Growth of Rural Industries in India – Gandhian Approach and Modern Approach	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Explain Problems and Remedies of Rural Industrialisation.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Discuss Growth and Structure of Rural Industries, Current Status, Measures to Sustain Growth, Sickness – Remedial Measures	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Explain Importance, Types - Organized and Unorganized Rural Industrial Labour – Rural Industrial Labour Problems - Labour Turn Over – Migration.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
78	V	CPHY 361	Environmental studies and disaster management	CO1	Discuss Environmental studies - Definition – Scope and importance	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain Natural resources – Renewable and non-renewable resources	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Identify resources – Sources, uses and over utilization of surface and groundwater - Dams – Benefits and problems – Sustainable management of water.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain Threats to biodiversity – Habitat loss – Poaching of wild life – Man-wild life conflicts – Conservation of biodiversity – In situ and ex situ.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss environmental pollution – Causes, effects and control measures of air and water pollution – Tolerable limits for toxic gases in air.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
79	V	**CPHY 361P**	Environmental studies and disaster management Practical	CO1	Explain Collection, processing and storage of effluent samples	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss Determination of chemical oxygen demand in waste water sample and total dissolved solids in waste water sample	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Outline temporary hardness of waste water sample by titration	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain Preparation of sludge / waste water sample for analysis of heavy metals	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarise Estimation of heavy metals in sludge / waste water by Atomic Adsorption Spectrophotometer (AAS)	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
80	VI	AGRO 303	Rainfed Agriculture, watershed management and principles of organic farming	CO1	Explain rainfed agriculture and its introduction, problem and prospects in India.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Outline Rain fed agriculture is used to describe farming practices that rely on rainfall for water.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain objective, principles and component of watershed management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain Conservation of soil by adopting latest soil conservation techniques will help in obtaining higher production of Rainfed crops.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss Introduction of improved soil and moisture conservation	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
81	VI	**AGRO 303P**	Rainfed Agriculture, watershed management and principles of organic farming Practical	CO1	Discuss climatic classification, rainfall analysis	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain onset and withdrawal of monsoons and cropping pattern for different areas	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Outline meteorological data for rainfall variability	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain rainfall and calculation of wet spells, dry spells, and length of growing season.	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
82	VI	SMCA 301	Agriculture Informatics	CO1	Explain Windows explorer- Creating folder - Copy and paste functions - Control panel Notepad -WordPad etc.	PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4
				CO2	Sumarize MS word - Creating a document, saving and editing	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss Use of options from tool bars – Format - Insert and tools (Spelling and Grammar) - Alignment of paragraphs and text.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain To Creating a table - Merging of cells -	PSO1, PSO2,	PO1, PO2,

					columns and row width - Formats etc.	PSO3, PSO4	PO3, PO4
				CO5	Discuss MS- Excel - Creating a spreadsheet - Alignment of rows - columns and cells using format tool bar.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
83	VI	**SMCA 301P**	Agriculture Informatics Practical	CO1	Explain the basics of computer and tool bars	PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4
				CO2	Discuss Notepad, MS word and Excel	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain creating a table, Merging of cells, columns and row width Formats	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline MS- Excel - Creating a spreadsheet and entering the formulas	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain data analysis tool pack for testing of significance	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
84	VI	GPBR 312	Crop Improvement-II and principles of seed technology	CO1	Explain origin, distribution and different breeding methods	PS01, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Discuss adopted for the development of varieties / hybrids in various field and horticultural crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain about the plant genetic resources, centres of diversity and breeding for resistance to biotic and abiotic stresses	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Learn about the procedure of production of hybrid seed in different crops.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Study about Floral biology, anthesis, pollination, selfing, emasculation and crossing techniques	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
85	VI	**GPBR 312P**	Crop Improvement-II and principles of seed technology Practical	CO1	Explain Hybridization techniques and precautions to be taken - Floral morphology, selfing, emasculation and crossing techniques in field crops.	PS01, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Summarise Floral biology, anthesis, pollination, selfing, emasculation and crossing techniques in field crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain Floral biology, anthesis, pollination, selfing, emasculation and crossing techniques in vegetables	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Discuss Floral biology, anthesis, pollination, selfing, emasculation and crossing techniques in Fruit crops	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
86	VI	ENTO 332	Pests of Horticultural crops and their management and beneficial insects	CO1	Detailed information has been provided on all major pests of crops as regards their taxonomic position, distribution, host range, life history, nature and symptoms of damage.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain Seasonal abundance and their management.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss minor pests their taxonomic position, nature and symptoms of damage	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain Management have been covered with additional information wherever necessary	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Summarize Major and minor pests have been differentiated by their text format.	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
87	VI	**ENTO 332P**	Pests of Horticultural crops and their management and beneficial insects Practical	CO1	Explain identification, symptoms and management of insect pests of solanaceous and malvaceous vegetables	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain identification, symptoms and management of insect pests of crucifers and cucurbits	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss identification, symptoms and management of insect pests of tuber crops and chilli	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Outline identification, symptoms and management of insect pests of fruit crops	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO5	Explain identification, symptoms and management of insect pests of spices and sericulture	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
88	VI	PATH 373	Diseases of field and horticultural crops and their management-II	CO1	Identify diseases of crops in fields	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Recommend proper management practices for them.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Studies of symptoms, Identification and histopathological studies of the following diseases	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Explain Symptoms, etiology, disease cycle and management of major diseases of crops	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain Field Crops: Rice: blast, brown spot, bacterial blight, sheath blight, false smut, khaira and tungro;	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
89	VI	**PATH 373P**	Diseases of field and horticultural crops and their management-II Practical	CO1	Explain diseases of ber and guava	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain diseases of banana and papaya	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain diseases of vegetables	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss diseases of tomato and potato	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
90	VI	HORT 381	Post-harvest management and value addition of Fruits and	CO1	Explain Various methods of packaging- packaging materials and transport, Packaging technology	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Discuss various Methods of storage-precooling, pre storage treatments, low temperature storage, controlled	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4

			vegetables		atmosphere storage		
				CO3	Explain Chemicals used in Ripening	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Summarize Irradiation and low cost storage structures	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain Factors affecting ripening can be physiological, physical, or biotic	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
91	VI	**HORT 381P**	Post-harvest management and value addition of Fruits and vegetables Practical	CO1	Explain different types of packaging containers for shelf-life extension	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Explain preparation of jams and jelly	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss preparation of RTS	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Explain preparation of squash and nectar	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
92	VI	AEXTT 391	Communication skills and Personality Development	CO1	Explain Nonverbal communication skills - Practicing conscious body postures and movements.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Overview of verbal communication skills.	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Learn Practicing listening and note taking and writing skills.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Practicing oral presentation skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Practicing writing of field diary and lab record - Indexing, footnote and bibliographic procedures.	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5, PO6
93	VI	**AEXT 391P**	Communication skills and Personality Development Practical	CO1	Explain communication and nonverbal communication skills	PSO1, PSO2, PSO3, PSO4, PSO5	PO1, PO2, PO3, PO4, PO5, PO6
				CO2	Explain verbal communication skills	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO3	Discuss oral communication skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Explain reading and comprehension skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
94	VI	AECO 341	Farm Management, Production and Resource economics	CO1	Assist farm managers in determining the best use of resources, given the changing needs, values and goals of the society.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Assist policy makers in determining the consequences of alternative public policies on output, profits and resource use on farms.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Evaluate the uses of theory of firm for improving farm management and understanding the behaviour of the farm as a profit maximizing entity.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Evaluate the effects of technical and institutional changes on agricultural production and resource use.	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO5	Determine individual farm and aggregated regional farm adjustments in output supply and resource use to changes in economic variables in the economy.	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
95	VI	**AECO 341P**	Farm Management, Production and Resource economics Practical	CO1	Explain communication and nonverbal communication skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Explain verbal communication skills	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Discuss oral communication skills	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4
				CO4	Explain reading and comprehension skills	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
96	VI	AMBE 373	Agriculture Microbiology	CO1	Understand about Nutritional media and their preparations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Isolation of azotobacter from soil	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Isolation of Rhizobium from legume root nodule	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Staining and microscopic examination of microbes.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Enumeration of bacteria by pour plate method.	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
97	VI	**AMBE 373P**	Agriculture Microbiology- Practical	CO1	Explain microbiology and equipments	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Summarise methods of sterilization	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Explain staining and microscopic examination of biofertilizer organism	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

				CO4	Discuss isolation of Azotobacter	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Summarise isolation of VAM by different methods	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
98	VI	BICM 302	Fundamentals of Plant Biotechnology	CO1	Assist in micro propagation units	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Determine the structures of proteins	PSO1, PSO2, PSO3, PSO4,	PO1, PO2, PO3, PO4
				CO3	Determine the structures and functions of RNA and DNA	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Brief description about enzyme activity	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Brief description about metabolism of lipids	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
99	VI	**BICM 302P**	Fundamentals of Plant Biotechnology Practical	CO1	Explain extraction of proteins	PSO1, PSO2, PSO3	PO1, PO2, PO3, PO4, PO5
				CO2	Discuss structures and functions of proteins	PSO1, PSO2, PSO3, PSO4,	PO1, PO2, PO3, PO4
				CO3	Outline about enzymes	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss structures and functions of lipids	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
100	VII	RAWE	Rural Agricultural work Experience and Agro-Industrial Attachment (AIA)	CO1	Students will get an on-campus training from various faculties before step into the village attachment and Agro-industrial attachment	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	To enable the students to learn and understand issues related to farming and rural development in a natural setting on real-time basis.	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5,PO6
				CO3	Course provides opportunities for the students to attach with the agri related industries and make them know about the functioning them.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO4	Propose a project based on his interest and concerned specialists will assist them to complete their project.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
				CO5	Learn about the functioning of the extension organisations viz., state 15 agricultural departments, KVK's, and research stations.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5, PO6
101	VIII	AELP	Agriculture Experiential Learning Programme	CO1	Produce biocontrol agents like Trichoderma, Pseudomonas and bio- fertilisers like phosphor-bacteria for commercial marketing	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO2	Produce hybrid seeds of vegetables for commercial production and marketing.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO3	Analyse soil health and provide management solutions to farmers.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO4	Produce, Mushrooms, honey and vermicompost using their practical knowledge on commercial bee keeping.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5
				CO5	Provides opportunities for the students to learn about the functioning of the extension organisations viz., state 15 agricultural departments, KVK's, and research stations.	PSO1, SO2, PSO3, PSO4	PO1, PO2, PO3, PO4, PO5

PG PROGRAMMES

ECONOMICS

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	ECO101	Micro Economic Analysis – I	CO1	To understand the significance of theories of consumer behavior	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To know the importance of production analysis	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To analyze the concepts of cost, revenue and firm equilibrium	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	To examine the price and output and determination in perfect competition, Monopoly an Monopolistic competition markets	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To examine the price and output and determination in Duopoly and Oligopoly markets	PSO1, PSO2, PSO3	PO1,PO2,PO4
2	I	ECO102	Macro Economic Theory-1	CO1	To understand the national income concept.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To familiarize the students the basic difference between the classical and Keynesian Economics.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To understand the theories of consumption function	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	To understand the theories of investment function	PSO1,PSO2, PSO3	PO1,PO2,PO4
				CO5	To familiarize the Neo Classical and Keynesian Synthesis	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7,

							PO8
3	I	ECO103	Public Economics	CO1	To understand the financial functions of Government	PSO2, PSO3	PO1,PO2,PO4
				CO2	To know the source of public revenue	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To familiarize about public budget and expenditure	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	To understand the concept of public debt	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To give an idea about central state financial relations and to provide the complete structure of Indian finance system	PSO2, PSO3	PO1,PO2,PO4
4	I	ECO104	Evolution of Economic Doctrines	CO1	Explains the views of classical and modern economists	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO2	Discusses about the various theories of economics	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO3	Applies the economic theories practically in an economy	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	Compares the classical and modern theories of economic thought	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	Examines the classical and modern theories of Indian school of economic thought	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
5	I	ECO105	Mathematical Methods	CO1	To understand the significance of mathematical functions in economics	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To know role of differentiation in theory of demand and supply functions	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To know role of integration in the concept of consumer and producer surplus	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	To understand the significance of matrices and determinants in economics.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To know the application of linear programming in economics.	PSO1, PSO2, PSO3	PO1,PO2,PO4
6	I	ECO106	International Trade: Theory And Policy	CO1	To familiarize the theories of international trade	PSO1,PS34,PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO2	To understand the international trade theories under imperfect competition	PSO1,PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO3	To explain the terms of trade and gains from trade	PSO1,PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	To understand the theories of trade policy	PSO1,PSO3,PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO5	To know the importance of international institution for economic integration.	PSO1,PSO2,PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
7	II	ECO201	Micro Economic - II	CO1	To examine modern theory of firm	PSO3	
				CO2	To understand the varoius theories of distribution	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To examine the general equilibrium analysis.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	To know the concepts of market failure and publics goods.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To familirize the welfare economics concepts	PSO1, PSO2, PSO3	PO1,PO2,PO4
8	II	ECO202	Macro Economic Theory-2	CO1	Apply the different sampling methods	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	Compare and interpret primary and secondary data.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Compute and interpret measures of central tendency and dispersion	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO4	Calculate and interpret the correlation and regression between two variables	PSO1,PSO2, PSO3	PO1,PO2,PO4
				CO5	Construct index numbers and apply various methods of time series analysis	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
9	II	ECO203	Economics Of Environment	CO1	To know the nature and scope of environmental economics.	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO2	To familiarize the cause and effect of environmental degradation.	PSO1, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO3	To understand the effect of pollution on society.	PSO1, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8

				CO4	To know the environmental policies of government	PSO1,PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO5	To examine environmental laws and management strategies.	PSO1,PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
10	II	ECO204	Indian Economy	CO1	To understand the structure of Indian economy.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To examine the role of agriculture in Indian economy.	PSO1, PSO2, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO3	To know the role of industrial sector in Indian economy.	PSO1, PSO2, PSO4,	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	To understand the role of service sector in Indian economy.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To examine the importance of economic reforms in Indian economy.	PSO1, PSO2, PSO3	PO1,PO2,PO4
11	II	ECO205	Statistical Methods	CO1	To familiarized the basic statistical techniques.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To understand the concepts of correlation and regression .	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	To Understand the addition, multiplication theorem conditional probability.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	To explain the concepts of sampling and hypothesis testing.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To know the method of construction index numbers.	PSO1, PSO2, PSO3	PO1,PO2,PO4
12	II	ECO206	Computer Applications In Economics	CO1	To become familiar with basic knowledge on computer.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	To draw distributive tables, graphs, trend lines.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Estimation of statistical tools by using software.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	Apply advanced internet application.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	To become familiar with a statistical software like SPSS and Stata	PSO1, PSO2, PSO3	PO1,PO2,PO4
13	II	ECO207	Industrial Economics	CO1	Explain the Importance of Industrial Economics.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO2	State the Methods to improve productivity and benefits to increase productivity.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO3	Explain the internal and external source of financing.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4,PO5,PO7, PO8
				CO4	Distinguish the Foreign collaboration and Foreign investment.	PSO1, PSO2, PSO3	PO1,PO2,PO4
				CO5	Understand the industrial disputes and develop the entrepreneurial skills.	PSO1, PSO2, PSO3	PO1,PO2,PO4
14	III	ECO301	Economics of Growth and Development	CO1	CO1: Examine different factors of economic Development.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO2	CO2: State the Growth Models of Neo-Classical Economists	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO3	CO3: Discuss the important models and theories in economic growth.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO4	CO4: know the theories of economic theories	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO5	CO5: feminize the theories of dualism.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
15	III	ECO302	Financial institutions and markets	CO1	CO1: Examine the nature and role of financial system.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO2	CO2:Understand the structure and composition of money market.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO3	CO3: Analyze the structure and composition of capital market.	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO5
				CO4	CO4: Know about the structure of Indian money market.	PSO1,PSO2, PSO3	PO2,PO3,PO4, PO5
				CO5	CO5: Study the role of financial institutions in money market.	PSO1, PSO2, PSO3, PSO4	PO2,PO3,PO4, PO5
16	III	ECO303	Economics of Structure	CO1	CO1: Understand the basic structure of infrastructure economics.	PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO2	CO2: . Know the development of unfractured in India.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO3	CO3: Analyze the government policies for regulation and reform of the Telecommunication sector.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO4	CO4: Understand the reforms of education on employment.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4,PO5
				CO5	CO5: Examine role of health programme and policies	PSO2, PSO3	PO1,PO2,PO3,

							PO4, PO5
17	III	ECO304	Research methodology	CO1	CO1: Describe the Problem of objectivity in social science Research.	PSO1, PSO2, PSO3, PSO4	PO1.PO2.PO3, PO4
				CO2	CO2: Demonstrate to write the review of literature.	PSO1, PSO2, PSO3, PSO4	PO1.PO2.PO3, PO4
				CO3	CO3: Test the hypothesis for research purpose.	PSO1, PSO2, PSO3	PO1.PO2.PO3, PO4
				CO4	CO4: Analyze to choose the data collection and their interpretation.	PSO1, PSO2, PSO3	PO1.PO2.PO3, PO4
				CO5	CO5: Preparation of Report writing.	PSO1, PSO2, PSO3, PSO4	PO1.PO2.PO3, PO4
18	III	ECO305	Agricultural Economics	CO1	CO1 : Know the importance of agricultural economics in present scenario.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4PO5
				CO2	CO2: Examine the agricultural area, production and productivity trends of Indian agriculture.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4PO5
				CO3	CO3: Study agricultural investment programs in India.	PSO1, PSO2, PSO3, PSO4	PO1,PO2,PO3, PO4PO5
				CO4	CO4: Understand the Government Initiatives of Indian Agriculture.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4PO5
				CO5	CO5: Understand the Government programms of Indian Agriculture.	PSO1, PSO2, PSO3	PO1,PO2,PO3, PO4PO5
19	III	ECO306	Rural development	CO1	CO1: Understand the various approaches to rural Development. .	PSO1,PS34, PSO4	PO3,PO4,PO6, PO7
				CO2	CO2: Know the issues in rural development.	PSO1,PSO3, PSO4	PO3,PO4,PO6, PO7
				CO3	CO3: Evaluate the various rural development programs in India.	PSO1,PSO3, PSO4	PO3,PO4,PO6, PO7
				CO4	CO4: Know the institutional support to rural development.	PSO1,PSO3, PSO4	PO3,PO4,PO6, PO7
				CO5	CO5: Understand the management of rural development projects.	PSO1,PSO2, PSO4	PO3,PO4,PO6, PO7
20	III	ECO307	Labour Economics	CO1	CO1: Know the composition of labour markets.	PSO1, PSO2, PSO3	PO3,PO5,PO6, PO7
				CO2	CO2: Describe the different theories of wage determination.	PSO1, PSO2, PSO3	PO3,PO5,PO6, PO7
				CO3	CO3: Understands the wage policy in India.	PSO1, PSO2, PSO3	PO3,PO5,PO6, PO7
				CO4	CO4: Femalize the nature and scope of Industrial Relations in India.	PSO1, PSO2, PSO3	PO3,PO5,PO6, PO7
				CO5	CO5: Understand the various labour welfare measures in India.	PSO1, PSO2, PSO3	PO3,PO5,PO6, PO7
21	IV	ECO401	International finance	CO1	CO1: Know the concept of balance of payments.	PSO1, PSO2, PSO3	PO2,PO4,PO6
				CO2	CO2: Understand the adjustment mechanism in balance of payments.	PSO1, PSO2, PSO3	PO2,PO4,PO6
				CO3	CO3: Familiarize the foreign exchange market.	PSO1, PSO2, PSO3	PO2,PO4,PO6
				CO4	CO4: Understand the role of international capital markets in currency exchange.	PSO1,PSO2, PSO3	PO2,PO4,PO6
				CO5	CO5: Know the functions, features and significance of IMF.	PSO1, PSO2, PSO3, PSO4	PO2,PO4,PO6
22	IV	ECO402	Entrepreneurship and Skill Development	CO1	CO1: Know the Concepts of Entrepreneurship. .	PSO1, PSO2, PSO4	PO2,PO5,PO6, PO7
				CO2	CO2: Understand the role of various organizations for Entrepreneurship Development	PSO1, PSO3, PSO4	PO2,PO5,PO6, PO7
				CO3	CO3: Know the objectives of project report in Entrepreneurship.	PSO1, PSO3, PSO4	PO2,PO5,PO6, PO7
				CO4	CO4: Understand the role of skill development in Entrepreneurship.	PSO1,PSO3., SO4	PO2,PO5,PO6, PO7
				CO5	CO5: Understand the role of skill development programs in Entrepreneurship	PSO1,PSO3, PSO4	PO2,PO5,PO6, PO7
23	IV	ECO403A	Demography	CO1	CO1: Describe the meaning of demography and demographic profile of India	PSO1, PSO2, PSO3	PO3,PO4,PO6, PO8
				CO2	CO2: Describe the population trends in India.	PSO1, PSO2, PSO4	PO3,PO4,PO6, PO8
				CO3	CO3: Describe the importance of fertility and nuptiality in demography.	PSO1, PSO2, PSO4,	PO3,PO4,PO6, PO8
				CO4	CO4: Understand the concept of mortality.	PSO1, PSO2, PSO3	PO3,PO4,PO6, PO8
				CO5	CO5: Understanding the demographic issues of India.	PSO1, PSO2, PSO3	PO3,PO4,PO6, PO8
24	IV	ECO403B	Andhra Pradesh Economy	CO1	CO1: Study the structure of Andhra Pradesh economy.	PSO1, PSO2, PSO3	PO3,PO4,PO6, PO8
				CO2	CO2: Understand the role of agriculture in Andhra Pradesh economy.	PSO1, PSO2, PSO3	PO4,PO5,PO7, PO8
				CO3	CO3: Understand the role of industry in Andhra Pradesh economy.	PSO1, PSO2, PSO3, PSO4	PO4,PO5,PO7, PO8
				CO4	CO4: Understand the role of service sector in Andhra	PSO1, PSO2,	PO4,PO5,PO7,

					Pradesh economy	PSO3	PO8
				CO5	CO5: Study the achievement of five-year plans in Andhra Pradesh economy.	PSO1, PSO2, PSO3	PO4,PO5,PO7, PO8
25	IV	ECO404A	Gender Economics and Development	CO1	CO1: Identify the importance of women studies and its status in world economies.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO2	CO2: Analyze the concepts of women's work and their participation in various fields.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO3	CO3: Know the role of women in labour markets.	PSO1, PSO2, PSO3, PSO4	PO4,PO6,PO7, PO8
				CO4	CO4: Examines the social security and protection of women.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO5	CO5: Evaluate the gender planning and development policies for women.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
26	IV	ECO404B	Indian Economic Reforms	CO1	CO1: Know the concept of economic reforms-1991.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO2	CO2: Understand the importance of reforms in Banking Sector.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO3	CO3: Understand the policies of reforms in agricultural Sector	PSO1, PSO2, PSO3, PSO4	PO4,PO6,PO7, PO8
				CO4	CO4: Explain the impact of industrial reforms on Poverty and Employment.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
				CO5	CO5: Describe the features and functions of WTO.	PSO1, PSO2, PSO3	PO4,PO6,PO7, PO8
27	IV	ECO405	Project	CO1	CO1: Identify and recognize potential areas/topics of research around andquestion them in a systematic and scientific manner	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO2	CO2: Construct, examine or explore a chosen topic of research	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO3	CO3: Demonstrate techniques of research methodology in the chosen topic of Research	PSO1, PSO2, PSO3, PSO4	PO2,PO3,PO4, PO6
				CO4	CO4: Interpret, justify or value the findings of research	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6
				CO5	CO5: Conclude research carried out in the form of a presentation or a publication	PSO1, PSO2, PSO3	PO2,PO3,PO4, PO6

ENGLISH

S. No.	Semester	Course Code	Course Title		Course Outcomes (COs)	Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20ENG101	Linguistics and Phonetics	CO1	Describe the correct use of Organs of Speech, Production of Front Vowels, Consonant Clusters.	PSO1	PO1, PO5, PO7
				CO2	Explain the process of Communication.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO3	Understand Language Varieties.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
2	I	20 ENG 102	Introduction to Literary Studies	CO1	Identify major genres in English literature and their generic features	PSO1	PO1, PO5, PO7
				CO2	Demonstrate an awareness of the various periods and their specificities as manifested in English literature.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Appreciate and analyse literature.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
3	I	20 ENG 103	Poetry-I	CO1	Identify and account for distinct literary characteristics of various poetic forms.	PSO1	PO1, PO5, PO7
				CO2	Analyse poetic texts using appropriate terms such as diction, tone, imagery, figures of speech, motif.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Interpret a poem based on contextual evidence.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
4	I	20 ENG 104	Drama-I	CO1	Demonstrate a proper grounding in English drama and theatre.	PSO1	PO1, PO5, PO7
				CO2	Assess playwright's oeuvre as an embodiment of the spirit of different dramas in different ages.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Produce critical readings in the light of various schools of criticism.	PSO1	PO1, PO5, PO7
				CO4	Exhibit a holistic knowledge of theatre in all the playwrights' plays.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
5	I	20 ENG 105	Prose and Fiction-I	CO1	Understand the rise of English prose and fiction.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6,

							PO7, PO8
				CO2	Analyse the themes and poetic devices used in British Prose and Fiction.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate the central themes of the selected novels.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
6	II	20 ENG 106	Computer Applications for English	CO1	Identify LSRW Skills inside and outside the classroom for better English Communication.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Apply computer applications effectively in learning LSRW skills.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO3	Develop practical skills to solve problems and provide solutions using current trends in the discipline of computer applications.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
7	II	20 ENG 201	English Language Studies	CO1	Understand the history of the English language and its application to contemporary spoken language and written language.	PSO1	PO1, PO5, PO7
				CO2	Analyse and interpret texts written in English, evaluating and assessing the results in written or oral arguments using appropriate support.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate knowledge and comprehension of major texts and traditions of language and literature written in English as well as their social, cultural, theoretical, and historical contexts.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
8	II	20 ENG 202	Poetry-II	CO1	Understand the poetic genre in English literature.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Demonstrate an awareness of the various poets, poetic forms in English literature.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO3	Appreciate and analyse modern poetry.	PSO1,PSO2, PSO 3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
9	II	20 ENG 203	Drama-II	CO1	Demonstrate a proper grounding in English drama and theatre.	PSO1	PO1, PO5, PO7
				CO2	Assess playwright's oeuvre as an embodiment of the spirit of different dramas in different ages.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Produce critical readings in the light of various schools of criticism.	PSO1	PO1, PO5, PO7
				CO4	Exhibit a holistic knowledge of theatre in all the playwrights' plays.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
10	II	20 ENG 204	Prose And Fiction-II	CO1	Understand the rise of English Prose and fiction.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Analyse the themes and poetic devices used in British Prose and Fiction.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate the central themes of the selected novels.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
11	II	20 ENG 205	Translation Studies	CO1	Define the significance and role of translation in the globalised world.	PSO1	PO1, PO5, PO7
				CO2	Demonstrate in-depth knowledge about various theories of translation.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Identify various problems in the process of translation and their possible solutions.	PSO1	PO1, PO5, PO7
				CO4	Appreciate, analyse and assess the quality of translations in an informed way.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
12	III	20 ENG 206	Digital Skills for English	CO1	Improve their ability to plan, execute and use digital technologies.	PSO1	PO1, PO5, PO7
				CO2	Develop their reflective practice skills to help them evaluate and develop their own practice in using digital technologies.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Learn collaboratively, supported by their team.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
13	III	20 ENG 301	Literary Theory-I	CO1	Define and apply specific theoretical concepts, theories, and terms to literary and cultural texts.	PSO1	PO1, PO5, PO7
				CO2	Analyse strengths and limitations of critical/ theoretical arguments.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7

				CO3	Examine historical contexts for the development of contemporary theory and criticism.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
14	III	20 ENG 302	New Literatures in English	CO1	Analyse the major issues, themes, and literary concepts of colonialism and postcolonialism. Construct arguments on nation, culture and identity formations.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Critically evaluate the texts keeping in mind colonialism and postcolonialism.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate a proper grounding in New Literatures in English.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
15	III	20 ENG 303	Indian Literature In Translation	CO1	Analyse the major issues, themes, and literary concepts of colonialism and postcolonialism.	PSO1	PO1, PO5, PO7
				CO2	Critically evaluate the texts keeping in mind colonialism and postcolonialism.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate A Proper Grounding In New Literatures In English.	PSO1	PO1, PO5, PO7
				CO4	Construct arguments on nation, culture and identity formations.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
16	III	20 ENG 304	American Literature-I	CO1	Identify the major writers and literary texts in the canon of American literature.	PSO1	PO1, PO5, PO7
				CO2	Demonstrate in-depth knowledge of the various classics of American literature.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Define and appreciate the specific features and trajectory of American literature.	PSO1	PO1, PO5, PO7
				CO4	Demonstrate the awareness of the social conditions of America in various periods and their reflections in literature.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
17	III	20 ENG 305	English Language Teaching-I	CO1	Understand the history of ELT and fundamentals of language teaching.	PSO1	PO1, PO5, PO7
				CO2	Distinguish the differences between different theories of learning.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate second language models, methods, approaches.	PSO1	PO1, PO5, PO7
				CO4	Familiarise with testing and evaluation in ELT in teaching a second language.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
18	IV	20 ENG 306	Academic Writing Skills	CO1	Develop general academic vocabulary,	PSO1	PO1, PO5, PO7
				CO2	Improve listening skill in an academic setting.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Interpret note-taking skills effectively.	PSO1	PO1, PO5, PO7
				CO4	Improve academic discussion and presentation skills.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
19	IV	20 ENG 401	MOOCS	CO1	Distinguish the difference between online/offline learning.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Assess quizzes, assignments and online exams.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Earn certificates for all courses they sign up for and gain access to world-class education and an engaged global community.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
20	IV	20 ENG 402.1	English Language Teaching-II	CO1	Understand the history of ELT and fundamentals of language teaching.	PSO1	PO1, PO5, PO7
				CO2	Distinguish the differences between different theories of learning..	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Demonstrate second language models, methods, approaches.	PSO1	PO1, PO5, PO7
				CO4	Familiarise with testing and evaluation in ELT in teaching a second language.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
21	IV	20 ENG 402.2	Indian Short Story	CO1	Critically analyse the Indian short story.	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Identify the central literary and cultural tenets of the movements.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Understand human conditions of the past and present that lead to the creation of short stories.	PSO1	PO1, PO5, PO7
				CO4	Distinguish archetypal literary characters, plots, and themes.	PSO1,PSO2,	PO1,PO2, PO3, PO4, PO5, PO7

22	IV	20 ENG 403.1	American Literature-II	CO1	Identify the major writers and literary texts in the canon of American literature.	PSO1	PO1, PO5, PO7
				CO2	Demonstrate in-depth knowledge of the various classics of American literature.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Define and appreciate the specific features and trajectory of American literature.	PSO1	PO1, PO5, PO7
				CO4	CO4: Interpret the awareness of the social conditions of America in various periods and their reflections in literature.	PSO1,PSO2, PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
23	IV	20 ENG 403.2	World Literature	CO1	Analyse the major issues, themes, and literary concepts of World Literature.	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Construct arguments on nation, culture and identity formations.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Critically evaluate the texts and demonstrate a proper grounding in World	PSO1	PO1, PO5, PO7
24	IV	20 ENG 404	Literary Theory-II	CO1	Analyse the major issues, themes, and literary concepts of World Literature.	PSO1	PO1, PO5, PO7
				CO2	Construct arguments on nation, culture and identity formations.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Critically evaluate the texts and demonstrate a proper grounding in World Literature.	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
25	IV	20 ENG 405	Indian Writing in English	CO1	Understand Indian literary writing in English	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Interpret the regional literatures translated in English.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Develop the values of spiritual refinement in human life.	PSO1	PO1, PO5, PO7
26	IV	20 ENG 406	Life Skills	CO1	Identify different life skills required in personal and professional life	PSO1,PSO3	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8
				CO2	Develop an awareness of the self and apply well-defined techniques to cope with emotions and stress.	PSO1,PSO2	PO1,PO2, PO3, PO4, PO5, PO7
				CO3	Understand the basics of teamwork and leadership.	PSO1	PO1, PO5, PO7
				CO4	Explain the basic mechanics of effective communication and demonstrate these through presentations.	PSO1,PSO2,	PO1,PO2, PO3, PO4, PO5, PO7

M.Com.

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20COM 101	Management theory and practice	CO1	Define concepts, functions and principles of anagement	PSO1	PO1, PO3, PO5
				CO2	Apply decision making process in business	PSO2	PO1, PO4, PO5, PO7
				CO3	Support the organisation with different interpersonal skills	PSO5	PO1, PO3, PO5, PO6, PO7
				CO4	Design organisational structure of various firms	PSO4	PO1, PO2, PO4, PO6
2	I	20COM 102	Business Economics	CO1	Demonstrate an understanding of different principles of micro economics	PSO1	PO1, PO3, PO5
				CO2	Apply the concepts of demand, cost and production in decision making	PSO3	PO1,PO2
				CO3	Understand the theory of consumer behaviour behaviour and marginal utility	PSO1	PO1, PO3, PO5
				CO4	Distinguish different market structures and pricing	PSO4	PO1, PO2, PO4, PO6
3	I	20COM 103	Business Environment	CO1	Demonstrate the concepts and dynamic factors of business environment strategies.	PSO1	PO1, PO3, PO5
				CO2	Implement different government policies in the organisation	PSO3	PO1,PO2
				CO3	Analyse the trends and structure of Indian economy	PSO2	PO1, PO4, PO5, PO7
				CO4	Integrate the internal environment of business with external environment	PSO4	PO1, PO2, PO4, PO6
4	I	20COM 104	Financial Accounting and Packages	CO1	Explain principles of computerised financial accounting	PSO1	PO1, PO3, PO5
				CO2	Generate financial statements	PSO4	PO1, PO2, PO4, PO6

				CO3	Analyse the cost accounting	PSO4	PO1, PO2, PO4, PO6
				CO4	Analyse the management accounting	PSO4	PO1, PO2, PO4, PO6
5	I	20COM 105	Information Technology for Business	CO1	Explain fundamental s of computer hardware and software	PSO1	PO1, PO3, PO5
				CO2	Apply ICT's to manage information for a business	PSO2	PO1, PO4, PO5, PO7
				CO3	Demon st rate the concepts of database management systems.	PSO1	PO1, PO3, PO5
				CO4	Identify database architecture and governance for various business functions in an organisation	PSO3	PO1,PO2
6	I	20COM 106	Quantitative Techniques for Business decision	CO1	Identify the business problems in decision making	PSO3	PO1,PO2
				CO2	Develop strategies to improve day to day performance of the organisations	PSO4	PO1, PO2, PO4, PO6
				CO3	Explore data to find new patterns and relationships	PSO4	PO1, PO2, PO4, PO6
				CO4	Apply various probabilistic tests for solving business problems	PSO2	PO1, PO4, PO5, PO7
7	II	20COM 201	Business Laws	CO1	Explain various documents maintained by a company.	PSO1	PO1, PO3, PO5
				CO2	Identify the role of directors in a company.	PSO1	PO1, PO3, PO5
				CO3	Demonstrate various business law	PSO1	PO1, PO3, PO5
				CO4	Explain various acts related to environment and information technology.	PSO1	PO1, PO3, PO5
8	II	20COM 202	Research Methodology	CO1	Identify various steps in business research	PSO1	PO1, PO3, PO5
				CO2	Understand various methods of data collection.	PSO3	PO1,PO2
				CO3	Apply research to solve business problem	PSO4	PO1, PO2, PO4, PO6
				CO4	Understand the web marketing and web advertising strategies	PSO1	PO1, PO3, PO5
9	II	20COM 203	Human Resources Management	CO1	Demonst rate an understanding of the role of human resource management	PSO1	PO1, PO3, PO5
				CO2	Explain human resource planning, recruitment and selection process	PSO2	PO1, PO4, PO5, PO7
				CO3	Identify the importance of training and development and performance appraisal.	PSO2	PO1, PO4, PO5, PO7
				CO4	Examine job evaluation and quality of work life in the organization.	PSO3	PO1,PO2
10		20COM 204	Marketing and Public relations	CO1	Define the role of marketing in the success of business organisation	PSO1	PO1, PO3, PO5
				CO2	Identify different marketing mix elements.	PSO1	PO1, PO3, PO5
				CO3	Analysethe needs and wants of customers	PSO2	PO1, PO4, PO5, PO7
				CO4	Demonstrate effective and efficient channel management system and control the marketing	PSO1	PO1, PO3, PO5
11	II	20COM 205	Financial Management	CO1	Demonstrate the basic functions decisions and responsibilities of a financial manager	PSO1	PO1, PO3, PO5
				CO2	Evaluate the techniques of investment proposals	PSO2	PO1, PO4, PO5, PO7
				CO3	Analyse capital structure of a concern	PSO2	PO1, PO4, PO5, PO7
				CO4	Apply the appropriate management strategy	PSO1	PO1, PO3, PO5
12	II	20COM 206	E - Business	CO1	Demonstrate the concepts of E- business	PSO1	PO1, PO3, PO5
				CO2	Explain E-Payments and E-CRM	PSO1	PO1, PO3, PO5
				CO3	Design a new online business idea	PSO5	PO1,PO3,PO5, PO6,PO8
				CO4	Understand the web marketing and web advertising strategies	PSO1	PO1, PO3, PO5
12	II	COM 20516	Marketing Management	CO1	Define the role of marketing in the success of business organisation	PSO2	PO1, PO4, PO5, PO7
				CO2	Identify different marketing mix elements	PSO4	PO1, PO2, PO4, PO6
				CO3	Analyse the needs and wants of customers	PSO5	PO1,PO3,PO5, PO6,PO8
				CO4	Demonstrate effective and efficient channel management system and control the marketing plans	PSO1	PO1, PO3, PO5
13	II	20GE01	MS Excel & Tally Practicals	CO1	Demonstrate the principles of financial accounting	PSO4	PO1, PO2, PO4, PO6
				CO2	Generate Vouchers and Ledgers	PSO2	PO1, PO4, PO5, PO7
				CO3	Demonstrate the application of MS office EXCEL	PSO2	PO1, PO4, PO5, PO7
14	III	20COM 30116	Financial Accounting & Packages	CO1	Explain principles of computerised financial accounting	PSO1	PO1, PO3, PO5
				CO2	Generate financial statements in tally	PSO4	PO1, PO2, PO4, PO6
				CO3	Analyse the cost and management accounting .	PSO1	PO1, PO3, PO5
15	III	COM 30216	Business	CO1	Explain the difference s in communication methods	PSO4	PO1, PO2,

			Communication Skills		and the suitability according to different businesses		PO4, PO6
				CO2	Prepare and deliver effective presentations	PSO1	PO1, PO3, PO5
				CO3	Demonst rate business etiquettes in different business scenarios	PSO1	PO1, PO3, PO5
				CO4	Prepare CV	PSO2	PO1, PO4, PO5, PO7
16	III	COM 30416	Direct Taxes	CO1	Apply direct taxes.	PSO2	PO1, PO4, PO5, PO7
				CO2	Identify various types of incomes, taxability and deductibility	PSO1	PO1, PO3, PO5
				CO3	Examine the assessment of different persons under income tax Act and wealth tax	PSO3	PO1,PO2
				CO4	Demonstrate income tax administration	PSO5	PO1,PO3,PO5, PO6,PO8
17	III	COM 30516	Advanced Banking	CO1	Explain the role of RBI as central banks	PSO1	PO1, PO3, PO5
				CO2	Examine central banking policies in developed and developing countries.	PSO1	PO1, PO3, PO5
				CO3	Demonstrate the role of commercial banks in economic development.	PSO2	PO1, PO4, PO5, PO7
				CO4	Identify recent trends in banking.	PSO1	PO1, PO3, PO5
18	III	COM 30616	Insurance and Risk management	CO1	Explain the process of of risk management.	PSO2	PO1, PO4, PO5, PO7
				CO2	Identify various commercial insurance policies	PSO1	PO1, PO3, PO5
				CO3	Distinguish health and general insurance policies.	PSO2	PO1, PO4, PO5, PO7
				CO4	Demonstrate IRDA act.	PSO2	PO1, PO4, PO5, PO7
19	III	COM 307(i)1	Soft and Employability Skills	CO1	Demonstrate communication skills	PSO1	PO1, PO3, PO5
				CO2	Analyse individual SWOT and case studies	PSO1	PO1, PO3, PO5
				CO3	Acquire GD and interview skills	PSO4	PO1, PO2, PO4, PO6
20	IV	COM 40116	Indian Financial System	CO1	Examine the role of Indian financial system in the economic development	PSO5	PO1,PO3,PO5, PO6,PO8
				CO2	Demonstrate the constituents of Indian financial system	PSO1	PO1, PO3, PO5
				CO3	Apply financial concepts proper fund management in an organisation	PSO1	PO1, PO3, PO5
				CO4	Integrate the functions of organised financial markets	PSO2	PO1, PO4, PO5, PO7
21	IV	COM 40216	International Business	CO1	Explain global business environment	PSO1	PO1, PO3, PO5
				CO2	Discuss regional economic integration	PSO1	PO1, PO3, PO5
				CO3	Examine the implications of international trade and investment theories	PSO1	PO1, PO3, PO5
				CO4	Interpret the basic decisions of entry into international business	PSO2	PO1, PO4, PO5, PO7
22	IV	COM 403A16	Corporate Restructuring & Accounting	CO1	Explain various models of corporate restructuring	PSO1	PO1, PO3, PO5
				CO2	Demonst rate the procedure for corporate restructuring	PSO1	PO1, PO3, PO5
				CO3	Identify various sources of financing for mergers and takeovers.	PSO2	PO1, PO4, PO5, PO7
				CO4	Apply techniques for valuation of share capital.	PSO4	PO1, PO2, PO4, PO6
23	IV	COM 404A16	Cost &Management Accounting	CO1	Explain concepts and tools of cost management	PSO1	PO1, PO3, PO5
				CO2	Identify activity based costing.	PSO2	PO1, PO4, PO5, PO7
				CO3	Design cost estimate using various methods.	PSO4	PO1, PO2, PO4, PO6
				CO4	Evaluate cost control techniques	PSO2	PO1, PO4, PO5, PO7
24	IV	COM 405A16	Tax Planning & Management	CO1	Explain corporate tax laws in India.	PSO1	PO1, PO3, PO5
				CO2	Distinguish between tax planning and evasion.	PSO3	PO1,PO2
				CO3	Identify different provisions relating to dividends distribution	PSO3	PO1,PO2
				CO4	Compute tax liability of a concern.	PSO3	PO1,PO2
25	IV	COM 406A16	Goods and service tax	CO1	Demonst rate concept and fundamentals of GST	PSO1	PO1, PO3, PO5
				CO2	Explain duties under purview of GST	PSO1	PO1, PO3, PO5
				CO3	Identify time and value of input credit	PSO2	PO1, PO4, PO5, PO7
				CO4	Examine GST administration assessment and filing of returns.	PSO1	PO1, PO3, PO5

MATHEMATICS

S.No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	20MAT101	Real Analysis - I	CO1	Demonstrate the properties of - limits of functions, continuous functions on compact and connected metric spaces, and derivatives of real functions	PSO1, PSO2, PSO4	PO1, PO2
				CO2	Evaluate the properties of Riemann-Stieltjes integrals of a bounded real valued function	PSO2, PSO3, PSO4	PO1, PO2
				CO3	Compare pointwise convergence and uniform convergence of a sequence of functions with respect to continuity, differentiation and integration	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO4	Evaluate improper integrals of I and II kind	PSO2, PSO3, PSO4	PO1, PO2, PO4
				CO5	Determine the partial derivatives, maxima and minima for functions of several variables	PSO3, PSO4	PO1, PO2, PO3, PO4
2	I	20MAT102	Ordinary Differential Equations	CO1	Solve homogeneous and non-homogeneous differential equations of first order and higher order	PSO3, PSO4	PO1, PO2, PO3
				CO2	Construct solutions for problems in power series, Frobenius series of second order differential Equations	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Compute successive approximations to find the solutions of the given integrable function	PSO3, PSO4	PO1, PO2, PO3
				CO4	Discuss Bessel's function, Gamma function and Legendre's polynomials	PSO1,PSO2, PSO4	PO1, PO2, PO3, PO4
				CO5	Describe system of differential equations of homogeneous and non - homogeneous linear systems with constant coefficients	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
3	I	20MAT103	C - Programming	CO1	Understand the fundamentals of C programming	PSO1, PSO4	PO1, PO3, PO4
				CO2	Demonstrate the concepts of arrays, data types, strings, pointers, structures and unions	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Create and call functions that use parameter passing and return values	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Identify possible errors during program execution and correct them	PSO3, PSO4	PO2, PO3, PO4
4	I	20MAT104	Algebra	CO1	Identify groups, sub groups, homomorphism, automorphism	PSO2, PSO4	PO1, PO2, PO3
				CO2	Describe the concepts permutation groups and counting principle	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO3	Analyze the properties of finite abelian groups	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO4	Demonstrate an understanding of ring theory by proving the standard theorems in this area	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO5	Apply the concepts in ring theory to solve polynomial equations in Euclidean rings	PSO3, PSO4	PO1, PO2, PO3, PO4
5	I	20LMAT105	Problem Solving Lab	CO1	To solve the given problem using the concepts learnt	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	To determine accurate or approximate solution for the given problem	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
6	I	20LMAT106	C – Programming Lab	CO1	Compose a C - program and execute in code language	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Implement programs with pointers and arrays	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
7	II	20MAT201	Complex Analysis	CO1	Interpret the properties of complex number system, and power series	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO2	Explain the properties of analytic functions, and linear fractional transformations	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO3	Make use of the various versions of Cauchy's Theorems in counting zeroes	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO4	Evaluate indefinite integrals by the theory of residues	PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss transformation w=1/z, and the transformation w=sin z	PSO1, PSO2, PSO4	PO2, PO3, PO4
8	II	20MAT202	Numerical Methods	CO1	Find the roots of transcendental equations	PSO3, PSO4	PO1, PO2, PO3
				CO2	Solve a system of linear equations	PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Apply Newton's interpolation formula, Lagrange's interpolation formula, Hermite interpolation formula on polynomials	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Solve differential equations by using interpolation methods, composite integration methods, single-step methods and Multi-step methods	PSO1, PSO3, PSO4	PO2, PO3, PO4
9	II	20MAT203	Partial Differential Equations	CO1	Explain first order PDEs, classification of integrals, Pfaffian differential equations and linear equations	PSO1, PSO2, PSO4	PO1, PO2, PO3

				CO2	Solve problems in Pfaffian differential equations, compatible system of equations, and second order PDEs using Charpit's method, and Jacobi's method	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Summarize the concepts of vibrations of a string of finite, semi-infinite, infinite lengths, maximum and minimum principles	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Analyze the concepts of second order partial differential equations by variable separable and Monger's method	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO5	Discuss about Laplace's equation and boundary value problems or problems with axial symmetry	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
10	II	20MAT204	Lattice Theory	CO1	Recall the definitions of partially ordered sets	PSO1, PSO4	PO1, PO2, PO3
				CO2	Exemplify the properties of lattices and Boolean Algebras	PSO1, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain the concepts of complete lattices	PSO2, PSO4	PO2, PO3, PO4
				CO4	Differentiate between Modular and Distributive Lattices	PSO2, PSO4	PO1, PO2, PO3, PO4
				CO5	Solve advanced problems in Lattice Theory and also problems connected with its applications to Mathematics	PSO3, PSO4	PO1, PO2, PO3, PO4
11	II	20MAT205	Graph Theory	CO1	Write precise and accurate mathematical definitions of objects in graph theory	PSO1, PSO4	PO1, PO2, PO3
				CO2	Calculate the minimum shortest path in a weighted graph	PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss the properties of trees, connected graphs, planar graphs, and separable graphs	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Construct the geometric dual of a given graph	PSO1, PSO4	PO2, PO3, PO4
				CO5	Determine the solutions for real time problems using graph theory	PSO3, PSO4	PO2, PO3, PO4
12	II	20MAT206	Real Analysis - II	CO1	List the properties of exponential and logarithmic functions, power series, trigonometric series, and Fourier series	PSO2, PSO4	PO1, PO2, PO3
				CO2	Construct derivatives of functions of several variables and examine the properties of the corresponding linear transformations (operators) and the determinants of their square matrices	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain the various theoretical aspects of differential forms	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Prove Inverse Function Theorem, Implicit Function Theorem, and Stoke's Theorem	PSO1, PSO2, PSO4	PO1, PO2, PO3
13	II	20LMAT207	Numerical Methods Lab	CO1	To implement stable and accurate methods to solve the given problem	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	To compose and execute a C – program for the given problem	PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	To produce an approximate and error free solution for the given problem	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
14	III	20MAT301	Topology	CO1	Summarize the properties of open sets and closed sets, continuous functions in metric spaces and topological spaces	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO2	Outline the theory of open bases and subbases in a topological space	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO3	Examine compact topological spaces and metric spaces	PSO1, PSO2, PSO4	PO2, PO3, PO4
				CO4	Categorize T1, T2, completely regular , and normal spaces by their separation properties	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO5	Discuss the properties of connectedness in topological spaces	PSO1, PSO2, PSO4	PO2, PO3, PO4
15	III	20MAT302	Probability and Statistics	CO1	List the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO2	Evaluate moment generating functions for different kinds of probability distributions	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Demonstrate the characteristics and properties of different discrete and continuous distributions	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO4	Calculate and interpret the correlation and regression between two variables	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Explain t, F and $\chi 2$ distributions with applications	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
16	III	20MAT303	Galois Theory	CO1	Discuss the properties of modules, extension fields, and roots of polynomials	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO2	Test the irreducibility of a given polynomial	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO3	Analyze the following algebraic structures – algebraically closed fields, splitting fields, separable extensions, normal extensions, and Galois fields	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Solve polynomial equations in terms of radicals	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO5	Apply the concept of field extensions to classical	PSO1, PSO2,	PO2, PO3, PO4

					constructability problems	PSO3, PSO4	
17	III	20MAT304	Mathematical Methods	CO1	Determine Fourier transforms, finite Fourier Sine and Cosine transforms of functions	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Demonstrate the applications of calculus of variations	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain about difference equations	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Apply Laplace transforms to solve ordinary differential equations with constant and variable coefficients and various integral equations	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Employ inverse Laplace transforms to solve simultaneous and partial differential equations with boundary conditions	PSO1, PSO3, PSO4	PO2, PO3, PO4
18	III	20MAT305	Analytical Number Theory	CO1	Interpret the concepts of divisibility, prime number, congruence and number theorems	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Prove simple results in arithmetical functions and elementary theorems on the distribution of prime numbers	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Define fundamental objects appearing in the course such as the Gamma function, Theta functions, Riemann Zeta function, Dirichlet L-functions, Dirichlet Multiplication	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Construct mathematical proofs of statements and find counterexamples to false statements in Number Theory	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
19	III	20OEMAT306	Python Programming	CO1	Explain the basic principles of Python programming language	PSO1, PSO4	PO1, PO2, PO4
				CO2	Define and demonstrate the use of built-in data structures – “lists”, “tuples”, and “dictionary”	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO3	Read and write data from/to files in Python programs	PSO1, PSO2, PSO4	PO2, PO3, PO4
				CO4	Implement object oriented concepts	PSO1, PSO4, PSO3	PO1, PO2, PO3, PO4
20	III	20LMAT307	Python Interpreter Lab	CO1	Construct a Python program using proper syntax, idioms, patterns and styles	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Demonstrate to work with different data structures and their sequence data	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
21	IV	20MOMAT401	Operations Research	CO1	Solve linear programming problem using simplex method and dual problem using dual simplex method	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO2	Solve transportation problem by Stepping Stone method and MODI method and assignment problem by Hungarian method and travelling salesman problem	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Explain various models and their applications in inventory theory and queuing theory	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Demonstrate the applications of network analysis in operations research	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO5	Classify and solve integer programming problems and nonlinear programming problems using different methods discussed	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO6	Examine job sequencing problems and determine their solutions	PSO1, PSO3, PSO4	PO2, PO3, PO4
22	IV	20ETMAT402A	Measure and Integration	CO1	Demonstrate the properties of Lebesgue - outer measure function, measure function, measurable sets, and measurable functions	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO2	Apply the theory of Lebesgue integration to prove standard theorems in this regard	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Summarize the properties of general measure, outer measure, measure on an algebra, signed measure, and product measure in general measure spaces	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss the properties of functions of bounded variations, derivative of an indefinite integral, and absolutely continuous functions	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
23	IV	20ETMAT402B	Integral Transforms	CO1	Apply Laplace transforms to solve ordinary differential equations with constant and variable coefficients and various integral equations	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO2	Employ inverse Laplace transforms to solve simultaneous and partial differential equations with boundary conditions	PSO1, PSO3, PSO4	PO2, PO3, PO4
				CO3	Evaluate the Fourier transform of continuous functions and list their properties	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Demonstrate the properties and applications of finite Fourier sine and cosine transforms	PSO1, PSO2, PSO3,	PO2, PO3, PO4

						PSO4	
				CO5	Discuss the applications of Hankel transforms	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
24	IV	20ETMAT402C	Lebesgue Theory	CO1	Demonstrate the properties of Lebesgue - outer measure function, measure function, measurable sets, and measurable functions	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO2	Apply the theory of Lebesgue integration to prove standard theorems in this regard	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3
				CO3	Summarize the properties of general measure, signed measure, measurable function, and integration in general measure spaces	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss the properties of functions of bounded variations, derivative of an indefinite integral, and absolutely continuous functions .	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO5	Summarize the properties of Lpspaces	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
25	IV	20ETMAT403A	Algebraic Coding Theory	CO1	Solve problems involving error-correcting codes by linking them to concepts from elementary number theory, linear algebra and elementary calculus	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO2	Compute subspaces, independence, dimension and bases for the given code and its dual	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO3	Calculate the parameters of given codes and their dual codes using standard matrix and polynomial operations	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
				CO4	Design simple linear and cyclic linear codes	PSO1, PSO2, PSO3,PSO4	PO2, PO3, PO4
				CO5	Discuss the structure of MLD, Perfect codes, Hamming codes, Golay codes and Reed-Muller codes	PSO1, PSO3, PSO4	PO1, PO2, PO3, PO4
26	IV	20ETMAT403B	Linear Programming	CO1	Define decision variables, the objective function, and constraints in formulating linear programming problems	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO2	Formulate and solve linear programming problems by using simplex method	PSO1, PSO3, PSO4	PO1, PO2, PO3
				CO3	Solve dual problems using dual simplex method	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3
				CO4	Minimize the cost of transportation by using Vogel approximation method and MODI method	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
				CO5	Construct and solve assignment problems using Hungarian method	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
27	IV	20ETMAT403C	Discrete Mathematical Structures	CO1	Recall the basic concepts related to logic and reasoning	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO2	Explain the Comprehensive study of finite machines	PSO1, PSO2, PSO3,PSO4	PO1, PO2, PO3, PO4
				CO3	Discuss about Lattices and Boolean algebras	PSO1, PSO2, PSO4	PO2, PO3, PO4
				CO4	Solve Boolean expressions using the properties of Boolean algebra	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO5	Apply the basics in Theory of Switching Circuits to real life problems	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4
28	IV	20MAT404	Functional Analysis	CO1	Explain - Metric spaces with examples, completeness of $\mathbb{R}^n$, $\mathbb{C}^n$, C[a,b] , sequence spaces, and properties of metric spaces	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO2	Define - Normed spaces and Banach spaces, types of linear operators and functionals	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO3	Demonstrate the properties of bounded and continuous linear operators, strong and weak convergence of sequences of operators and functionals	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO4	Prove Hahn-Banach theorems on real vector space, complex vector space, and normed space, Open Mapping Theorem, Closed Graph Theorem	PSO1, PSO2, PSO4	PO1, PO2, PO3
				CO5	Apply Banach fixed point theorem and its applications to differential and integral equations	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4
29	IV	20MAT405	Mathematical Modelling	CO1	Apply core techniques of mathematical modelling to model, analyze and interpret real life scenarios	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO2	Formulate and communicate effectively the mathematical models of situations	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4
				CO3	Explain the models for probability density functions	PSO1, PSO2, PSO3, PSO4	PO1, PO2, PO3, PO4
				CO4	Discuss linear and nonlinear changes	PSO1, PSO2, PSO3,	PO1, PO2, PO3, PO4

						PSO4	
30	IV	20OEMAT406	Communication and Soft Skills	CO1	Demonstrate skill in verbal/oral communication and listening skills	PSO4	PO1, PO2, PO3, PO4
				CO2	Write precise briefs or reports and technical documents	PSO4	PO2, PO3, PO4
				CO3	Apply verbal and non-verbal communication techniques in the professional environment	PSO4	PO1, PO2, PO3, PO4
				CO4	Participate actively in group discussion / meetings / interviews and prepare & deliver presentations	PSO4	PO3, PO4
31	IV	20SMMAT407	Seminar	CO1	Show competence in identifying relevant information, defining and explaining topics under discussion	PSO1, PSO4	PO1, PO2, PO3, PO4
				CO2	Develop ideas through creative work	PSO1, PSO2, PSO4	PO2, PO3, PO4
				CO3	Evaluate information and use and apply relevant theories	PSO1, PSO2, PSO4	PO1, PO2, PO3, PO4
				CO4	Demonstrate intellectual leadership and effective time management	PSO1, PSO2, PSO4	PO3, PO4
				CO5	Demonstrate problem-solving skills and apply theoretical knowledge	PSO1, PSO2, PSO3, PSO4	PO2, PO3, PO4

MBA

S. No.	Semester	Course Code	Course Title	Course Outcomes (COs)		Program Specific Outcomes (PSOs)	Program Outcomes (POs)
1	I	MBA 101	Management Process and Organizational Behaviour	CO1	Define concepts functions and principles of management	PSO1	PO1, PO2
				CO2	Apply decision-making process in business	PSO4	PO3,PO2
				CO3	Support the organization with different interpersonal skills	PSO2	PO1, PO3,PO4
				CO4	Design organizational structure of various firms	PSO5	PO1, PO2
2	I	MBA 102	Managerial Economics	CO1	Describe the fundamental tools and theories of managerial economics	PSO1	PO1,
				CO2	Identify the demand elasticity for a product	PSO3	PO2, PO3
				CO3	Compare micro and macro-economic indicators	PSO3	PO2, PO1
				CO4	Analyze recent budget, fiscal discipline and disinvestment proposals of the government of India.	PSO5	PO1, PO6
3	I	MBA 103	Business Analytics for Managerial decision making	CO1	Identify the Business problems for managerial decision making	PSO1	PO1,PO2
				CO2	Develop strategies to improve day to day performance of organizations	PSO1	PO3,PO1
				CO3	Explore data to find new patterns and relationships	PSO3	PO2, PO1
				CO4	Prepare questionnaire and conduct the market survey	PSO4	PO1
4	I	MBA 104	Managerial Communication	CO1	Explain the differences in communication methods and the suitability according to different businesses.	PSO1	PO1, PO3,
				CO2	Prepare and deliver effective presentations and pitches to suit various business scenarios	PSO1	PO3
				CO3	Identify common social media platforms used by businesses.	PSO3	PO4
				CO4	Write different types of reports with the appropriate format, organization and language	PSO1	PO1, PO4
5	I	MBA 105	Legal Framework for Business	CO1	Explain legal concepts of a contract	PSO1	PO1
				CO2	Analyze opportunities based on the legal environment	PSO3	PO6
				CO3	Discriminate legal and ethical issues of business	PSO6	PO6
				CO4	Integrate business with the legal framework	PSO5	PO5
6	I	MBA 106	Financial statements analysis and Reporting	CO1	Define fundamental accounting concepts, the elements of financial statements, and basic Accounting vocabulary.	PSO1	PO1
				CO2	Analyze the financial, Funds flow and cash flow statements of companies	PSO3	PO2
				CO3	Identify the different cost concepts, cost management techniques and capital issues	PSO1	PO2
				CO4	Analyze the audit reports through different audit techniques	PSO5	PO6
7	I	MBA 107	Business Environment	CO1	Demonstrate the concepts and dynamic factors of the business environment	PSO1	PO1
				CO2	Implement different government policies in the organization	PSO1	PO6
				CO3	Analyze the trends & Structure of the Indian Economy	PSO3	PO1
				CO4	Integrate internal environment of business with the external environment	PSO5	PO2
8	I	MBA 109	Personality Development	CO1	Demonstrate business etiquettes in different business scenarios	POS1	PO5
				CO2	Acquire skills to combat stress and manage time effectively	PSO5	PO2
				CO3	Develop interpersonal relations & conflict management	PSO2	PO3

9	II	MBA 201	Marketing Management	CO1	Define the role of marketing in the success of business organizations	PSO1	PO1
				CO2	Identify different marketing mix elements	PSO1	PO1
				CO3	Analyze the needs and wants of customers	PSO3	PO2
				CO4	Demonstrate effective and efficient channel management system and control the marketing plans	PSO5	PO3
10	II	MBA 202	Human Resources Management	CO1	Explain the Role of HRM department	PSO1	PO1
				CO2	Prepare HR Plan, Recruitment and Selection process	PSO4	PO2
				CO3	Explore Training & Development and Appraisal Practices	PSO3	PO5
				CO4	Prepare and develop Compensation and Strategic HR Plans	PSO4	PO3
11	II	MBA 203	Financial Management	CO1	Demonstrate the basic functions, decisions and responsibilities of a financial manager	PSO1	PO1
				CO2	Evaluate the techniques of investment proposals	PSO3	PO2
				CO3	Analyze the capital structure of a firm.	PSO3	PO2
				CO4	Apply the appropriate management strategy	PSO4	PO3
12	II	MBA 204	Operations Management	CO1	Explain the key concepts and issues of a manufacturing concern	PSO1	PO1
				CO2	Analyze the production planning, material handling and control techniques	PSO3	PO2
				CO3	Demonstrate the techniques of maintenance and waste management	PSO1	PO8
				CO4	Evaluate Quality control techniques of a production unit	PSO5	PO6
13	II	MBA 205	Entrepreneurship & Small Business Management	CO1	Demonstrate an understanding of start-ups and MSMEs in the Indian context.	PSO1	PO1
				CO2	Develop successful business ideas for new entrepreneurial ventures	PSO4	PO5
				CO3	Identify sources of finances for the start-ups.	PSO1	PO4
				CO4	Explain the differences between institutions supporting entrepreneurs.	PSO1	PO8
14	II	MBA 206	Management Information Systems	CO1	Explain the concepts of MIS in various functional areas of an organization.	PSO1	PO1
				CO2	Identify the relationship of MIS with the various activities of the organization.	PSO1	PO5
				CO3	Develop and implement MIS at various levels of the organization	PSO5	PO3
				CO4	Explore some common IS development tools for organizational development.	PSO5	PO6
15	II	MBA 207	Operations Research	CO1	Explain the concepts of operations research	PSO1	PO1
				CO2	Analyze the quantitative mathematical models for managerial decision making	PSO3	PO2
				CO3	Develop plans for optimum use of various resources	PSO3	PO3, PO8
				CO4	Formulate strategies for real business problems	PSO3	PO2
16	II	MBA 209	Industry and Company Analysis	CO1	Understand the dynamics of a specific industry	PSO1	PO1
				CO2	Explain various issues of a particular industry	PSO3	PO2
				CO3	Develop a cross functional perspective of the functioning of an industry.	PSO1	PO5
17	III	MBA 301	Strategic Management	CO1	Explain the core concepts in strategic management and their application to current business scenarios	PSO1	PO1
				CO2	Formulate strategies and strategic plans.	PSO4	PO1
				CO3	Evaluate challenges faced by managers in implementing strategies.	PSO5	PO2
				CO4	Analyze strategies of various corporate organizations.	PSO3	PO5
18	III	MBA 302	Project Management	CO1	Demonstrate project planning & implementation in the changing environment.	PSO1	PO1
				CO2	Explain the processes a practitioner undertakes to achieve project goals.	PSO1	PO1
				CO3	Identify various software’s in project management.	PSO 3	PO5
				CO4	Analyse and appreciate contemporary project management tools and methodologies.	PSO5	PO2
19	III	MBA 304 MKT	Product and Brand Management	CO1	Demonstrate an understanding of the fundamental concepts of product and brand management	PSO1	PO1
				CO2	Apply brand positioning framework to develop a brand	PSO4	PO2
				CO3	Analyze strategies of competitors.	PSO4	PO2,PO1
				CO4	Assess portfolio matrix and product lifecycle to manage firm’s product mix	PSO5	PO2
20	III	MBA 306 MKT	Services Marketing	CO1	Explain the unique challenges of services marketing	PSO1	PO1
				CO2	Demonstrate service blueprinting.	PSO4	PO2
				CO3	Examine services audit plan for services	PSO1	PO6, PO1
				CO4	Formulate service marketing mix for new services	PSO4	PO2
21	III	MBA303 HRM	Human Resource Planning	CO1	Determine the requirements of human resources in the organization	PSO1	PO1, PO2
				CO2	Develop a conceptual as well as practical understanding of human resource planning,	PSO4	PO3, PO5

					deployment, maintaining HR Information		
				CO3	Demonstrate an understanding of HR Accounting and HR audit	PSO1	PO1, PO6
				CO4	Analyze HR Planning policies and practices of any three product and service organizations	PSO5	PO2
22	III	MBA 304 HRM	Performance and Reward Management	CO1	Explain the process of performance appraisal & management in the organisations	PSO1	PO1
				CO2	Analyse compensation case studies and practical experiences	PSO3	PO2
				CO3	Prepare a comprehensive compensation plan and good reward system for the organisation	PSO4	PO2
				CO4	Develop strategic HR plans	PSO4	PO5
23	III	MBA 303 FIN	Financial Institutions and Markets	CO1	Examine the role of the Indian financial system in economic development.	PSO1	PO1
				CO2	Demonstrate the constituents of the Indian Financial System	PSO1	PO1
				CO3	Apply financial concepts for proper fund management in an organization	PSO4	PO2
				CO4	Integrate the functions of organized financial markets at the domestic & international level	PSO5	PO2
24	III	MBA 305 FIN	Security Analysis and Portfolio Management	CO1	Identify various investment avenues.	PSO1	PO1
				CO2	Determine the price of equity and debt instruments.	PSO1	PO2
				CO3	Construct bond and equity portfolio based on risk & return	PSO5	PO2
				CO4	Evaluate the performance portfolio	PSO3	PO2
25	III	MBA 309	Life skills for managers	CO1	Explain life, personal, social and occupational skills	PSO1	PO5,PO7
				CO2	Demonstrate care and open-mindedness towards society	PSO1	PO7
				CO3	Develop risk-taking ability	PSO4	PO2
26	III	MBA 310	Creativity & Innovation	CO1	Understand building blocks of innovation	PSO1	PO2
				CO2	Value teaming, communication and diversity	PSO2	PO3
				CO3	Create and sustain high levels of innovation	PSO4	PO2
27	III	MBA 303 MKT	Consumer Behaviour & Marketing Research	CO1	Understand the concept of consumer behaviour	PSO1	PO1
				CO2	Determine the social and cultural dimensions of consumer behaviour.	PSO1	PO1
				CO3	Explain the importance of research in consumer behaviour	PSO3	PO2
				CO4	Develop critical thinking through research	PSO4	PO2
28	III	MBA305MKT	Integrated Marketing Communications	CO1	Understand the essential concepts and techniques for developing IMC.	PSO1	PO1
				CO2	Explain various tools of communication..	PSO1	PO1
				CO3	Design various communication tools.	PSO4	PO2
				CO4	Develop an effective marketing communication program.	PSO3	PO3
29	III	MBA305HRM	Training and Development	CO1	Understand concept and practice of training and development in modern organisation	PSO1	PO1
				CO2	Explain the role of the training program in an MNC.	PSO1	PO1
				CO3	Design the process of training program in an organisation	PSO3	PO2
				CO4	Develop pedagogy of case discussions.	PSO3	PO2
30	III	MBA306HRM	Organisation Development and Change	CO1	Understand the concepts of change management.	PSO1	PO1
				CO2	Analyse OD techniques.	PSO3	PO2
				CO3	Design different approaches and techniques of OD	PSO3	PO2
				CO4	Develop effective change management strategies.	PSO4	PO2
31	III	MBA304	Behavioural Finance	CO1	Understand the field of behavioural economics.	PSO1	PO1
				CO2	Understand why people make certain financial choices.	PSO3	PO2
				CO3	Explain stock market anomalies.	PSO3	PO2
				CO4	Develop effective ways of managing finances.	PSO3	PO2
32	III	MBA306FIN	Financial Engineering	CO1	Understand the field of financial engineering.	PSO1	PO1
				CO2	Explain the financial risk.	PSO2	PO1
				CO3	Understand financial instruments and strategies.	PSO3	PO2
				CO4	Develop effective ways of managing finances.	PSO3	PO2
33	IV	MBA 401	International Business	CO1	Explain Global Business Environment	PSO1	PO1
				CO2	Determine the role of International monetary system	PSO1	PO1
				CO3	Examine the implications of international trade & investment theories that hold for business practice.	PSO4	PO2
				CO4	Interpret the basic decisions of entry into international business	PSO4	PO2
34	IV	MBA 402	E-Business	CO1	Demonstrate the concepts of e-Commerce and e-Business	PSO1	PO1
				CO2	Explain E-Payments & ECRM	PSO1	PO1
				CO3	Analyze case studies of successful e-business stories	PSO3	PO2
				CO4	Design a new online business idea	PSO4	PO2

35	IV	MBA 403 MKT	Strategic Marketing	CO1	Explain key principles of strategic marketing	PSO1	PO1
				CO2	Develop strategic marketing plans	PSO4	PO2
				CO3	Evaluate an organization's strategic approach towards marketing	PSO4	PO2
				CO4	Analyze situations and make strategic marketing decisions	PSO4	PO5
36	IV	MBA 405 MKT	Retail Management	CO1	Understand the contemporary retail management, issues, strategies and trends in Retailing	PSO1	PO1
				CO2	Examine the role of retailing in the success of the modern business	PSO4	PO1
				CO3	Acclimatize with the insights of retailing, key activities and relationships.	PSO1	PO1
				CO4	Observe the merchandising planning in retail outlets and to make a small report.	PSO4	PO2
37	IV	MBA 403 HRM	Human Resource Development	CO1	Evaluating the consumer buying behaviour	PSO1	PO1
				CO2	Understand the concepts, techniques and practices of human resource development.	PSO1	PO5
				CO3	Demonstrate Coaching, Counseling & Mentoring Skills	PSO5	PO4
				CO4	Design Management Development Programmers	PSO3	PO2
38	IV	MBA 405 HRM	International HRM	CO1	Analyze HRD Audit	PSO1	PO1
				CO2	Demonstrate the basic concepts of IHRM	PSO3	PO1
				CO3	Examine specific issues in IHRM	PSO1	PO6
				CO4	Identify the HR challenges faced by MNCs	PSO4	PO6
39	IV	MBA 404 FIN	Financial Derivatives	CO1	Analyse IHRM practices in selected countries	PSO1	PO1
				CO2	Demonstrate different types of derivative instruments in India.	PSO3	PO2
				CO3	Explain the mechanism of forwards & futures contracts	PSO3	PO2
				CO4	Analyze the option pricing models	PSO1	PO2
40	IV	MBA 405 FIN	International Financial Management	CO1	Demonstrate the importance of international financial management	PSO1	PO1
				CO2	Determine International monetary system and exposure management	PSO3	PO1
				CO3	Evaluate the techniques of capital budgeting, capital structure and Working capital of an MNC	PSO3	PO2
				CO4	Explain International accounting procedures and taxation policies	PSO1	PO6
41	IV	MBA 408	Employability Skills Lab	CO1	Demonstrate communication skills	PSO1	PO3
				CO2	Analyze individual SWOT and Case studies	PSO4	PO7
				CO3	Create self-introductory videos and prepare themselves for GDPI	PSO4	PO3
42	IV	MBA 404 MKT	Sales and Distribution Management	CO1	Demonstrate an understanding of concepts of sales and distribution management and their interrelationships	PSO1	PO1
				CO2	Explain role and responsibility of sales personnel and essential selling skills.	PSO1	PO1
				CO3	Understand the concept of sales organisation and sales effort.	PSO1	PO1
				CO4	Explain the skills and methods required for sales force management.	PSO1	PO1
43	IV	MBA406MKT	Digital and Social Media Marketing	CO1	Demonstrate and understanding of social media marketing	PSO1	PO1
				CO2	Explain role of social media marketing in the current scenario..	PSO1	PO1
				CO3	Develop social media sites, forums and blogs to promote products.	PSO4	PO2
				CO4	Create advertisements on social media.	PSO5	PO2
44	IV	MBA 404 HRM	Strategic HRM	CO1	Understand the concept of strategic HRM.	PSO1	PO1
				CO2	Explain strategies for performance and development at global level.	PSO1	PO2
				CO3	Develop HR systems with business strategy.	PSO4	PO2
				CO4	Create strategies for a global organisation.	PSO5	PO2
45	IV	MBA406HRM	Stress Management	CO1	Understand the stress management techniques followed by the corporate organisations.	PSO1	PO1
				CO2	Explain the role of stressors on long term effects and illness.	PSO1	PO1
				CO3	Develop strategies to overcome stress	PSO4	PO2
				CO4	Apply stress management principles in order to achieve high levels of performance.	PSO1	PO2
46	IV	MBA403FIN	Financial Services and Risk Management	CO1	Understand the significance of financial services in the current scenario.	PSO1	PO1
				CO2	Explain different types of financial services available in the Indian financial system.	PSO1	PO1
				CO3	Develop knowledge on different types of financial risk in the corporate organisations.	PSO4	PO2
				CO4	Apply risk management techniques to analyse the	PSO1	PO3

					financial performance of an organisation.		
47	IV	MBA406FIN	Corporate Taxation	CO1	Understand the tax provisions of different types of businesses.	PSO1	PO1
				CO2	Explain the significance and procedure of filing returns.	PSO2	PO1
				CO3	Prepare E- filing of returns of any organisation.	PSO5	PO2
				CO4	Compute taxable income, gross total income deductions and carry forward and set-off of losses.	PSO3	PO2