A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF TELUGU
SEMESTER – I
2019-2020 CURRICULAR PLAN

Subject Code: **TEL – 101C**   Title: **GENERAL TELUGU**

Month	Unit No.	Topic to be covered
Jun –'19	I	గంగా శంతనుల కథ
Jul – '19	II	గంగా శంతనుల కథ, కన్యక
Aug – '19	III	ద్రౌపది పరిదేవనం, దేశ చరిత్రలు, సంస్కృత సందులు
Sep – '19	IV	చింతలతోపు సాపుకూడు తెలుగు సంధులు, సమాసాలు
Oct – '19	V	దోషసవరణలు, పున:శ్చరణ

SEMESTER – III

2019-2020 CURRICULAR PLAN

Subject Code: **TEL – 301C**   Title: **GENERAL TELUGU**

Month	Unit No.	Topic to be covered
Jun – '19	I	వామనావతారము
Jul – '19	II	హరిజన శతకము తెలుగు భాష
Aug – '19	III	శాలివాహన విజయము మనిషి
Sep – '19	IV	వ్యక్తిత్వ వికాసము ఛందస్సు, అలంకారములు
Oct – '19	V	పున:శ్చరణ

SEMESTER – II
2019-20 CURRICULAR PLAN

Subject Code: **TEL - 201C**   Title**: GENERAL TELUGU**

Month	Unit No.	Topic to be covered
Nov – '19	I	నీతి పద్యాలు సాయుజ్యం
Dec- '19	II	ఆకలి ముసాఫరులు నమ్ముకున్న నేల
Jan -20	III	సుభద్రా పరిణయం మేఘదూతము
Feb -20	IV	బతుకాట నవల
Mar - 20	V	పునఃశ్చరణ

SEMESTER – IV
2019 -2020 CURRICULAR PLAN

Subject Code: **LEP - 401C**   Title**: LEADER SHIP EDUCATION**

Month	Unit No.	Topic to be covered
Nov – 17	I	వ్యవస్థ నాయకత్వం
Dec- 17	II	నిర్వహణ వ్యక్తిత్వ వికాసం, ప్రేరణ
Jan -18	III	సమాచార వ్యవస్థ వ్యక్తుల పరస్పర సంబంధాలు
Feb -18	IV	గ్రూపు నిర్ణయాకరణ సంఘర్షణ
Mar - 18	V	జట్టు, వివిధ రకాల జట్లు పునఃశ్చరణ

CURRICULAR PLAN FOR ODD SEMESTER

Subject Code: HIN 101C   Title: GENERAL HINDI – I

Month	Unit No.	Topic to be covered
June-'19	I IV	5. साहित्यकीमहत्ता 6. व्याकरण
July-'19	I II III	2.सच्चीवीरता 1.मुक्तिधन अनुवाद
Aug-'19	II	2.गूदडसाई 3.उसनेकहाथा
Sept-'19	I IV	मित्रता व्याकरण
Oct-'19	V	पत्रलेखन

SEMESTER – III
CURRICULAR PLAN FOR ODD SEMESTER

Subject Code: HIN 301C   Title : GENERAL HINDI – III

Month	Unit No.	Topic to be covered
June-'19	I IV	साखी बालवर्णन मातृभूमि अनुवाद
July-'19	I II	तोडतीपत्थर हिन्दीसाहित्यकाइतिहास भक्तिकाल: ज्ञानज्ञानाश्रयीशाखा
Aug-'19	I III	मातृभाषा के प्रति सामान्य निबंध: सामाचारपत्र, कंप्यूटर, पर्यावरण और प्रदूषण
Sept-'19	II IV	भक्तिकाल: प्रेमाश्रयीशाखा अनुवाद
Oct-'19	III V	बेकारीकीसमस्या परिपत्र ज्ञापन राष्ट्रभाषाहिन्दी

Month	Unit No.	Topic to be covered
Nov -'19	I	संकृति और साहित्य का परस्पर संबंध
	II	जरिया
		संधिविच्छेद
	IV	
Dec-'19	I	भारतएकहै
	II	भूखहड़ताल
	III	अनुवाद
Jan-'20	I	एचआईवी/एड्स
		परमात्माकाकुत्ता
	II	अनुवाद
	III	
Feb-'20	IV	वाक्यप्रयोग
		पत्रलेखन
	V	
Mar-'20	Revision to all units	

DEPARTMENT OF ENGLISH
ACADEMIC YEAR 2019-2020
SEMESTER – I
CURRICULAR PLAN

Subject Code: ENG 101C   Title: GENERAL ENGLISH – I

Month	Unit No.	Topic to be covered
June-'19	II	The Road Not Taken
	V	Phonetic Transcription, Problematic Sounds in English, Pronunciation (Sound)
July-'19	I	The Language of African Literature
	IV	The Merchant of Venice
	V	Exercises in Articles and Prepositions
Aug-'19	I	The Knowledge Society
	II	Night of the Scorpion
	III	Two Children
	V	Exercises in Tenses
Sept-'19	III	What Men Live By
	V	Vocabulary(spelling), Sense (meaning)and Syntax
Oct-'19	V	Exercises in Tenses
		Revision

SEMESTER – III
CURRICULAR PLAN

Subject Code: ENG 301C   Title : GENERAL ENGLISH – II

Month	Unit No.	Topic to be covered
June-'19	I	Shyness My Shield
	II	Once Upon A Time
	V	Expansion of an idea/a saying/a proverb
July-'19	I	Aurangzeb's Letter To His Teacher
	II	Our Casuarina Tree
	V	JAM Sessions, Information Transfer
Aug-'19	I	A Letter from Abraham Lincoln To His Son's Teacher
	III	The Open Window
	V	Note Taking. Brain Storming the topic through Diagram
Sept-'19	III	The Beloved Charioteer
	IV	Kanyasulkam
	V	Reporting for the Media
Oct-'19	V	Note Making,
		Writing for the Media
		Describing a Picture
		Revision

SEMESTER – III
CURRICULAR PLAN

Subject Code: CSS 301C   Title : COMMUNICATION AND SOFT SKILLS – II

Month	Unit No.	Topic to be covered
June-'19	I	Pronunciation – 1 : The Sounds of English
	II	Pronunciation – 2 : Word Accent
July-'19	II	Pronunciation - 2 : Intonation
	III	Speaking Skills – 1: Conversation Skills
		Interview Skills
		Presentation Skills
		Public Speaking
Aug-'19	IV	Speaking Skills – 2 : Role Play
		Debate
		Group Discussion
Sept-'19	V	Writing Skills : Spelling
		Punctuation
		Report Writing
Oct-'19		Revision

Subject Code: ENG 201C   **Title: GENERAL ENGLISH – I**

Month	Unit No.	Topic to be covered
Nov -'19	I	My Struggle for an Education
	II	Ode to Autumn
	III	The Boy Who Broke the Bank
	IV	Question Tags
Dec-'19	I	The Scientific Point of View
	II	I am Not That Woman
	IV	The Proposal
	V	Transformation of Sentences – Voice, Speech, Degrees of Comparison
Jan-'20	I	Pride, awkwardness and a dangerous accident in Chalisgaon (An Excerpt from his Autobiographical life story 'Waiting for a Visa')
	III	Half A Rupee Worth
	V	Transformation of Sentences – Simple, Compound & Complex, Dialogue
	V	Practice(oral), Listening Comprehension
Feb-'20	V	Guided Composition
	V	Dialogue Writing
	V	Reading Comprehension
Mar-'20		Revision to all units

Subject Code: CSS-201C   **TITLE : COMMUNICATION AND SOFT SKILLS - I**

Month	Unit No.	Topic to be covered
Nov -'19	I	Vocabulary Building – Prefixes & Suffixes, One-Word Substitutes, Synonyms & Antonyms
	IV	The Importance of Listening
Dec-'19	I	Conversion, Compounding, Words often confused
	II	Subject-Verb Agreement
	III	Meanings of Modals
	IV	Types of Listening, Barriers to Effective Listening
Jan-'20	I	Analogy, Phrasal Verbs
	III	Common Errors
	V	Reading Skills - Skimming & Scanning
Feb-'20	IV	Strategies for Effective Listening
	V	Intensive Reading & Extensive Reading, Comprehension (Reading)
Mar-'20		Revision to all units

Subject Code: CSS 401C   **Title : COMMUNICATION AND SOFT SKILLS – III**

Month	Unit No.	Topic to be covered
Nov -'19	I	Soft Skills – Positive Attitude, Body Language
	IV	Letter Writing
	V	Resume & Curriculum Vitae
Dec-'19	I	Emotional Intelligence, SWOT/C Analysis
	II	Paragraph Writing – Paragraph Structure, Development of Ideas, Matching Para Jumbles
Jan-'20	I	Emotional Intelligence, Netiquette
	III	Paraphrasing – Elements of Effective Paraphrasing, Techniques for Paraphrasing
Feb-'20	III	Summarizing – What makes a good summary? Stages of Summarizing
	IV	E-Correspondence
	V	Dialogue Writing
Mar-'20		Revision to all units

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – I

CURRICULAR PLAN

Subject Code: HIST11B Title: **Ancient Indian history and culture (Fromm Indus valley Civil .to 13 century(A.D)**

Month	Unit No.	Topic to be covered	Remarks
JUN-19	**I**	Ancient Indian Civilization (from Circa 3000 BC to 6th BC):	
JULY-19	**II**	Ancient Indian History & Culture (6th Century BC to 2nd Century AD):	
AUG-2019	**III**	History & Culture of South India (2nd Century BC to 8 th Century AD):	
SEP-2019	**IV**	India from 3rd century AD to 8th century AD:	
OCT-2019	**V**	History and Culture of South India (9th century AD to 13th century AD):	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – III
CURRICULAR PLAN

Subject Code: HIS301C   Title : MODERN INDIAN HISTORY & CULTURE (1764-1947 A. D)

Month	Unit No.	Topic to be covered	Remarks
JUN-19	**I**	Policies of Expansion	
JULY-19	**II**	Social, Religious & Self-Respect Movements	
AUG-2019	**III**	Causes for the growth of Nationalism	
SEP-2019	**IV**	Freedom Struggle from 1920 to 1947:	
OCT-2019	**V**	Muslim League & the Growth of Communalism	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY

SEMESTER – V

CURRICULAR PLAN

Subject Code: HIS501C Titles: Age of Rationalism and Humanism –The World Between 15th& 18th Century

Month	Unit No.	Topic to be covered	Remarks
JUN-19	I	Feudalism -Geographical Discoveries:	
JULY-19	II	The Renaissance Movement	
AUG-2019	III	Emergence of Nation States	
SEP-2019	IV	Age of Revolutions AMERICA Revolution	
OCT-2019	V	Age of Revolutions: The French Revolution	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – V
CURRICULAR PLAN

Subject Code: HIS502C Titles: History & Culture of Andhra Desa (from 12th to 19th Century A.D)

Month	Unit No.	Topic to be covered	Remarks
JUN-19	I	Andhra during 12th& 13th Centuries A.D	
JULY-19	II	Andhra between 14th & 16th Centuries A.D	
AUG-2019	III	Andhra through 16th& 17th Centuries A.D	
SEP-2019	IV	The 18th& 19th Centuries in Andhra	
OCT-2019	V	Impact of Company Rule on Andhra	

DEPARTMENT OF HISTORY

SEMESTER – II
CURRICULAR PLAN

Subject Code: HIST21   Title**: Medieval Indian history and Culture(1206 A.D to 1764 A.D)**

Month	Unit No.	Topic to be covered	Remarks
NOV-19	I	Impact of Turkish Invasions	
DEC-19	II	Impact of Islam on Indian Society and Culture	
JAN-2020	III	Emergence of Mughal Empire	
FEB-2020	IV	Administration, Economy, Society	
MAR-2020	V	India under Colonial Hegemony	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – IV
CURRICULAR PLAN

Subject Code: HIST401   Title: HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD)

MONTH	UNIT NO.	TOPIC TO BE COVERED	REMARKS
NOV-19	I	1.1-Andhra through 16th& 19th Centuries AD:	
DEC-19	II	Andhra under British rule: Administration	
JAN-2020	III IV	Social Reform & New Literary Movements Freedom Movement in Andhra (1885-1947):	
FEB-2020	V	Movement for separate Andhra State	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – IV
CURRICULAR PLAN
Subject Code: HIS401C   Title: HISTORY OF MODERN WORLD (From 15th Cent. AD to 1945 AD)

MONTH	UNIT NO.	TOPIC TO BE COVERED	REMARKS
NOV-19	I	Transformation from Medieval to Modern Era	
DEC-19	II	American Revolution (1776); French Revolution (1789)	
JAN-2020	III IV	Unification of Italy; Unification of Germany Communist Revolution in Russia	
FEB-2020	V	World War II: Causes Fascism & Nazism	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF HISTORY
SEMESTER – VI
CURRICULAR PLAN
Subject Code: HIS601GE   Title: History of Modern Europe (from 19th Century to 1945 A.D)

MONTH	UNIT NO.	TOPIC TO BE COVERED	REMARKS
NOV-19	I	Industrial Revolution: Origin, Nature and Impact	
DEC-19	II	Unification Movements in Italy & Germany and their Impact.	
JAN-2020	III IV	Communist Revolution in Russia World War I:	
FEB-2020	V	World War II	

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)
VUYYURU - 521 165 - (2019 - 2020)

SEMESTER - I
DSC 3A –Business Economics-I
IB.COM GENERAL

No. of Hours per week: 5   **No. of Credits: 4**

Max.Marks:100

Unit	Learning Units	MONTHS
I	**Introduction** Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their differences.	**JUN-19**
II	**Demand Analysis** Meaning and Definition of Demand - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand.	**JULY-19**
III	**Elasticity of Demand** Meaning and Definition of Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of demand – Total outlay Method – Point Method – Arc Method.	**AUG-2019**
IV	**Cost and Revenue Analysis** Classification of Costs – Total - Average – Marginal and Cost function – Long-run – Short-run – Total Revenue - Average revenue – Marginal Revenue.	**SEP-2019**
V	**Break-Even Analysis** Type of Costs – Fixed Cost – Semi-variable Cost – Variable Cost– Cost behaviour - Breakeven Analysis - Its Uses and limitations.	**OCT-2019**

A.G & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS)

VUYYURU – 521 165

I BA PROGRAMME - ECONOMICS SYLLABUS FOR THE YEAR
(CBCS PATTERN)
FIRST YEAR BA – FIRST SEMESTER (CORE PAPER)

TITLE: <u>MICRO ECONOMICS -1</u>

No. of hours per week: 5   Credits: 4

Unit	Learning Units	MONTHS
I	Nature, Definition and Scope of economics –Wealth, welfare, Scarcity and modern definitions	**JUN-19**
II	Methodology in economics-Micro and Macro, Static and Dynamic analysis; Normative and Positive science, Inductive and Deductive methods ; Partial and General Equlibrium	**JULY-19**
III	Utility analysis :– Cardinal approach –The Law of Diminishing marginal utility-the Law of Equi-marginal utility-concept of consumer's surplus	**AUG-2019**
IV	Demand analysis – Law of Demand – Elasticity of Demand – Measurement of elasticity of demand-Price, Income and Cross elasticities of Demand	**SEP-2019**
V	Ordinal approaches; Indifference curve analysis – Properties of Indifference curves – Price or Budget line - Equilibrium of the consumer with the help of Indifference curves - samuelson's revealed preference theory.	**OCT-2019**

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS), VUYYURU

B. A. ECONOMICS

II Year B. A. Programme (UG) Courses – Under

CBCS Semester – III

Paper – III (Core Paper) (5Hours)

Macro Economics - National Income, Employment and Money

Unit	Learning Units	MONTHS
I	Meaning, definition of Macro Economics - Importance of Macro Economics- Difference between Micro and Macro Economics - Paradox of Macro Economics - Limitations	**JUN-19**
II	National Income - Definitions, Concepts of National Income - Measurement of National Income- Circular flow of Income in Two, Three and Four Sector Economy.	**JULY-19**
III	Classical theory of Employment - Say's Law of Markets.	**AUG-2019**
IV	Keynesian Theory of Employment - Consumption function – Investment Function - Marginal Efficiency of Capital (MEC)- Concepts of multiplier and accelerator	**SEP-2019**
V	Meaning and Functions of Money - Classification of money - Gresham's Law - RBI classification of Money. Theories of Money - Fisher's Quantity theory of Money Cambridge approach (Marshall, Pigou, Robertson& Keynes).	**OCT-2019**

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS),   VUYYURU

Final year BA Economics Syllabus Semester Paper – V
ECONOMIC DEVELOPMENT AND INDIAN ECONOMY – Semester –V

Weekly 5 Hours,   **Credits - 4**

PAPER CODE: ECO-501

Unit	Learning Units	MONTHS
I	Concept of Economic Growth - Distinction between economic growth and development - Measurement of economic development -Theories of Economic Growth: Adam Smith, Rostow, Karl Marx and Harrod&Domar Models.	**JUN-19**
II	Sustainable development - Balanced and unbalanced growth-choice of techniques Labour intensive and capital intensive methods.	**JULY-19**
III	. Basic features of the Indian Economy - Natural Resources - Important Demographic features- Concept of Population Dividend - Population Policy.	**AUG-2019**
IV	National Income in India - trends and composition-poverty, inequalities and Unemployment - Measures taken by the Government. - MGNREGS	**SEP-2019**
V	Economic reforms - liberalization, privatization and globalisation - concept of inclusive growth.	**OCT-2019**

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS), VUYYURU

Final year BA Economics Syllabus Paper – V

INDIAN AND ANDHRAPRADESH ECONOMY – Semester –V

Weekly 5 Hours,   Credits - 4

Paper Code : ECO-502   Semester-5

Indian and Andhra Pradesh Economy

Syllabus

Unit	Learning Units	MONTHS
I	Indian Agriculture - Importance of Agriculture in India - Agrarian structure and relations- Factors determining Productivity- Agricultural Infrastructure - Rural credit - Micro Finance - Self Help Groups (SHGs) - Agricultural Price policy- concept of Crop Insurance - Food Security.	**JUN-19**
II	Structure and growth of Indian Industry - Industrial policies of 1956 & 1991 Meaning of Micro small and Medium Enterprises (MSMEs)- Problems and Prospects of small scale Industries in India.	**JULY-19**
III	Disinvestment in India - FEMA - Foreign direct investment - Services Sector in India – Reforms in Banking and Insurance -, IT, Education and Health.	**AUG-2019**
IV	Planning in India Economy - Objectives of Five year plans - Review of Five year Plans - Current Five year plan- NITI Aayog	**SEP-2019**
V	Andhra Pradesh Economy - Population - GSDP - Sector Contribution and trends - IT – Small Scale Industry - SEZs.	**OCT-2019**

A.G&S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), VUYYURU – 521165

EVEN

Accredited with "A" Grade by NAAC, Bengaluru

I Year B. A. Programme (UG) Courses – Under CBCS

Semester – II.   HOURS: 5   CREDITS: 4

Paper – II (Core Paper) **Micro Economics - Production and Price Theory**

Unit	Learning Units	MONTHS
I	Production function-Concept of homogeneous production function-Cobb- Douglas Production function- Law of variable proportions-Law of Returns to Scale - Different Concepts of Costs – Explicit & Implicit, Opportunity, Total – fixed and Variable Costs, Marginal & Average Costs & its Relationship. Concept of Revenue – Total, Marginal & Average Revenue and Break – Even Point	**NOV-19**
II	Analyse different types of Market structures - Perfect Competition - Price determination and equilibrium of firm and industry under perfect competition - Monopoly - Price determination - Price discrimination.	**DEC-19**
III	Monopolistic competition - price determination - Oligopoly - Kinked demand curve approach.	**JAN-2020**
IV	Marginal Productivity theory of distribution - Theories of wage determination Subsistence theory of wages, Standard of living theory of wages, Modern theory of wages Wages and collective bargaining - concept of minimum wage.	**FEB-2020**
V	Theory of Rent: Ricardian theory of rent - Quasi rent concept of Alfred Marshall. Theories of Interest - Classical, Neo-classical and Keynes Liquidity Preference theory - Profit - dynamic, innovations, Risk and Uncertainty theories	**MAR-2020**

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(AUTONOMOUS), VUYYURU – 521165

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<u>**IB.COM GENERAL --------------- SEMESTER - II**</u>

<u>**DSC 3 B - Business Economics –II----------(CBE 203G)**</u>

No. of Hours per week: 5   **Max.Marks:100**
No. of Credits: 4

Unit	Learning Units	MONTHS
I	<u>Production and Costs</u> : Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production - Economies and Dis-economies of Scale - Costs of Production – Cobb-Douglas Production Function.	**NOV-19**
II	<u>Market Structure-I</u> : Concept of Market - Market structure - Characteristics - Perfect competition -characteristics equilibrium price - profit maximizing output in the short and long run Monopoly-characteristics - Profit maximizing out-put in the short and long run - Defects of Monopoly – Distinction between Perfect competition and Monopoly.	**DEC-19**
III	<u>Market Structure-II</u> : Monopolistic Competition - Characteristics – Product differentiation - Profit maximization - Price and output in the short and long - run – Oligopoly - characteristics - Price rigidity - Kinked Demand Curve - Distribution - Concepts - Marginal Productivity - Theory of Distribution.	**JAN-2020**
IV	<u>National Income And Economic Systems</u> : National Income - Definition Measurement - GDP - Meaning Fiscal deficit - Economic systems - Socialism - Mixed Economic System - Free Market economy	**FEB-2020**
V	<u>Structural Reforms</u> : Concepts of Economic liberalization, Privatization, Globalization - WTO Objectives Agreements - Functions - Trade cycles - Meaning - Phases - Benefits of International Trade - Balance of Trade and Balance of payments.	**MAR-2020**

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS), VUYYURU – 521165 -

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DSC 2 B -Business Economics
I B.Com (Computers)   ----   II SEMESTER (2018 – 2019)
w.e.f. 2015-16 (Revised in April, 2016)

No. of Hours per week: 5   **Max.Marks:100**
No. of Credits: 4

Unit	Learning Units	MONTHS
I	Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their Interface.	**NOV-19**
II	**Demand Analysis:** Definition - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand - Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of Demand :	**DEC-19**
III	**Demand Analysis:** Definition - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand - Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of Demand :	**JAN-2020**
IV	**Market Structure:** Concept of Market - Market structure - Perfect competition - characteristics - equilibrium price - Monopoly- characteristics - Defects of Monopoly – Distinction between Perfect competition and Monopoly - Monopolistic Competition – Characteristics-Product differentiation - Oligopoly - characteristics - Price rigidity.	**FEB-2020**
V	**National Income And Economic Systems:** National Income - Measurement - GDP -Growth Rates - Problems in Assessment - Economic Systems - Socialism - Mixed Economic System - Free Market Economy -	**MAR-2020**

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(AUTONOMOUS), VUYYURU – 521165 -

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B. A. ECONOMICS

II Year B. A. Programme (UG) Courses – Under CBCS

Semester – IV   **Paper – IV (Core Paper)**

Banking and International Trade

Unit	Learning Units	MONTHS
I	Trade Cycles - meaning and definition - Phases of a Trade Cycle - Inflation - definition - types of inflation - causes and effects of inflation measures to control inflation.	**NOV-19**
II	Banking: Meaning and definition -Functions of Commercial Banks - Concept of Credit creation-Functions of RBI - Recent developments in banking sectors.	**DEC-19**
III	Non-Bank Financial Institutions – Types of NBFIs - Factors contributing to the Growth f NBFIs –-Money market – Defects of Indian money market	**JAN-2020**
IV	Concepts of Shares-Debentures - Stock Market - Functions - Primary and Secondary Markets -SEBI - - Insurance - Life Insurance and General Insurance.	**FEB-2020**
V	Macro Economic Policy - Fiscal, Monetary and Exchange rate policies Objectives and Significance - Importance of International Trade - Regional and International Trade – Defining Balance of Trade and Balance of Payment.	**MAR-2020**

A.G. & S.G.SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE (AUTONOMOUS), VUYYURU

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-(A) (Elective Paper VII-(A)

AGRICULTURAL ECONOMICS

Unit	Learning Units	MONTHS
I	Nature and Scope of Agricultural Economics. Factors affecting agricultural development: technological, institutional and general. Interdependence between agriculture and industry.	**NOV-19**
II	Concept of production function : input-output and product relationship in farm production.	**DEC-19**
III	Growth and productivity trends in Indian agriculture with special reference to Andhra Pradesh.Agrarian reforms and their role in economic development.	**JAN-2020**
IV	Systems of farming, farm size and productivity relationship in Indian agriculture with special reference to Andhra Pradesh- New agriculture strategy and Green revolution : and its Impact	**FEB-2020**
V	Emerging trends in production, processing, marketing and exports; policy controls and regulations relating to industrial sector with specific reference to agro-industries in agribusiness enterprises	**MAR-2020**

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Semester wise Academic Plan &Fulfilment Record

NAME OF DEPARTMENT : POLITICAL SCIENCE

Academic Year : 2019-20		Semester: I
Name of lecturer :	Dr. G.Veeraraju	Class : I B.A
Paper Title :	Basic Concepts of Political Science	Paper Code : POL – 101C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Jun-17	Unit-I - Nature scope and significance of Political science Unit-II- Social contract theories-Hobbs, lock and Rousseau, evolution divine theories of origin of the state	Fulfilled	
Jul-17	Unit-III - Sovereignty meaning, definition, features, kinds and characters. Austrian Pluralistic theories	Fulfilled	
Aug-17	Unit-IV- Law ,Liberty, equality meaning definitions features, kinds, sources, of concepts	Fulfilled	
Sep-17	Unit-V - Rights and classification of rights, theories of rights, legal and natural rights.	Fulfilled	
Oct-17	Unit-V- Civil rights, Political rights fundamental rights	Fulfilled	

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Semester wise Academic Plan &Fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	III
Name of the Lecturer :	Dr.G.Veeraraju	Class:	II B.A
Paper Title :	INDIAN CONSTITUTION	Paper Code:	POL-301C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Jun-17	Unit-I- constitutional assembly-composition Indian constitution features	Fulfilled	
Jul-17	Unit-II- Preamble fundamental rights ,Fundamental duties, Directive principles of state policy, differences between fundamental rights and DPSP	Fulfilled	
Aug-17	Unit-III- Union Executive- President election method , P.m. powers and functions, Parliament powers and functions, Union council of ministers, Parliamentary commits	Fulfilled	
Sep-17	Unit-IV- Unitary and federal system , central and state relation Unit-V- Supreme court of India, powers functions, judicial review	Fulfilled	
Oct-17	Revision	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	V
Name of the Lecturer :	Dr.G.Veeraraju	Class:	III B.A
Paper Title :	INDIAN POLITICAL THOUGHT	Paper Code:	POL-501C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Jun-17	Unit-I- Manu Varna system, Manu Dharma Veda -four Vedas	Fulfilled	
Jul-17	Unit-II- koutilya theory of Saptanga, mandala katheories, Koutilya political ideas of state kingship, Gandhi non-violence satya graha theory of trusteeship	Fulfilled	
Aug-17	Unit-III- Joythirao phule social ideas, Nehru democratic socialism, Ambedkar social movements	Fulfilled	
Sep-17	Unit-IV- M.N.Roy radical humanism, Jayaprakash Narayana revolution, sarvodaya	Fulfilled	
Oct-17	Revision	Fulfilled	

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Semester wise Academic Plan &fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	V
Name of the Lecturer :	Dr.G.Veeraraju	Class:	III B.A
Paper Title :	WESTERN POLITICAL THOUGHT	Paper Code:	POL-502C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Jun-17	Unit-I- plato-Ideal state, theroy of justice, educational system, philosophers of kings, communism	Fulfilled	
Jul-17	Unit-II- Aristotle- ideal state, theory of revolutions classification of governments, salves system	Fulfilled	
Aug-17	Unit-III-Machiavelli-Advice to the prince, political ideas, hobbies, social contract theory , political ideas	Fulfilled	
Sep-17	Unit-III- John lock-social contract theory, political ideas , natural rights, Rousseau, social contract theory general wing, popular sovereignty	Fulfilled	
Oct-17	Unit-IV- Hegel civil society state Karl marks theory of communism	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	II
Name of the Lecturer :	Dr.G.Veeraraju	Class:	I B.A
Paper Title :	CONCEPTS OF THEORIES AND INSTITUTIONS	Paper Code:	POL-201C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Nov-17	Unit-I-Democracy forms, characteristics , merits & demerits of democracy Unit-II- Individualism, fascism, Marxism and Gandhi's, Montesquieu's theory of separation of powers	Fulfilled	
Dec-17	Unit-III- Powers and functions of legislature committee system	Fulfilled	
Jan-18	Unit-III- Presidential judiciary-Powers and functions	Fulfilled	
Feb-18	Unit-IV- Executive-types, powers and functions, judicial review	Fulfilled	
Mar-18	Unit-V- Human rights, welfare state popular control	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20			SEMESTER :	IV
Name of the Lecturer :	Dr.G.Veeraraju		Class:	II B.A
Paper Title :	INDIAN POLITICAL PROCESS		Paper Code:	POL-401C

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Nov-17	Unit-I- Definition and role of political parties , characteristics of Indian political parties classification of Indian political parties	Fulfilled	
Dec-17	Unit-II- Election commission-structure , powers and functions, reforms	Fulfilled	
Jan-18	Unit-III- Indian national congress BJP,CPM(1), CPM, TDP , TRS, Akalidal, DMK, ADMK	Fulfilled	
Feb-18	Unit-IV- voting behaviour, caste, class & gender, religion politics	Fulfilled	
Mar-18	Unit-V- Coalition politics, national integration, social movements	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	VI
Name of the Lecturer :	Dr.G.Veeraraju	Class:	III B.A
Paper Title :	LOCAL SELF GOVERNMENTS IN ANDHRA PRADESH	Paper Code:	POL-601GE

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Nov-17	Unit-I- 1. Court provisions of local self governments 2. Recommendations of Balwanth Roy and ashokmehtha committees	Fulfilled	
Dec-17	Unit-II- 1. 73rd constitution, Amendment act 2. 74th constitution Amendment act	Fulfilled	
Jan-18	Unit-III- 1. Gram panchayat structure and function 2. Mandal perished and jilla perished	Fulfilled	
Feb-18	Unit-IV- 1. Nagar panchayats structure 2. Municipalities structure and functions	Fulfilled	
Mar-18	Unit-V- 1. Emerging patterns of leadership 2. problems of authority	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	VI
Name of the Lecturer :	Dr.G.Veeraraju	Class:	III B.A
Paper Title :	INTERNATIONAL RELATIONS	Paper Code:	POL-602 CE

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Nov-17	Unit-I- 1. Meaning, nature, scope of International relations 2. Balance of power, collectively national Interns, Diplomacy	Fulfilled	
Dec-17	Unit-II- Idealism- wood row will son classical realism- Morgenthau-neo-realism-Kenneth waltz	Fulfilled	
Jan-18	Unit-III- 1. Causes of first world war 2. causes of second world war	Fulfilled	
Feb-18	Unit-IV- 1. Criticism of first cold war 2. Rise and fall of détente 3. Origin and end of second world war	Fulfilled	
Mar-18	Unit-V- The role of UNO in international peace, problems of third world- New economic order	Fulfilled	

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Semester wise Academic Plan & fulfilment Record

NAME OF THE DEPARTMENT: POLITICAL SCIENCE

Academic Year : 2019-20		SEMESTER :	VI
Name of the Lecturer :	Dr.G.Veeraraju	Class:	III B.A
Paper Title :	INDIAN FOREIGN POLICY	Paper Code:	POL-603 CE

Month	Planned (Unit No. & Chapter Title)	Fulfilled (Unit No. & Chapter Title)	Remarks
Oct-15	Unit-I- 1. Determinants of Indian Foreign policy 2. Change in Indian Foreign policy	Fulfilled	
Nov-15	Unit-II- 1. India's role in non-alignment 2. Non-Alignment in contemporary world 3. India's role in UNO Peace keeping	Fulfilled	
Dec-15	Unit-III- 1. Indo-US relations pre cold war 2. Indo-China relations pre cold war	Fulfilled	
Jan-16	Unit-IV- 1. Indo-Pak relations 2. India's role in SAARE	Fulfilled	
Feb-16	Revision	Fulfilled	

TEACHING PLAN 2019-2020

ENVIRONMENTAL STUDIES
COURSE CODE: ENS 101B.A,B.COM.,B.SC.,

MONTH	Unit	Learning Units
JUN-19	I	**Unit-I : Natural Resources:** Definition, scope and importance. Need for public awareness. Brief description of; Forest recourses: Use and over-exploitation. Deforestation; timber extraction, mining, dams. Effect of deforestation environment and tribal people Water resources:
JULY-19	II	**Unit-II : Ecosystems, Biodiversity and its conservation** Concept of an ecosystem Structure and function of an ecosystem Producers, consumers and decomposers Food chains, food webs and ecological pyramids Characteristic features of the following ecosystems:- Forest ecosystem, Desert ecosystem, Aquatic ecosystem. Value of biodiversity: Consumptive use, productive use. Biodiversity in India. Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts. Endangered and endemic species of India Conservation of biodiversity
AUG-2019	III	**Unit-III : Environmental Pollution** Definition Causes, effects and control measures of :- a. Air pollution b. Water pollution c. Soil pollution d. Noise pollution Solid waste management; Measures for safe urban and industrial waste disposal Role of individual in revention of pollution Disaster management: Drought, floods and cyclones
SEP-2019	IV	**Unit-IV : Social Issues and the Environment** From Unsustainable to Sustainable development Water conservation, rain water harvesting, watershed management. Climate change, global warming, ozone layer depletion, Environment protection Act Wildlife Protection Act, Forest Conservation Act
OCT-2019	V	**Unit-V : Human Population and the Environment** Population explosion, impact on environment. Family welfare Programme Environment and human health Women and Child Welfare Value Education Role of Information Technology in Environment and humanhealth.

ENTREPRENEURSHIP

COURSE CODE ;ENP201

MONTH	Unit	Learning Units
NOV-19	I	**Unit-I: Entrepreneurship:**Entrepreneur Characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations –Role of Entrepreneurship in economic development – Start-ups.
DEC-19	II	**Idea Generation and Opportunity Assessment:** Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities
JAN-2020	III	**Project Formulation and Appraisal :** Preparation of Project Report – Content; Guidelines for Report preparation – Project Appraisal techniques –economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.
FEB-2020	IV	**Institutions Supporting Small Business Enterprises:** Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions –DICs- SFC- SSIDC- Other financial assistance.
MAR-2020	V	**Government Policy and Taxation Benefits:** Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions – Rehabilitation and Investment Allowances.

Subject Code: COMT11B   Title: FUNDAMENTALS OF ACCOUNTING

Month	Unit	Learning Units
Dec- 2019	I	**Introduction** Need for Accounting – Definition – Objectives, – Accounting Concepts and Conventions – GAAP - Accounting Cycle - Classification of Accounts and its Rules – BookKeeping and Accounting - Double Entry Book-Keeping - Journalizing - Posting to Ledgers, Balancing of Ledger Accounts (including Problems).
Jan - 2020	II	**Subsidiary Books:** Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty Cash Book (including Problems).
Feb-2020	III	**Trial Balance and Rectification of Errors:** Preparation of Trial balance - Errors – Meaning – Types of Errors – Rectification of Errors – Suspense Account (including Problems)
Mar-2020	IV	**Bank Reconciliation Statement:** Need for Bank Reconciliation - Reasons for Difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement - Problems on both Favourable and Unfavourable Balance (including Problems).
April-20	V	**Final Accounts:** Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with Adjustments (including Problems).

Subject Code: COMT12A   Title: Business Organization and Management

Month	Unit	Learning Units
Dec- 2019	I	**Introduction Concepts of Business, Trade, Industry and Commerce:** Business – Meaning, Definition, Features and Functions of Business - Trade Classification – Aids to Trade – Industry Classification and Commerce - Factors Influencing the Choice of Suitable form of Organization.
Jan - 2020	II	**Forms of Business Organizations:** Features, Merits and Demerits of Sole Proprietor Ship and Partnership Business - Features Merits and Demits of Joint Stock Companies - Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs)- Differences between Private Limited Public Limited Company.
Feb-2020	III	**Company Incorporation:** Preparation of Important Documents for Incorporation of Company - Certificate of Incorporation and Certificate of Commencement of Business - Contents of Memorandum and Articles of Association – Content of Prospectus.
Mar-2020	IV	**Management:** Meaning Characteristics - Fayol's 14 Principles of Management - Administration Vs. Management - Levels of Management.
April-20	V	**Functions of Management:** Different Functions of Management - Meaning – Definition – Characteristics Merits and Demits of Planning - Principles of Organization – Line and staff of Organization.

Subject Code:COMBE   Title: **Business Environment**

Month	Unit	Learning Units
Dec- 2019	I	**Overview of Business Environment:** Business Environment – Meaning – Characteristics – Scope -Macro and Micro Dimensions of Business Environment -Environmental Analysis- Purpose &Techniques.
Jan - 2020	II	**Economic Environment:** Economic Environment – Nature of the Economy – Structure of Economy – Economic Policies & Planning the Economic Condition – NITI Ayog – National Development Council – Five Year Plans
Feb-2020	III	**Economic Policies:** Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Monetary Policy and RBI
Mar-2020	IV	**Social, Political and Legal Environment:** Concept of Social Responsibility of Business towards Stakeholders - Demonetization, GST and their Impact - Political Stability - Legal Changes
April-20	V	**Global Environment:** Globalization – Meaning – Role of WTO – WTO Functions -IBRD– Trade Blocks, BRICS, SAARC, ASEAN in Globalization

Subject Code: COMED   Title: **ENTREPRENEURSHIP DEVELOPMENT**

Month	Unit	Learning Units
	I	**Entrepreneurship:** Entrepreneur characteristics – Classification of Entrepreneurships –Role of Entrepreneurship in economic development –Start-ups.
	II	**Idea Generation and Project Formulation:** Sources of New Ideas in Entrepreneurships – Techniques for generating ideas - Preparation of Project Report –Content; Guidelines for Report preparation – Project Appraisal techniques – Economic Analysis; Financial Analysis; Market Analysis
	III	**Institutions Supporting and Taxation Benefits:** Central level Institutions: NABARD; SIDBI, NSIC – state level Institutions –DICs- SFC- SSIDC- Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions Rehabilitation and Investment Allowances.

Subject Code: Title: **ONLINE BUSSIENESS**

MONTH	Learning Units
Dec- 2019	Introduction to Online-Business-Definition-Characteristics-Advantages of Online Business-Challenges- Differences between off-line business, e-commerce and Online Business.
Jan - 2020	Online-business Strategies-Strategic Planning Process-Procurement -Logistics & Supply Chain Management-Customer Relationship management.
Feb-2020	Designing Online Business Website – Policies - Security & Legal Issues - Online Advertisements - Payment Gateways - Case Study

Subject Code *:CAA-302G/C*   **Title: Advanced Accounting**

Month	Unit	Learning Units
Nov-2019	I	**Accounting for Non-Profit Organisations**: Non-Profit Entities-Meaning - Features of Non-Profit Entities –Provisions as per Sec 8 - Accounting Process- Preparation of Accounting Records - Receipts and Payments Account- Income and Expenditure Account - Preparation of Balance Sheet (including problems)
Dec-2019	II	**Single Entry System:** Features – Differences between Single Entry and Double Entry – Disadvantages of Single Entry-Ascertainment of Profit and Preparation of Statement of Affairs (including Problems).
Jan-'20	III	**Hire Purchase System:** Features –Difference between Hire Purchase and Instalment Purchase Systems - Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - Default and Repossession (including Problems)
Feb-'20	IV	**Partnership Accounts-I**: Meaning – Partnership Deed - Fixed and Fluctuating Capitals-Accounting Treatment of Goodwill - Admission and Retirement of a Partner (including problems)
Mar-'20	V	**Partnership Accounts-II**: Dissolution of a Partnership Firm – Application of Garner v/s Murray Rule in India – Insolvency of one or more Partners (including problems).

Subject Code: CBS-303G/C   Title: **Business Statistics**

Month	Unit	Learning Units
Nov-2019	I	**Introduction to Statistics:** Definition, Importance and limitation of statistics, Collection of data, Schedule and questionnaire, Frequency distribution, Tabulation
Dec-2019	II	**Measures of Central Tendency:** Characteristics of measures of central tendency, Types of Averages, Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode
Jan-'20	III	**Measures of dispersion and Skewness:** Properties of dispersion, Range, Quartile Deviation, Mean deviation, Standard deviation, Coefficient of Variation, Skewness Definition, Karl Pearson's and Bowley's Measures Of skewness
Feb-'20	IV	**Measures of Relation:** Meaning and use of correlation, Types of correlation, Karl Pearson's correlation coefficient, Probable Error, Spearman's Rank correlation, Regression analysis comparison between correlation and Regression, Regression Equations
Mar-'20	V	**Analysis of Time Series & Index Numbers** Meaning and utility of time series, Components of Time series, Measurement of trend and Seasonal Variations, Techniques of Time series analysis, Methods of averages(Semi , Moving averages), Least square method, Index Numbers, Methods of Construction of Index numbers, Price index numbers, Limitations of index numbers

Subject Code: *CM 304 G*   Title: Marketing

Month	Unit	Learning Units
Nov-2019	I	**Introduction**: Concepts of Marketing: Need, Wants and Demand - Marketing Concepts – Marketing Mix - 4 P's of Marketing – Marketing Environment.
Dec-2019	II	**Consumer Behaviour and Market Segmentation**: Buying Decision Process – Stages – Buying Behaviour – Market Segmentation –Bases of Segmentation - Selecting Segments – Advantages of Segmentation
Jan-'20	III	**Product Management:** Product Classification – Levels of Product - Product Life Cycle - New Products, Product Mix and Product Line Decisions - Design, Branding, Packaging and Labelling.
Feb-'20	IV	**Pricing Decision**: Factors Influencing Price – Determination of Price - Pricing Strategies: Skimming and Penetration Pricing.
Mar-'20	V	**Promotion and Distribution:** Promotion Mix - Advertising - Sales promotion - Publicity – Public Relations - Personal Selling and Direct Marketing - Distribution Channels – Online Marketing

Subject Code: CBL-501(U)   Title Business Leadership

	Unit	Learning Units
Nov-2019	I	**Unit-I: Introductory: Leadership** - Traits, Skills and Styles- Leadership Development - Qualities of a Good Leader.
Dec-2019	II	**Unit-II: Decision-Making and Leadership:** Leadership for Sustainability - Power, Influence, Impact - Leadership Practices - Organizations and Groups: Organizational Culture and Leadership - Leadership in Business Organizations
Jan-'20	III	**Unit-III: Special Topics**: Profiles of a few Inspirational Leaders in Business – Jemshedji Tata - Aditya Birla - Swaraj Paul - L N Mittal - N R Narayana Murthy - Azim Premji, etc.

Subject Code: *CCOA-502 G/C C* **Title:** **Cost Accounting**

Month	Unit	Learning Units
Nov-2019	I	**Introduction**: Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.
Dec-2019	II	**Elements of Cost: Materials**: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method(including problems).
Jan-'20	III	**Labour and Overheads**: Labour: Control of labour costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.
Feb-'20	IV	**Methods of Costing: Job costing** – Process costing - treatment of normal and abnormal process losses – preparation of process cost accounts – treatment of waste and scrap, joint products and by products (including problems).
Mar-'20	V	**Costing Techniques**: Marginal Costing – Standard costing – Variance Analysis (including problems).

SYLLABUS

Subject Code: **CTAX 503 CC**   Title**: TAXATION**

Month	Unit	Learning Units
Nov-2019	I	**Introduction:** Objectives - Principles of Taxation - Brief History - Basic Concepts; Capitaland Revenue; Basis of Charge - Exempted Incomes - Residential Status – Incidence of Taxation.
Dec-2019	II	**Direct and Indirect Taxes** – Service Tax – VAT – Central Sales Tax – Latest Developments.
Jan-'20	III	**Computation of income under different heads:** Income from Salary; Income from HouseProperty; Deductions u/s 80C to 80U - Income from Capital Gains; Income from Other Sources(simples problems).
Feb-'20	IV	**Taxation System in India**: Objectives; Tax Holiday; Modes of Tax Recovery (Section 190 and 202); Payments and Refunds; Filing of Returns.
Mar-'20	V	**Tax Planning**: Tax Avoidance and Tax Evasion; Penalties and Prosecutions; Income TaxAuthorities.

Subject Code: CGST-503G/C   Title :GOODS &SERVICE TAX FUNDAMENTALS

Month	Unit	Learning Units
Nov-2019	I	**Introduction: Overview of GST** - Concepts – Limitations of VAT – Need for Tax Reforms - Justification for introduction of GST - Shortcomings and advantages at the Central Level and State Level on introduction of GST- Process of Introduction of GST - Constitutional Amendments.
Dec-2019	II	**GST:Principles** – Models of GST: Austrlian, Candian, Kelkar-Shah – BagchiPoddar -Comprehensive structure of GST model in India: Single, Dual GST– Transactions covered under GST.
Jan-'20	III	**Taxes and Duties**: Subsumed under GST - Taxes and Duties outside the purview of GST: Tax on items containing Alcohol – Tax on Petroleum products - Tax on Tobacco products - Taxation of Services
Feb-'20	IV	**Inter-State Goods and Services Tax**: Major advantages of IGST Model – Interstate Goods and Service Tax: Transactions within a State under GST – Interstate Transactions under GST - Illustrations
Mar-'20	V	**Time of Supply of Goods & Services**: Value of Supply - Input Tax Credit – Distribution of Credit -Matching of Input Tax Credit - Availability of credit in special circumstances- Cross utilization of ITC between the Central GST and the State GST.

Subject Code: *CCG-504G/C C*   **Title: Commercial Geography**

Month	Unit	Learning Units
Nov-2019	I	The Earth: Internal structure of the Earth – Latitude – Longitude – Realms of the Earth –Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.
Dec-2019	II	India – Agriculture: Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.
Jan-'20	III	India – Forestry: Forests – Status of Forests in Andhra Pradesh – Forest (Conservation)Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.
Feb-'20	IV	India – Minerals and Mining: Minerals – Renewable and non Renewable – Use of Minerals – Mines – Coal, Barites, etc. – Singareni Coal mines and Mangampeta Barites – Districtwise Profile.
Mar-'20	V	India – Water Resources – Rivers: Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers -Experience of India and Andhra Pradesh.

Subject Code *CCB 505CE G/C*   **Title:** **Central Banking**

Month	Unit	Learning Units
Nov-2019	I	Introduction: Evolution and Functions of Central Bank - Development of Central Banks in Developed and Developing countries - Trends in Central Bank Functions.
Dec-2019	II	Central banking in India: Reserve Bank of India - Constitution and Governance, Recent Developments, RBI Act. - Interface between RBI and Banks.
Jan-'20	III	Monetary and Credit Policies: Monetary policy statements of RBI - CRR - SLR – Repo Rates - Reverse Repo Rates - Currency in circulation - Credit control measures.
Feb-'20	IV	Inflation and price control by RBI: Intervention mechanisms - Exchange rate stability -Rupee value - Controlling measures.
Mar-'20	V	Supervision and Regulation: Supervision of Banks - Basle Norms, Prudential Norms, Effect of liberalization and Globalization - Checking of money laundering and frauds.

Subject Code: *CCB 505CE G/C*   Title: Rural and Farm Credit

Course Details

Month	Unit	Learning Units
Nov-2019	**I**	Rural Credit: Objectives and Significance of Rural credit - Classification of rural credit -General Credit Card (GCC) – Financial Inclusion - Rupay Card. .
Dec-2019	**II**	Rural Credit Agencies: Institutional and Non-institutional Agencies for financing agriculture and Rural development - Self-Help Groups (SHG) - Financing for Rural Industries.
Jan-'20	**III**	Farm Credit: Scope - Importance of farm credit - Principles of Farm Credit - Types- Cost of Credit - - problems and remedial measures - Kisan Credit Card (KCC) Scheme
Feb-'20	**IV**	Sources of Farm Credit: Cooperative Credit: PACS - APCOB - NABARD SLBC- Lead Bank Scheme - Role of Commercial and Regional Rural Banks - Problems of recovery and over dues.
Mar-'20	**V**	Farm Credit Analysis: Eligibility Conditions - Analysis of 3 R's (Return, Repayment Capacity and Risk-bearing Capacity) - Analysis of 3 C's of Credit (Character, Capacity and Capital) - Crop index reflecting use and farm credit - Rural Credit Survey Reports..

Subject Code: **CACC201G/C C**   Title : **Financial Accounting**

Month	Unit	Learning Units
June -'20	I	Depreciation: Meaning and Causes of Depreciation - Methods of Depreciation: Straight Line – Written Down Value –Annuity and Depletion Method (including Problems).
July-'20	II	Provisions and Reserves: Meaning – Provision vs. Reserve – Preparation of Bad Debts Account – Provision for Bad and Doubtful Debts – Provision for Discount on Debtors – Provision for Discount on Creditors - Repairs and Renewals Reserve A/c (including Problems).
Aug-'20	III	Bills of Exchange: Meaning of Bill – Features of Bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the Books of Drawer and Drawee (including Problems).
Sep-'20	IV	Consignment Accounts: Consignment - Features - Proforma Invoice - Account Sales – Del-credere Commission - Accounting Treatment in the Books of Consigner and Consignee - Valuation of Closing Stock - Normal and Abnormal Losses (including Problems).
Oct-10	V	Joint Venture Accounts: Joint Venture - Features - Difference between Joint Venture and Consignment – Accounting Procedure – Methods of Keeping Records–One Vendor Keeps the Accounts and Separate Set off Books Methods (including Problems).

Subject Code: **BEN-202 G/C C**   Title: **Business Environment**

Month	Unit	Learning Units
June -'20	I	**Overview of Business Environment:** Business Environment – Meaning – Characteristics – Scope -Macro and Micro Dimensions of Business Environment -Environmental Analysis- Purpose &Techniques.
July-'20	II	**Economic Environment:** Economic Environment – Nature of the Economy – Structure of Economy – Economic Policies & Planning the Economic Condition – NITI Ayog – National Development Council – Five Year Plans
Aug-'20	III	**Economic Policies:** Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Monetary Policy and RBI
Sep-'20	IV	**Social, Political and Legal Environment:** Concept of Social Responsibility of Business towards Stakeholders - Demonetization, GST and their Impact - Political Stability - Legal Changes
Oct-10	V	**Global Environment:** Globalization – Meaning – Role of WTO – WTO Functions -IBRD– Trade Blocks, BRICS, SAARC, ASEAN in Globalization

Subject Code:CACC-201G/C C   Title: Accounting for Service Organizations

Month	Unit	Learning Units
June -'20	I	Non-Trading/ Service Organizations: Concept - Types of Service Organizations – Section (8) and other Provisions of Companies Act,2013. .
July-'20	II	Electricity Supply Companies: Accounts of Electricity supply companies: Double Accounting system – Revenue Account – Net Revenue Account – Capital Account – General Balance Sheet (including problems).
Aug-'20	III	Bank Accounts Bank Accounts – Books and Registers to be maintained by Banks – Banking Regulation Act, 1969 - Legal Provisions Relating to preparation of Final Accounts (including problems).
Sep-'20	IV	Life Insurance Companies Life Insurance Companies –Preparation of Revenue Account, Profit and Loss Account, Balance Sheet (including problems) – LIC Act, 1956.
Oct-10	V	General Insurance Principles – Preparation of final accounts – with special reference to fire and marine insurance (including problems) – GIC Act, 1972.

Subject Code:BEL-202G/C   Title: Business laws

Month	Unit	Learning Units
June -'20	I	**Contract** Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872 Definition of Valid Offer, Acceptance and Consideration - Essential elements of a Valid Offer, Acceptance and Consideration.
July-'20	II	**Capacity of the Parties and Contingent Contract** Rules regarding to Minors contracts - Rules relating to contingent contracts – Different modes of discharge of contracts-Rules relating to remedies to breach of contract.
Aug-'20	III	**Sale of Goods Act 1930** Contract of sale – Sale and agreement to sell – Implied conditions and warranties –Rights of unpaid vendor.
Sep-'20	IV	**Consumer Protection Act, 1986** Introduction, Aims and objectives of the Act - Definition - Consumer Rights - Unfair and restrictive trade practices - consumer protection Councils - Consumer disputes Redressal agencies - Penalties for violation.
Oct-10	V	**Cyber Laws** Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms

Subject Code: *CIT-403G C*   Title: Income Tax

Month	Unit	Learning Units
Nov-2019	I	Introduction: Income Tax Law – Basic concepts: Income, Person, Assesses, Assessment year, Agricultural Income, Residential status, Income exempt from tax (Theory only).
Dec-2019	II	Income from salary: Allowances, perquisites, profits in lieu of salary, deductions from salary income, computation of salary income and qualified savings eligible for deduction u/s 80C(Simple- problems).
Jan-'20	III	Income from House Property: Annual value, let-out/self occupied/deemed to be let-out house, deductions from annual value - computation of income from house property (Simple- problems)
Feb-'20	IV	Income from Capital Gains – Income from other sources – (from Individual point of view) -chargeability – and assessment (Simple- problems).
Mar-'20	V	Computation of total income of an individual – Deductions under section - 80 (Simple- problems).

Subject Code *CBTP-401C C*   Title: Banking Theory & Practice

Month	Unit	Learning Units
Nov-2019	I	Introduction Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks -Central Banking Vs. Commercial Banking.
Dec-2019	II	Banking Systems Unit Banking , Branch Banking, Investment Banking- Innovations in banking – e-banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs- RTGS.
Jan-'20	III	Banking Development Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD -EXIM Bank.
Feb-'20	IV	Banker and Customer Meaning and Definition of Banker and customer – Types of Customers - GeneralRelationship and Special Relationship between Banker and Customer - KYC Norms.
Mar-'20	V	Collecting Banker and Paying Banker

Subject Code *CEM* -*601G/C C* Title: Event Management

Month	Learning Units
Nov-2019	Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets - Corporate event packages - Menu Selection - Customization.
Dec-2019	. Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.
Jan-'20	Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

Subject Code*: **CM 602GE G/C**   **Title: Marketing**

Month	Unit	Learning Units
Nov-2019	I	Introduction: Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.
Dec-2019	II	Consumer Markets and Buyer Behaviour: Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.
Jan-'20	III	Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labelling.
Feb-'20	IV	: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.
Mar-'20	V	Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

Subject Code *:CAU-603GE G/C*   **Title:** Auditing

Month	Unit	Learning Units
Nov-2019	I	**Introduction**: Meaning – Objectives – Importance of Auditing – Characteristics - Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.
Dec-2019	II	**Types of Audit**: Based on Ownership,Time and Objective - Independent, Financial, Internal, Cost,Tax, Government, Secretarial Audits
Jan-'20	III	**Planning of Audit:** Steps to be taken at the Commencement of a New Audit – Audit Programme - Audit Note Book– Audit Working Papers - Audit Evidence - Internal Check, Internal Audit and Internal Control.
Feb-'20	IV	**Vouching and Investigation**: Definition and Importance of Vouching – Objectives of Vouching -Vouching of Cash and Trading Transactions – Investigation - Auditing vs. Investigation
Mar-'20	V	**Company Audit and Auditors Report**: Auditor's Qualifications – Appointment and Reappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.

Subject Code *: CMA 604GE G/C*   **Title** Management Accounting

Month	Unit	Learning Units
Nov-2019	I	Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).
Dec-2019	II	Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).
Jan-'20	III	Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).
Feb-'20	IV	Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement – Uses and limitations of cash flow analysis (including problems).
Mar-'20	V	Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

Subject Code *: CFS 605 CE G/ C*   **Title** Financial Services

Month	Unit	Learning Units
Nov-2019	I	Financial Services: Role of Financial Services - Banking and Non Banking Companies – Activities of Non Banking Finance Companies- Fund Based Activities - Fee Based Activities .
Dec-2019	II	Merchant Banking Services: Scope and importance of merchant banking services - Venture Capital - Securitization - Demat services - Commercial Papers – Treasury bills
Jan-'20	III	Leasing and Hire-Purchase: Types of Lease, Documentation and Legal aspects – Fixation of Rentals and Evaluation - Hire Purchasing- Securitization of debts - House Finance.
Feb-'20	IV	Credit Rating: Purpose – Types – Credit Rating Symbols – Agencies: CRISIL and CARE – Equity Assessment vs. Grading – Mutual funds.
Mar-'20	V	Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

Subject Code *: CMFS 606 CE G/C* **Title** Marketing of Financial Services

Month	Unit	Learning Units
Nov-2019	I	Difference between Goods and Services: Managing Service Counters – Integrated Service Management – Service Elements.
Dec-2019	II	:Constructing Service Environment – Managing People for service Advantage – Service Quality and Productivity – Customer Loyalty.
Jan-'20	III	Pricing and Promotion Strategies: Pricing strategies – Promotion strategies – B2B Marketing – Marketing Planning and Control for services.
Feb-'20	IV	Distributing Services: Cost and Revenue Management – Approaches for providing services - Channels for Service provision – Designing and managing Service Processes.
Mar-'20	V	: Retail Financial Services - Investment services – Insurance services - Credit Services - Institutional Financial Services - Marketing practices in select Financial Service Firms.

AG & SG Siddhartha Degree College of Arts & Science, (Autonomous) Vuyyuru - 521 165.

Teaching Plan

Academic Year : 2019 - '20

Semester-

Paper Title : Differential Equations

Class: I B.Sc

Course Code: MAT - 101

Month	Plan (Unit No. & Chapter Title)	Remarks
Jun-19	Unit III: Higher Order L.D.Equations-I, Solution of Homogeneous L.D.Equations & Non Homogeneous L.D.Equations with constant coefficients (Method I & II).	
Jul-19	Unit IV: Higher Order L.D.Equations -II,Solution of Non Homogeneous L.D.Equations with constant coefficients (Method III,IV & V).	
Aug-19	Unit V: Higher Order L.D.Equations - III, M.V.P Method,The Cauchy-Euler Equation.	
Sep-19	Unit I: Differential Equations Of First Order & First Degree, L.D.Equations, D.E reducible to Linear form ,Exact D.E.,Integrating factors,Change of Variables.	
Oct-19	Unit II: Differential Equations of the First Order butnot of the First Degree, Orthogonal Trajectories, Equations Solvable for p,y & x,Equations of the First Degree In x & y-Clairaut's Equation.	

Semester-III

Paper Title : Abstract Algebra and Real Analysis -I

Class: II B,Sc

Course Code: MAT-301C

Month	Planned (Unit No. & Chapter Title)	Remarks
Jun-19	Unit-I:Groups:Binary operation,Semi group,group defination and elementary properties,finite and infinite groups-examples order of a group,composition tables with examples	
Jul-19	Unit-II:Subgroups:multiplication of two subgropus,union and intersection of two subgroups,Lagrange's theorem.	
Aug-19	Unit-III: Normal Subgroups, proper and improper normal subgroups, intersection of two normal sub groups,subgroup of index 2 is a normal subgroup,quotient group.	
Sep-19	Unit-IV:Real Numbers,Real Sequencesbounded sequences,the cauchy's criterion,bolzano-weierstrass theorem,cauchey'sgeneral principle of convergence theorem	
Oct-19	Unit-V:Infinite Series:p-test,cauchy's nth Root test,D'Alembert's Ratio test ,Leibnitz test	

Semester-V
Paper Title : Ring Theory And Vector Calculus
Class: III B.SC
Course Code: MAT-501

Month	Planned (Unit No. & Chapter Title)	Remarks
Jun-19	Unit-I:Rings-I: Ring,Boolean ring,Charactristic of a ring,Intigral domain,Field,Ideals	
Jul-19	Unit-II-Rings-II:Homomorphism,Kernel of homomorphism,Fundamental theorem of homomorphism	
Aug-19	Unit-III:Vector Differentiotion :Gradient,Divergent,Curl Operators of Vectors	
Sep-19	Unit-IV:Vector Intigration:Line Integral,Surface Integral,Volume Integral with examples	
Oct-19	Unit-V:Vector Intigration Applications:Theorems of Gauss and Stokes,Green's theorem in plane and applications of these theorems	

NAME OF THE DEPARTMENT : Mathematics
Academic Year : 2019 - '20   V
Paper Title :   Linear Algebra   III B.Sc

                                                                          MAT - 502

Month	Planned (Unit No. & Chapter Title)	Remarks
Jun-19	Unit IV: Matrices, Linear System of Equations	
Jul-19	Unit IV: Charecteristic roots and vectors of a square matrices. Unit V: Inner Product Spaces.	
Aug-19	Unit I: Vector Space I, Vector Subspaces, LD and LID Unit II: Vector Space II,	
Sep-19	Unit II: Vector Space II, Basis and Dimensions Unit III: Linear Transformations	
Oct-19	Unit III: Linear Transformations, Rank Nullity theorem	

Paper
Title :   Solid Geometry   I B.Sc

                                                                     MAT -
                                                                     201

Month	Planned (Unit No. & Chapter Title)	Remarks
Nov-19	Unit - I : The Plane, Equation of Plane in tems its Intercepts on the Axis , Equation of the Plane through the Given Points, Bisectors of angles between Two Points,Pair of Planes.	
Dec-19	Unit - II : The Line, Eqaution of a Line ,Angle Between a Line & a Plane ,Image Point, Image Line,Shortest Distance Between Two Lines.	
Jan-20	Unit - III : The Sphere , Definition & Equation of the Sphere ,Equation of the Sphere through four given points,Intersection of two Sphere,Eqaution of a Circle ,Sphere through a given Circle,Intersection of a Sphere & a Line ,Tangent Plane,Plane of a contact,Polar plane ,pole of a plane,Conjugate Points,Conjugate Planes.	
Feb-20	Unit - IV : The Sphere & Cones, Angle of Intersection of two Spheres,Coaxial System of Spheres,Definition of a Cone ,Vertex,Guiding Curve,Generetors,Equation of a cone with a given vertex & Guiding Curve,Enveloping Cone of a Sphere,Condition that a cone may have three mutually perpendicular generators.	
Mar-20	Unit - V : Cones & Cylinders,Reciprocal Cones,Right Circular Cone,Definition & Equation of a Cylinder, Enveloping Cylinder,Right Circular Cylinder.	

IV semester

Paper
Title :   Abstract Algebra and Real Analysis-II   II.BSC

                                                                     MAT-
                                                                     401C

Month	Planned (Unit No. & Chapter Title)	Remarks
Nov-19	Unit-I: Homomarphism,Kernal of Homomorphism, fundametal theorem on Homomorphism.	
Dec-19	Unit-II: Permutations And Cyclic Group, Inverse of a permutation,even & odd permutations,Cayley's theorem.	
Jan-20	UnitIII:Infinite Series:p-test,cauchy's nth Root test,D'Alembert's Ratio test ,Leibnitz test	
Feb-20	Unity-IV: Differentiation And Mean Valu Theorm,Role's Theorem, Cauchy's Mean Valu Theorem.	
Mar-20	Unit-V: Riemann Integration, Darboux Theorem, Fundamental Theorem of integral calculus.	

Academic Year : 2019 - '20

Paper Title : Numerical Analysis

VI

III B.Sc

MAT - 601

Month	Planned (Unit No. & Chapter Title)	Remarks
Nov-19	Unit - I : Errors and their acurracy	
Dec-19	Unit - II : Applications of Algebraic and Transedental equations, Regula - Falsi and Newton - Raphson Methods	
Jan-20	Unit - III : Finite Differences and Interpolation with equal intevals	
Feb-20	Unit - IV :Central difference interpolation with Gauss's, Stirling's, Bessel's and Everett's formulaes	
Mar-20	Unit - IV : Interpolation with Un - Equal intervals, Newtons, Lagrange's interpolation Formulae	

IV Semester

Academic Year : 2019 - '20

Paper Title : Integral Transforms

III B.Sc

MAT - 602

Month	Planned (Unit No. & Chapter Title)	Remarks
Nov-19	Unit - I : Applications of Laplace Transforms of D.E with Constant coefficients	
Dec-19	Unit - I : Applications of Laplace Transforms of solutions D.E with variable coefficients Unit - II Applications of Laplace Transforms of solutions D.E - II	
Jan-20	Unit - II Applications of Laplace Transforms of solutions D.E - II Unit - III : Applications of Laplace Transforms to Integral Equations	
Feb-20	Unit - IV : Fourier Series - I	
Mar-20	Unit - IV : Fourier Series - II	

Academic Year : 2019 - '20

Name of the Lecturer :

Paper Title : ADVANCED NUMERICAL ANALYSIS

IV

III.BSC

MAT-603CE

Month	Planned (Unit No. & Chapter Title)	Remarks
Nov-19	Unit-IV: Gaussian Elimination method, Gauss Jordan method,Iterative method.	
Dec-19	Unit-V: Numerical solution of ordinary differentiaal eqaution,Euler's method,Runge-Kutta method.	
Jan-20	Unit-I: Curve Fitting,Poiynomial fitting,Cure fitting by a power function and exponential function.	
Feb-20	Unit-II: Numerical Differentiation,Newton's forword difference formula,Derivatives using central difference formula	
Mar-20	Unit-III: Numerical Integration, Trapizoidal rule, Boole's rule and Weddle's rule.	

A.G & S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU

DEPARTMENT OF PHYSICS
SEMESTER – I
2019-2020

Teaching Plan

Subject Code : **PHY 101C**   Title: **Mechanics & properties of matter**

Month	Unit No.	Topic to be covered
Jun 19	I	**1. Vector analysis :-** scalar and vector fields, gradient of a scalar field and its physical significance .divergence and curl of vector field with derivations, gauss theorem,stokes theorem
July - 19	II	**Mechanics of Particles** Review of Newton's Laws of Motion, Motion of variable mass system, Motion of a rocket, Multistage rocket, Concept of impact parameter, scattering cross-section.
aug-19	III	**4. Mechanics of Rigid bodies** Def of Rigid body, rotational kinematic relations, Equation of motion for a rotating body, Angular momentum and Moment of inertia tensor, Euler equations, Precession of a spinning top, Gyroscope, Precession of the equinoxes .
Sep 19	IV	**Central forces** :- Def and examples, conservative nature of central forces, conservative force as negative gradient of potential energy, keplers laws, derivation, motion of satellites .
Oct 19	V	**Special theory of relativity** :- Galilean relativity, absolute frames, michelson morely expt, posulates of special theory of relativity, lorentz transformations, length contraction, mass energy relation .

SEMESTER – II
2019-2020

Teaching Plan

Subject Code : **PHY 201C**   Title: **WAVES AND OSCILLATIONS**

Month	Unit No.	Topic to be covered
Nov 19	I	***SIMPLE HORMONIC MOTION** :SHM and solution of differential equation, characteristics of shm, torsional pendulum, measurement of rigidity modulus, combination of two mutually perpendicular shm vibrations of same frequency, lissajous figures .*
Dec 19	II	**Damped and forced oscillations** : damped harmonic oscillator, solution of differential equation of oscillator, energy considerations, logarthomic decrement, quality factor, amplitude resonance, velocity resonance .
Jan 20	III	**Complex vibrations** :- fourier theorem, forier coefficients, sqaure wave, triangular wave, saw tooth wave .
Feb 20	IV	**Vibrating strings :-** transverse nature ofpropagation along a stretched string, solution of wave euation, modes of vibration of stretched string, overtones, tranverse impedence .
Mar 20	V	**Ultrasonics** :- properties of ultrasonics, piezoelectric method, magnetostriction method, wavelength of ultra sonics, applications of ultrasonicss .

SEMESTER – III

Teaching Plan

Subject Code : **PHY-301C**   Title**: WAVE OPTICS**

Month	Unit No.	Topic to be covered
Jun 19	I	**1. ABERRATIONS** : Monochromatic aberrations, spherical aberrations, coma, astigmatism, curvature, distortion, chromatic aberration , achromatic doublet, achromatism for two lenses in contact,separated by a distance **.**
July19	II	**2. Interference : Division of wavefront :** Principle of superposition**,** interference of light by division of wave front and amplitude, Lloyd's single mirror, tin films, wedge shaped films, newton's rings in reflected rings, Michelson interferometer and determination of wave length. Stokes law . .
aug 19	III	**3. Interference : Division of amplitude :** Oblique incidence due to reflected and transimmited light, colore in thin films, non reflecting films**,** wedge shaped films, newton's rings in reflected rings, Michelson interferometer and determination of wave length.
Sep 19	IV	**4 Diffraction :** Introduction, distinction between Fresnel and Fraunhoffer diffraction, Fraunhoffer diffraction – Diffraction due to single slit , Resolving power of grating-Determination of wavelength of light in normal and oblique incidence methods using diffraction grating.Fresnel's half period zones-area of the half period zones-zone plate-comparison of zone plate with convex lens..
	V	**5.Polarization** : Polarized light, bresters law, malus law, nicol prism, quarter wave plate, half wave plate, babinets compensator **.** **Lasers** : introduction,spontaneous emission, stimulated emission. Population Inversion, Laser principle-Einstein coefficients-Types of lasers-He-Ne laser, Ruby laser- Applications of lasers. Holography: Basic principle of holography,

Month	Unit No.	Topic to be covered
		Applications of holography

SEMESTER – IV

2019-2020

TEACHING PLAN

Subject Code: **PHY-401C**   Title: **Thermodynamics & Radiation physics**

Month	Unit No.	Topic to be covered
Nov 19	I	**1.Kinetic theory of gases** Introduction –Deduction of Maxwell's law of distribution of molecular speeds, Transport phenomena-Viscosity of gases-thermal conductivity-diffusion of gases.
Dec 19	II	**2. Thermodynamics** Introduction- Isothermal and adiabatic process-Reversible and irreversible processes-Carnot's engine and its efficiency-Carnot's theorem-Second law of thermodynamics. Kelvin's and Claussius statements-Entropy, physical significance –Change in entropy in reversible and irreversible processes-Entropy and disorder-Entropy of Universe-Temperature-Entropy (T-S) diagram-Change of entropy of a perfect gas-change of entropy when ice changes into steam.
Jan 20	III	**3. Thermodynamic potentials and Maxwell's equations** Thermodynamic potentials-Derivation of Maxwell's thermodynamic relations-Clausius-Clayperon's equation-Derivation for ratio of specific heats-Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect-expression for Joule Kelvin coefficient for perfect.

Feb 20	IV	**4. Low temperature Physics** Introduction-Joule Kelvin effect-liquefaction of gas using porous plug experiment Joule expansion-Distinction between adiabatic and Joule Thomson expansion-Expression for Joule Thomson cooling-Liquefaction of helium, Kapitza's method-Adiabatic demagnetization, Production of low temperatures -applications of substances at low-temperature-effects of chloro and fluoro carbons on ozone layer.
March 20	V	**5. Quantum theory of radiation** Blackbody-Ferry's black body-distribution of energy in the spectrum of black body-Wein's displacement law, Wein's law, Rayleigh-Jean's law-Quantum theory of radiation-Planck's law-Measurement of radiation-Types of pyrometers –Angstrom pyroheliometer-determination of solar constant, Temperature of Sun.

SEMESTER – V

2019-2020

Teaching plan

Subject Code : **PHY 501C**   Title : **Electricity, Magnetism and Electronics**

Jun 19	I	**1.Electrostatics** Gauss's law Statement and its proof-Electric field intensity due to (1) Uniformly charged sphere and (2) an infinite conducting sheet of charge. Electric potential- Equipotential surface –potential due to i) a point charge ii)charged spherical shell . **2.Dielectrics** Electric dipolement and molecular polarizability-Electric displacement D, electric polarization P – relation between D, E, and P- Dielectric constant, susceptibility .

Jul 19	II	**3. Electric and magnetic field** Biot – Savart's law and calculation of B due to long straight wire, a circular current loop and solenoid. Hall effect-determination of Hall coefficient and applications. **4.Electromagneticinduction** Faraday's law – Lenz's law self and mutual inductance, coefficient of coupling, calculation of self inductance of a long solenoid, energy stored in magnetic field. Tansformer- energy losses and efficiency.
aug 19	III	**5.Alternating current and electro magnetic waves** **A**lternating current –Relation between current and voltage in LR and CR circuits, vector diagrams, LCR series and parallel resonant circuit , Q- factor, power in AC circuits. **6.Maxwell's equations** **I**dea of displacement current- Maxwell's equations (integral and differential forms) (no derivation) Maxwell's wave equation(with derivation), Transverse nature of electromagnetic wave. Pointing Vector (statement and proof) production of electromagnetic wave Hertz experiment.
sep 19	IV	**7.Basic electronics:** PN junction diode Zener diode ,I-V characteristics, PNP and NPN Transistors, CB,CE and CC configuration Relation between α β and Γ transistors (CE) characteristics,Transistor as an amplifier.
Oct 19	V	**Digital electronics:** Number systems-conversion of binary to decimal system and vice versa. Binary addition and subtraction (1's and 2's complement methods) laws of Boolean algebra-De Morgan's laws- statement and proof basic logic gates, NAND and NOR as universal gates Half adder and FULL adder.

SEMESTER – V

2019-2020   TEACHING PLAN

Subject Code: PHY- 502C   **Title : MODERN PHYSICS**

Jun 19	I	**1. Atomic and molecular physics** Introduction – Drawbacks of Bohr's atomic model – Sommerfeld's elliptical orbits- relativistic correction (no derivation). Vector atom model and Stern & Gerlach experiment - quantum numbers associated with it. L-S and j-j coupling schemes. Zeeman Effect and its experimental study. Raman effect, stokes and Anti stokes lines . Quamtum theory of Raman effect. Experimental arrangement – Applications of Raman effect.
July 19	II	**2. Matter waves & Uncertainty Principle** Matter waves, de Broglie's hypothesis – wavelength of matter waves, Properties of matter waves – Davisson and Germer experiment, uses of electron diffraction-Phase velocity and Group velocity (definitions only)- relation between phase velocity and Group velocity–Heisenberg's uncertainty principle for position and momentum (x and p) & energy and time (E and t). Experiment verification.
Aug 19	III	**3.Quantum (wave) mechanics** Basic postulates of quantum mechanics – Schrodinger time independent and time dependent wave equation – derivations. Physical interpretation of wave function. Applications of Schrodinger wave equation to particle in one dimensional infinite box. Harmonic oscillator.
Sep 19	IV	**4.General properties of Nuclei** Basic ideas of nucleus – size,mass,charge density(matter energy), binding energy,angular momemtum, parity, magnetic moment, electric quadrupole moments.Liquid drop model and shell model (qualitative aspects only)- Magic numbers. **5. Radioactivity decay** Alpha decay : basis of α – decay processes. Range of α-particles , Geiger"s Law,Geiger- Nuttal law. β – decay, β ray continuous and discrete spectrum, neutrino hypothesis.

Oct 19	V	**6.Crystal structure**
		     Amorphous and crystalline materials, unit cell, Miller indices, reciprocal lattice, types of lattices, diffraction of X- rays by crystals, Bragg's law, experimental techniques, Laue's method and powder diffraction method.
		7. Superconductivity:
		     Introduction – experimental facts, critical temperature – critical field – Meissner effect – isotope effect – Type I and Type II superconductors – BCS theory (elementary ideas only) – applications of superconductors.

<u>SEMESTER – VI</u>

2019-2020   TEACHING PLAN

Subject Code: **PHY 601 GE(c)**   Title :   <u>**ANALOG AND DIGITAL ELECTRONICS**</u>

Nov 19	I	1. **FET** Construction ,Working ,Characteristics and uses; MOSEFT-enhancement MOSEFT,Depletion MOSEFT, Construction and Working, drain Characteristics of MOSEFT, applications of MOSEFT. 2. **Photo electric devices**: structure and operation, Characteristics and applications of LED and LCD.
Dec 19	II	3.**Operational amplifier**: Characteristics of ideal and practical OP-amp (IC-741),Basic differential OP-amp supply voltage, IC identification, internal blocks of OP-amp, its parameter off set voltages and currents, CMRR, slew rate, Concept of Virtual ground.
Jan 20	III	**4.Applications of OP-amp**: OP-amp as voltage amplifier, inverting amplifier, Non- inverting amplifier, Voltage follower, summing amplifier, difference amplifier, comparator, Integrator, Differentiator.
Feb 20	IV	5. **Data processing circuits**: Multiplexers, De – Multiplexers, encoders, decoders, Characteristics 6. **For Digital IC's** –RTL, DTL,TTL, CMOS (NAND&NOR Gates

Marc 20	V	**7 .Sequential digital circuits**: Flip-flops, RS, clocked SR, JK, D, T, Master-Slave Flip-flops . **8. Counters**: Asynchronous counters-modulo 4counter-modulo 16 ripple counter, Decade counter, Synchronous counter.

SEMESTER – VI

2019-2020   TEACHING PLAN

Subject Code: **PHY 602 CE(1)**

Title : **INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLER**

Nov 19	I	**MICROPROCESSOR**: General architecture of microprocessor, architecture of 8085 microprocessor, 8085 pin diagram, Concept of data bus, address bus, and control bus, 8085 programming instruction classification.
Dec 19	II	**8085 Interfacing Memory** Introduction-Memory structure and its requirements-basic concepts in memory interfacing. Address Decoding-Interfacing circuit. Port-mapped I/O or Direct I/O interface (8-bit Addressing)-Memory Indirect I/O mapped Interfaces (16-bit Addressing)-Port mapped versus Memory mapped I/O. I/O Device Interfacing.
Jan 20	III	**8085 Microprocessor Applications** Introduction-Programmed data transfer scheme. Direct Memory Access (DMA) –Types. 8255A PPI-Block diagram. 8259A PIC-Pin diagram and functional description. 8257 Programmable DMA controller-Block diagram and Pin description.
Feb 20	IV	**8051 Architecture-I:** Types of microcontrollers- microcontroller architecture, CISC, RISC, operation of microcontroller, basic building blocks of microcontroller, comparison of microcontroller and microprocessor- block diagram of 8051-I/o pins and ports. Microcontroller Resources.

Mar 20	V	**8051 Architecture-II:** 8051 Flag bits and PSW register and DPTR register- Memory Organization- Special function registers- PSW register-Counters and Timers-Serial I/O-8051 Microcontroller Interrupts.

SEMESTER – VI

2019-2020 TEACHING PLAN

Subject Code: **PHY 603C**   Title: **Computational Methods and Programming**

Nov 19	I	1. Fundamentals of C language: C character set – Identifiers and keywords – structure of c program. Constants- variables- Data types- Declarations of variables – Declaration of storage class – Defining symbolic constants – Assignment statement. 2.Operators : Arithmetic operators- Relational operators – Logic operators – Assignment operators – Increment and decrement operators – Conditional operators
Dec 19	II	3.Expressions and I/O statements : Arithmetic expressions – precedence of arithmetic operators – Type converters in expressions – Mathematical (Library) functions – Data input and output – The getchar and putchar functions – Scanf – Printf simple programs. 4.Control statements: IF – ELSE statements – Switch statements – The operators – GO TO- while, DO-While, FOR statements – BREAK and CONTINUE statements.
Jan 20	III	5.Arrays: One dimensional and two dimensional arrays – Initialization –Type declaration – Inputting and outputting of data for arrays – Programs of matrices addition, subtraction and multiplication. 6.User defined functions: The form of C functions – Return values and their types – Calling a function – Category of functions. Nesting of functions. Recursion. ANSI C functions – Function

		declaration. Scope and life of variables in functions.
Feb 20	IV	7.Linear and Non-Linear equations: Solution of Algebra and transcendental equations – Bisection, Falsi position and Newton – Rhapson methods – Basic principles – Formulae – algorithms. 8.Simultaneous equations: Solutions of simultaneous linear equations – Guass elimination and Gauss seidel iterative methods – Basic principles – Formulae- Algorithms

Mar 20	V	Interpolations : Concept of linear interpolation – Finite differences –
		    Newton's and Lagrange's interpolation formulae – principles and Algorithms.
		9.Numerical differentiation and integration : Numerical differentiation –
		    algorithm for evaluation of first order derivatives using formulae based on Taylor's series – Numerical integration – Trapezodal and Simpson's 1/3 rule – Algorithms.

SEMESTER – VI

2019-2020 TEACHING PLAN

Subject Code: **PHY 604 CE**   Title: : **Electronic Instrumentation**

NOV 19	I	1. Basic of measurements: Instruments accuracy, precision, sensitivity- errors in measurements- Basic meter movement- PMMC (Permanent Magnetic Moving Coil). 2. Measurement of dc current: DC ammeter- multi range ammeters-the ARYTON Shunt or universal Shunt. 3. Measurement of dc voltage: DC Voltmeter – Multi Range Voltmeter- Voltmeter sensitivity.
DEC 19	II	**4.Analog Multimeter:** Multimeter - as dc ammeter-as dc voltmeter-as ac voltmeter- as ohm meter-Multimeter operating instructions. 5.Digital instruments: Principle and working of digital instruments, characteristics of a digital meter, working principle of digital voltmeter.

JAN 20	III	6.CRO: Block diagram of basic CRO, construction of CRT, electron gun, electrostatic focusing and acceleration (only explanation), time base operation, synchronization, front panel controls, specifications of CRO and their significance. 7.Applications CRO: Measurement of voltage-dc and ac, frequency, time period. Special features of dual trace CRO. Digital storage oscilloscope: block diagram and principle of working.
FEB 20	IV	8.Diode as Rectifier – Half wave rectifier, Full wave rectifier – construction, working and efficiency. (no derivation) 9.Feedback in Electronic circuits – Positive and Negative feedback, expressions for gains, advantages of negative feedback, Oscillators, Barkhausen criteria, RC phase shift oscillator (no derivation)
MAR 20	V	10.Signal Generators: Block diagram, working and specifications of low frequency signal generators, pulse generator, function generator . 11.Bridges: Measurement of resistance by Wheat stone's Bridge- Sensitivity of Wheat stone's Bridge- Applications of Wheat stone's Bridge- Limitations of Wheat stone's Bridge.

SEMESTER-I   **CLASS: I MPC's,MCC's**

Subject Code: CSC-101   **Title:** Computer Fundamentals & Photoshop   **Year:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.
JULY - 2019	II	Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.
AGU-2019	III	Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.
SEP-2019	IV	**Images**: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections. **Working with tool box:** working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.
OCT 2019	V	**Layers:** Working with layers- layer styles- opacity-adjustment layers **Filters:** The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

SEMESTER-I   **CLASS: I B.COM(CA)**

Subject Code: CCSC-103C   **Title:** Computer Fundamentals & Photoshop   **Year:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems: binary, hexa and octal numbering system.
JULY - 2019	II	Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and freeware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.
AGU-2019	III	Introduction to Adobe Photoshop, Getting started with Photoshop, creating and saving a document in Photoshop, page layout and back ground, Photoshop program window-title bar, menu bar ,option bar ,image window ,image title bar ,status bar, ruler ,paletts, tool box ,screen modes ,saving files ,reverting files ,closing files.
SEP-2019	IV	**Images**: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections. **Working with tool box:** working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.
OCT 2019	V	**Layers:** Working with layers- layer styles- opacity-adjustment layers **Filters:** The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds , artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

SEMESTER-III   **CLASS: II MPCs, MCCs**

Subject Code: CSC-301C   **Title:** Object Oriented Programming using JAVA **Year:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Fundamentals of Object – Oriented Programming:** Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features: **Overview of Java Language**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **Constants, Variables & Data Types:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **Operators & Expressions**.
JULY – 2019	II	**Decision Making & Branching:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, the else if ladder, the switch statement, the conditional operator. **Looping**: Introduction, While statement, do-while statement, for statement, Jumps in loops. **Classes, Objects & Methods**: Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members, Nesting of methods;
AGU-2019	III	**Inheritance**: Extending a Class, Overriding Methods, Final Variables and Methods, Final Classes, Abstract Methods and Classes; **Arrays, Strings And Vectors:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings, Vectors, Wrapper classes; **Interfaces**: **Multiple Inheritance**: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;
SEP-2019	IV	**Multithreaded Programming:** Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface. **Managing Errors And Exceptions:** Types of errors: Compile-time errors, Runtime errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,
OCT 2019	V	**Applet Programming:** local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state. **Packages:** Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package. **Managing Input/ Output Files in Java:** Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams.

SEMESTER-III   **CLASS: II B.COM(CA)**

Subject Code: CCSC-301C **Title:** Office Automation Tools JAVA **Year:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	**MS-Excel:** features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.
JULY – 2019	II	**Formatting options:** Different formatting options, change row height, formulae and Functions, **Functions:** Meaning and advantages of functions, different types of functions available in Excel.
AGU-2019	III	**Charts:** Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis. **Macro:** Meaning and advantages of Macros, creation, editing and deletion of macros - Creating a macro, how to run, how to delete a macro.
SEP-2019	IV	**MS Access: Creating a Simple Database and Tables:** Features of Ms-Access, Creating a Database, Parts of Access. **Tables:** table creation using design view, table wizard, data sheet view, import table, link table. **Forms:** The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.
OCT 2019	V	**Finding, Sorting and Displaying Data:** Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multi-level sorts, Finding incomplete matches, showing All records after a Query, saving queries - Crosstab Queries. **Printing Reports:** Form and Database Printing.

SEMESTER-III   **CLASS: II B.A,B.COM(CA), B.Sc**

Subject Code: ICT-II-301C **Title:** Internet Fundamentals and Web Tools **Year:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Fundamentals of Internet :** Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.
JULY – 2019	II	**Internet applications**: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumbler, LinkedIn, face book, flicker, Skype, yelp, vimeo, yahoo, Google+, YouTube, WhatsApp, etc.
AGU-2019	III	**E-mail :**Definition of E-mail - Advantages and Disadvantages – User-Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management, Email Inner Workings.
SEP-2019	IV	**WWW**- Web Applications, Web Terminologies, Web Browsers, URL – Components of URL, Searching WWW – Search Engines and Examples.
OCT 2019	V	**Basic HTML:** Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags –Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

SEMESTER –V   **CLASS: III MPCs**

Subject Code: CSC-501C **Title:** Data Base Management Systems   **Year:**2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Database Systems Introduction:** *Database Systems*: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models, Degree of Data Abstraction.
JULY - 2019	II	**Relational Database & Data Modelling:** *The Relational Database Model:* A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system Catalog, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model *Advanced Data Modelling:* The Extended Entity Relationship Model, Entity clustering, Entity integrity.
AGU-2019	III	**Normalization and Database Design**: *Normalization of database tables:* Data base Tables and Normalization, The need for Normalization, The normalization Process, High level Normal Forms, Normalization and database design, denormalization.*Database Design:* The Information System, The Systems Development Life Cycle, The Database Life Cycle, Centralized Vs Decentralized design.
SEP-2019	IV	**Structured Query Language:** *Introduction to SQL:* Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators, Sub queries and correlated queries, SQL Functions.
OCT 2019	V	**Procedural SQL**:*Introduction to PL/SQL:* Triggers, Stored Procedures, Pl/ SQL Stored Function.

Subject Code: CSC-502C **Title:** Software Engineering   **Year:**2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Introduction to Software Engineering & Process:** *The Evolving Role of Software*– Software - The Changing Nature of Software, Software Myths, Legacy Software. *Process*: Software Engineering-A Layered Technology - A Process Framework - The Capability Maturity Model Integration (CMMI) - Process Patterns, Process Assessments - Personal And Team Process Models: Personal Software Process(PSP), Team Software Process (TSP).
JULY - 2019	II	**Process Models:** The Waterfall Models - Increment Process Models: The Increment Model, The RAD Model - Evolutionary Process Models: Prototyping, The Spiral Model, The Concurrent Development Model - The Unified Process: Phases of The United Process, Unified Process Work Products.
AGU-2019	III	**Requirements Engineering:** Requirements Engineering Tasks - Initiating The Requirements Engineering Process - Eliciting Requirements: Collaborative Requirements Gathering, Quality Function Deployment, User Scenarios, Elicitation Work Products - Negotiating Requirements - Validating Requirements.
SEP-2019	IV	**Analysis Model :** Requirements Analysis -Analysis Modelling Approaches - Data Modelling Concepts - Object-Oriented Analysis - Scenario-based Modelling - Flow-Oriented Modelling - Class-Based Modelling - Creating a Behavioural Model: Identifying Events with the Use-Case, State Representations.
OCT 2019	V	**Design Engineering :** Design Process And Design Quality - Design Concepts - The Design Model: Data Design Elements, Architectural Design Elements, Interface Design Elements, Component-Level Design Elements, Deployment -Level Design Elements.

Subject Code: CCSC-505C **Title:** Programming in "C"   **Year:**2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Introduction to Algorithms and Programming Languages:** Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. Introduction to C: Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting
JULY - 2019	II	**Decision Control and Looping Statements** Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement.
AGU-2019	III	**Functions:** Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function
SEP-2019	IV	**Arrays** Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays – Operations on Two Dimensional Arrays **Strings:** Introduction String and Character functions
OCT 2019	V	**Pointers:** Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables Passing Arguments to Functions using Pointer. Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Unions – Enumerated Data Types.

Subject Code: CCSC-506C **Title:** Data Base Management Systems **Year:**2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Database Systems Introduction:** *Database Systems*: Introducing the database and DBMS, Why the database is important, *Historical Roots:* Files and File Systems, Problems with File System, Data Management, Database Systems. *Data Models:* The importance of Data models, Data Model Basic Building Blocks, The evaluation of Data Models.
JULY – 2019	II	**Relational Database & Data Modelling :** *The Relational Database Model:* A logical view of Data, Keys, Integrity Rules, Relational Set Operators, Indexes, Codd's relational database rules. *Entity Relationship Model:* The ER Model *Advanced Data Modelling:* The Extended Entity Relationship Model, Entity clustering.
AGU-2019	III	**Normalization and Database Design:** *Normalization of database tables:* Database Tables and Normalization, The need for Normalization, The Normalization Process, High level Normal Forms, Normalization and database design, de normalization.
SEP-2019	IV	**Structured Query Language:** *Introduction to SQL:* Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select queries, Virtual Tables, SQL Join Operators.
OCT 2019	V	**Procedural SQL** *Introduction to PL/SQL :* Triggers, Stored Procedures, Pl/ SQL Stored Functions

Subject Code: CCSC-507C **Title:** Web Technologies   **Year:**2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Introduction to XHTML:** Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.
JULY - 2019	II	**CSS:** Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers. Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.
AGU-2019	III	**Objects in Java Script & Dynamic HTML with Java Script** *Objects in Java Script:* Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events. *Dynamic HTML with Java Script:* Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.
SEP-2019	IV	**XML Defining Data for Web Applications** *XML:* Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.
OCT 2019	V	**JSP:** JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables

SEMESTER –II   **CLASS: II B.Sc(MPCs,MCCs)**

Subject Code:CSC-201C   **Title**::**Programming in "C"**   **Year**:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Introduction to Algorithms and Programming Languages**: Algorithm – Key features of Algorithms -Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language. **Introduction to C:** Introduction – Structure of C Program – Writing the first C Program –File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting
DEC – 2019	II	**Decision Control and Looping Statements:** Introduction to Decision Control Statements –Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement **Functions**: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables –Storage Classes Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration.
JAN-2020	III	**Arrays**: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays – Operations on Two Dimensional Arrays - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices **Strings:** Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions.
FEB-2020	IV	**Pointers:** Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers **Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

MAR-2020	V	**Files:** Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File.

MAR-2020	V	**Files:** Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File.

SEMESTER –II   **CLASS: II B.COM(CA)**

Subject Code:CCSC-203C   **Title**::Enterprise Resource Planning **Year**:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Introduction**: Overview of enterprise systems – Evolution - Risks and benefits - Fundamental technology - Issues to be consider in planning design and implementation of cross functional integrated ERP systems.
DEC – 2019	II	**ERP Solutions and Functional Modules:** Overview of ERP software solutions- Small, medium and large enterprise vendor solutions, BPR and best business practices - Business process Management, Functional modules.
JAN-2020	III	**ERP Implementation**: Planning Evaluation and selection of ERP systems - Implementation life cycle - ERP implementation, Methodology and Frame work- Training – Data Migration - People Organization in implementation-Consultants, Vendors and employees.
FEB-2020	IV	**Post Implementation:** Maintenance of ERP- Organizational and Industrial impact; Success and Failure factors of ERP Implementation.
MAR-2020	V	**Emerging Trends on ERP**: Extended ERP systems and ERP add-ons -CRM, SCM, Business analytics - Future trends in ERP systems-web enabled, Wireless technologies, cloud computing.

SEMESTER –II　　　　　　　　**CLASS: II B.A,B.COM(CA),B.Sc**

Subject Code:ICT-I-201 **Title**::Computer Fundamentals & Office Tools **Year**:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Basics of Computers** Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working Central Processing Unit – Input, Output and I/O Devices.
DEC – 2019	II	**Memory Devices & Operating Systems** Primary, Auxiliary and Cache Memory – Memory Devices – Software, Hardware, Firmware and People ware –Definition and Types of Operating System – Functions of an Operating System – MS-DOS MS-Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane.
JAN-2020	III	**MS-Word** Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge.
FEB-2020	IV	**MS-PowerPoint** Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation
MAR-2020	V	**MS-Excel** Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading and attributes – Data Sorting and Filters – Functions – Functions requiring Addins, Functions by category Creating different types of Charts

SEMESTER –IV   **CLASS: II B.Sc(MPCs,MCCs)**

Subject Code: CSC-401C   **Title:** Data Structures   **Year:**2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Concept of Abstract Data Types (ADTs)-** Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Structures. **Linear Lists** - ADT, Array and Linked representations, Pointers. **Arrays** - ADT, Mappings, Representations, Sparse Matrices, Sets - ADT, Operations Linked Lists: Single Linked List, Double Linked List, Circular Linked List, applications
DEC - 2019	II	**Stacks**: Definition, ADT, Array and Linked representations, Implementations and Applications **Queues**: Definition, ADT, Array and Linked representations, Circular Queues, De-queues, Priority Queues, Implementations and Applications.
JAN-2020	III	**Trees:** Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) - Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees.
FEB-2020	IV	**Graphs** – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees.
MAR-2020	V	**Sorting and Searching:** Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential And Binary Searching.

SEMESTER –IV   **CLASS: II B.COM(CA)**

Subject Code: CCSC-403C   **Title:** Bussiness Analytics   **Year:**2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	Introduction - Business Analytics Life Cycle - Business Analytics Process - Data concepts - Data exploration & visualization - Business Analytics as Solution for Business Challenges .
DEC -2019	II	Automated Data Analysis: Tabulation and Cross Tabulation of Data: Univariate, Bivariate and Multivariate Data Analysis – ANOVA.
JAN-2020	III	Hypothesis Testing: Type 1 & 2 errors - T-test, ANOVA, Chi-Square and correlation- Linear Regression Analysis - Logistic Regression - Cluster Analysis - Market Basket Analysis.
FEB-2020	IV	Business Data Management: Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Creating Data Marts – Data Integration – OLTP and OLAP.
MAR-2020	V	SPSS Packages – Applications and Case Studies.

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SEMESTER –VI   **CLASS: III B.Sc(MPCs)**

Subject Code: CSC-601(GE) **Title:** Web Technologies   **Year:** 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Introduction to XHTML:** Introduction to HTML, Basic html, Document body text, Hyper links, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms and XHTML.
DEC - 2019	II	**CSS:** Cascading Style Sheets: Introduction, Defining your own styles, properties and values in styles, Formatting blocks of information, Layers. Java Script: java Script, the basics, Variables, String Manipulations, Mathematical functions, Statements, Operators, Arrays, Functions.
JAN-2020	III	**Objects in Java Script & Dynamic HTML with Java Script** *Objects in Java Script:* Data and objects in java script, Regular expressions, Exception Handling, Built in objects, Events. *Dynamic HTML with Java Script:* Data validation, Opening a new window, Messages and Confirmations, The status bar, Writing to a different frame, Rollover buttons, Moving images, Multiple pages in a single download, A text-only menu system, Floating logos.
FEB-2020	IV	**XML Defining Data for Web Applications** *XML:* Introduction to XML, Basic XML, document type definition, XML Schema, Document object model, presenting XML, Using XML parser.
MAR-2020	V	JSP: JSP Lifecycle, Basic Syntax, EL (Expression Language), EL Syntax, Using EL Variables.

Subject Code: CSC-602CE**Title:** PHP, MySql & Word Press**Year:** 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Installing and Configuring MySQL**: Current and Future Versions of MySQL, How to Get MySQL, Installing MySQL on Windows, Trouble Shooting your Installation, Basic Security Guidelines, Introducing MySQL Privilege System, Working with User Privileges. Installing and Configuring Apache: Current and future versions of Apache, Choosing the Appropriate Installation Method, Installing Apache on Windows, Apache Configuration File Structure, Apache Log Files, Apache Related Commands, Trouble Shooting. Installing and Configuring PHP: Building PHP with Apache on Windows, php.ini.Basics, The Basics of PHP scripts. The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output.
DEC -2019	II	**Working with Functions**: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments. Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.
JAN-2020	III	**Working with Forms:** Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users. Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories.

FEB-2020	IV	**Introduction to MySQL** Introduction to My SQLand Interfacing with Databases through PHP Understanding the database design process: The Importance of Good Database Design, Types of Table Relationships, Understanding Normalization. Learning basic SQL Commands: Learning the MySQL Data types, Learning the Table Creation Syntax, Using Insert Command, Using SELECT Command, Using WHERE in your Queries, Selecting from Multiple Tables, Using the UPDATE command to modify records, Using RELACE Command, Using the DELETE Command, Frequently used string functions in MySQL, Using Date and Time Functions in MySQL. Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data.
MAR-2020	V	**Word press** Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus. Working with themes-parent and child themes, using featured images, configuring settings.

Subject Code:CSC-603CE**Title:**JQUERY/AJAX/JSON/ANGULAR JS**Year:** 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**JQuery – Basics:** **10 Hrs** String, Numbers, Boolean, Objects, Arrays, Functions, Arguments, Scope, Built-in Functions. jQuerySelectors: CSS Element Selector, CSS Element ID Selector, CSS Element Class Selector, CSS Universal Selector, Multiple Elements E, F, G Selector, Callback Functions. jQuery – DOM Attributes: Get Attribute Value, Set Attribute Value. jQuery – DOM Traversing : Find Elements by index, Filtering out Elements, Locating Descendent Elements, JQuery DOM Traversing Methods.
DEC -2019	II	**jQuery – CSS Methods :** Apply CSS Properties, Apply Multiple CSS Properties, Setting Element Width & Height, JQuery CSS Methods. jQuery – DOM Manipulation Methods: Content Manipulation, DOM Element Replacement, Removing DOM Elements, Inserting DOM elements, DOM Manipulation Methods. jQuery – Events Handling: Binding event handlers, Removing event handlers, Event Types, The Event Object, The Event Attributes. jQuery – Effects: JQuery Effect Methods, jQuery Hide and Show, jQuery Toggle, jQuery Slide – slideDown, slideUp, slideToggle, jQuery Fade – fadeIn, fadeOut, fadeTo, jQuery Custom Animations
JAN-2020	III	**Intro to jQuery UI** , Need of jQuery UI in real web sites, Downloading jQuery UI, Importing jQuery UI, Draggable, Droppable, Resizable, Selectable, Sortable, Accordion, Auto Complete, Button Setϖ, Date Picker, Dialog, Menu, Progress Bar, Slider, Spinner, Tabs, Tooltip, Color Animation, Easing Effects, addClass, removeClass, Effects, jQuery UI themes, Customizing jQuery UI widgets / plug-ins, jQuery UI with CDN, Consuming jQuery Plug-ins from 3rd party web sites jQuery Validations, Intro to jQuery validation plug-in, Using jQuery validation plug-in, Regular expressions.
FEB-2020	IV	**Intro to AJAX** Need of AJAX in real web sites, Getting database data using jQueryAJAX, Inserting, Updating, Deleting database data using jQuery-AJAX Grid Development using jQuery-AJAX Intro to JSON JSON syntax, Need of JSON in real web sites, JSON object, JSON array, Complex JSON objects, Reading JSON objects using jQuery.

MAR-2020	V	**Intro to AngularJS** **15 Hrs** Need of AngularJS in real web sites, Downloading AngularJS, AngularJS first example, AngularJS built-in directives, AngularJS expressions, AngularJS modules, AngularJS controllers, AngularJS scope AngularJS dependency injection AngularJS, bootstrapping AngularJS data bindings, AngularJS $watch, AngularJS filters, AngularJS events, AngularJS AJAX, Ng-repeat, AngularJS with json arrays, AngularJS registration form and login form, AngularJS CRUD operations, AngularJS Animations, AngularJS validationsϖ AngularJS $q, AngularJS custom values, AngularJS custom factories, AngularJS custom services, AngularJS custom directives, AngularJS custom providers, AngularJS Routing, AngularUI Routing.

SEMESTER –VI   **CLASS: III B.COM(CA)**

Subject Code: COM-CSC 605   **Title:** TALLY   **Year:** 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Introduction to Tally:** Introduction, Software versions of Tally, Terminology related to Accounts credit & Debit, Journal, Ledger, Voucher, Group etc. Difference between Manual Accounting and Accounting Packages. Features and advantages of Tally.
DEC - 2019	II	**Introduction of Tally Software** Introduction of Tally Software Creation of a company, Gateway of Tally, Accounts Information, Groups, pre defined Groups, Creation of New Groups, Creation of sub Group.
JAN-2020	III	**Ledgers** Ledger Creation Single and multiple Ledgers, Displaying & altering Ledgers, configure Ledger, Stock Ledger, Ledgers and their Group Allocation.
FEB-2020	IV	**Vouchers** Types of vouchers – recording of vouchers – entry of payment voucher, Receipt voucher, sales voucher, purchase voucher, Journal Voucher, Contra Voucher, Debit & Credit Note. Creating New Voucher types, customizing the Existing voucher types, Alternation of Voucher, Deletion of Voucher.
MAR-2020	V	**Final Accounts** Customizing the final accounts – Profit and Loss Account, Balance Sheet. Key board shortcuts in Tally. Generating the Reports from Tally, Trial Balance, Account Books, Sales, Purchase, Journal Registers, Statement of Accounts, Day Book, List of Accounts.

SEMESTER –VI   **CLASS : III B.COM(CA)**

Subject Code: COM-CSC 606 **Title:** E-COMMERCE   **Year:** 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Introduction to E-Commerce** Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage – Sustainable Competitive Advantage, Competitive Advantage using E-Commerce – Business Strategy.
DEC -2019	II	**Business-to-Business Electronic Commerce** Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts EDI and Business.
JAN-2020	III	**Internet and Extranet** Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges .
FEB-2020	IV	**Public Policy**: From Legal Issues to Privacy : Legal Incidents, Ethical and Other public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.
MAR-2020	V	**Infrastructure For EC** Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – problems in Operation – Future of EC.

Month	Unit No.	Topic to be covered
NOV-2019	I	**Building blocks of PHP:** Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from UserDefined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments.
DEC -2019	II	**Working with Arrays:** Arrays, Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance. Working with Strings, Dates and Time: Formatting Strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.
JAN-2020	III	**Working with Forms:** Creating Forms, Accessing Form – Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session Ids in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.
FEB-2020	IV	**Working with Files and Directories:** Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen (), Running Commands with exec(), Running Commands with system ( ) or passthru ( ). Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.
MAR-2020	V	**Interacting with MySQL using PHP:** MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online

| | | Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record. |

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF CHEMISTRY
SEMESTER – I
2019-20 CURRICULAR PLAN

Subject Code: **CHE101C**   Title: Inorganic ,Organic and physical chemistry

Month	Unit No.	Topic to be covered
June -19	I	P- block elements-I
July-19	II	P- block elements-II& Organo metallic chemistry
Aug-19	III	Structural theory in organic chemistry
Sep-19	IV	Acyclic hydrocarbons &Alicyclic hydrocarbons
Oct-19	V	Benzene and its reactivity

SEMESTER – II

2019-20 CURRICULAR PLAN

Subject Code:**CHE -201C**   Title**: Physical and General chemistry**

Month	Unit No.	Topic to be covered
Nov-19	I	Solid state
Dec-19	II	Gaseous state & Liquid state
Jan-20	III	Sollutions
Feb-20	IV	Surface chemistry &Chemical bonding
Mar-20	V	Stereochemistry

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SEMESTER – III

2019-20 CURRICULAR PLAN

Subject Code: **CHE -301C**   Title :Inorganic and organic chemistry

Month	Unit No.	Topic to be covered
June -19	I	d-block elements &Theories of bonding in metals
July-19	II	Metal carbonyls & f-block elements
Aug-19	III	Halogen and Hydroxy compounds
Sep-19	IV	Carbonyl compounds
Oct-19	V	Carboxylic acids and derivatives

SEMESTER – IV

2019-20 CURRICULAR PLAN

Subject Code: **CHE- 401**   Title : Spectroscopy and Physical chemistry

Month	Unit No.	Topic to be covered
Nov-19	I	Spectrophotometry and Electronic spectroscopy
Dec-19	II	Infrared spectroscopy and NMRspectroscopy
Jan-20	III	Photo chemistry
Feb-20	IV	Electro chemistry
Mar-20	V	Phase rule

SEMESTER – V(501)

2019-20 CURRICULAR PLAN

Subject Code: CHE-501   Title :Inorganic, Organic & Physical Chemistry

Month	Unit No.	Topic to be covered
June -19	I	Co -ordination chemistry
July-19	II	Spectral and magnetic properties of metal complexess
Aug-19	III	Nitro hydro carbons
Sep-19	IV	Nitrogen compounds
Oct-19	V	thermodynamics

SEMESTER – V(502)

2019-20 CURRICULAR PLAN

Subject Code: CHE-502   Title :Inorganic, Organic & Physical Chemistry

Month	Unit No.	Topic to be covered
June -19	I	Reactivity of metal complexes and Bio-inorganic chemistry
July-19	II	Heterocyclic compounds
Aug-19	III	Carbohydrates
Sep-19	IV	Amino acids and proteins
Oct-19	V	Chemical kinetics and photo chemistry

SEMESTER – VI(GE)

2019-20 CURRICULAR PLAN

Subject Code: CHE-601   Title :Analytical methods in Chemistry

Month	Unit No.	Topic to be covered
Nov-19	I	Quantitative analysis
Dec-19	II	Treatment of Analytical data
Jan-20	III	Separation techniques in chemical analysis
Feb-20	IV	Paper chromatography
Mar-20	V	TLC,Column chromatography

SEMESTER – VI(CHE-602CE)

2019-20 CURRICULAR PLAN

Subject Code: CHE-602CE   Title :Organic spectroscopic techniques

Month	Unit No.	Topic to be covered
Nov-19	I	NMR spectroscopy
Dec-19	II	NMR spectroscopy
Jan-20	III	Electronic spin resonance spectroscopy
Feb-20	IV	UV& Visible spectroscopy
Mar-20	V	Electronic spectra of poly atomic molecules

SEMESTER – VI(CHE-603CE)

2019-20 CURRICULAR PLAN

Subject Code: CHE-603   Title :Advanced organic reactions

Month	Unit No.	Topic to be covered
Nov-19	I	Organic photo chemistry
Dec-19	II	Organic photo chemistry
Jan-20	III	Protecting groups and organic reactions
Feb-20	IV	Synthetic reactions
Mar-20	V	New synthetic reactions

SEMESTER – VI(CHE-604CE)

2019-20 CURRICULAR PLAN

Subject Code: CHE-604   Title :Pharmaceutical and Medicinal chemistry

Month	Unit No.	Topic to be covered
Nov-19	I	Pharmaceutical terminology
Dec-19	II	Drugs
Jan-20	III	Synthesis and therapeutic activity of drugs
Feb-20	IV	Pharmacodynamic drugs
Mar-20	V	HIV-AIDS

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU
DEPARTMENT OF BOTANY
2019 CURRICULAR PLAN (2019-20)

SEMESTER – I
Paper II: TITLE OF THE PAPER: *Microbial Diversity, Algae and Fungi*

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Origin and Evolution of Life, Microbial diversity** 1. Origin of life –theories introduction; Lamarckism, Darwinism and Neo Darwinism. 2. Geological time scale 3. Microbial diversity-Mycoplasma – Chlamydia -Archaebacteria – Actinomycetes
JULY - 2019	II	**VIRUSES AND BACTERIA** 1. Viruses: General account of Viruses, structure, replication and transmission of plant diseases caused by Viruses. 2. Bacteria**:** Structure, nutrition, reproduction and economic importance. Outlines of plant diseases of important crop plants caused by Bacteria (Citrus canker, leaf blight of rice, Angular leaf spot of Cotton) and their control.
AGU-2019	III	**CYANOBACTERIA AND LICHENS** 1. Cyanobacteria: General account of cell structure, thallus organization and their uses as Biofertilizers. 2. Structure, reproduction and life history of *Nostoc* and *Scytonema.* 3. Lichens – Morphology –Anatomy –Reproduction –Economic importance.
SEP-2019	IV	**Algae** 1. General account, Fritsch classification of Algae and economic importance. 2. Structure, reproduction, life history of *Oedogonium, Vaucheria* and *Ectocarpus.*
OCT 2019	V	**FUNGI** 1. General characters, classification (Alexopolous) and economic importance. 2. Structure, reproduction and life history of *Albugo, Penicillium, Puccinia.* 3. General account of plant diseases caused by Fungi (Late blight of potato, Red rot of Sugarcane and Paddy blast) and their control.

Paper II: Diversity of Archaegoniatae & Plant Anatomy   SEMESTER - II

Month	Unit No.	Topic to be covered
NOV-2019	I	**BRYOPHYTA** **1. Bryophyta:** General characters and classification (up to classes only). 2. Structure, reproduction and Life history of *Marchantia* and *Polytrichum*. 3. Evolution of Sporophyte in Bryophytes
DEC - 2019	II	**PTERIDOPHYTA** **1. Pteridophyta:** General characters and Classification (up to classes only). 2. Structure, reproduction and life history of *Lycopodium* and *Marsilea*. 3. Heterospory and seed habit 4. Stelar Evolution in Pteridophytes
JAN-2020	III	**GYMNOSPERMS** **1. Gymnosperms:** General characters and classification (up to classes only). 2. Morphology, Anatomy, reproduction and life history of *Pinus* and *Gnetum*.
FEB-2020	IV	**Tissues and Tissue systems** 1. Tissues: Meristematic and permanent tissues (Simple and Complex). 2. Shoot apical meristems and its histological organization. 3. Root apical meristems and its histological organization. **Secondary growth.** 1. Anomalous secondary growth in *Dracaena, Boerhaavia* and *Bignonia*.
MAR-2020	V	2. Wood structure- general account, Study of local timbers Teak, Rosewood, Red sanders and *Terminalia tomentosa*.

Paper III: Plant Taxonomy and Plant Physiology   SEMESTER - III

Month	Unit No.	Topic to be covered
JUNE-2019	I II	**Introduction to Plant Taxonomy** 1. Fundamental components of taxonomy (identification, nomenclature, classification types and phylogeny) 2. Salient features and comparative account of Bentham & Hooker and Engler & Prantl's Classification. 3. Role of chemotaxonomy, cytotaxonomy and taximetrics in relation to Taxonomy **Systematic Taxonomy** 1. Nomenclature and Taxonomic resources: An introduction to International Code of Botanical Nomenclature; Principles, Rules and Recommendations.
JULY - 2019	II III	2. Systematic study and economic importance of plants belonging to the following families: Annonaceae, Capparidaceae, Rutaceae, Cucurbitaceae and Apiaceae. **Systematic Taxonomy** 1. Systematic study and economic importance of plants belonging to the following families: Asteraceae, Asclepiadaceae, Lamiaceae, Euphorbiaceae, Orchidaceae and Poaceae
AGU-2019	IV	. **Plant – Water relations** 1. Importance of water to plant life, physical properties of water, 2. Diffusion, Imbibition and osmosis; water potential, osmotic potential and pressure potential. 3. Absorption, transport of water, ascent of sap. 4. Transpiration – types, stomata structure, movements and significance.
SEP-2019	V	**Mineral nutrition and Fertilizers** 1. Mineral Nutrition**:** Essential macro and micro mineral nutrients and their role, mineral uptake (active and passive), deficiency symptoms. 2. Nitrogen cycle- biological nitrogen fixation. 3. Enzymes**:** Nomenclature, characteristics, mechanism and regulation of enzyme action, enzyme kinetics, factors regulating enzyme action.

Month	Unit No.	Topic to be covered
NOV-2019	I	**EMBRYOLOGY** 1. Introduction: History and Importance of Embryology. 2. Anther structure, Microsporogenesis and development of male gametophyte. 3. Ovule structure and types; Megasporogenesis; Monosporic; Bisporic and Tetrasporic types of female gametophyte / embryosac development. 4. Pollination -Types, Fertilization. **EMBRYOLOGY AND PALYNOLOGY** 1. Endosperm Development and types. 2. Embryo - development and types.
DEC - 2019	II	3. Polyembryony and Apomixis - an outline. 4. Palynology: Principles and applications. **PLANT METABOLISM- I** 1. Photosynthesis: Electromagnetic spectrum, absorption and action spectra; Red drop and Emerson enhancement effect, concept of Z scheme in photosystems,
JAN-2020	III	Photosynthetic pigments, mechanism of photosynthetic electron transport and evolution of oxygen, photo phosphorylation, carbon assimilation pathways: C_3, C_4 & CAM and Photorespiration. 2. Translocation of organic substances: Mechanism of phloem transport, source-sink relationships. **PLANT METABOLISM- II** 1.Respiration: Aerobic and Anaerobic, Glycolysis, Krebs cycle, electron transport system, mechanism of oxidative phosphorylation, pentose phosphate pathway. 2. Lipid Metabolism**:** Structure and functions of lipids, conversion of lipids to carbohydrates, Beta-oxidation.
FEB-2020	IV	**GROWTH AND DEVELOPMENT** 1. Growth and development: Definition, phases and kinetics of growth, Physiological effects of phytohormones - auxins, gibberellins, cytokinins, ABA and ethylene 2. Physiology of flowering and photoperiodism, role of phytochrome in flowering. 3. Stress Physiology: Concept and plant responses to water, salt and temperature stresses.

SEMESTER – V CELL BIOLOGY, GENETICS AND PLANT BREEDING

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Cell Biology** 1. Cell, Ultra Structure and functions of cell wall. 2. Molecular Organization of cell membranes. 3. Chromosomes; morphology, organization of DNA in a chromosome (Nucleosome model)Euchromatin and Heterochromatin. **Genetic Material** 1. DNA as the Genetic Material: Griffith's and Avery's Transformation Experiment.Hershey - Chase Bacteriophage experiment.
JULY - 2019	II	2. DNA Structure (Watson & crick model) and replication of DNA (Semi Conservative). 3. Types of RNA (mRNA, tRNA, rRNA), their structure and function. **Mendelian Inheritance** 1. Mendelian Inheritance (Mono – Di-hybrid Crosses), Back cross and Text cross.
AGU-2019	III	2. Linkage: concept, complete and In-complete Linkage, Coupling and Repulsion; Linkage. Maps Based on Two and Three Point cross. 3. Crossing over concept and significance. **Gene Expression** 1. Organization of gene, Transcription and Translation. 2. Mechanism and regulation of Gene Expression in Prokaryotes (Lac operas).
SEP-2019	IV	3. Mutations: Chromosomal Aberrations, Gene Mutations and Transposable Elements. **Plant Breeding** 1. Introduction and objectives of Plant Breeding. 2. Methods of Crop Improvement: Procedure, Advantages and limitations of Introduction,
OCT 2019	V	Selection and Hybridization (Out lines only).

SEMESTER-V PLANT ECOLOGY AND PHYTOGEOGRAPHY   BOT-502

Month	Unit No.	Topic to be covered
JUNE-2019	I	**ELEMENTS OF ECOLOGY** 1. Ecology: Definition, branches and significance of ecology. 2. Claimatic factors: Light, Temperature. 3. Edaphic factor: Origin, formation, composition and soil profile. 4. Biotic factor, Ecological adaptations of Plants.
JULY - 2019	II	**Ecosystem Ecology** 1. Ecosystem: concept and components, energy flow, food chain, food web, Ecological Pyramids. 2. Productivity of ecosystem-Primary, Secondary and Net productivity. 3. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.
AGU-2019	III	**Population & Community ecology.** 1. Population-defination, characteristics and importance (Density,Natality, Mortality, Growth Curves) outlines-ecotypes. 2. Plant communities- characters of a community, outlines – Frequency, density, cover, life forms, Biological Spectrum. 3. Ecological Succession: Hydrosere and Xerosere
SEP-2019	IV	**Phytogeography** 1.Principles of Phytogeography, Distribution (Wides, Endemic, Discontinous species. 2. Phytogeographic regions of India. 3. Endemism – types and Causes.
OCT 2019	V	**Plant Biodiversity and its Importance** 1. Definition, Levels of Biodiversity – genetic, species and ecosystem. 2. Biodiversity and Hot-spots of India: North Eastern, Himalayas and Western Ghats. 3. Loss of Biodiversity-causes and Conservation (In-situ and Ex-Situ Methods).

PAPER – VII – ELECTIVE-C
Plant tissue culture and its biotechnological applications

Month	Unit No.	Topic to be covered
NOV-2019	I	**PLANT TISSUE CULTURE – 1** 1. History of plant tissue culture research - basic principles of plant tissue callus culture, meristems culture, organ culture, Totipotency of cells. 2. Methodology - sterilization (physical and chemical methods), culture media, Murashige and Skoog's (MS medium), phytohormones, medium for micro-propagation/clonal propagation of ornamental and horticulturally important plants. 3. Callus subculture maintenance, growth measurements, morphogenesis in callus culture – Organogenesis, somatic embryogenesis.
DEC - 2019	II	**PlantTissueculture-2** 1. Endosperm culture – Embryo culture -culture requirements – applications,embryo rescue technique. 2. Production of secondary metabolites. 3. Cryopreservation; Germ plasm conservation.
JAN-2020	III	**RecombinantDNAtechnology** 1. Restriction Endonucleases (history, types I-IV, biological role and application); concepts of restriction mapping. 2. Cloning Vectors: Prokaryotic (pUC 18, pBR322, Ti plasmid and Lambda phage,Eukaryotic Vectors (YAC and briefly PAC) 3. Gene cloning (Bacterial Transformation and selection of Recombinant clones, PCR Mediated gene cloning) 4. Construction of genomic and cDNA libraries, screening DNA libraries to obtain gene interest by complementation technique, colony hybridization. **Methodsofgenetransfer** 1. Methods of gene transfer- Agrobacterium-mediated, direct gene transfer by Electroporation, Microinjection, Micro projectile bombardment.
FEB-2020	IV	. 2. Selection of transgenics– selectable marker and reporter genes (Luciferase, GUS, GFP). **ApplicationsofBiotechnology** 1. Applications of Plant Genetic Engineering – crop improvement, herbicide resistance, insect resistance, virus resistance. 2. Genetic modification – transgenic plants for pest resistant (Bt-cotton); herbicide resistance (Round UpReady soybean);
MAR-2020	V	improved agronomic traits flavrSavr tomato,Golden rice); Improved horticultural varieties (Moon dust carnations).

Paper – VIII-A-1 PLANT DIVERSITY AND HUMAN WELFARE   BOT-602 (CE)

Month	Unit No.	Topic to be covered

NOV-2019	I	**Plant diversity and its scope**:
		 1. Genetic diversity, Species diversity, Plant diversity at the ecosystem
		   level,
		 2. Agro biodiversity and Vavilov Crop centers.
		 3. Values and uses of biodiversity: Ethical and aesthetic values, Uses of
		   Plants.

DEC - 2019	II	**Loss of biodiversity**:
		 1. Loss of genetic diversity, Loss of species diversity, Loss of
		   ecosystem diversity,
		 Loss of agro biodiversity, projected scenario for biodiversity loss.
		 2. Management of plant biodiversity: Organizations associated with
		   Biodiversity. Management-Methodology for execution-IUCN, UNEP,
		   UNESCO, WWF, NBPGR; Biodiversity legislation and conservations,
		   Biodiversity information management and Communication.

JAN-2020	III	. **Contemporary practices in resource management**: 1. Environmental Impact Assessment (EIA), Geographical Information System GIS, 2. Solid and liquid waste management. **Conservation of biodiversity** 1. Conservation of genetic diversity, species. diversity
FEB-2020	IV	. 2.Social approaches to conservation, Biodiversity awareness , Programmes, Sustainable development. **Role of plants in relation to Human Welfare** 1.Importance of forestry, their utilization and commercial aspects- a) Avenue trees, b) ornamental plants of India. c) Alcoholic beverages Through ages
MAR-2020	V	2 Fruits and nuts: Important fruit crops their commercial importance. Wood, fiber and their uses.

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Paper – VIII-A-2 Ethnobotany AND MEDICINAL BOTANY BOT-603 (CE)

Month	Unit No.	Topic to be covered

NOV-2019	I	**Ethnobotany**
		1. Introduction, concept, scope and objectives
		
		2. Major and minor ethnic groups or Tribals of India, and their lifestyles.
		3. Plants used by the tribal populations:
		  a) Food plants, b) intoxicants and beverages,
		  c) Resins and oils and miscellaneous uses.

DEC - 2019	II	**Role of ethnobotany in modern Medicine** (12hrs)
		1. Role of Ethnobotany in modern medicine with special example; *Rauvolfiasepentina*,
		  Artemisia annua, Withaniasomnifera.
		2. Significance of the following plants in ethno botanical practices (along with their habitat
		  And morphology)*a)Azadirachtaindica*, b)*Vitexnegundo*,c)Ocimum sanctum,,d) phyllanthus niruri
		3. Role of ethnic groups in the conservation of plant genetic resources.

JAN-2020	III	**Ethno botany as a tool to protect interests of ethnic groups** 1. Sharing of wealth concept with few examples from India. 2. Biopiracy, Intellectual Property Rights and Traditional Knowledge
FEB-2020	IV	**History, Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences** 1. Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments. 2 Homeopathy: Origin of Homeopathy medicinal systems, Basis of Homeopathy, plants used in Homeopathy medicine.
MAR-2020	V	**Conservation of endangered and endemic medicinal plants** 1. Definition: endemic and endangered medicinal plants, 2. Red list criteria 3. *In situ* conservation: sacred groves, National Parks 4. *Ex situ* conservation: Botanical Gardens.

Paper – VIII-A-3 Pharmacognosy and Phytochemistry

Month	Unit No.	Topic to be covered
NOV-2019	I	**Pharmacognosy** 1. Definition, Importance 2. Classification of drugs - Chemical and Pharmacological 3. Drug evaluation methods. **Organoleptic and microscopic studies:** **(12hrs)** 1. Organoleptic and microscopic studies with reference to nature of active principles and common adulterants of
DEC -2019	II	2. a) *Adhatoda vasica*(leaf) b) *Strychnosnuxvomica* (seed), c)*Rauwolfia serpentina*(root) d)*Zinziberofficinalis* e)*Catharanthusroseus.*
JAN-2020	III	**Secondary Metabolites:** 1. Definition of primary and secondary metabolites and their differences, Major types terpenes, Phenolics, alkaloids, terpenoids, steroids. 2. A brief idea about extraction of alkaloids. Origin of secondary metabolites–detailed account of Mevalonate pathway,Shikimate pathway.
FEB-2020	IV	**Phytochemistry** `Biosynthesis and sources of drugs: 1.Structural type biosynthesis importance of simple Phenolic compounds, coumarins,,Flavonoids. 2. Steroids, sterols: Biosynthesis, commercial importance. 3. Alkaloids: Different groups, biosynthesis, bioactivity. 4 .Volatile oils, aromatherapy.
MAR-2020	V	**Enzymes, proteins and amino acids as drugs** 1. Vaccines, toxins and toxoids, immune globulins, antiserums, 2. Vitamins, Antibiotics – chemical nature, mode of action. 3. Pharmacological action of plant drugs – tumor inhibitors, PAF antagonists, antioxidants, phytoestrogens and others.

SEMESTER-I

Subject Code:Zoo-101Title:: Biology of Non – Chordates year:2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	Significance of Diversity of Invertebrates. *Phylum - Protozoa:* Type study: *Elphidium*. *Phylum - Porifera* **:** Type study*: Sycon* - Morphology, histology, spicules. Canal system in Sponges.
JULY - 2019	II	*Phylum - Coelenterata :* Type study : *Obelia* - Morphology, Structure of Polyp & Medusa. Polymorphism in Coelenterates. Coral& Coral reef formation *Phylum- Platyhelminthes* **:** Type study*: Fasciola hepatica* – Morphology, Excretory system, Reproductive system, Life history &Pathogenecity. *Phylum - Nemathelminthes***:** Type study: *Ancylostomaduodenale* - Morphology & Life history
AGU-2019	III	*Phylum - Annelida:* Type study:*Hirudinaria granulose* – Morphology, Digestive system, excretory system & Reproductive system. Coelomoducts. *Vermiculture:* Scope, Significance of Vermiculture, Earthworms Sps, Processing of Vermiculture, Vermicompost, and Economic Importance of Vermicompost.
SEP-2019	IV	*Phylum - Arthropoda :* Type study: *Prawn* – External characters [Except appendages], Respiratory system &Circulatorysystem. *Peripatus* : Structure & affinities. *Phylum –Mollusca*:Pearl Formation in Pelecypoda. Torsion in Gastropoda.
OCT 2019	V	*Phylum - Echinodermata* **:**Water vascular system of Star Fish. *Hemichordata :*Balanoglossus: Structure , Affinities. *Invertebrates Larval forms :*Amphiblastula, Ephyra, Trochophore, Nauplius, Glochidium, Bipinnaria, Tornaria.

SEMESTER -II

Subject Code: Zoo-201   **Title**:**: Biology of Chordates** Year:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	. Prochordata. Structure of *Branchiostoma* Affinities of Cephalochordata Structure and Life History of *Herdmania* Significance of Retrogressive metamorphosis
DEC -2019	II	.Cyclostomata Differences between Petromyzonand *Myxine.* Pisces. *Scoliodon-* External features, Digestive System, Respiratory System, Heart, Brain. Migration in Fishes Dipnoi
JAN-2020	III	Amphibia. *Rana hexadactyla* - External features, Digestive System, Respiratory System, Heart, Brain. Parental care in Amphibians ReptiliaCalotes - External features, Digestive System, Respiratory System, Heart, Brain
FEB-2020	IV	Aves :*Columbalivia* - Exoskeleton, Digestive System, Respiratory System, Heart, Brain Migration in Birds Flight adaptations in Birds
MAR-2020	V	.Mammalia . Differences between Prototheria & Metatheria Dentition in Mammals.

SEMESTER -III

Subject Code: ZOO**301**   Title: **Cytology, Genetics and Evolution YEAR:2019-20**

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Cytology -** :-Electron microscopic structure of cell . Plasma membrane - Fluid mosaic model, Transport functions of plasma membrane (Active &Passive)
	II	**Cell Organelles** :- Stricture and functions of Endoplasmic reticulum, Golgi body, Ribosome's, Lysosomes, Mitochondria.

JULY - 2019	II	DNA: Watson & Crick model , Semi Conservative Replication.
		  RNA - Structure, types & functions of RNA.
		  Chromosomes - Structure, types &functions, Giant Chromosomes (lamp brush & Polytene)

	III	**Genetics-I:-** Mendel's Laws of Inheritance, Incomplete dominance and co-dominance **3.2** Lethal alleles, Epistasis , Linkage and crossing over.
AGU-2019	IV	**Genetics – II** :- Sex determination - Genic balance theory / Bridges theory, Barr bodies. Sex linked inheritance. Extra chromosomal inheritance (Kappa particles in Paramecium) Blood group inheritance.
SEP-2019	V	**Evolution**:- Origin of life,. Hardy -Weinberg Equilibrium, Lamarckism ,Darwinism, Neo – Darwinism Isolation, Speciation (Allopatric and Sympatric).

Subject Code: ZOO**401**   Title: **Embryology, Physiology and Ecology** Year:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Developmental Biology and Embryology** Gametogenesis (Spermatogenesis, Oogenesis in mammals) Fertilization Types of eggs Types of cleavages Foetal membranes in Chick Development **- T**ypes and functions of Placenta in mammals.
DEC - 2019	II	Elementary study of digestive process. Absorption of digested food. **Respiration** – Structure of mammalian Lung & Mechanism of respiration, transport of oxygen and carbon dioxide **Circulation** - Structure and functioning of mammalian heart, Cardiac cycle. **Excretion** - Structure of nephron, urine formation, counter current mechanism.
JAN-2020	III	Structure & functional properties of Nerve Cell; Production & propagation of nerve Impulse. Synaptic transmission. Muscle contraction - Ultra structure of muscle fibre, molecular and chemical basis of muscle contraction. Endocrine glands - Structure, secretions and the functions (of hormones) of Pituitar Thyroid, parathyroid, adrenal glands and pancreas.Hormonal control of reproduction in Mammals.
FEB-2020	IV	Abiotic factors of Ecosystem – Temperature & Light. Nutrient cycles - Nitrogen, Carbon and Phosphorus. Energy flow in ecosystem.
MAR-2020	V	Community interactions - Mutualism, commensalism, parasitism.. Ecological succession. **Zoogeography** .Study of physical and faunal peculiarities of Oriental, Australian and Ethiopian regions.

SEMESTER -V

Subject Code: ZOO**501**   **Title: Animal Biotechnology**   Year:2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	**Tools of Recombinant DNA technology - Enzymes and Vectors** **Restriction modification systems** : : Types I, II and III-Nomenclature, Mode of action. Applications of Type II restriction enzymes in genetic engineering **DNA modifying enzymes and their applications:** DNA polymerases, Terminal deoxynucleotidyl transferase, kinases and phosphatases,and DNA ligases **Cloning Vectors:** Properties of Cloning Vectors Plasmid vectors:pBR and pUC 18, Bacteriophage lambda and M13 based vectors, Cosmids. Artificial Chromosome Vectors: BACs, YACs,
JULY - 2019	II	Procedure of gene cloning Use of linkers and adaptors **Gene delivery: :**Microinjection, electroporation, biolistic method (gene gun),Calcium method. **PCR::**Basics of PCR: Definition, Principle and Procedure of PCR. **DNA Sequencing**: Sanger's method of DNA sequencing-traditional and automated sequencing:DNA finger printing. **Hybridization techniques:** Southern, Northern and Western blotting.**Genomic and cDNA libraries**: : Preparation and uses
AGU-2019	III	**Cell culture media: :**Natural and Synthetic **Types Cell cultures:** primary culture, secondary culture, Protocols for Primary Cell Culture Continuous cell lines , Established Cell lines (common examples such as MRC, HeLa,CHO, BHK, Vero) Cryopreservation of cultures. **Hybridoma Technology:** Cell fusion, Production of Monoclonal antibodies (mAb) Applications of mAb**Stem cells: :**Types of stem cells- Embryonic and Adult Stem Cell: Applications of Stem Cell Technology in Cell based therapy- Diabetes and Parkinson's diseases
SEP-2019	IV	**: Reproductive Technologies & Transgenic Animals** **Manipulation of reproduction in animals::**Artificial Insemination, *In vitro* fertilization .: super ovulation, Embryo transfer, Embryo cloning **Transgenic Animals:**Production of Transgenic Animals- sheep,fish
OCT 2019	V	**Applied Biotechnology** **Industry:** Fermentation: Different types of Fermentation. Submerged & Solid state, batch, Fed batch & Continuous (Short notes only) Downstream processing - Filtration, centrifugation, extraction, chromatography, spray drying and lyophilizationFisheries Polyploidy in fishes

SEMESTER -V

Subject Code: ZOO**502**   Title: Animal Husbandry   Year: 2019-20

Month	Unit No.	Topic to be covered
JUNE-2019	I	General introduction to poultry farming. Principles of poultry housing. Poultry houses. Systemsof poultry farming. Management of chicks, growers, layers, and Broilers.
JULY - 2019	II	Poultry feed management – Principles of feeding. Nutrient requirements for different stages of layers and broilers. Methods of feeding- Whole grain feeding system, Grain and mash method, All mash method, Pellet feeding. Poultry diseases – viral, bacterial, fungal and parasitic (two each); symptoms, control and management.
AGU-2019	III	Selection, care and handling of hatching eggs. Egg testing. Methods of hatching. Brooding and rearing. Sexing of chicks
SEP-2019	IV	Breeds of Dairy Cattle and Buffaloes – Definition of breed; Classification of Indian Cattlebreeds,exotic breeds and Indian buffalo breeds. Systems of inbreeding and crossbreeding. Housing of dairy animals – Selection of site for dairy farm; systems of housing – loose, housing system.Conventional dairy barn
OCT 2019	V	Care and management of dairy animals - Care and management of calf, heifer, milk animal, dry and pregnant animal, bulls and bullocks. Cleaning and sanitation of programme. Records to be maintained in a dairy farm.

SEMESTER -VI

Subject Code: ZOO**601** Title: Immunology Year: 2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Overview of Immune system** Introduction to basic concepts in Immunology. Innate and adaptive immunity **Cells and organs of Immune system** Cells of immune system Organs of immune system
DEC - 2019	II	**Antigens:** Basic properties of antigens B and T cell epitopes, haptens and adjuvants Factors influencing immunogenicity
JAN-2020	III	**Antibodies:**Struture of an antibody Classes and functions of antibodies Antigen and antibody interactions. Monoclonal antibodies and their production
FEB-2020	IV	**Working of an Immune system:**Structure and functions of major histocompatibility complexes Exogenous and Endogenous pathways of antigen presentation and processing Basic properties and functions of mediator molecules. (cytokines interferons and complement proteins. Mechanisms of humoral and cell mediated immunities
MAR-2020	V	**Immune system in health and disease:** Classification and brief description of various types of hyper sensitivities Introduction to concepts of autoimmunity and immunodeficiency **Vaccines:** General introduction to vaccines Types of vaccines

Subject Code: ZOO**602**   Title: Principles of Aquaculture Year:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	Introduction / Basics of Aquaculture:- Definition, Significance and History of Aquaculture Present status of Aquaculture – Global and National scenario Major cultivable species for aquaculture: freshwater, brackish water and marine. Criteria for the selection of species for culture
DEC - 2019	II	**Types of Aquaculture :-** Freshwater, Brackishwater and Marine Concept of Monoculture, Polyculture, Composite culture, Monosex culture and Integrated fish farming **Culture systems :-** Ponds, Raceways, Cages, Pens, Rafts and water recirculating systems **Culture practices :-**Traditional, extensive, modified extensive, semi-intensive and intensive cultures ofFish and shrimp
JAN-2020	III	**Design and construction of aqua farms :-**Criteria for the selection of site for freshwater and brackish water pond farms**,** Design and construction of fish and shrimp farms **Seed resources :-** Natural seed resources and Procurement of seed for stocking: Carp and shrimp **Nutrition and feeds :-** Nutritional requirements of a cultivable fish and shellfish Natural food and Artificial feeds and their importance in fish and shrimp culture
FEB-2020	IV	**Management of carp culture ponds:-** Culture of Indian major carps: Pre-stocking management – Dewatering, drying, Predators, weeds and algal blooms and their control, Liming andFertilization; Stocking management – Stocking density and stocking; Post-stocking Management – Feeding, water quality, growth and health care; and harvesting of ponds **Culture of giant freshwater prawn,** *Macrobrachiumrosenbergii*
MAR-2020	V	**Culture of shrimp** (*Penaeus monodon* or *Litopenaeus vannamei*) **Culture of pearl oysters** **Culture of seaweeds-**species cultured, culture techniques, important by-products, prospects **Culture of ornamental fishes –** Setting up and maintenance of aquarium; and breeding.

SEMESTER -VI

Subject Code: ZOO**603**   Title: Aquaculture Management Year:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Breeding and Hatchery Management:-** Bundh Breeding and Induced breeding of carp by Hypophysation; and Use of synthetic hormones. Types of fish hatcheries; Hatchery management of Indian major carps Breeding and Hatchery management of *Penaeus monodon*/ *Litopenaeus vannamei* Breeding and Hatchery management of giant freshwater prawn.
DEC - 2019	II	**Water quality Management:-**Water quality and soil characteristics suitable for fish and shrimp culture Identification of oxygen depletion problems and control mechanisms in culture ponds Liming materials, Organic manures and Inorganic fertilizers commonly used and Their implications in fish ponds
JAN-2020	III	**Feed Management :-** Live Foods and their role in shrimp larval nutrition. Supplementary feeds: Principal foods in artificial diets; Types of feeds; Feed additives and Preservatives; role of probiotics. Feed formulation and manufacturing; Feed storage Feeding strategies: Feeding devices, feeding schedules and ration size; Feed evaluation- feed conversion efficiencies and ratios
FEB-2020	IV	**Disease Management :-** Principles of disease diagnosis and health management; Prophylaxis, Hygiene and Therapy of fish diseases Specific and non-specific defense systems in fish; Fish immunization and Vaccination Etiology, Symptoms, prophylaxis and therapy of common fish diseases in fish ponds Etiology, Symptoms, prophylaxis and therapy of common shrimp diseases in shrimp ponds
MAR-2020	V	**Economics and Marketing :-** Principles of aquaculture economics – variable costs, cost-benefit analysis **,** Fish marketing methods in India; Basic concepts in demand and price analysis. **5.2 Fisheries Extension** :Fisheries Training and Education in India; Role of extension in communitydevelopment. **5.3 Fish Genetics** Genetic improvement of fish stocks – Hybridization of fish. Gynogenesis,Androgenesis, Polyploidy, Transgenic fish, Cryopreservation of gametes,

SEMESTER -VI

Subject Code: ZOO**604**   Title: Postharvest Technology Year:2019-20

Month	Unit No.	Topic to be covered
NOV-2019	I	**Handling and Principles of fish Preservation :-** Handling of fresh fish, storage and transport of fresh fish, post mortem changes (Rigor mortis and spoilage), spoilage in marine fish and freshwater fish. Principles of preservation– cleaning, lowering of temperature, rising of temperature, use of salt, use of fish preservatives, exposure to low radiation
DEC - 2019	II	**Methods of fish Preservation :-** Traditional methods - sun drying, salt curing, pickling and smoking. Advanced methods – chilling or icing, refrigerated sea water, freezing, canning, Irradiation and Accelerated Freeze drying (AFD).
JAN-2020	III	**Processing and preservation of fish and fish by-products :-**Fish products – fish minced meat, fish meal, fish oil, fish liquid (ensilage), fishprotein concentrate, fish chowder, fish cake, fish sauce, fish salads, fish powder, petfood from trash fish, fish manure. Fish by-products – fish glue, ising glass, chitosan, pearl essence, shark fins, fishleather and fish maws. **Seaweed Products :-** Preparation of agar, algin and carrageen. Use of seaweeds as food for human consumption.
FEB-2020	IV	**Sanitation and Quality control :-** Sanitation in processing plants - Environmental hygiene and Personal hygiene inprocessing plants. Quality Control of fish and fishery products – pre-processing control, control duringprocessing and control after processing. Regulatory affairs in industries
MAR-2020	V	**Quality Assurance, Management and Certification :-**Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); GoodLaboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept ofHazard Analysis and Critical Control Points (HACCP) in seafood safety. National and International standards – ISO 9000: 2000 Series of Quality Assurance System.

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DEPARTMENT OF ZOOLOGY

AQUACULTURE

CURRICULAR PLAN/ TEACHING PLAN

2019-2020

SEMESTER – I

Subject Code: AQU 101C   **Title: Basic principles of aquaculture**

Month	Unit No.	Topic to be covered
JUNE 2019	I	Concept of Blue Revolution - History and definition of Aquaculture. Scope of Aquaculture at global Level, India and Andhra Pradesh. Fresh water aquaculture, brackish water aquaculture and mariculture Different Aquaculture systems – Pond, Cage, Pen, Running water, Extensive, Intensive and & Semi- Intensive Systems and their significance. Monoculture, Polyculture and Monosex culture systems Aquaculture versus Agriculture; Present day needs with special reference to Andhra Pradesh
JULY2019	II	General Concepts of Ecology, Carrying Capacity and Food Chains Lotic and lentic systems, streams and springs Nutrient Cycles in Culture Ponds – Phosphorus, Carbon and Nitrogen Importance of Plankton and Benthos in culture ponds, nutrient dynamics and algal blooms, Concepts of Productivity, estimation and improvement of productivity
AUG 2019	III IV	Classification of ponds based on water resources – spring, rain water, flood water, well water and water course ponds Functional classification of ponds – head pond, hatchery, nursery, rearing, production, stocking and quarantine ponds Hatchery design. Important factors in the construction of an ideal fish pond – site selection, topography, nature of the soil,water resource
SEP 2019	IV V	Lay out and arrangements of ponds in a fish farm, Construction of an ideal fish pond – space allocation, structure and components of barrage pond. **Pond management factor** Need of fertilizer and manure application in culture ponds; ole of nutrients; NPK contents of different fertilizers and manures used in aquaculture; and precautions in their application
OCT2019	V	Physico-chemical conditions of soil and water optimum for culture –temperature, depth, turbidity, light, water and shore currents, PH, DOD, CO2 and nutrients; measures to increase oxygen and reduce ammonia & hydrogen **sulphide** in culture ponds; correction of PHEradication of predators and weed control – advantages and disadvantages of weed, weed plants in culture ponds, aquatic weeds, weed fish, toxins used for weed control and control of predators

DEPARTMENT OF ZOOLOGY
SEMESTER – II
CURRICULAR PLAN/ TEACHING PLAN
2019-2020

Subject Code: AQU 201C   **Title: Biology of fin fish & shell fish**

Month	Unit No.	Topic to be covered
	I	General Characters and classification of fishes & crustaceans up to the level of Class Fish and Crustaceans of commercial importance Sense organs of fishes and crustaceans. Specialized organs in fishes – electric organ, venom and toxins Buoyancy in fishes- swim bladder and mechanism of gas secretion
	II	Natural fish food, feeding habits, feeding intensity, stimuli for feeding, utilization of food, gut content analysis, forage ratio Principles of Age and growth determination; growth regulation, Growth rate measurement – scale method, otolith method, skeletal parts as age indicators Length-frequency method, age composition, age-length keys, absolute and specific growth, back calculation of length and growth, annual survival rate, Length-weight relationship.
	III	Breeding in fishes, breeding places, breeding habits & places, breeding in natural environment and in artificial ponds, courtship and reproductive cycles Induced breeding in fishes Breeding in shrimp, oysters, mussels, clams, pearl oyster, pila, and cephalopods.
	IV	Parental care in fishes, ovo-Vivi parity, oviparity, Vivi parity, nest building & brooding Embryonic and larval development of fishes. Embryonic and larval development of shrimp, crabs and molluscs of commercial importance Environmental factors affecting reproduction and development of cultivable aquatic fin & shell fish
	V	Endocrine system in fishes. Neurosecretory cells, androgenic gland, ovary, chromatophores, Molting, molting stages, metamorphosis in crustacean shell fish