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

SEMESTER – I

CURRICULAR PLAN

Subject Code: ENGT11B Title: A COURSE IN COMMUNICATION AND SOFT SKILLS

Month	Unit No.	Topic to be covered		
Nov-2021	Ι	Listening Skills – 1. Importance of Listening		
(7)		2. Types of Listening		
Dec-2021	Ι	Listening Skills – Barriers to Effective Listening		
	II	Speaking Skills – Sounds of English: Vowels and		
		Consonants		
	III	Grammar –Concord and Modals		
Jan - 2022	II	Speaking Skills – Word Accent and Intonation		
	III	Grammar – Articles, Prepositions and Tenses		
		(Present/Past/Future)		
Feb-2022	III	Grammar – Question Tags, Sentence Transformation		
		(Voice, Reported Speech & Degrees of Comparison) and		
		Error Correction		
	IV	Writing – Punctuation and Spelling		
Mar-2022	V	Soft Skills – Positive Attitude and Emotional Intelligence,		
		Telephone Etiquette		

SEMESTER – III CURRICULAR PLAN

Subject Code: ENG 301C

Title : ENGLISH PRAXIS - III

Month	Unit No.	Topic to be covered	
Nov-2021	Ι	Speech: Tryst with Destiny Skills: Greetings Introductions	
Dec-2021	п	 Speech 1. Yes, We Can Interview 2. A Leader Should Know How to Manage Failure Skills 3. Requests 	
Jan-'22	Ш	Interview 1. Nelson Mandela's Interview Skills 2. Asking and Giving Information 3. Agreeing and Disagreeing	
Feb-'22	IV	Interview 1. JRD Tata's Interview With T.N.Ninan Skills 2. Dialogue Building 3. Giving Instructions/Directions	
Mar-'22	V	Speech1. You've Got to Find What You Love Steve JobsSkills2. Debates3. Descriptions4. Role Play	

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

SEMESTER – II CURRICULAR PLAN

Subject Code: ENGT21B

Title: A COURSE IN READING & WRITING SKILLS

Month	Unit No.	Topic to be covered
	Ι	How to Avoid Foolish Opinions
	Ι	Vocabulary: Conversion of Words
June - '22	III	Upagupta
	V	An Astrologer's Day
	Ι	One Word Substitutes,
	Ι	Collocations
July-'22	III	The Night Train at Deoli
	IV	Coromandel Fishers
	IV	Notices, Agendas and Minutes
	II	The Doll's House
	II	Ode to the West Wind
Aug-'22	II	Florence Nightingale
	II	Skimming and Scanning
	IV	Expansion of Ideas
	III	Reading Comprehension
	V	Note Making/Taking
Sep-'22	V	Curriculum Vitae and Resume
	V	Letters
	V	E-Correspondence

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

SEMESTER – II

CURRICULAR PLAN

Subject Code: SDCENGT01

Title: ENRICHING COMMUNICATION SKILLS

Month	Unit No.	Topic to be covered	
June -'22	COMMUNICATION PROFICIENCY 1. Formal and Informal conversations I 2. Contextual conversations 3.Idiomatic Expressions/ Cliché/foreign Expression/ Catch Phrass		
July-'22	Π	EMPLOYABILITY SKILLS1. Interview etiquette2. Group Discussions/Debates/Extempore3. Oral presentation	
Aug-'22	Aug-'22 III WRITING PROFICIENCY 1. Report Writing – Technical, Non-Technical 2. Essay Writing – Expository, Descriptive, Narrative, Argumer 3. Creative Writing – Introduction to Fiction (Novel & Short sto & Nonfiction (Prose, Poetry & Drama), Anecdotes, Memoirs		

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU DEPARTMENT OF TELUGU SEMESTER – I 2021-2022 CURRICULAR PLAN

Subject Code: TELT11A Title: GENERAL TELUGU

Month	Unit No.	Topic to be covered
Nov-2021	Ι	පැස්ථිම
Dec-2021	II	దక్షయజ్ఞం దౌమ్య దర్శోపదేశం
Jan - 2022	IV	_ మధుర స్నేహం
		సీతా రావణ సంవాదం

	V	
Feb-2022		సంధులు, సమాసాలు, అలంకారాలు
Mar-2022		ఛందస్సు

SEMESTER – II CURRICULAR PLAN

Subject Code: TELT21A Title: GENERAL TELUGU

Month	Unit No.	Topic to be covered		
		1. ఆధునిక కవిత్వం		
L	т	2. కన్యక		
June - 22	1	3. కొండవీడు		
		4. మాతృ సంగీతం		
	II	5. తెలుగు కథానిక		
		6. భయం (కథ)		
July-22		7. స్పేదం ఖరీదు (కథ)		
	III	8. తెలుగు నవల - పరిచయం		
		9. రథ చుకాలు - నవల		
		10. రథ చక్రాలు - సమీక్షా వ్యాసం		
Aug-'22				
	IV	11. తెలుగు నాటకం పరిచయం		
		12. యక్ష గానం - నాటిక / నాటకం		
		13. అపురూప కళారూపాల విధ్వంసక		
Sep-'22		దృశ్యం - "యక్షగానం" - సమీక్షావ్యాసం		
		14. తెలుగు సాహిత్య విమర్శ		
	V	15. విమర్శ - స్వరూప స్వభావాలు ,		
	v	ఉత్తమ విమర్శకుడు		

SEMESTER – III

2021-2022 CURRICULAR PLAN

Subject Code: TEL - 301

Title: GENERAL TELUGU - II

	Unit	Topic to be covered
Month	No.	
	Ι	వ్యక్తీకరణ నైపుణ్యాలు
Nov-2021		1. భాష - ప్రాధమిక అంశాలు:- భాష - నిర్వచనం, లక్షణాలు
		ఆవశ్యకత, ప్రయోజనాలు
		2. 'వర్ణం - పదం - వాక్యం', వాక్య లక్షణాలు, సామాన్య -
		సంయుక్త - సంశ్లిష్ట వాక్యాలు.
		3. భాషా నిర్మాణంలో 'వర్ణం - పదం - వాక్యం' ప్రాధాన్యత
		సృజనాత్మక రచన
Dec 2021	11	4. కవితా రచన: - ఉత్తమ కవిత - లక్షణాలు
Det-2021		5. కథా రచన: - ఉత్తమ కథ - లక్షణాలు
		6. వ్యాస రచన: - ఉత్తమ వ్యాసం - లక్షణాలు

	III	అనువాద రచన
Ion (22		7. అనువాదం:- నిర్వచనం, అనువాద పద్ధతులు.
Jan- 22		8. అనువాద సమస్యలు:- భౌగోళిక, భాషా, సాంస్కృతిక
		సమస్యలు, పరిష్కారాలు.
		9. అబ్బాసము:- ఆంగం నుండి తెలుగునకు ఒక పేరాను
		అనువదించటం
	IV	మాధ్యమాలకు రచన - I:- ముద్రణ / ట్రింట్ మీడియా
Feb-'22		10. ముద్రణా మాధ్యమం / అచ్చు /:- పరిచయం, పరిధి,
		వికాసం.
		11. వివిధ రకాల పత్రికలూ పరిశీలన, పత్రికా భాష, శైలి,
		వైవిధ్యం.
		12. పత్రికా రచన: - వార్తా రచన, సంపాదకీయాలు, సమీక్షలు
		- అవగాహన.
	V	మాధ్యమాలకు రచన - II:- (పసార మాధ్యమం / ఎల(క్జానిక్
Mar-'22		మీడియా
		13. ప్రసార మాధ్యమాలు:- నిర్వచనం, రకాలు, విస్తృతి,
		్రపయోజనాలు.
		14. శ్రవణ మాద్యమాలు:- రచన: - రేడియో రచన,
		(పసంగాలు, నాటికలు, (పసార సమాచారం.
		15. దృశ్య మాధ్యమాలు - రచన: - వ్యాఖ్యానం / యాంకరింగ్,
		ెటలివిజన్ రచన.

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

SEMESTER – I

CURRICULAR PLAN

Subject Code:HINTIIA

Title: General Hindi

Month	Unit No.	Topic to be covered	Remarks
Nov-2021	Ι	1. साहित्यकीमहत्ता	
(7)	IV	2. व्याकरण	
Dec-2021	Ι	2.सच्चीवीरता	
	п	1.मुक्तिधन	
	III	अनुवाद	
Jan - 2022	II	2.गूदडसाई	
		3.उसनेकहाथा	
Feb-2022	Ι	मित्रता	
	IV	व्याकरण	
Mar-2022	V	पत्रलेखन	

SEMESTER – III **CURRICULAR PLAN**

Subject Code	: HINT01A	Title :General Hindi	
Month	Unit No.	Topic to be covered	Remarks
Nov-2021	I	साखी बालवर्णन मातृभूमि अनवाद	
	IV		
Dec-2021	I II	तोडतीपत्थर हिन्दीसाहित्यकाइतिहास भक्तिकाल: ज्ञानज्ञानाश्रयीशाखा	
Jan-'22	I III	गीतफरोश सामान्यनिबंध: सामाचारपत्र, कंप्यूटर, पर्यावरणऔरप्रदूषण	
Feb-'22	II IV	भक्तिकाल: प्रेमाश्रयीशाखा अनुवाद	
Mar-'22	III V	बेकारीकीसमस्या परिपत्र ज्ञापन राष्ट्रभाषाहिन्दी	

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

SEMESTER – II **CURRICULAR PLAN**

Subject Code:HINT21A

Title:GENERAL HINDI

Month	Unit No.	Topic to be covered
June -'22	Ι	संकृतिऔरसाहित्यकापरस्परसंबंध
	II	जरिया
		संधिविच्छेद
	IV	
	Ι	भारतएकहै

	II	भूखहड़ताल
July-'22	III	अनुवाद
	Ι	एचआईवी/एड्स
	II	परमात्माकाकुत्ता
Aug-'22	III	अनुवाद
	IV	वाक्यप्रयोग
Sep-'22	V	पत्रलेखन

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU DEPARTMENT OF MATHEMATICS 2021-2022 CURRICULAR PLANS

SEMESTER – I

Subject Code: MATT11A Title: Differential Equations

Month	Unit No.	Topic to be covered
Dec - 2021	III	Bridge Course and basic definitions of D.E
Dec - 2021	III	Higher order linear differential equations - I
Jan - 2022	IV	Higher order linear differential equations - II
Feb - 2022	V	Higher order linear differential equations – III
Mar – 2022	Ι	D.E of First order and First degree
Apr - 2022	II	Orthogonal Trajectories, D.E of First order and but not of
		First degree

SEMESTER – II

Sub	ject Code: I	MATT21B Title: Real Analysis – II
Month	Unit No.	Topic to be covered
June - 2022	Ι	Real Numbers, Sequences and Series
July - 2022	II	Infinite Series
Aug – 2022	II	Infinite Series
Aug – 2022	III	Limits and Continuity
Sep – 2022	III	Limits and Continuity
Sep – 2022	IV	Differentiation and Mean Value theorems
Oct - 2022	V	Riemann Integration

SEMESTER – III

Su	bject Code:	MAT 301 Title: Abstract Algebra
	Unit No.	Topic to be covered
Month		
Nov - 2021	Ι	The Groups
Dec - 2021	II	The Sub Groups and Cosets and Lagrange's theorem
Dec - 2021	III	Normal Sub Groups
Jan - 2022		
Jan – 2022	IV	Homeomorphisms and Isomorphisms
Feb – 2022	V	Permutations Groups and Cyclic Groups

SEMESTER – IV

Subject Code: MAT401

Title :Real Analysis

Month	Unit No.	Topic to be covered
Mar – 2022	Ι	Real Numbers, Sequences and Series
Apr - 2022		
Apr - 2022	II	Infinite Series
May - 2022		
June -2022	III	Limits and Continuity
July - 2022	IV	Differentiation and Mean Value theorems
July - 2022	V	Riemann Integration

SEMESTER – IV

Subject C	ode: MAT	402 Title: Linear Algebra
	Unit No.	Topic to be covered
Month		
Mar – 2022	Ι	Matrices
Apr – 2022		
Apr - 2022	II	Vector Space - I
May - 2022		
June -2022	III	Vector Space - II
July - 2022	IV	Linear Transformations
July - 2022	V	Inner Product Space

SEMESTER – IV

Subject Code: ANS40		D2C Title: Analytical Skills
Month	Unit No.	Topic to be covered
Mar – 2022	Ι	Test of Reasoning - I
Apr - 2022		
Apr - 2022	Π	Test of Reasoning - II
May - 2022		
June -2022	III	Arithmetic Ability
July - 2022	IV	Quantitative Aptitude
July - 2022	V	Business Computations

SEMESTER - V

S	Subject Code: MAT 501C		Title: Ring Theory and Vector Calculus	
ſ		Unit No.	Topic to be covered	
	Month			
	Sep – 2021	Ι	Vector differentiation	
	Oct - 2021	II	Vector Integration	
	Nov - 2021	III	Vector Integration and its applications	
	Dec - 2021	IV	Rings - I	
Ī	Jan - 2022	V	Rings - II	

SEMESTER - V

Subject Code: MAT 502C

Title: Linear Algebra

Month	Unit No.	Topic to be covered
Sep - 2021	Ι	Matrices

Oct - 2021	Π	Vector Space - I
Nov - 2021	III	Vector Space - II
Dec - 2021	IV	Linear Transformations
Jan - 2022	V	Inner Product Space

SEMESTER – VI

Subject Code: MAT601GE

Title : Numerical Analysis

Month	Unit No.	Topic to be covered
Feb - 2022	Ι	Errors in Numerical Computations
Mar - 2022	II	Solution of Algebraic and Transcendental equations
April- 2022	III	Finite Differences and Interpolation
May - 2022	IV	Central Differences
June - 2022	V	Interpolation with unequal intervals

SEMESTER – VI

Subject Code: MAT602CE

Title: Integral Transforms

5		8
Month	Unit No.	Topic to be covered
Feb - 2022	Ι	Application of L.T to solutions of D.E - I
Mar - 2022	Π	Application of L.T to solutions of D.E - II
April- 2022	III	Application of L.T to solutions of I.E I
May - 2022	IV	Fourier Transforms - I
June - 2022	V	Fourier Transforms - II

SEMESTER – VI

Subject Code: MAT603CE

Title : Advanced Numerical Analysis

Month	Unit No.	Topic to be covered
Feb - 2022	Ι	Curve fitting
Mar - 2022	П	Numerical Differentiation
April- 2022	III	Numerical Integration
May - 2022	IV	Solutions of Simultaneous linear systems of equations
June - 2022	V	Numerical solution of O.D.E

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

SEMESTER – I

2021-2022 TEACHING PLAN

Subject Code : **PHYT 11B**

Title: Mechanics, waves & oscillations

Month	Unit No.	Topic to be covered
DEC-2021	I	1. 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, Rutherford scattering-concept only.
		2. Mechanics of Rigid bodies 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 atom and nucleus in magnetic field, Precession of the equinoxes

JAN - 2022	Π	3. Motion in a Central Force Field Central forces, definition and examples, characteristics of central forces, conservative nature of central forces, Equation of motion under a central force, Kepler's laws of planetary motion- Proofs, Kepler's third law from inverse-square law of Gravitation. Motion of satellites, Basic idea of Global Positioning System (GPS).
FEB-2022	III	Introduction to relativity, Frames of reference, Galilean transformations, absolute frames, Michelson-Morley experiment, Postulates of Special theory of relativity, Lorentz transformation, time dilation, length contraction, variation of mass with velocity, Einstein's mass-energy relation
Mar-2022	IV	 5. Undamped, Damped and Forced oscillations: Simple harmonic oscillator and solution of the differential equation, Damped harmonic oscillator, Forced harmonic oscillator – Their differential equations and solutions, Resonance, Logarithmic decrement, Relaxation time and Quality factor. 6. Coupled oscillations: Coupled oscillators-Introduction, Two coupled oscillators, N-coupled oscillators and wave equation.
April-22	V	 7. Vibrating Strings: Transverse wave propagation along a stretched string, General solution of wave equation and its significance, Modes of vibration of stretched string clamped at ends, Overtones and Harmonics, Melde's strings. 8. Ultrasonics: Ultrasonics, General Properties of ultrasonic waves, Production of ultrasonics by piezoelectric and magnetostriction methods, Detection of ultrasonics, Applications of ultrasonic waves, Ultrasonic interferometer.

<u>SEMESTER – II</u>

TEACHING PLAN

Subject Code : PHYT21B Title: WAVE OPTICS

Month	Unit No.	Topic to be covered
June -'22	I	 1. Aberrations: Introduction – monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion. Chromatic aberration-the achromatic doublet. Achromatism for two lenses (i) in contact and (ii) separated by a distance. 2. Interference : Division of wavefront: Principle of superposition-coherence-conditions for interference of lightFresnel's biprism-determination of wavelength of light. Determination of thickness of a transparent material using biprism – Determination of the thickness of a thin sheet of transparent material. Change of phase on reflection – Stoke's Law.
July-'22	Ш	3. Division of Amplitude: Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (cosine law) –colors of thin films-Non reflecting films-interference by a plane parallel film illuminated by a point source- Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film). Determination of diameter of wire- Newton's rings in reflected light- Determination of wavelength of monochromatic light. Michelson interferometer- Determination of wavelength of monochromatic light.
Aug-'22	IV	 4. Diffraction: Introduction, distinction between Fresnel and Fraunhoffer diffraction, Fraunhoffer diffraction –Diffraction due to single slit and circular aperture-Limit of resolution-Fraunhoffer diffraction due to double slit-Fraunhoffer diffraction pattern with N slits (diffraction grating). 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-difference between interference and diffraction.

		5. Polarisation :
Sep-'22	V	Polarized light: methods of polarization polarization by reflection, refraction, double refraction, scattering of light-Brewster's law-Mauls law-Nicol prism polarizer and analyzer-Quarter wave plate, Half wave plate-optical activity, analysis of light by Laurent's half shade polarimeter-Babinet's compensator.
		6. Lasers and Holography:
		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-Gabor hologram and its limitations, Applications of holography

<u>SEMESTER – III</u>

2021-2022 TEACHNIG PLAN

Subject Code: **PHY-301C** Title: **Thermodynamics & Radiation physics**

	Unit No.	Topic to be covered
Month		
NOV-2021	Ι	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.
		2. Thermodynamics
DEC-2021	Π	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.
		3. Thermodynamic potentials and Maxwell's

JAN-2022	Ш	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.
		4. Low temperature Physics
JAN-2022	IV	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.
		5. Ouantum theory of radiation
FEB-2022	V	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 – IV

2021-2022 TEACHING PLAN

Subject Code : PHY 401C

W1C Title : **Electricity, Magnetism and Electronics**

		1.Electrostatics
		Gauss's law Statement and its proof-Electric field
		intensity due to (1) Uniformly charged sphere and
MAR-2022	Ŧ	(2) an infinite conducting sheet of charge. Electric
	1	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 .
APR - 2022	Ш	 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.
MAY-2022	III	 5.Alternating current and electro magnetic waves Alternating 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 Idea 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.
JUN-2022	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.
JULY-22	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.

<u>SEMESTER – IV</u>

2021-2022 TEACHING PLAN

Subject Code: PHY- 402C Title : MODERN PHYSICS 1 Atomic and molecular physics

MAR-2022	Ι	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 . Quantum theory of Raman effect. Experimental arrangement – Applications of Raman effect.
APR - 2022	Π	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.
MAY-2022	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.
JUN-2022	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.
JULY-22	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.
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<u>SEMESTER – V</u>

2021-2022 TEACHING PLAN

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

Dec-2021	Ι	 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
Jan - 2022	Π	 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.
Feb-2022	III	 5.Alternating current and electro magnetic waves Alternating 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 Idea 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.
Mar-2022	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.
MAR-2022	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.

<u>SEMESTER – V</u>

2021-2022

TEACHING PLAN

Subject Code: PHY- 502C

Title: MODERN PHYSICS

		1. Atomic and molecular physics
		Introduction – Drawbacks of Bohr's atomic
		model – Sommerfeld's elliptical orbits- relativistic
Dec-2020	Ι	correction (no derivation). Vector atom model and
		Stern & Gerlach experiment - quantum numbers
		associated with it. L-S and i-i 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.
		2. Matter waves & Uncertainty Principle
		2. Matter waves & Uncertainty Principle Matter waves, de Broglie's hypothesis –
		2. Matter waves & Uncertainty Principle Matter waves, de Broglie's hypothesis – wavelength of matter waves, Properties of matter
Jan - 2021	П	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
Jan - 2021	П	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
Jan - 2021	П	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
Jan - 2021	П	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
Jan - 2021	П	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
Jan - 2021	П	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
Jan - 2021	Π	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.

r		
Feb-2021	Ш	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.
Mar-2021	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.
April-21	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.

SEMESTER – VI

2021-2022 TEACHING PLAN

Subject Code: PHY 601 GE

Title : ANALOG AND DIGITAL ELECTRONICS

MAR-2022	Ι	 FET Construction ,Working ,Characteristics and uses; MOSEFT-enhancement MOSEFT,Depletion MOSEFT, Construction and Working, drain Characteristics of MOSEFT, applications of MOSEFT. Photo electric devices: structure and operation, Characteristics and applications of LED and LCD.
APR-2022	П	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.
		4 Applications of OP-amp OP-amp as voltage
APR-2022	III	amplifier, inverting amplifier, Non- inverting amplifier, Voltage follower, summing amplifier, difference amplifier, comparator, Integrator, Differentiator.
MAY-2022	IV	 5. Data processing circuits: Multiplexers, De – Multiplexers, encoders, decoders, Characteristics 6. For Digital IC's –RTL, DTL, TTL, CMOS (NAND&NOR Gates
MAY-2022	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.

<u>SEMESTER – VI</u>

2021-2022 TEACHING PLAN

Subject Code: PHY 602 CE

Title : INTRODUCTION TO MICROPROCESSOR AND MICROCONTROLLER

MAR-2022	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.
APR-2022	Ш	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.
APR-2022	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.

MAY-2022	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.
MAY-2022	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.

<u>SEMESTER – VI</u>

2021-2022 TEACHING PLAN

Subject Code: PHY 603C Title

Title: Computational Methods and Programming

MAR-2022	Ι	 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. Operators : Arithmetic operators- Relational operators – Logic operators – Assignment operators – Increment and decrement operators – Conditional operators
APR-2022	П	 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.
APR-2022	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.

		7.Linear and Non-Linear equations: Solution of
		Algebra and transcendental equations – Bisection,
MAY-2022	IV	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
		Interpolations : Concept of linear
		interpolation – Finite differences –
	X 7	Newton's and Lagrange's interpolation
MAY-2022	V	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

2021-2022

TEACHING PLAN

Subject Code: PHY 604 CE Title: : Electronic Instrumentation

MAR-2022	Ι	 Basic of measurements: Instruments accuracy, precision, sensitivity- errors in measurements- Basic meter movement- PMMC (Permanent Magnetic Moving Coil). Measurement of dc current: DC ammeter- multi range ammeters-the ARYTON Shunt or universal Shunt. Measurement of dc voltage: DC Voltmeter – Multi Range Voltmeter- Voltmeter sensitivity.
APR-2022	Π	 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.
APR-2022	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.
MAY-2022	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)
MAY-2022	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.

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU DEPARTMENT OF CHEMISTRY SEMESTER – I 2021-2022CURRICULAR PLAN

Subject Code: CHET11A Title: Inorganic and Physical chemistry

Month	Unit No.	Topic to be covered
Nov-21	1	Introduction of Chemistry of P block elements
Dec-21	4	Liquid crystals
Jan-22	3	Solid state, Gaseous state
Feb-22	2	Transition elements, Inner transition elements
Mar-22	5	Solutions, Colligative properties

SEMESTER – II

2021-22 CURRICULAR PLAN

Subject Code: CHET21A

Title: Organic and General chemistry

Month	Unit No.	Topic to be covered
Jun-22	4	Chemical bonding & Surface chemistry

Jul-22	5	Stereo chemistry of carbon compounds
Aug-22	3&1	Benzene and its reactivity Saturated hydro carbons Cyclo alkanes
Sep-22	2	Unsaturated hydro carbons

SEMESTER – III

2021-2022CURRICULAR PLAN

Subject O	Code: CHE-30)1	Title : Organic and Spectroscopy
		Unit No.	Topic to be covered
	Month		
		3	Carboxylic acids and their derivatives
	Nov-2021		Active methylene compounds
		2	Carbonyl compounds
	Dec-2021		
		4	Spectroscopy
	Jan-'22		
		5	Spectroscopy
	Feb-'22		
		1	Halogen compounds
	Mar-22		

SEMESTER – IV

2021-2022CURRICULAR PLAN

Subject Code: CHE 401 Title: Inorganic, Organic and Physical chemistry

Month	Unit No.	Topic to be covered
Apr-22	2	Carbohydrates
May-22	3	Amino acids and proteins Heterocyclic compounds
Jun-22	1&4	Organometallic compounds Nitrogen containing functional groups
Jul-22	5	Photo chemistry Thermodynamics

SEMESTER – IV

Subject Code: CHE 402 Title: Inorganic and Physical chemistry

Month	Unit No.	Topic to be covered
Apr-22	1	Co ordination chemistry
May-22	2	Inorganic reaction mechanism
Jun-22	3&5	Phase rule, Chemical kinetics
Jul-22	4	Electro chemistry

SEMESTER – V(501)

2021-22CURRICULAR PLAN

Subject Code: CHE-501

Title: Inorganic, Organic & Physical Chemistry

Month	Unit No.	Topic to be covered
Sep-21	1	Co ordination chemistry
Oct-21	2	Magnetic properties of metal complexes
Nov-21	3	Nitro hydro carbons
Dec-21	4	Nitrogen compounds
Jan-22	5	thermodynamics

SEMESTER – V (502)

2021-22CURRICULAR PLAN

Subject Code: CHE-502

Title : Inorganic, Organic & Physical Chemistry

Month	Unit No.	Topic to be covered
Sep-21	3	Carbohydrates

Oct-21	4	Amino acids and Proteins
Nov-21	2	Hetero cyclic compounds
Dec-21	1	Reactivity of Metal complexes
Jan-22	5	Chemical kinetics

SEMESTER – VI (GE)

2021-22 CURRICULAR PLAN

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

Month	Unit No.	Topic to be covered
Jan-22	4	Ion exchange, paper chromatography
Feb-22	5	TLC,Column chromatography
Mar-22	1&3	Separation techniques in chemical analysis
Apr-22	2	Treatment of Analytical data

SEMESTER – VI (CHE-602CE)

2021-22CURRICULAR PLAN

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

Month	Unit No.	Topic to be covered
Jan-22	1	NMR spectroscopy
Feb-22	2	NMR spectroscopy
Mar-22	3	Electron spin resonance spectroscopy
Apr-22	4&5	UV& Visible spectroscopy Electronic spectra of poly atomic molecules

SEMESTER – VI(CHE-603CE)

2021-22CURRICULAR PLAN

Month	Unit No.	Topic to be covered
Jan-22	1	Organic photo chemistry
Feb-22	2	Organic photo chemistry
Mar-22	3	Protecting groups and organic reactions
Apr-22	4&5	Synthetic reactions &New synthetic reactions

SEMESTER - VI (CHE-604CE)

2021-22CURRICULAR PLAN

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

Month	Unit No.	Topic to be covered
Jan-22	1	Pharmaceutical terminology
Feb-22	2	Nomenclature
Mar-22	3	Synthesis and therapeutic activity of drugs
Apr-22	4&5	Pharmacodynamic drugs& HIV-AIDS

AG & SG SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE VUYYURU (AUTONOMOUS)

Department of Commerce

TEACHING PLAN- 2021-2022

TITLE OF THE PAPER: Fundamentals of Accounting

Semester: I Course Code: COMT11B

Syllabus

Unit	Learning Units	
Ι	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).	DEC-2021
II	Subsidiary Books: Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty Cash Book (including Problems).	JAN - 2022
III	Trial Balance and Rectification of Errors: Preparation of Trial balance - Errors – Meaning – Types of Errors – Rectification of Errors – Suspense Account (including Problems)	FEB-2022
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 Unfavorable Balance (including Problems).	Mar-2022
v	Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with Adjustments (including Problems).	APR-2022

TITLE OF THE PAPER: Principles of ManagementSemester: ICourse CodeCOMT14P

Syllabus

Unit	Learning Units	
Ι	Introduction of Management Definition - Management - functions	DEC-2021
	of management - principles of management -lcvcls of management-	
	Trends and Challenges of Management in Global Scenario.	

II	Planning Nature and purpose of planning - Planning process - Types of plans - Objectives - Managing by objective (MBO) Strategies - Types of strategies	JAN - 2022
III	Organizing Nature and purpose of organizing - Organization structure Formal and informal groups organization - Line and Staff authority -Centralization and Decentralization - Delegation of authority	FEB-2022
IV	Motivation Theories -Leadership Styles - Leadership theories - Communication - Barriers to effective communication.	Mar-2022
V	Controlling Process of controlling - Types of control- Budgetary and non-budgetary, control techniques - Managing Productivity - Cost Control - Purchase Control-Maintenance Control - Quality Control	APR-2022

TITLE OF THE PAPER: Business Organization and ManagementSemester: ICourse CodeCOMT12A

Unit	Learning Units	
Ι	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.	DEC-2021
Π	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.	JAN - 2022
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.	FEB-2022
IV	Management: Meaning Characteristics - Fayol's 14 Principles of Management - Administration Vs. Management - Levels of Management.	Mar-2022
V	Functions of Management: Different Functions of Management - Meaning – Definition – Characteristics Merits and Demits of Planning - Principles of Organization – Line and staff of Organization.	APR-2022

TITLE OF THE PAPER: Business Environment

Semester: I

Unit

Course Code COMT13

Business Environment

Ι	Overview of Business Environment: Business Environment – Meaning – Characteristics – Scope -Macro and Micro Dimensions of Business Environment - Environmental Analysis - Purpose & Techniques.	DEC-2021
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	JAN - 2022
III	Economic Policies: Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Monetary Policy and RBI	FEB-2022
IV	Social, Political and Legal Environment: Concept of Social Responsibility of Business towards Stakeholders - Demonetization, GST and their Impact - Political Stability - Legal Changes.	Mar-2022
V	Global Environment: Globalization – Meaning – Role of WTO – WTO Functions -IBRD– Trade Blocks, BRICS, SAARC, ASEAN in Globalization	APR-2022

TITLE OF THE PAPER: INSURANCE PROMOTION Semester: I Course Code COMT15S Syllabus

INSURANCE PROMOTION

Unit	Learning Units	
Ι	Introduction of Insurance - Types of insurances. Growth of	DFC-2021
	Insurance sector in India - Regulatory mechanism (IRDA) - Its	DEC 2021
	functions	JAN - 2022
II	Life Insurance plans. Health insurance plans. Products and	FEB-2022
	features. Contents of documents- Sales Promotion methods -	Mar-2022
	Finding prospective customers –Counselling – Helping customers	
	in filing - Extending post-insurance service to customers	
III	General Insurance - It's products (Motor, Marine, Machinery, Fire,	APR-2022
	Travel and Transportation) and features. Contents of documents.	
	Dealing with customers – Explaining Products to Customers -	
	Promoting Customer loyalty. Maintenance of Records.	

TITLE OF THE PAPER: Advanced Accounting Semester: I Course Code : COMT31II

Syllabus

Unit	Learning Units	Lecture
		Hours
Ι	Accounting for Non Profit Organizations: Non Profit Entities- Meaning -	DEC-2021
	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	
	(includingproblems).	
II	Single Entry System: Features – Differences between Single Entry and	JAN - 2022
	Double Entry - Disadvantages of Single Entry- Ascertainment of Profit and	
	Preparation of Statement of Affairs (including Problems)- Conversion of	
	Single entry to Double entry system (Simple Problems).	
III	Hire Purchase System: Features –Difference between Hire Purchase and	FEB-2022
	Instalment Purchase Systems - Accounting Treatment in the Books of Hire	
	Purchaserand Hire Vendor - Default and Repossession	
	(includingProblems).	
IV	Partnership Accounts-I: Meaning – Partnership Deed - Fixed and	Mar-2022
	Fluctuating Capitals-Accounting Treatment of Goodwill - Admission and	
	Retirement of a Partner (including problems).	
V	Partnership Accounts-II: Dissolution of a Partnership Firm – Application of	APR-2022
	Garner v/s Murray Rule in India – Insolvency of one or more Partners	
	(including problems).	

TITLE OF THE PAPER: Business Statistics

Semester: IIICourse Code COMT32

Syllabus		
Unit	Learning Units	Lecture Hours
Ι	Introduction to Statistics:	DEC-2021
	Definition, Importance and limitation of statistics, Collection	
	of data, Schedule and questionnaire, Frequency distribution,	
	Tabulation	
II	Measures of Central Tendency:	JAN - 2022
	Characteristics of measures of central tendency, Types of	
	Averages, Arithmetic Mean, Geometric Mean, Harmonic Mean,	
	Median, Mode	
III	Measures of dispersion and Skewness:	FEB-2022
	Properties of dispersion, Range, Quartile Deviation, Mean	
	deviation, Standard deviation, Coefficient of Variation, Skewness	
	Definition, Karl Pearson's and Bowley's Measures Of skewness	
IV	Measures of Relation:	Mar-2022
	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	
V	Analysis of Time Series & Index Numbers	APR-2022
	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.	

<u>SYLLABUS</u> Marketing

Course Details

Unit	Learning Units	
Ι	Introduction : Concepts of Marketing: Need, Wants and Demand - Marketing Concepts – Marketing Mix - 4 P's of Marketing – Marketing Environment.	DEC-2021
II	Consumer Behavior and Market Segmentation: Buying Decision Process – Stages – Buying Behavior – Market Segmentation –Bases of Segmentation - Selecting Segments – Advantages of Segmentation	JAN - 2022
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-2022
IV	Pricing Decision : Factors Influencing Price – Determination of Price – Pricing Strategies: Skimming and Penetration Pricing.	Mar-2022
V	Promotion and Distribution: Promotion Mix - Advertising - Sales promotion - Publicity – Public Relations - Personal Selling and Direct Marketing - Distribution Channels – Online Marketing	APR-2022

TITLE OF THE PAPER: E COMMERCE Semester: III Course Code COMT34

Syllabus

Unit	Learning Units	
Ι	Introduction, Nature and Scope	DEC-2021
	Introduction- Definition – importance- Nature and scope of e	
	commerce-Advantages and limitations-Types of ecommerce-	
	B2B,B2C,C2B,C2C,B2A,C2A-Frameworkecommerce	
II	Environmental and Technical support Aspects	JAN - 2022
	Technical Components-Internet and its component structure- Internet Vs Intranet, Vs Extranet and their differences-Website design- its structure-designing, developing and deploying the system-	
III	Security and Legal Aspects	FEB-2022
	Security environment –its preliminaries and precautions-protecting	
	Web server with Firewalls-Importance of Digital Signature –its	
	components – Cyber Law-Relevant Provisions of IT Act2000.	
IV		Mar-2022
	Operational Services of e Commerce E retailing –features- E Services-Banking, Insurance, Travel, Auctions, Learning, Publication and Entertainment-Payment of utilities	

	(Gas, Current Bill, Petrol Products)- On Line Shopping (Amazon, Flip kart, Snandeal etc.)	
V	E navment System	APR-2022
	Types of e payment system- its features-Digital payments (Debit Card/Credit Cards, Internet Banking, Mobile wallets- Digital Apps (unified Payment Services-Phone Pay, Google Pay, BHIMEtc.)UnstructuredSupplementaryServicesData(BankPrepaidCard, Mobilebanking)-	

TITLE OF THE PAPER: ONLINE BUSINESS Semester: III Course Code COMT 35S Syllabus

ONLINE BUSINESS

Unit	Learning Units	
Ι	Introduction to Online-Business-Definition-Characteristics- Advantages of Online Business-Challenges- Differences between off-line business, e-commerce and Online Business.	DEC-2021 JAN - 2022
II	Online-business Strategies-Strategic Planning Process- Procurement -Logistics & Supply Chain Management- Customer Relationship management.	FEB-2022 Mar-2022
III	Designing Online Business Website – Policies - Security & Legal Issues - Online Advertisements - Payment Gateways - Case Study	APR-2022

TITLE OF THE PAPER: INSURANCE PROMOTION

Semester: III Course Code COMT36S Syllabus

INSURANCE PROMOTION

Ι	Introduction of Insurance - Types of insurances. Growth of	DEC-2021
	Insurance sector in India - Regulatory mechanism (IRDA) - Its	
	functions	JAN - 2022
II	Life Insurance plans. Health insurance plans. Products and	FEB-2022
	features. Contents of documents- Sales Promotion methods -	Mar-2022
	Finding prospective customers –Counselling – Helping customers	
	in filing - Extending post-insurance service to customers	
III	General Insurance - It's products (Motor, Marine, Machinery, Fire,	APR-2022
	Travel and Transportation) and features. Contents of documents.	
	Dealing with customers – Explaining Products to Customers -	
	Promoting Customer loyalty. Maintenance of Records.	

TITLE OF THE PAPER: Advanced Corporate Accounting Semester: V / VI

Syllabus

ADVANCED CORPORATE ACCOUNTING

Paper code: CACA-501 G/C

Unit	Learning Units	Lecture Hours
Ι	Purchase of Business	DEC-2021
	Meaning - Purchase Consideration - Methods for determining Purchase	
	Consideration-Discharge of Purchase Consideration-Accounting Treatment.	
	Amalgamation of Companies	JAN - 2022
II	Meaning and Objectives - Provisions for Amalgamation of Companies as per	
	Accounting Standard 14 - Accounting Treatment.	
III	Internal Reconstruction of Companies	FEB-2022
	Meaning - Forms of Internal Reconstruction - Alteration of Share Capital and	
	Reduction of Share Capital- Accounting Treatment.	
IV	Accounts of Holding Companies	Mar-2022
	Meaning of Holding Companies and Subsidiary companies- Consolidated	
	Financial Statements- Legal requirements on Consolidation-Calculation of	
	Minority Interest- Accounting Treatment.	
V	Liquidation	APR-2022
	Meaning - Modes of Winding up of a Company Liquidator's Final Statement	
	of Account - Calculation of Liquidator's Remuneration - Preparation of	
	Statement of Affairs and Deficiency Account- Accounting Treatment	

TITLE OF THE PAPER: SOFTWARE SOLUTIONS TO ACCOUNTING Semester: V / VI

Syllabus

SOFTWARE SOLUTIONS TO ACCOUNTING

Paper code: -CSSA-502 G/C

TI	nit
U	m

	Computerized Accounting	DEC-2021
Ι	Microsoft Excel Spread Sheet- Functions in Excel- Preparation of Accounts,	
	Statements and Budgets using MS Excel- Analysis and Interpretation.	
II	Introduction to Leading Accounting Soft wares –	JAN - 2022
	Busy - Marg – Quick Books - Zoho Books - Tally- Features and Accounting.	
III	Tally ERP-9 - Company Creation –	FEB-2022
	Tally Startup Screen- Gateway of Tally- Create a Company - Alter & Delete	
	company- Backup and Restore- Security Features in Tally.	
IV	Tally- Accounting Masters-	Mar-2022
	Groups- Create Ledgers- Alter& Delete - Inventory Masters- Creating Stock Groups	
	- Stock Items- Unit of Measurement- Alter & Delete.	
v	Tally-Voucher Entry –	APR-2022
	Vouchers Types - Vouchers Entry - Alter and deleting Settings Purchase Vouchers	
	and Sales Vouchers including Tax component –Reports Generation.	

TITLE OF THE PAPER: ADVERTISING AND MEDIA PLANNING

Semester: V / VI

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Syllabus

ADVERTISING AND MEDIA PLANNING

Paper code : CAMP-503 G/C

Unit	Learning Units	
Ι	Introduction, Nature and Scope Advertising- Nature and Scope- Functions -	DEC-2021
	Impact on Social, Ethical and Economical Aspects - Its Significance – Advertising	
	as a Marketing Tool and Process for Promotion of Business Development -	
	Criticism on advertising	
	Strategies of Advertisements	JAN - 2022
п	Types of Advertising Agencies and their Strategies in Creating Advertisements -	
	Objectives - Approach - Campaigning Process - Role of Advertising Standard	
	Council of India (ASCI) - DAGMAR approach	
	Process of Advertisement	FEB-2022
TTT	Creativeness and Communication of Advertising –Creative Thinking – Process –	
111	Appeals - Copy Writing - Issues in Creation of Copy Testing -Slogan Elements of	
	Design and Principles of Design	
IV	Media Planning	Mar-2022
	Advertising Media - Role of Media - Types of Media - Print Media - Electronic	
	Media and other Media - Advantages and Disadvantages – Media Planning -	
	Selection of Media	
v	Analysis of Market Media	APR-2022
	Media Strategy – Market Analysis - Media Choices - Influencing Factors - Target,	
	Nature, Timing, Frequency, Languages and Geographical Issues - Case Studies	

TITLE OF THE PAPER: SALES PROMOTION AND PRACTICE Semester: V / VI

Syllabus

SALES PROMOTION AND PRACTICE

Unit	Learning Units	
Ι	Introduction to Sales Promotion: Nature and Scope of Sales Promotion- Influencing Factors - Sales Promotion and Control - Strengths and Limitations of	DEC-2021
	Sales Promotion – Sales Organization - Setting-up of Sales Organization - Types of Sales Organization.	
II	Sales Promotion and Product Life Cycle: Types of Sales Promotion - Consumer Oriented - Trade Oriented - Sales Oriented - Various Aspects -Sales Promotion methods in different Product Life Cycle – Cross Promotion - Sales Executive Functions- Theories of Personal Selling - Surrogate Selling.	JAN - 2022
Ш	Strategies and Promotion Campaign: Tools of Sales Promotion - Displays, Demonstration, Fashion Shows, Conventions - Conferences, Competitions – Steps in designing of Sales Promotion Campaign – Involvement of Salesmen and Dealers – Promotional Strategies - Ethical and Legal issues in Sales Promotion.	FEB-2022
IV	Salesmanship and Sales Operations : Types of Salesman - Prospecting - Pre- approach and Approach - Selling Sequence - Sales budget, Sales territories, Sales Quota's - Point of Sale – Sales Contests - Coupons and Discounts - Free Offers - Showrooms and Exhibitions - Sales Manager Qualities and functions.	Mar-2022
V	Sales force Management and Designing: Recruitment and Selection - Training - Induction - Motivation of sales personnel - Compensation and Evaluation of Sales Personnel - Designing of Events for Enhancing Sales Promotion	APR-2022

TITLE OF THE PAPER: DIGITAL MARKETING Semester: V / VI

Syllabus

DIGITAL MARKETING

Paper code : CDM -505 G

Unit	Learning Units	
Ι	Introduction	DEC-2021
	Digital marketing: Meaning - importance - traditional online marketing vs	
	digital marketing - online market place analysis Micro Environment - Online	
	Macro Environment - trends in digital marketing – competitive analysis.	
	Web site planning and creation	JAN - 2022
II	Web Site: meaning – objectives – components of website - website creation –	
	incorporation of design and- adding content, installing and activating plugins.	
III	Search Engine Optimization (SEO)	FEB-2022
	SEO: Meaning – History and growth of SEO –Importance of Search Engine - On	
	page Optimization – off page optimization – Role of Search Engine Operation-	
	google Ad words – Search Engine Marketing: Campaign Creation – Ad Creation,	
	Approval and Extensions.	
IV	Social Media Marketing:	Mar-2022
	Meaning of social media and Social Media Marketing – social Management	
	tools-strategy and planning – social media network – Social Networking – video	
	creation and sharing – use of different social media platforms - Content creation -	
	Blogging – Guest Blogging.	
	Email marketing:	APR-2022
v	Meaning – Evolution of email – importance of email marketing – Development	
	and Advancements in e mail marketing - email marketing platforms - creating	
	and Tracking emailers-create forms - create opt-in lists - mapping industry	

trends and eliminating spam messages.

TITLE OF THE PAPER: Service Marketing Semester: V / VI

Syllabus Service Marketing

Paper code: CSM -506 G

Unit	Learning Units	Lecture Hours
Ι	Introduction: Nature and Scope of services Introduction: Nature and Scope of services characteristics of services, classification of services – need for service marketing - reasons for the growth of services sector, Overview of marketing Different Service Sectors -Marketing of Banking Services -Marketing in Insurance Sector - Marketing of Education Services.	DEC-2021
Π	Consumer Behavior in Services Marketing Customer Expectations on Services- Factors influencing customer expectation of services Service Costs experienced by Consumer, the Role of customer in Service Delivery, Conflict Handling in Services, Customer Responses in Services, Concept of Customer Delight	JAN - 2022
III	Customer Relationship marketing and Services Market Segmentation. Customer Relationship marketing: Meaning -Importance of customer & customer's role in service delivery, Benefits of customer relationship, retention strategies. Services Market Segmentation: - Market segmentation -Basis & Need for segmentation of services, bases of segmentation services, segmentation strategies in service marketing.	FEB-2022
IV	Customer Defined Service Standards. Customer Defined Service Standards - Hard and Soft, Concept of Service Leadership and Service Vision -Meeting Customer Defined Service Standards - Service Flexibility Versus Standards - Strategies to Match Capacity and Demand - managing Demand and Supply of Service –applications of Waiting Line and Queuing Theories to Understand Pattern Demand.	Mar-2022
V	Service Development and Quality Improvement. Service Development – need, importance and Types of New Services - stages in development of new services, service Quality Dimensions - Service Quality Measurement and Service Mapping, Improving Service Quality and Service Delivery, Service Failure and Recovery.	APR-2022
DEPARTMENT OF HISTORY SEMESTER – I

CURRICULAR PLAN

Subject Code:HIST11BTitle:Ancient Indian history and culture (Fromm Indus valley Civil .to 13 century(A.D)

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Ancient Indian Civilization (from Circa 3000 BC to 6 th BC):	
Dec-2021	II	Ancient Indian History & Culture (6 th Century BC to 2 nd Century AD):	
Jan - 2022	III	History & Culture of South India (2nd Century BC to 8 th Century AD):	
Feb-2022	IV	India from 3 rd century AD to 8 th century AD:	
Mar-2022	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	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Policies of Expansion	
Dec-2021	II	Social, Religious & Self-Respect Movements	
	III	Causes for the growth of Nationalism	
Jan-'22			
Feb-'22	IV	Freedom Struggle from 1920 to 1947:	
Mar-'22	V	Muslim League & the Growth of	
		Communalism	

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SEMESTER – V

CURRICULAR PLAN

Subject Code:HIS501CTitles: Age of Rationalism and Humanism –The World Between 15th& 18th Century

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Feudalism -Geographical Discoveries:	
Dec-2021	II	The Renaissance Movement	
Jan-'22	III	Emergence of Nation States	
Feb-'22	IV	Age of RevolutionsAMERICARevolution	
Mar-'22	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	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Andhra during 12th& 13th Centuries A.D	
Dec-2021	II	Andhra between 14th & 16th Centuries A.D	
Jan-'22	III	Andhra through 16th& 17th Centuries A.D	
Feb-'22	IV	The 18th& 19th Centuries in Andhra	
Mar-'22	V	Impact of Company Rule on Andhra	

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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	Topic to be covered	Remarks
	No.		
June - '22	Ι	Impact of Turkish Invasions	
July-'22	II	Impact of Islam on Indian Society and	
		Culture	
Aug-'22	III	Emergence of Mughal Empire	
	IV	Administration, Economy, Society	
Sep-'22	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	TOPIC TO BE COVERED	REMARKS
	NO.		
JUNE - '22	Ι	1.1-Andhra through 16th& 19th Centuries AD:	
JULY-'22	II	Andhra under British rule: Administration	
AUG-'22	III IV	Social Reform & New Literary Movements Freedom Movement in Andhra (1885-1947):	
SEP-'22	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: HIS401 Title: HISTORY OF MODERN WORLD (From 15th Cent. AD to 1945 AD)

MONTH	UNIT	TOPIC TO BE COVERED	REMARKS
	NO.		
JUNE - '22	Ι	Transformation from Medieval to Modern Era	
JULY-'22	II	American Revolution (1776); French Revolution (1789)	
AUG-'22	III IV	Unification of Italy; Unification of Germany Communist Revolution in Russia	
SEP-'22	V	World War II: CausesFascism & Nazism	

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

CURRICULAR PLAN

Subject Code: HIS601GETitle: History of Modern Europe (from 19th Century to 1945 A.D)

MONTH	UNIT	TOPIC TO BE COVERED	REMARKS
	NO.		
JUNE - '22	Ι	Industrial Revolution: Origin, Nature and Impact	
JULY-'22	II	Unification Movements in Italy & Germany and their Impact.	
AUG-'22	III IV	Communist Revolution in Russia World War I:	
SEP-'22	V	World War II	

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

DEPARTMENT OF ECONOMICS SEMESTER – I

CURRICULAR PLAN

Subject Code: ECOT11B

Title: MICRO ECONOMIC ANALYSIS

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Economic analysis and Methodology	
Dec-2021	II	Theory of Consumption	
Jan - 2022	II	Theory of Consumption	
	III	Theory of Production	
Feb-2022	IV	Theory of Exchange	
Mar-2022	\mathbf{V}	Theory of Distribution	

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

CURRICULAR PLAN

Subject Code: ECO 301C Title : DEVELOPMENT ECONOMICS

Month Unit Topic to be covered **Remarks** No. Nov-2021 Economic Growth & Development Ι **Dec-2021** Economic Growth & Development Ι II Modern Economic Growth Theories of Development and under III **Jan-'22** development Feb-'22 Strategies of Economic development IV V Institutions and Economic Development Mar-'22 V Institutions and Economic Development

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

CURRICULAR PLAN

Subject Code: FM 301C Title: FINANCIAL MARKETS

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Introduction	
Dec-2021	Ι	Introduction	
Jan-'22	II	Money market	
Feb-'22	III	Capital Market	
Mar-'22	III	Capital Market	

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

SEMESTER – V

CURRICULAR PLAN

Subject Code: ECO 501 Titles: ECONOMIC DEVELOPMENT AND INDIAN ECONOMY

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Concept of Economic Growth	
Dec-2021	II	Sustainable Development	
Jan-'22	III	Basic Features of Indian Economy	
Feb-'22	IV	National Income in India	
Mar-'22	V	Economic Reforms	

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SEMESTER – V

CURRICULAR PLAN

Subject Code: ECO 502 Titles: INDIAN AND ANDHRA PRADESH ECONOMY

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Indian Agriculture	
Dec-2021	II	Structure and Growth of Indian Industry	
Jan-'22	III	Disinvestment in India	
Feb-'22	IV	Planing in Indian Economy	
Mar-'22	V	Andhra Pradesh Economy	

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

DEPARTMENT OF ECONOMICS

SEMESTER – II CURRICULAR PLAN Title: MACRO ECONOMIC ANALYSIS

Subject Code: ECOT21B

Month **Topic to be covered** Unit No. June - '22 Ι Introduction and National Income Π Theories of Employment July-'22 Π Theories of Employment Money and Banking III Aug-'22 Money and Banking Ш IV Inflation and Trade cycles Sep-'22 V Finance and Insurance

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

SEMESTER – IV CURRICULAR PLAN

Subject Code: ECO 401C Title: ECONOMIC DEVELOPMENT IN INDIA AND ANDHRA PRADESH

Month	Unit No.	Topic to be covered
	Ι	Basic features of Indian Economy
June - '22	II	National Income and Demography
	II	National Income and Demography
July-'22	III	Agricultural and Industrial development
	III	Agricultural and Industrial development
Aug-'22	IV	Indian Public Finance
Sep-'22	V	Andhra Pradesh Economy

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

Subject Code: ECO 402C Title: STATISTICAL METHODS FOR ECONOMICS

Month	Unit No.	Topic to be covered
June - '22	Ι	Nature and Definition of Statistics
	II	Collection of Data & Diagrammatic Analysis
July-'22	III	Means of Central tendency
Aug-'22	III	Means of Central tendency
	V	Correlation and Regression

V Time Series & Index numbers

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

SEMESTER – VI CURRICULAR PLAN

Subject Code: ECO 601C Title: AGRCULTURAL ECONOMICS

Month	Unit	Topic to be covered
	N0.	
June - '22	Ι	Nature and scope of Agricultural economics
July-'22	II	Concept of Production Function
	III	Growth and Productivity, Trends in India Agriculture
Aug-'22	III	Growth and Productivity, Trends in India Agriculture
	IV	Systems of Farming
Sep-'22	V	Emerging Trends in Production process etc

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

CURRICULAR PLAN

Subject Code: **POL11B** Title: **INTRODUCTION TO POLITICAL SCIENCE**

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Introduction	
Dec-2021	II	State	
Jan - 2022	III	Concepts of Political science	
Feb-2022	IV	Theories of Rights	
Mar-2022	V	Political ideologies	

SEMESTER – III

CURRICULAR PLAN

Subject Code: POLT301C

Sep-'22

Title : INDIAN GOVERMNET AND POLITICS

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Social and ideologies bases of Indian	
		constitution	
Dec-2021	II	Individual and State	
	III	Union Executive	
Jan-'22			
Feb-'22	IV	State Executive	
Mar-'22	V	The Indian Judiciary	

$\mathbf{SEMESTER}-\mathbf{V}$

CURRICULAR PLAN

Subject Code: pol501c Titles: E Governance

Month	Unit	Topic to be covered	Remarks
	No.		
Nov-2021	Ι	Introduction to E-Governance	
Dec-2021	II	E-Governance in India	
Jan-'22	III	Role of ICT	
Feb-'22	IV	E-Governance Technology Act	
Mar-'22	V	E-Governance Projects	

SEMESTER – V CURRICULAR PLAN

Subject Code: pol502 Titles: Local Administration

Month	Unit	Topic to be covered	Remarks
	No.	_	
Nov-2021	Ι	Introduction to Local Administration	
Dec-2021	II	Decentralization of Powers	
Jan-'22	III	Local Governments grants	
Feb-'22	IV	Challenges for Local administration	
Mar-'22	V	Types of Reports	

SEMESTER – II

CURRICULAR PLAN

Subject Code: polt21

Title: Basic Organs of the Governments

	No.		
June - '22	Ι	Constitution	
July-'22	II	Organs of Govt	
Aug-'22	III	Forms of Govt	
	IV	Democracy	
Sep-'22	V	Political parties Pressures group Public	
		Opinion	

SEMESTER – IV

CURRICULAR PLAN

Subject Code: pol401 Title: Indian Political Process

MONTH	UNIT	TOPIC TO BE COVERED	REMARKS
	NO.		
JUNE - '22	Ι	Federal processes	
JULY-'22	II	Electoral processes	
AUG-'22	III	Gross Route Democracy-Decentralization	
	IV	Indian political system	
SEP-'22	V	Regularities and governanceinstitutions	

SEMESTER – IV

CURRICULAR PLAN

Subject Code: pol402 Title: Western PoliticalThought

MONTH	UNIT	TOPIC TO BE COVERED	REMARKS
	NO.		
JUNE - '22	Ι	Ancient Greek Political Thought	
JULY-'22	II	Medieval and Modern Political Thought	
AUG-'22	III	Contractual Political thought	
	IV	Utilitarian political thought	
SEP-'22	V	Marxist Political thought	

DEPARTMENT OF COMPUTER SCIENCE 2021-2022 CURRICULAR PLANS

ODD SEMESTER

SEMESTER -	– I	
Subject Code	<u>: CSCT11E</u>	B <u>Title:</u> Problem Solving in 'C'
Month	Unit No.	Topic to be covered
Dec-2021	1	Introduction to computers: Block diagram of a computer
Jan - 2022	2	Decision Control and Looping Statements
Feb -2022	3	one dimensional, two dimensional and multi dimensional arrays
Mar-2022	4	Functions & Structures
April-2022	5	Pointes & Files
SEMESTER -	– I • CART11A	Title: INTRODUCTION TO INFORMATION TECHNO
Month Unit No.		Topic to be covered
Dec-2021	1	Introduction, Evolution of Computers, Generations of Computers, Memory Representation
Jan - 2022	2	Types of Input/output Devices, Types of Operating Systems
Feb -2022	3	Components Of Information Technology, Evolution Of Internet
Mar-2022	4	Components Of Data Communication

SEMESTER – I

April-2022

Subject Code: CSCT11B

5

<u>Title:</u> E-COMMERCE & WEB DESIGNING

Introduction to Computer Networks, Types of Computer

Networks

Month	Unit No.	Topic to be covered
Dec-2021	1	WWW and its Evaluation,
		Types of networks,
		Network Topologies,
		Structure of HTML
Jan - 2022	2	Ordered List
		Unordered List
		Link tag
		image tag
Feb -2022	3	forms creation
		Frame Creation, Types of CSS
Mar-2022	4	 Definition of E- Commerce and its advantages & disadvantages 2 2Business Models for Ecommerce

April-2022	5	Online Marketing
I -		E- CRM Architectural components
		I I I I I I I I I I I I I I I I I I I
SEMESTER -	– I	
Subject Code	: LSC1	Title: BASIC COMPUTER APPLICATIONS
Month	Unit No.	Topic to be covered
Dec-2021		Basics of Computers.
		Desktop, Recycle bin, My Computer.
	1	Documents, Pictures, Music, Videos, Task Bar.
		Control Panel.
Jan - 2022		
		Features of MS-Word - MS-Word Window
Feb -2022		Components
	2	Headers and Footers
Mar-2022		
		Creating a new worksheet, Selecting cells, Entering
April-2022		and editing Text, Features of PowerPoint
	3	

SEMESTER – III <u>Subject Code:</u> CSC-301C <u>Title:</u> DATA BASE MANAGEMENT SYSTEMS

Month	Unit No.	Topic to be covered
Nov-2021	1	Classification of Database Management Systems, advantages of database approach.
Dec-2021	2	Entity-Relationship Model, constraints on specialization and generalization, advantages of ER modelling.
Jan -2022	3	CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations.
Jan-2022	4	History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation.
Feb-2022	5	Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure.

Month	Unit No.	Topic to be covered
Nov-2021	1	Introduction to computers: Block diagram of a computer
Dec-2021	2	Decision Control and Looping Statements
Jan -2022	3	one dimensional, two dimensional and multi dimensional arrays
Jan-2022	4	Functions & Structures
Feb-2022	5	Pointes

SEMESTER – V Subject Code: CSC-501C Title: DATA BASE MANAGEMENT SYSTEMS

Month	Unit No.	Topic to be covered
Sep-2021	1	Files and File Systems, Data Models
Oct-2021	2	Relational Database & Data Modeling
Nov -2021	3	Data base Tables and Normalization, The Database Life Cycle
Nov-2021	4	Data Definition Commands, Data Manipulation Commands, Select queries
Dec-2021	5	Triggers, Stored Procedures, Pl/ SQL Stored Functions

SEMESTER – V

 Subject Code CSC-502C_
 Title: SOFTWARE ENGINEERING

Month	Unit No.	Topic to be covered
Sep-2021	1	The Changing Nature of Software, Software Myths, Legacy Software.
Oct-2021	2	The Waterfall Models - Increment Process Models
Nov -2021	3	Requirements Engineering Tasks - Initiating The Requirements Engineering Process
Nov-2021	4	Design Process And Design Quality
Dec-2021	5	Software Quality Assurance (SQA)

Month	Unit No.	Topic to be covered
Sep-2021	1	Basic Concepts of OOP, Benefits of OOP
Oct-2021	2	Java program structure, Variables & Data Types
Nov -2021	3	Decision Making & Branching Statements
Nov-2021	4	Constructors, Method overloading
Dec-2021	5	Final Classes, Abstract Methods and Classes, Arrays, Strings And Vectors

SEMESTER – V Subject Code CCSC-506C Title: DATA BASE MANAGEMENT SYSTEMS

Month	Unit No.	Topic to be covered
Sep-2021	1	Files and File Systems, Data Models
Oct-2021	2	Relational Database & Data Modeling
Nov -2021	3	Data base Tables and Normalization, The Database Life Cycle
Nov-2021	4	Data Definition Commands, Data Manipulation Commands, Select queries
Dec-2021	5	Triggers, Stored Procedures, Pl/ SQL Stored Functions

SEMESTER – V Subject Code CCSC-507C Title: WEB TECHNOLOGIES

Month	Unit No.	Topic to be covered
Sep-2021	1	Document body text, Hyperlinks, Lists, Tables
Oct-2021	2	Cascading Style Sheets ,Variables, String Manipulations
Nov -2021	3	Data and objects in java script, Regular expressions
Nov-2021	4	document type definition, XML Schema
Dec-2021	5	JSP Lifecycle

EVEN SEMESTER

Month	Unit No.	Topic to be covered
June-2022	1	Linear and Non- Linear Data Structures
July-2022	2	Linked Lists, Stacks, Queues
Aug -2022	3	Operations on a Binary Search Tree
Aug -2022	4	Traversal of Graphs, Spanning Trees
Sep-2022	5	Bubble Sort, Insertion Sort, Merge Sort

Subject Code CSCT21B Title: DATA STRUCTURES USING C

SEMESTER – II Subject Code CABT21A Title: E-COMMERCE & WEB DESIGNING

Month	Unit No.	Topic to be covered
June-2022	1	e-commerce business models
July-2022	2	Security and Encryption
Aug -2022	3	Models and methods of e-payments
Aug -2022	4	E-commerce applications in
		various industries like {banking, insurance, payment
		of utility bills}
Sep-2022	5	HTML document, Anchor tag Hyperlinks, Head and
		body section

SEMESTER – II

Subject Code CABT21A Title: INFORMATION TECHNOLOGY

Month	Unit No.	Topic to be covered
June-2022	1	Introduction to computers,
		Generations of computers,
		An overview of computer system,
		Types of computers.
July-2022	2	Types of OS - Booting process,
		DOS – Commands (internal & external),
		Wild card characters.
Aug -2022	3	System software and application software,
		Programming Languages.
Aug -2022	4	Telecommunication and Networks Communication
		media& channel cable media.
Sep-2022	5	Artificial intelligence and business intelligence.

Month	Unit No.	Topic to be covered
June-2022	1	Features of MS-Word – MS-Word Window
		Components
July-2022	2	Features of PowerPoint – Creating a Blank
		Presentation - Creating a Presentation using a
		Template
Aug -2022	3	Creating a new worksheet, Selecting cells, Entering
		and editing Text, Numbers.
Aug -2022	4	Creating a Simple Database and Tables, Forms: The
		Form Wizard.
Sep-2022	5	Queries and Dynasts, Creating and using select
		queries, Returning to the Query Design.

SEMESTER – II Subject Code: SDCCSC02

<u>Title:</u> DIGITAL MARKETING

Month	Unit No.	Topic to be covered
June-2022	1	Difference between Traditional Marketing and Digital Marketing, Digital Marketing Process.
July-2022		What are Search engines and How Search Engines Work, SEO Content Writing and
Aug -2022	2	Rewriting, On page Optimization strategies.
Aug -2022		Free and Paid Marketing, Directory Submission
Sep-2022	3	Forums, Twitter Marketing.

SEMESTER – IV

Subject Code CSCT01

Title: OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Month	Unit No.	Topic to be covered
Mar-2022	1	Features of Java, The Java virtual Machine, Parts of
		Java, Operators, Priority of Operators
May-2022	2	Creating Strings, String Class Methods, String Comparison, Immutability of Strings, Method Header or Method Prototype
June -2022	3	Polymorphism with Variables, Polymorphism using
		Methods, Types of Data Types, Casting Primitive
		Data Types
June-2022	4	Stream, Creating a File using File Output Stream,
		Reading Data from a File uing FileInputStream,
		Threads: Single Tasking, Multi Tasking, Uses of
		Threads, Creating a Thread and Running it
July-2022	5	Applets: Creating an Applet, Uses of Applets,
		<applet> tag, A Simple Applet, Java Database</applet>
		Connectivity: Database Servers, Database Clients, JDBC

SEMESTER – IV Subject Code CSCT41C

Title	OPERATING	SYSTEM
I IIIC.	OI LIMITINO	

Month	Unit No.	Topic to be covered
Mar-2022	1	History and Evolution of OS, Basic OS functions, Process Control & Real time Systems.
May-2022	2	Kernels, System Calls and System Programs, System View of theProcess and Resources
June -2022	3	Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches
June-2022	4	Memory Management: Physical and Virtual Address Space; Memory Allocation Strategies
July-2022	5	File and I/O Management, OS security : Directory Structure, File Operations, File Allocation Methods, Device Management, Pipes, Buffer, Shared Memory

SEMESTER – IV

Subject Code	CABT41A	<u>Title:</u> Database Management System
Month	Unit No.	Topic to be covered
Mar-2022	1	Files and File Systems, Data Models
May-2022	2	Relational Database & Data Modeling
June -2022	3	Data base Tables and Normalization, The Database Life Cycle
June-2022	4	Data Definition Commands, Data Manipulation Commands, Select queries
July-2022	5	Triggers, Stored Procedures, Pl/ SQL Stored Functions

SEMESTER – IV <u>Subject Code</u> CCSC-405 <u>Title:</u> OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Month	Unit No.	Topic to be covered
Mar-2022	1	Features of Java, The Java virtual Machine, Parts of
		Java, Operators, Priority of Operators
May-2022	2	Creating Strings, String Class Methods, String
		Comparison, Immutability of Strings, Method Header or
		Method Prototype
June -2022	3	Polymorphism with Variables, Polymorphism using
		Methods, Types of Data Types, Casting Primitive
		Data Types
June-2022	4	Stream, Creating a File using File Output Stream,
		Reading Data from a File uing FileInputStream,
		Threads: Single Tasking, Multi Tasking, Uses of
		Threads, Creating a Thread and Running it
July-2022	5	Applets: Creating an Applet, Uses of Applets,
-		<applet> tag, A Simple Applet, Java Database</applet>

	Connectivity: Database Servers, Database Clients, JDBC

SEMESTER – VI

Subject Code CSC-601(GE) Title: WEB TECHNOLOGIES

Month	Unit No.	Topic to be covered
Jan-2022	1	Document body text, Hyperlinks, Lists, Tables
Feb-2021	2	Cascading Style Sheets ,Variables, String Manipulations
Mar -2021	3	Data and objects in java script, Regular expressions
Mar-2021	4	document type definition, XML Schema
April-2021	5	JSP Lifecycle

SEMESTER – VI

Subject CodeCSC-602CETitle:PHP, MySQL & Word Press

Month	Unit No.	Topic to be covered
Jan-2022	1	The Building blocks of PHP
F 1 2021		
Feb-2021	2	Calling functions, Defining Functions, Returning the
		values from User-Defined
		Functions
Mar -2021	3	Creating Forms, Accessing Form Input with User
		defined Arrays
Mar-2021	4	database
		design process, MySQL Versus MySQLi Functions
April-2021	5	installing and configuring
		word press

SEMESTER – VI

Subject Code CSC-603CE Title: JQUERY/AJAX/JSON/ANGULAR JS

Month	Unit No.	Topic to be covered
Jan-2022	1	jQuery Selectors
Feb-2021	2	DOM Manipulation Methods
Mar -2021	3	jQuery UI theme
Mar-2021	4	QueryAJAX
April-2021	5	AngularJS built in directives
		built-in directives

ubject Code CCSC-605CE <u>Title:</u> TALLY		
Month	Unit No.	Topic to be covered
Jan-2022	1	Manual Accounting and Accounting Packages.
Feb-2021	2	Gateway of Tally
Mar -2021	3	Ledger Creation Single and multiple Ledgers
Mar-2021	4	Journal Voucher, Contra Voucher, Debit & Credit Note
April-2021	5	Generating the Reports from Tally

SEMESTER - VISubject CodeCCSC-605CETitle:TALLY

SEMESTER – VI Subject Code CCSC-606CE Title: E-COMMERCE

Month	Unit No.	Topic to be covered	
Jan-2022	1	e-Commerce and the Trade Cycle	
Feb-2021	2	Characteristics of B2B EC, Models of B2B EC,	
Mar -2021	3	Intranet and Extranet	
Mar-2021	4	Ethical and Other public Policy Issues	
April-2021	5	Internet Protocols	

SEMESTER – VI

Subject CodeCCSC-607CETitle:PHP& MY SQL

Month	Unit No.	Topic to be covered	
Jan-2022	1	Data Types, Operators and Expressions	
Feb-2021	2	Array-Related Function, Manipulating Strings with PHP	
Mar -2021	3	Creating Forms, Accessing Form	
Mar-2021	4	Files with include(), image Creation from User Input	
April-2021	5	MySQL Versus MySQL Functions	

DEPARTMENT OF BOTANY

Semester – I

Curricular plan subject code: BOTTIIA

Title of the paper: Fundamentals of microbes and Non-Vascular Plants

Month	Unit No	Topic to be Covered	
Nov- 2021	Ι	Origin of life and viruses Origin of life, concept of primary Abiogenesis; Miller and Urey experiment. Five kingdoms classification of R.H. Whittaker. Discovery of microorganisms, Pasteur experiments, germ theory of diseases. Shape and symmetry of viruses; structure of TMV and Gemini virus; multiplication of TMV, a brief account of Prions and Viroids. A general account on symptoms of plant diseases caused by Viruses. Transmission of plant viruses and their control. Significance of viruses in vaccine production, bio-pesticides.	
Dec-2021	Π	Special groups of Bacteria and Eubacteria Brief account of Archaebacteria, Actinomycetes and Cyanobacteria. Cell structure and nutrition of Eubacteria Reproduction- Asexual (Binary fission and endospores) and bacterial recombination. (Conjugation, Transformation, Transduction). Economic importance of Bacteria with reference to their role in Agriculture and industry (fermentation and medicine). A general account on symptoms of plant diseases caused by Bacteria; Citrus canker.	
Jan -2022	III	 Fungi & Lichens General characteristics of fungi and Ainsworth classification (upto classes). Structure, reproduction and life history of (a)<i>Rhizopus</i> (Zygomycota) and (b) <i>Puccinia</i> (Basidiomycota). Economic uses of fungi in food industry, pharmacy and agriculture. A general account on symptoms of plant diseases caused by Fungi; Blast of Rice. Lichens- structure and reproduction. 	
Feb-2022	IV	AlgaeGeneral characteristics of Algae (pigments, flagella and reservefood material), Fritsch classification (up to classes).Thallus organization and life cycles in Algae.Occurrence, structure, reproduction and life cycle of(a) Spirogyra (Chlorophyceae) and (b) Polysiphonia(Rhodophyceae).Economicimportance of Algae.	
Mar- 2022	V	Bryophytes General characteristics of Bryophytes; classification upto classes. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life cycle of (a) <i>Marchantia</i> (Hepaticopsida) and (b) <i>Funaria</i> (Bryopsida). General account on evolution of sporophytes in Bryophyta.	

Semester –III

Title of the paper: Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity.

Month	Unit No	Topic to be Covered	Remaks
Nov-2021	1	Anatomy of Angiosperms Organization of apical meristems : Tunica-carpus theory and Histogen theory. Tissue systems–Epidermal, ground and vascular. Anomalous secondary growth in <i>Boerhaavia</i> and <i>Dracaena</i> . Study of timbers of economic importance - Teak, Red sanders and Rosewood.	
Dec- 2021	II	Embryology of Angiosperms Structure of anther, anther wall, types of tapetum. Microsporogen and development of male gametophyte. Structure of ovule, megasporogenesis; monosporic (<i>Polygonum</i>), bisporic (<i>Allium</i>) and tetrasporic (<i>Peperomia</i>) types of embryo sacs. Outlines of pollination, pollen – pistil interaction and fertilization. Endosperm - Types and biological importance - Free nucleic cellular, helobial and ruminate. Development of Dicot (<i>Capsella bursa-pastoris</i>) embryo.	
Jan-2022	III	Basics of Ecology Ecology: definition, branches and significance of ecology. Ecosystem: Concept and components, energy flow, food chain, food web, ecological pyramids. Plants and environment: Climatic (light and temperature), edaphic and biotic factors. Ecological succession: Hydrosere and Xerosere.	
Feb- 2022	IV	Population, Community and Production Ecology Population ecology: Natality, mortality, growth curves, ecotypes, ecads Community ecology: Frequency, density, cover, life forms, biological spectrum Concepts of productivity: GPP, NPP and Community Respiration Secondary production, P/R ratio and Ecosystems.	
Mar-2022	V	Basics of Biodiversity Biodiversity: Basic concepts, Convention on Biodiversity - Earth Summit. Value of Biodiversity; types and levels of biodiversity and	

Threats to biodiversity Biodiversity Hot spots in India. Biodiversity in North Easter	
Principles of conservation: IUCN threat-categories, RED dat book	
Role of NBPGR and NBA in the conservation of Biodiversity.	

Semester – V

subject code: BOT501

Title of the paper: Cell Biology, Genetics and Plant Breeding. Cell Biology, Genetics and Plant Breeding.

Month	Unit No	Topic to be Covered			
Nov-2021	Ι	Cell Biology Cell, Ultra Structure and functions of cell wall. Molecular Organization of cell membranes. Chromosomes; morphology, organization of DNA in a chromosome (Nucleosome model) Euchromatin and Heterochromatin			
Dec-2021	II	DNA as the Genetic Material: Griffith's and Avery's Transformation Experiment. Hershey - Chase Bacteriophage experiment. DNA Structure (Watson & crick model) and replication of DNA (Semi Conservative). Types of RNA (mRNA, tRNA, rRNA), their structure and function.			
Jan - 2022	III	Mendelian Inheritance Mendelian Inheritance (Mono – Di-hybrid Crosses), Back cross and Text cross. Linkage: concept, complete and In-complete Linkage, Coupling and Repulsion; Linkage Maps Based on Two and Three Point cross Crossing over concept and significance.			
Feb - 2022	IV	Gene Expression Organization of gene, Transcription and Translation. Mechanism and regulation of Gene Expression in Prokaryotes (Lac operon). Mutations: Chromosomal Aberrations, Gene Mutations and Transposable Elements			
Mar-2022	V	Plant Breeding Introduction and objectives of Plant Breeding. Methods of Crop Improvement: Procedure, Advantages and limitations of Introduction, Selection and Hybridization (Out lines only).			

Semester –V

subject code: BOT502

Title of the paper: PLANT ECOLOGY & PHYTOGEOGRAPHY

Month	Unit No	Topic to be Covered	Remaks

Nov-2021	Ι	Elements of EcologyEcology: Definition, branches and significance of ecology.Claimatic factors: Light, Temperature.Edaphic factor: Origin, formation, composition and soilprofile.Biotic factor, Ecological adaptations of Plants.
Dec-2021	II	Ecosystem Ecology Ecosystem: concept and components, energy flow, food chain, food web, Ecological Pyramids. Productivity of ecosystem-Primary, Secondary and Ne productivity. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.
Jan - 2022	III	Population & Community ecology.Population- defination, characteristics and importance(Density, Natality, Mortality, Growth Curves) outlines- ecotypes.Plant communities- characters of a community, outlines – Frequency, density, cover, life forms, Biological Spectrum. Ecological Succession: Hydrosere and Xerosere.
Feb - 2022	IV	Phytogeography Principles of Phytogeography, Distribution (Wides, Endemic, Discontinous species. Phytogeography regions of India. Endemism – types and Causes.
Mar-2022	V	Plant Biodiversity and its ImportanceDefinition, Levels of Biodiversity – genetic, species andecosystem.Biodiversity and Hot-spots of India: North Eastern,Himalayas and Western Ghats.Loss of Biodiversity-causes and Conservation (In-situ andEx-Situ Methods).

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

CURRICULAR PLAN

Subject Code: ZOOT11A

Title: Animal Diversity Biology of Non – Chordates

Month	Unit No.	Topic to be covered	Remarks
Nov-2021		Origin of metazoans	
(7)		Type study: <i>Polystomella</i> (structure and life cycle)	
	Ι	Locomotion in protozoans	
		Nutrition in protozoans	
		Type study: Sycon (Structure, histology and	
		skeleton)	
		Canal system in sponges	
Dec-2021		Type study: <i>Obelia</i> . (Structure – polyp and medusa	
	II	and life cycle)	
		Polymorphism in cnidarians.	
	Π	and life cycle) Polymorphism in cnidarians.	

		Corals and coral reefs	
		Ctenophora (structure and affinities)	
Jan - 2022		Type study: Fasciola hepatica (Structure,	
		reproduction, life cycle and pathogenicity)	
		Parasitic adaptations in helminthes	
	III	Type study: Ascarislumbricoides(Structure,	
		reproduction, life cycle and pathogenicity)	
		Type study: <i>Hirudineria</i> (Structure, circulatory,	
		excretory and reproductive systems)	
		Coelom and coelomoducts in annelids	
Feb-2022		Structural affinities of Onycophora	
		Type study: Macrobrachiumrosenbergii (Structure,	
		appendages and Respiratory system)	
	IV	Economic importance of insects (Beneficial – Lac	
		insect, honey bee, <i>Bombyxmori</i> and Lady bird;	
		Harmful – house fly, mosquito, locustand bedbug)	
Mar-2022		Metamorphosis in insects	
	IV	Study of Pearl Oyster and Pearl Formation	
	V	Torsion in gastropods	
		Water-vascular system	
		Echinoderm larvae	
		Balanoglossus- Structure and affinities	

SEMESTER – III CURRICULAR PLAN

Subject Code: ZOO-301

Title: Cell Biology, Genetics, And Molecular Biology & Evolution

Month	Unit No.	Topic to be covered	Remarks
Nov-2021	I	Definition, history, prokaryotic and eukaryotic cells, virus, viroids, mycoplasma Electron microscopic structure of animal cell. Plasma membrane –Models and transport functions of plasma membrane.Structure and functions of Golgi complex, Endoplasmic Reticulum and Lysosomes Structure and functions of Ribosomes, Mitochondria, Nucleus, Chromosomes	
		 (Note: 1. General pattern of study of each cell organelle – Discovery, Occurrence,Number, Origin Structure and Functions with suitable diagrams) 2. Need not study cellular respiration under mitochondrial functions) 	
		Mendel's work on transmission of traits Gene Interaction – Incomplete Dominance, Codominance, Lethal Genes	
Dec-2021	II	Polygenes (General Characteristics & examples); Multiple Alleles (GeneralCharacteristics and Blood group inheritance	
		Sex determination (Chromosomal, Genic Balance, Hormonal, Environmentaland Haplo-diploidy types of sex determination)	
	II	Sex linked inheritance (X-linked, Y-linked & XY-linked inheritance)	
Jan-'22	III	Mutations & Mutagenesis Chromosomal Disorders (Autosomal and Allosomal)	

		Human Genetics – Karyotyping, Pedigree Analysis (basics)Basics on Genomics and Proteomics	
		Central Dogma of Molecular Biology	
Feb-'22	IV	Basic concepts of – a. DNA replication – Overview (Semi-conservative mechanism, Semi-	
		discontinuous mode, Origin & Propagation of replication fork) b. Transcription in prokaryotes – Initiation, Elongation and Termination, Post-	
		transcriptional modifications (basics) c. Translation – Initiation, Elongation and Termination	
		Gene Expression in prokaryotes (Lac Operon); Gene Expression in eukaryotes	
		Origin of life	
Mar-'22	V	Theories of Evolution: Lamarckism, Darwinism, Germ PlasmTheroy, MutationTheory.	
·		Neo-Darwinism: Modern Synthetic Theory of Evolution, Hardy-WeinbergEquilibrium.	
		Forces of Evolution: Isolating mechanisms, Genetic Drift, Natural Selection, and Speciation.	

SEMESTER – V CURRICULAR PLAN

Subject Code: ZOO-501

Title: Animal Biotechnology

Month	Unit No.	Topic to be covered	Remarks
Nov-2021	Ι	Restriction modification systems : Types I, II and III- Nomenclature, Applications of Type II restriction enzymes in genetic engineering ,DNA polymerases, transferase, kinases and phosphatases,and DNA ligases Cloning Vectors: : Properties of Cloning Vectors Plasmid vectors::pBR and pUC 18, Bacteriophage and, Cosmids.Artificial Chromosome Vectors: BACs, YACs	
Dec-2021	П	Cloning: Procedure of gene cloning, Use of linkers and adaptors. Microinjection, electroporation, biolistic method (gene gun). PCR:- Basics of PCR, Principle and Procedure of PCR. DNA Sequencing: Sanger's method of DNA sequencing- traditional and automated sequencing. Southern, Northern and Western blotting. DNA finger printing	
Jan-'22	III	Cell culture media: Natural and Synthetic, Types Cell cultures-: primary culture, secondary culture. Continuous cell lines, Established Cell lines (common examples such as MRC, HeLa, CHO, BHK,) 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 Cells, Diabetes and Parkinson's diseases.	
		Manipulation of reproduction in animals, Artificial Insemination, <i>In vitro</i> fertilization.	
Feb-'22	IV	Super ovulation, Embryo transfer, Embryo cloning. Transgenic Animals- Production of Transgenic Animals- sheep, fish	
Mar-'22	v	Industry: Fermentation- Different types of Fermentation. Submerged & Solid state, batch, Fed batch & Continuous (Short notes only) Downstream processing - Filtration, centrifugation, chromatography, spray drying, Fisheries: Polyploidy in fishes.	

SEMESTER – V

CURRICULAR PLAN

Subject Code: ZOO-502

Title: Animal Husbandry

Month	Unit No.	Topic to be covered	Remarks
	_	General introduction to poultry farming, Principles	
Nov-2021	I	of poultry housing. Poultry houses.	
		Systems of poultry farming.	
		Management of chicks, growers, layers, and	
		Broilers	
		Poultry feed management – Principles of feeding.	
D 0001		Nutrient requirements for different stages of layers and broilers.	
Dec-2021	11	Methods of feeding- Whole grain feeding system	
		Grain and mash method. All mash method. Pellet	
		feeding.	
		Poultry diseases – viral, bacterial, fungal and	
	II	parasitic (two each); symptoms, control and	
Jan-'22	ш	management	
		Selection, care and handling of hatching eggs, Egg	
		testing.	
		Methods of hatching.	
		Brooding and rearing, Sexing of chicks.	
		Breeds of Dairy Cattle and Buffaloes – Definition of	
		breed; Classification of Indian Cattle breeds, exotic	
Feb-'22	IV	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.	
		Care and management of dairy animals - Care and	
		management of calf, heifer, milk animal, dry and	
Mar (22	v	pregnant animal, bulls and bullocks.	
wiar-*22		Cleaning and sanitation of programme. Records to	
		be maintained in a dairy farm	

SEMESTER – III

CURRICULAR PLAN

Title: Poultry Farming

Month	Unit No.	Topic to be covered	Remarks
Nov-2021- Dec-2021	Ι	General introduction to poultry farming -Definition of Poultry; past and present scenario of poultry industry in India. Principles of poultry housing. Poultry houses. Systems of poultry farming. Management of chicks, growers and layers. Management of Broilers. Preparation of project report for banking and insurance	
Jan-'22 Feb-'22	П	Poultry feed management – Principles of feeding, Nutrient requirements for different stages of layers and broilers. Feed formulation and Methods of feeding. Poultry diseases – viral, bacterial, fungal and parasitic (two each); symptoms, control and management; Vaccination programme.	
Mar-'22	III	Selection, care and handling of hatching eggs. Egg testing .Methods of hatching. Brooding and rearing. Sexing of chicks. Farm and Water Hygiene, Recycling of poultry waste	

A.G&S.G SIDDHARTHA DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU DEPARTMENT OF ZOOLOGY(AQU) SEMESTER – I

CURRICULAR PLAN

Subject Code: AQUT11A

Title: Basic Principles of Aquaculture

Month	Unit No.	Topic to be covered	Remarks
Nov-2021		Definition and History of Aquaculture	
(7)		Concept of Blue Revolution and Pradhan Mantri Matsya	
	Ι	Sampada Yojana (PMMSY) Present status of Aquaculture at	
		global level, India and Andhra Pradesh Aquaculture versus	
		Agriculture; Present day needs with special reference to	
		Andhra Pradesh	
		Aquaculture resources: Ponds, tanks, lakes, reservoirs etc.	
		Capture and Culture fisheries; Advantages of culture fishery	
		over capture fishery	
Dec-2021		Lotic and lentic systems, streams and spring Classification of	
	II	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 and stocking ponds; quarantine ponds,	
		isolation ponds and wintering ponds .Hatchery design	
Jan - 2022		Important factors in the construction of an ideal fish pond –	

		file of the standard standard file of the standard stand	
		site selection, topography, nature of the soil, water resources.	
		Lay out and arrangement of ponds in a fish farm.	
	III	Construction of an ideal fish pond – space allocation,	
		structure and components of barrage Pond	
Feb-2022		Types of aquaculture- Fresh water aquaculture Brackish water	
		aquaculture Mariculture Aquaculture Systems – Pond,	
		Raceways, Cage, Pen, Rafts, Running water, Water	
	IV	Recirculating Systems, Biofloc Technology and 3-C System.	
		Pond culture practices- Traditional, Extensive, Modified	
		Extensive, Semi-Intensive, Intensive & Super-intensive	
		systems of fish and shrimp and their significance. Fin fish	
		culture methods - Monoculture Polyculture and Monosex	
		culture and Integrated fish farming	
Mar.2022		Pre-stocking Management Dewatering drying	
10141-2022		nloughing/desilting	
	V	Liming and fertilization: Need of fertilizer and manure	
	•	application NPK contents of different fartilizers and manures	
		and proceedings in their Application Producers woods and	
		and precautions in their Application Fredators, weeds and	
		weed fish in culture points - Advantages and disadvantages of	
		weed plants; Toxins used for weed control and control of	
		predators.	
		Algal blooms and their control	
		Stocking Management – Stocking density and stocking	
		Post-stocking Management Feeding: Role of nutrients	
		Water quality: Physico-chemical conditions of soil and water	
		optimum for culture – temperature, depth, turbidity, light,	
		water and shore currents, PH, DOD, CO2, NH3, NO2 and	
		nutrients	
		Measures to increase oxygen and reduce ammonia &	
		hydrogen sulphide in culture ponds; correction of PH	

SEMESTER – III

CURRICULAR PLAN

Subject Code: AQU-301C

Title: Fresh water & Brackish water Aquaculture

Month	Unit No.	Topic to be covered	Remarks
Nov-2021 (7)	I	Status, scope and prospects of freshwater aquaculture in the world, India and AP Status, scope and prospects of brackish water aquaculture in the world, India and AP	
		Freshwater and brackish water resources in India. Special culture systems - brief study of culture in running water, re-circulatory systems, cages and pens, sewage-fed fish culture	
Dec-2021	Π	Bundh breeding and Induced breeding of Indian major carp by hypophysation technique .Synthetic harmones used for induced breeding of carps. Types of fish hatcheries- traditional, Chinese and jar hatcheries. Preparation and Management of Indian major carp culture ponds – nursery, rearing and grow-out ponds. Culture of air-breathing fishes in India; Pangasius fish farming Exotic fishes introduced to India and their impact on indigenous species. Composite fish culture of Indian and exotic carps – compatibility and competition	

Jan - 2022		Breeding and hatchery management of freshwater prawn,	
		Macrobrachium rosenbergii.Culture of Macrobrachium	
		rosenbergii and M. malcolmsonii – biology, seed	
	III	production, pond preparation, stocking, management,	
		feeding, morph types and harvesting. Ornamental fish	
		culture- Common freshwater and marine ornamental	
		fishes; Fabrication, setting up and maintenance of	
		freshwater and marine aquarium.	
		Breeding and rearing of freshwater ornamental fishes	
Feb-2022		Breeding and Hatchery management of a typical penaeid	
		shrimp (Penaeus monodon or Litopenaeus vannamei)	
	** 7	Transportation of shrimp seed and nursery management.	
	IV	Culture of P. mondon or L. vannamei –pond preparation,	
		stocking, management of water, feedand diseases, and	
		harvesting. Culture of mud crab, Scylla serrata	
Mar-2022		Breeding and Culture of milk fish, Chanos chanos.	
	v	Breeding and Culture of Asian sea bass, Lates calcarifer.	
		Breeding and Culture of grey mullet, Mugil cephalus.	
		Fish and shellfish culture in cages and pens.	

SEMESTER – V

CURRICULAR PLAN

Subject Code: AQU-501C

Title: Fish health management

Month	Unit No.	Topic to be covered	Remarks
Nov-2021 (7)	Ι	Introduction to fish diseases –Definition and categories of diseases – Disease and environment Disturbance in cell structure – changes in cell metabolism, progressive and retrogressive tissue changes, types of degeneration, infiltration, necrosis, cell death and causes Atrophy, hypertrophy, neo plasms, inflammation, healing and repair	
Dec-2021	П	Saprolegniosis, brachiomycosis, ichthyophorus diseases – Lagenidium diseases – Fusarium disease, prevention and therapyViral diseases – Emerging viral diseases in fish, haemorrhagic scepticemia, spring viremia of carps, infectious hematopoietic necrosis in trout, infectious pancreatic necrosis in salmonids, swim-bladder inflammation in cyprinids, channel cat fish viral disease, prevention and therapyBacterial diseases – Emerging bacterial diseases, aermonas, pseudomonas and vibrio infections, columnaris, furunculosis, epizootic ulcerative syndrome, infectious abdominaldropsy, bacterial gill disease, prevention and therapy	
Jan - 2022	III	Major shrimp viral diseases – Bacculovirus penaeii, Monodon Bacculovirus,Bacculoviral midgut necrosis, Infectious hypodermal and haematopoietic necrosis virus,Hepatopancreatic parvo like virus, Yellow head bacculovirus, white spot bacculovirus.Bacterial diseases of shell fish – aeromonas, pseudomonas and vibrio	

		infections, luminous bacterial disease, filamentous	
		bacterial disease. Prevention and therapyProtozoan	
		diseases- Ichthyophthiriasis, Costiasis, whirling diseases,	
		trypanosomiasis Prevention and therapy	
Feb-2022		Nutritional pathology – lipid liver degeneration, Vitamin	
		and mineral deficiency diseases. Aflatoxin and	
		dinoflagellates. Antibiotic and chemotherapeutics.	
	IV	Nutritional cataract. Genetically and environmentally	
		induced diseases	
Mar-2022		Diagnostic tools – immune detection- DNA/RNA	
		techniques, General preventive methods and prophylaxis.	
	V	Application and development of vaccines. Quarantine –	
		Significance, methods and regulations for transplants.	
		Production of disease-free seeds. Evaluation criteria of	
		healthy seeds. Good Feed management for healthy	
		organisms. Zero water exchange. Probiotics in	
		health management. Issues of bio security	

SEMESTER – V

CURRICULAR PLAN

Subject Code: AQU-502C

Title: : Extension, Economics & Marketing

Month	Unit No.	Topic to be covered	Remarks
Nov-2021 (7)	Ι	Meaning and scope of economics with reference to fisheries Basic concepts of economics – goods, services, wants and utility, demand and supply, value price, market demand and individual demand, elasticity of demand, law of diminishing marginal utility Theory of production, production function in fisheries Various factors influencing the fishery product's price.	
Dec-2021	Π	Basic marketing functions, consumer behavior and demand, fishery market survey and test marketing a productFish marketing – prices and price determination of fishesMarketing institutions- primary (producer fishermen, fishermen cooperatives, and fisheries corporations) and secondary (merchant/agent/speculative middlemen)Methods of economic analysis of business organizationsPreparation of project and project appraisal	
Jan - 2022	Ш	Aquaculture economics- application of economics principles to aquaculture operations .Various inputs and production function. Assumptions of production function in aquaculture analysis, least cost combination of inputs, laws of variable proportions.3Cost and earnings of aquaculture systems	
Feb-2022	III IV	carp culture, shrimp farming systems, hatcheries, Cost and earnings of fishing units and freezing plants.Socio- economic conditions of fishermen in Andhra Pradesh, Role of Matsyafed and NABARD in uplifting fishermen's conditions, fishermen cooperatives.Contribution of fisheries to the national	

		economy Fisheries extension – scope and objectives, principles and features of fisheries extension education Fisheries extension methods and rural development Adoption and diffusion of innovations	
Mar-2022	V	ICAR programs – salient features of ORP, NDS, LLP, IRDP, ITDA, KVK, FFDA, FCS, FTI, TRYSEM Training – meaning, training vs. education and teaching DAATT centers and their role in tot programs, video conferencing, education of farmers through print and electronic media.	

SEMESTER – II

CURRICULAR PLAN

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SEMESTER – IV CURRICULAR PLAN

Title: Animal Physiology, Cellular metabolism and Embryology

Month	Unit No.	Topic to be covered
		Process of digestion and assimilation
		Respiration - Pulmonary ventilation, transport of oxygen and
		CO2(Note: Need not study cellular respiration here)
		Circulation - Structure and functioning of heart, Cardiac cycle
June - '22	Ι	Excretion - Structure and functions of kidney urine formation,
		counter current Mechanism
		Nerve impulse transmission - Resting membrane potential,
		origin and propagation of action potentials along myelinated
		and non-myelinated nervefibers
		Muscle contraction - Ultra structure of muscle, molecular
July-'22	II	and chemical basis of muscle contraction
		Endocrine glands - Structure, functions of hormones of
		pituitary, thyroid, parathyroid, adrenal glands and pancreas
		Hormonal control of reproduction in a mammal
		Carbohydrates - Classification of carbohydrates. Structure of
		glucose
	III	Proteins - Classification of proteins. General properties of amino
		acids
Aug-'22		Lipids - Classification of lipids
		Enzymes: Classification and Mechanism of Action
	IV	Carbohydrate Metabolism - Glycolysis, Krebs cycle, Electron
		Linid Matebolism - B ovidation of palmitic soid
		Protein metabolism Transamination Deamination and Urea
		Cycle
		Gametogenesis
		Fertilization
		Types of eggs
		Types of cleavages
Sep-'22	V	Development of Frog up to formation of primary germ layer

SEMESTER – IV **CURRICULAR PLAN**

Subject Code: ZOO-402

Title: Immunology and Animal Biotechnology

Month	Unit No.	Topic to be covered
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June -'22	I II	Immunology – I (Overview of Immune system) Introduction to basic concepts in Immunology Innate and adaptive immunity, Vaccines and Immunization programme.Cells of immune system.Organs of immune system Antigens: Basic properties of antigens, B and T cell epitopes, haptens and adjuvants; Factors influencing immunogenicity
July-'22	II III	Antibodies: Structure of antibody, Classes and functions of antibodies Structure and functions of major histo compatibility complexes.Exogenous and Endogenous pathways of antigen presentation and processing.Hypersensitivity – Classification and Types Animal Cell, Tissue and Organ culture media: Natural and Synthetic media, Cell cultures: Establishment of cell culture (primary culture, secondary culture, types of cell lines; Protocols for Primary Cell Culture); Established Cell lines (common examples such as MRC, HeLa, CHO, BHK, Vero); Organ culture; Cryopreservation of cultures
Aug-'22	III IV	Stem cells: Types of stem cells and applications Hybridoma Technology: Production & applications of Monoclonal antibodies (mAb) Genetic Engineering:Basic concept, Vectors, Restriction Endonucleases and Recombinant DNA technology Gene delivery:Microinjection, electroporation, biolistic method (gene gun), liposome and viral-mediated gene delivery Transgenic Animals:Strategies of Gene transfer; Transgenic - sheep, - fish; a pplicationsManipulation of reproduction in animals:Artificial Insemination, <i>In</i> <i>vitro</i> fertilization, super ovulation, Embryo transfer, Embryo cloning
Sep-'22	V	PCR:Basics of PCR. DNA Sequencing: Sanger's method of DNA sequencing- traditional and automated sequencing (2 hrs) Hybridization techniques: Southern, Northern and Western blotting DNA fingerprinting: Procedure and applications Applications in Industry and Agriculture: Fermentation: Different types of Fermentation and Downstream processing; Agriculture: Monoculture in fishes, polyploidy in fishes

SEMESTER – VI CURRICULAR PLAN Title: Immunology

Subject Code: ZOO-601

Month	Unit No.	Topic to be covered

		Introduction to basic concepts in Immunology.
		Innate and adaptive immunity
June - '22	Ι	Cells and organs of Immune system
		Cells of immune system
	II	Organs of immune system
		Basic properties of antigens
		B and T cell epitopes, haptens and adjuvants
		Factors influencing immunogenicity
		Structure of an antibody
		Classes and functions of antibodies
July-'22	III	Antigen and antibody interactions.
		Monoclonal antibodies and their production.
		Structure and functions of major his to compatibility complexes
		Exogenous and Endogenous pathways of antigen presentation and
		processing
		Basic properties and functions of mediator molecules. (cytokines,
Aug-'22		Interferons and complement proteins).
	TX 7	Mechanisms of humoral and cell mediated immunities
	IV	
		Classification and brief description of various types of hyper sensitivities
		Introduction to concepts of autoimmunity and immunodeficiency
	V	*Vaccines
		General introduction to vaccines
Sep-'22		Types of vaccines
_		Types of vaccines

SEMESTER – II

CURRICULAR PLAN

Subject Code: AQTT21A

Title: Biology of fin fish & shell fish.

Month	Unit No.	Topic to be covered
	Ι	Classification of fishes up to the level of Class.
		Classification of crustaceans up to the level of Class
		Finfish and Shell fish of Commercial Importance
		Cultivable fin fish
June - '22		Cultivable shell fish
		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
		-Feeding habits, feeding intensity, stimuli for feeding, utilization of
		food Gut content analysis.
		Structural modifications in relation to feeding habits. Forage ratio
		and food selectivity index
July-'22	II	Principles of Age and growth determination
		Growth regulation
		Growth rate measurement – scale method, otolith method, skeletal
		parts as age indicatorsLength frequency method, age composition,
		age-length keys, absolute and specific growth, back calculation of
		length and growth, annual survival rate, asymptomatic length,
		fitting of growth curve . Length-weight relationship
		Condition factor/Ponderal index, relative condition factor

A		Breeding in Fishes .Breeding habits & breeding grounds Breeding in natural environment and in artificial ponds, courtship Reproductive cycles
Aug- 22		Induced breeding in fishes
	Ш	Breeding in shrimp
		Breeding in pearl oyster
	IV	Ovo-viviparity, oviparity, viviparity in fishes
		Parental care in fishes, nest building and brooding
		Embryonic and larval development of fishes
		Embryonic and larval development of shrimp
	TT 7	Embryonic and larval development of crabs
	IV	Environmentaltactorsaffectingreproductionanddevelopmentofcultivable
Sam (22	V	aquaticfin&shellfish
Sep-22	V	Endocrine system in fishes
		Neurosecretorycells,androgenicgland,ovary, Y-organ,chromatophores,
		Pericardial glands and cuticle.
		Molting, molting stages, metamorphosis in crustacean shellfish

SEMESTER – IV

CURRICULAR PLAN

Subject Code: AQU-401

Title: FISH NUTRITION & FEED TECHNOLOGY

Month	Unit No.	Topic to be covered			
	Ι	Nutritional requirements of cultivable fish and shellfish			
		Classification of nutrients; Nutritional requirements (energy,			
		proteins, carbohydrates, lipids, fiber, micronutrients) of different			
		stages of cultivable fish and shellfish.			
June - '22		Essential aminoacids and fatty acids, protein to energy ratio,			
		nutrient interactions and protein sparing effect			
		Dietary sources of energy, effect of ration on growth,			
		determination of feedingrate, check tray, factors affecting energy			
		partitioning and feeding			
		Importance of natural and supplementary feeds, balanced diet.			
		Live foods: Fish food organisms – Bacterioplankton,			
		phytoplankton, zooplankton and their role in larval nutrition.			
		Artificial feeds: Supplementary feed stuffs; Non-conventional			
		feed ingredients; Forms of processed feeds - wet feeds, moist			
July-'22	II	feeds, dry feeds, mashes, pelleted feeds - floating and sinking			
		pellets; advantages of pelletization			
		Water stability feeds, farm made aqua feeds, micro-coated feeds, micro-encapsulated feeds and micro-bounddiets			
		Feed additives: Binders, antioxidants, probiotics, enzymes,			
		pigments, growth promoters, feed stimulants; use of			
		preservatives.			
		Feed ingredients: selection, nutrient composition and nutrient			
		availability.Feed formulation and manufacturing – extrusion			
		processing and steam pelleting - grinding, mixing and drying,			
		pelletization, and packingMicrobial, insect and rodent damage			
Aug-'22		of feed, chemical spoilage during storage period and feed			
		storage methods.			
	III	Feeding devices and methods: Manual feeding, demand feeders,			
		automatic feeders, surface spraying, bag feeding & trayfeeding			
	IV	Feeding schedules: Frequency of feeding, feeding rates and ration			
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		sizeFeed evaluation:feed conversion ratio, feed conversion			
		efficiency and protein efficiencyratio.			
		Protein(Essential aminoacid) and Lipid (Essential fattyacid)			
		deficiency disorders; Fatty liver disease in fishes			
		Vitamin and mineral deficiency disorders			
		Anti-nutrients and afflatoxins.			
Sep-'22	V				
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SEMESTER –IV CURRICULAR PLAN

Subject Code: AQU-402

Title: FISH HEALTH MANGEMENT

Month	Unit No.	Topic to be covered
	Ι	Principles of disease diagnosis and fish health
		management.Prophylaxis, Hygiene and Therapy of fish diseases.
		Defence mechanism in finfish and shellfish – specific and
		non-specific immune system.Role of stress and host defence
Month Unit No. Topic to be covered I I Principles of disease diagnosis and fish health management.Prophylaxis, Hygiene and Therapy of fish dise Defence mechanism in finfish and shellfish – specific a non-specific immune system.Role of stress and host de mechanism in disease development - Host, pathogen ar environment interaction. June -'22 II Clinical symptoms, pathology, prevention and therapy of Viral diseases: Viral Haemorrhagic scepticemia, Infectious Hematopoietic Necrosis (IHN).Bacterial diseases: Epizooti ulcerative syndrome, Infectious abdominal dropsy, Bacterial disease, Columnaris disease, Tail and fin rot.Fungal disease Saprolegniasis and Brachiomycosis. Protozoandiseases:Ichthyophthiriasis,Myxoboliasis/ Whirlingdisease, Enterococcidiasis. Helminthic and Crustacean parasitic diseases: Gyrodact and Dactylogyrosis; Argulosis and Lemaeasis. Clinical symptoms, pathology, prevention and therapy of Viral diseases: White spot syndrome, Monodon Bacculovir Infectious hypodermal and haematopoieticnecrosis virus, He Pancreatic parvo like virus, Yellow head bacculovirus, Taur Syndrome.Bacterial diseases: Vibriosis, white gut disease; Hepatopancreatic microsporidiosis (HPM) by .Enterocytozo hepatopenaei (EHP),Lagenidium and Fusarium disease. Protozoan diseases: ectocommensal protozoa – Zoothamnin and Acineta Sep-'22 V Protein (Essential amino acid) and Lipid (Essential fatty acid deficiency syndrome, Red disease, Cramp tail syndrom Black gill disease, Muscle necrosis, Black death diseasas Role of gut probiotics in health management of fish and shrimp.Bioremediation of soil and water as a strategy f health management in ponds . Diagnostic tools – immune detection- DNA/RNA technique		mechanism in disease development - Host, pathogen and
	environment interaction.	
		Clinical symptoms, pathology, prevention and therapy of
		Viral diseases: Viral Haemorrhagic scepticemia, Infectious
		Hematopoietic Necrosis (IHN). Bacterial diseases: Epizootic
		ulcerative syndrome, Infectious abdominal dropsy, Bacterial gill
July-'22	II	disease, Columnaris disease, Tail and fin rot.Fungal diseases:
		Saprolegniasis and Brachiomycosis.
		Protozoandiseases: Ichthyophthiriasis, Myxoboliasis/
		Whirlingdisease, Enterococcidiasis.
		Helminthic and Crustacean parasitic diseases: Gyrodactylosis
		and Dactylogyrosis; Argulosis and Lernaeasis.
		Clinical symptoms, pathology, prevention and therapy of
		Viral diseases: White spot syndrome, Monodon Bacculovirus,
	Infectious hypodermal and haematopoieticnecrosis	Infectious hypodermal and haematopoieticnecrosis virus, Hepato
Aug-'22		Pancreatic parvo like virus, Yellow head bacculovirus, Taura
		Syndrome. Bacterial diseases: Vibriosis, white gut disease, loose shell syndrome. A cute Hepato- pancreatic Necrosis Disease
		shell syndrome, Acute Hepato- pancreatic Necrosis Disease
	III	(Early Mortality Syndrome, EMS)Fungal diseases:
		Hepatopancreatic microsporidiosis (HPM) by .Enterocytozoon
		hepatopenaei (EHP), Lagenidium and Fusarium disease.
		Protozoan diseases: ectocommensal protozoa – <i>Zoothamnium</i>
		and Acineta
		Protein (Essential amino acid) and Lipid (Essential fatty acid)
	117	Deficiency disorders; Vitamin and mineral deficiency disorders;
	1V	Fatty liver disease; Gas bubble disease, Asphysiation.
Son (22	V	Snrimp: Soit shell syndrome, Blue disease/Pigment
Sep- 22	v	deficiency syndrome, Red disease, Cramp tail syndrome,
		Black gill disease, Muscle necrosis, Black death disease.
		Role of gut probiotics in health management of fish and
		shrimp.Bioremediation of soil and water as a strategy for
		health management in ponds
		. Diagnostic tools – immune detection- DNA/RNA
		technique – molecular diagnosis of viral diseases.
		Principles and methods of vaccine production and fish
		immunization.Quarantine and health certification in

	aquaculture.Significance of Biosecurity and Specificpathogen free Seed (SPF) in health management.

SEMESTER –VI CURRICULAR PLAN Title: Ornamental fishery

Subject Code: AQU-601

Month	Unit No.	Topic to be covered			
	Ι	Aquarium and ornamental fishes – introduction			
		Present status of Aquarium trade in the world and India			
June - 22	Π	Aquarium accessories – aerators, filters, lighters and			
		heaters Water quality needs and different kinds of feeds			
		Live bearers, gold fish, koi, gourami, barbs abd tetras, angel			
		fish and cichlid fish.Brood stock development, breeding,			
		larval rearing and grow out. Larval feeds and feeding			
		Varieties and habitat of marine ornamental fishes			
		Major marine ornamental fish resources of India			
		Collection and transportation of live fish, use of			
July-'22	TTT	anaesthetics			
		Breeding of marine ornamental fish.			
		Other aquarium animals – sea anemones, lobsters, worms,			
		shrimps, octopus and starfish			
		Setting up fresh water, marine and reef aquariums.			
		Water quality management for different types of			
		aquariums.			
Δ119-*22		Common diseases of aquarium fish, diagnosis and			
Aug- 22		treatment.			
	IV	Temperature acclimatization and oxygen packing for			
	aquarium fish				
Commercial production units of ornamental fish-		Commercial production units of ornamental fish-			
		requirements and design.			
		Commercial production of goldfish, live bearers,			
Sam (22	V	gouramies, barbs, angels and tetras.			
Sep-22	v	Mass production of aquarium plants.			
		Retail marketing and export of ornamental fish.			

SEMESTER –VI CURRICULAR PLAN Title: Fish Processing Technology

Subject Code: AQU-602

Month	Unit No.	Topic to be covered	
Ι		Principles of fish preservation. Importance of hygiene and	
		sanitation in fish handling. Quality of water and ice in fish	
		handling and processing. Preparation of ice. Different types	

June - '22		of ice used in the seafood industry and their merits.
		Preservation by refrigerated seawater and chilled sea water
		Fundamental principles involved in chilling and freezing of
		fishand fishery products. Various freezing methods.
	11	Freezing of shrimps and fishes. Changes during the cold
July (22		storage of fish and fishery products. Principles involved in
July- 22		canning of fish. Differenttypes of containers. Different
		stages of canning of Tuna. Retortable pouch processing.
		Principles of smoking, drying and salting of fish, factors
	III	affecting drying. I raditional drying / curing methods.
		Different types of drying.
		Drying of fish and prawns. Packing and storage of dried
		products. Sponage of dried products.
		Preventive measures. Standards for dry fish products. Cold
		smoking. Principles of freeze drying. Accelerated freeze
	III	drying and packing of freeze dried products. Modern
		methods of preservation by irradiation and modified
Aug-'22		atmospheric storage.
		Cold Storage and Export of Fishery Products:
		Functions of packing. Different types of packing materials
	IV	and its quality evaluation. Packing requirements for frozen
		and cured products
		Statutory requirements for packing. Labeling requirements.
	117	Different types of cold Storages. Insulated and refrigerated
	11	Export of fishery products from India - major countries
Sep-'22	v	important products, export documents and procedures. Prospects
~~P ==		and constraints in export including tariff and non- tariff barriers,
		marine insurance, export incentives, registered exporters

SEMESTER –VI CURRICULAR PLAN Titler Fishery Microbiology and Fishery by pr

Subject Code: AQU-603

Title: Fishery Microbiology and Fishery by-products

Month	Unit No.	Topic to be covered	
	Ι	History and development of microbiology –Different	
		members of the microbial community – General	

June - '22		characteristics of bacteria, fungi, viruses, algae and
		protozoan's.Ultra structure of prokaryotic cell – structure
		and function of bacterial cell wall, plasma membrane,
		capsule, flagella and endospore. Structure of fungi and yeast
		cell. Ultra structure of virus – classification of viruses, Llfe
		cycle bacteriophages - lytic and lysogenic cycle.
		Microflora of aquatic environment, Different culture
		techniques. Nutrition and growth of bacteria – different
	II	types of media for isolation of bacteria and fungi. Isolation.
		enumeration, preservation and maintenance of cultures
July-'22		Routine tests for identification of bacteria – morphological.
		cultural biochemical and serological. Basics of mycological
		and virology techniques
		Perish ability of seafood – Fish as an excellent medium for
	111	growth of microorganisms. Spoilage microflora of fish and
		shellfish Intrinsic and extrinsic factors affecting spoilage
		Fish meal fish protein concentrate shark fin rays fish
		maws isinglass fish liver oil fish body oil fish
		hydrolysates chitin chitosan glucosamine hydrochloride
		squalene pearl essence ambergris gelatin beche-de-mer
Aug-'22	IV	fish silage, fish ensilage and seaweed products like agar
_		alginic acid and carrageen
		Value addition in see food. Different types of value added
		reducts from fish and shall fishes status of value addition
		in Indian sector Advantages of value addition Fish
		mining and Surimi Analog and fabricated
Sep-'22	V	minice and Summi. Analog and fabricated
1		products. Preparation of coated fishery products. Different
		types of batter and breading and its applications.
		Preparation of products viz. fish / prawn pickle, fish waters,
		prawn cnutneypowder, fish soup powder, fish protein
		hydrolysate, fish stacks, fillets, fish curry, mussel products,
		marinated products.

SEMESTER –VI CURRICULAR PLAN

Subject Code: AQU-604

Title: Quality Control in Processing Plants

A.G.& S.G. Siddhartha Degree College of Arts & Science, Vuyyuru-521165 SEMESTER TEACHING PLAN

June -'22	I	Quality management, total quality concept and application in fish trade. Quality assessment of fish and fishery products - physical, chemical, organoleptic and microbiological. Quality standards. Quality Assurance. Inspection and quality assurance Fish inspection in India, process; water quality in fishery industry, product quality, water analysis, treatments, chlorination, ozonisation, UV radiation, reverse osmosis	
		techniques to remove pesticides and heavy metals.	
July-'22	ш	Sensory evaluation of fish and fish products, basic aspects, different methods of evaluation, taste panel selection & constitution, statistical analysis Quality problem in fishery products: good manufacturing practices. HACCP and ISO 9000 series of quality assurance system, validation and audit. national and international standards, EU regulation for fish export trade,	
Aug-'22	IV	IDP and SAT formations in certification of export worthiness of fish processing units, regulations for fishing vessels pre-processing and processing plants, eu regulations. Factory sanitation and hygiene: National and international requirements, SSOP.	
Sep-'22	V	Hazards in sea foods: Sea food toxins, biogenic amines, heavy metals and industrial pollutants. Infection and immunity, Microbial food poisoning, bacteria of public health significance in fish /fishery products / environments - Salmonella, Clostridia, Staphylococcus ,E. coli, Streptococcus,Vibrio, Aeromonas, Listeria, Yersinia, Bacillus. Laboratory techniques for detection and identification of food poisoning bacteria. Mycotoxins in cured fish, bacterial associated with fish disease.	

Name of the Teacher:		her:	Program: Academic Year:2021-2022		
V.N.V.Kishore			M.Sc.(Chemistry)		
Department: Chemistry(PG)		nistry(PG)	Course Code: CH1T1		
Semester	: I	T	Course Name: General Chemistry		
S.No.	Month	Probable	Topics to be covered during the month	Completed/	Remarks
		Number of Periods		Not- Completed	
		in Month		Completed	
			Treatment of analytical data : Classification of		
			errors - Determinate and indeterminate errors -		
			Minimisation of errors - Accuracy and precision -		
			Distribution of random errors – Gaussian		
			distribution - Measures of central tendency -		
			Measures of precision – Standard deviation –		
1	July	12	Standard error of mean – student's t test –	Completed	Nil
			Confidence interval of mean – Testing for		
			significance - Comparison of two means - F - test -		
			Criteria of rejection of an observation – propagation		
			of errors – Significant figures and computation rules		
			- Control charts - Regression analysis - Linear least		
			squares analysis.		
			Introduction to Molecular Spectroscopy: Motion		
			of molecules-Degrees of freedom –Energy		
			associates with the degrees of freedom-Type of		
			spectra.		
2	Aug	12	Microwave spectroscopy: Classification of	Completed	Nil
	U		molecules, rigid rotator model, effect of isotopic	1	
			substitution on the transition frequencies, Intensities		
			non-rigid rotator-Microwave spectra of polyatomic		
			molecules.		
			Rotational Vibrational Spectroscopy: Harmonic		
			oscillator, vibrational energies of diatomic		
			molecules, zero-point energy, force constant and		
3			bond strengths, anharmonicity, Morse potential		
	Sep	12	energy diagram. Vibration – rotation spectroscopy.	Completed	Nil
			PQR branches, Born–Openheimer approximation.		
			selection rules, normal modes of vibration, group		
			frequencies, overtones, hot bands, applications.		
			1 , ,		

4	Oct	12	Titrimetric Analysis: Classification of reactions in titrimetric analysis- Primary and secondary standards- Neutralisation titrations-Theory of Neutralization indicators-Mixed indicators- Neutralisation curves- Displacement titrations-Precipitation titrations-Indicators for precipitation titrations-Volhard method-Mohr method- Theory of adsorption indicators-Oxidation reduction titrations-Change of electrode potentials during titration of Fe(II) with Ce(IV)- Detection of end point in redox titrations-Complexometric titrations- Metal ion indicators-Applications of EDTA titrations-Titration of	Completed	Nil
			cyanide with silver ion.		
5		12	Symmetry and Group theory in chemistry: Symmetry elements, symmetry operation, definition of group, sub group, relation between order of a finite group and its sub group. GMT tables Abelian and non-abelian groups. Point group. Schonfiles symbols, Find out Point group of a molecule (yes or no Method). Representation of groups by Matrices (representation for the Cn, Cnv, Cnh, Dn etc. groups to be worked out, explicitly). Character of a representation. The great Orthogonality theorem (without proof) and its importance. Character tables and their use. Construction of Character tables.	Completed	
	A.G.&	S.G. Sidd	hartha Degree College of Arts & Science, Vuy	yuru-521165	5
Name of	the Teac	her: Dilshad	SEMESTER TEACHING PLAN Program: Academic Year:2021-2022		
Begum	une reae		M.Sc.(Chemistry)		
Departme	ent: Cher	nistry(PG)	Course Code: CH1T2		
Semester	: I Manth	Duchable	Course Name: Inorganic Chemistry	Commisto d/	Domonico
5.110.	Month	Number of Periods in Month	Topics to be covered during the month	Not- Completed	Kemarks
1	July	12	Introduction to Exact functions, derivation of wave equation using operator concept. Discussion of solutions of Schrodinger's equation to some model systems viz. particle in one dimensional box (applications), three-dimensional box, Rigid rotator system and the Hydrogen atom. Variation theorem, linear variation principle, perturbation theory (first order and non-degenerate), Application of variation method to the Hydrogen atom.Quantum Mechanical Results: Schrodinger equation, importance of wave function, Operators, Eigen values and Eigen	Completed	Nil

2	Aug	12	Metal–ligand bonding: Crystal Field Theory of bonding in transition metal complexes-Splitting of d-orbitals in octahedral, tetrahedral, square planar, Trigonal bipyramidal and Square pyramidal fields. Tetragonal distortions - Jahn-Teller effect. Applications and limitations of CFT. Experimental evidences for covalence in complexes. Molecular Orbital Theory of bonding for Octahedral, tetrahedral and square planar complexes. π -bonding and MOT - Effect of π - donor and π -acceptor ligands on Ao. Experimental evidence for π -	Completed	Nil
			bonding in complexes. Metal – ligand Equilibria in solutions: Step wise		
3	Sep	12	and over all formation constants. Trends in stepwise constants (statistical effect and statistical ratio). Determination of formation constants by Spectrophotometric method (Job's method) and pH metric method (Bjerrum's). Stability correlations - Irwing -William's series. Hard and soft acids and bases (HSAB).	Completed	Nil
4	Oct	12	Structure and Bonding: $p\pi$ -d π bonding, Bent's rule, Non-valence cohesive forces, VSEPR theory. Molecular Orbital theory, Molecular orbitals in triatomic (BeH ₂) molecules and ions (NO ₂ ⁻) and energy level diagrams. Walsh diagrams for linear (BeH ₂) and bent (H ₂ O) molecules.	Completed	Nil
5		12	Chemistry of non- transition elements: Halogen oxides and oxyfluorides, Spectral and Magnetic properties of Lanthanides and Actinides. Analytical applications of Lanthanides and Actinides. Synthesis, properties and structure of B-N, S-N, P-N cyclic compounds. Intercalation compounds. Metal π - complexes: preparation, structure and bonding in Nitrosyl, Dinitrogen and Dioxygen complexes.	Completed	
	A.G.&	s.G. Sidd	Ihartha Degree College of Arts & Science, Vuy SEMESTER TEACHING PLAN	yuru-521165	5
Name of the Teacher: Dr.V.Sreeram		her:	Program: Academic Year:2021-2022 M.Sc.(Chemistry)		
Department: Chemistry(PG)		n1stry(PG)	Course Code: CH113		
S.No.	Month	Probable Number of Periods in Month	Topics to be covered during the month	Completed/ Not- Completed	Remarks

1	July	12	Nature of bonding and Aromaticity:Nature of bonding:Localised and Delocalized,Delocalised chemical bonding conjugation, crossconjugation, hyper conjugation, Tautomerism.Aromaticity:Concept of Aromaticity, Aromaticityof five membered, six membered rings - Nonbenzonoidaromaticcompounds:-cyclopropenylcation,Cyclobutadienyldication,cyclopentadienylanion-tropylliumcationandcyclooctatetraenyldianion.Homoaromaticity	Completed	Nil
2	Aug	12	Reactive intermediates & Reactive Species:Reactive intermediates:Generation, Structure, Stability, Detection and Reactivity of Carbocations, Carbanions, Free radicals,Carbenes, Nitrenes and Arynes.Reactive Species: Generation and reactivity of Electrophiles, Nucleophiles, Dienophiles, Ylids	Completed	Nil
3	Sep	12	Addition Reactions: Additions: Addition to carbon – carbon multiple bonds, HX, X2, HOX, stereo chemistry of addition, formation and reaction of epoxides, syn and anti hydroxylation, hydrogenation(catalytic and Non catalytic), synthetic reactions of CO and CN and Cram's rule.	Completed	Nil
4	Oct	12	Eliminations Reactions : Types of elimination (E1, E1cB, E2) reactions, mechanisms, stereochemistry and orientation, Hofmann and Saytzeff's rules, Syn elimination versus anti elimination. Competitions between elimination and substitution. Dehydration, dehydrogenation, dehalogenation, decarboxylative elimination, pyrolytic eliminations.	Completed	Nil
5		12	Substitution Reactions:Aliphatic Nucleophilic substitutions:The SN2, SN1, mixed SN1 and SN2 and SNireactions : Mechanism, effect of structure,nucleophile, leaving group on substitutions. Theneighbouring group mechanism, participation by σ and π bonds, anchimeric assistance.Aromatic Nucleophilic substitution:The SNAr (Addition – Elimination), SN1(Ar)mechanisms and benzyne mechanism (Elimination– Addition).Reactivity- effect of substrate structure,leaving group and attacking nucleophile. The Von-Richter, Sommelet – Hauser and Smilesrearrangements.	Completed	

A.G.& S.G. Siddhartha Degree College of Arts & Science, Vuyyuru-521165 SEMESTER TEACHING PLAN						
Name of the Teacher: M.Rekha			a Program: Academic Year:2021-2022 M.Sc. (Chemistry)			
Department: Chemistry(PG)			Course Code: CH1T4			
Semester	: I		Course Name: Physical Chemistry			
S.No.	Month	Probable Number of Periods in Month	Topics to be covered during the month	Completed/ Not- Completed	Remarks	
1	July	12	Thermodynamics – I: Classical thermodynamics – Brief review of first and second laws of thermodynamics - Entropy change in reversible and irreversible processes - Entropy of mixing of ideal gases - Entropy and disorder – Free energy functions - Gibbs-Helmholtz equation - Maxwell partial relations - Conditions of equilibrium and spontaneity - Free energy changes in chemical reactions: Van't Hoff reaction isotherm - Van't Hoff equation - Clausius Clapeyron equation - partial molar quantities - Chemical potential - Gibbs- Duhem equation - partial molar volume - determination of partial molar quantities - Fugacity - Determination of fugacity - Thermodynamic derivation of Raoult's law.	Completed	Nil	
2	Aug	12	Surface phenomena and phase equilibria - Surface tension - capillary action - pressure difference - across curved surface (young - Laplace equation) - Vapour pressure of small droplets (Kelvin equation) - Gibbs- Adsorption equation - BET equation - Estimation of surface area - catalytic activity of surfaces – ESCA , X- ray fluorescence and Auger electron spectroscopy. Surface active agents - classification of surface active agents - Micellization - critical Micelle concentration (CMC) - factors affecting the CMC of surfactants, microemulsions - reverse micelles - Hydrophobic interaction.	Completed	Nil	
3	Sep	12	Electrochemistry – I - Electrochemical cells - Measurement of EMF - Nernst equation – Equilibrium constant from EMF Data - pH and EMF data - concentration cells with and without transference – Liquid junction potential and its determination - Activity and activity coefficients - Determination by EMF Method - Determination of solubility product from EMF measurements. Debye Huckel limiting law and its verification. Effect of dilution on equivalent conductance of electrolytes - Anomalous behaviour of strong electrolytes. Debye Huckel-Onsagar equation - verification and limitations, conductometric titrations.	Completed	Nil	

4	Oct	12	complex reactions - Rate expressions for opposing, parallel and consecutive reactions involving unimolecular steps. Theories of reaction rates -collision theory - Steric factor - Activated complex theory - Thermodynamic aspects – Unimolecular reactions - Lindemann's theory - Lindemann-Hinshelwood theory. Reactions in solutions - Influence of solvent - Primary and secondary salt effects - Elementary account of linear free energy relationships - Hammet - Taft equation - Chain reactions - Rate laws of H2-Br2, photochemical reaction of H2 - Cl2, Decomposition of acetaldehyde and ethane - Rice- Herzfeld mechanism					
5		12	Potentiometry: Advantages of potentiometric methods - Reference electrode - Standard hydrogen electrode .Acid- alkali or Neutralisation titration, Oxidation – reduction titrations, Precipitation titrations, complexometric titrations, Methods of end point location (Graphical, Differentiation method, Pinkhof- Treadwell method). Calomel electrode -Indicator electrodes: Metal-metal ion electrodes - Inert electrodes -Membrane electrodes - theory of glass membrane potential - Direct potentiometry, potentiometric titrations - Applications.	Completed				
	A.G.& S.G. Siddhartha Degree College of Arts & Science, Vuyyuru-521165							
SEMESTER TEACHING PLAN Name of the Teacher: Dr. Program:								
V.Sreera	m		M.Sc.(Chemistry)					
Departme	ent: Chei	nistry(PG)	Course Code: CH3T1	Course Code: CH3T1				
Semester	: III	1	Course Name: Advanced Organic Spectroscopy					
S.No.	Month	Probable Number of Periods in Month	Topics to be covered during the month	Completed/ Not- Completed	Remarks			
1	July	12	Proton NMR Spectrscopy:Determination of structure of organic compounds using PMR data. Spin system, Nomenclature of spin system, spin system of simple and complex PMR spectrum (Study of $AB - A_2 - AB_2$. $ABX - ABC - AMX$ interactions)Simplification of complex spectra- nuclear magnetic double resonance, chemical shift reagents, solvent effects on PMR Spectrum . Nuclear Overhauser Effect (NOE).	Completed	Nil			
2	Aug	12	ORD& CD Curves: Optical rotatory dispersion : Theory of optical rotatory dispersion – Cotton effect –CD curves-types of ORD and CD curves-similarities and difference between ORD and CD curves. α - Halo keto rule, Octant rule – application in structural studies.	Completed	Nil			

3	Sep	12	13C-NMR spectroscopy: Similarities and Difference between PMR and CMR-CMR recording techniques - BBC-BBD-SFORD-Gate pulse CMR spectrum. General considerations, chemical shift (aliphatic, olefinic, alkyne, aromatic, heteroaromatic and carbonylcarbon), coupling constants.Typical examples of CMR spectroscopy – simple problems.	Completed	Nil
4	Oct	12	2D NMR spectroscopy: Definitions and importance of COSY, DEPT, HOMCOR, HETCOR, INADEQUATE, INDOR, INEPT, NOESY, HOM2DJ, HET2DJ. Study of COSY, DEPT, HOMCOR, HETCOR, INADEQUATE INDOR INEPT ,NOESY HOM2DJ, HET2DJ, taking simple organic compounds as examples.	Completed	Nil
5		12	Structural Elucidation of Organic compounds Using UV, IR, 1H-NMR, 13C-NMR and Mass spectroscopy.	Completed	
	A.G.&	s.G. Sido	Ihartha Degree College of Arts & Science, Vuy SEMESTER TEACHING PLAN	yuru-521165	5
Name of V.N.V.ki	the Teac shore.	her:	Program: Academic Year:2021-2022 M.Sc.(Chemistry)		
Departme	ent: Chei	mistry(PG)	Course Code: CH3T4		
Semester	: III	1	Course Name: Chemistry of Natural products	[
S.No.	Month	Probable Number of Periods in Month	Topics to be covered during the month	Completed/ Not- Completed	Remarks
1	July	12	Alkaloids: Introduction, Definition, occurrence, role of alkaloids in plants, classification, isolation and general methods for structural elucidation of alkaloids. Structure elucidation of Morphine, Vincristine, Quinine and Reserpine	Completed	Nil
2	Aug	12	Terpenoids : Introduction, Definition, nomenclature, classification, isolation, isoprene rule and general methods for structural elucidation of Terpenoids. Structure elucidation of Zingiberene, Santonin, farnesol and abietic acid.	Completed	Nil
3	Sep	12	Steroids: Introduction, Definition, nomenclature, classification. Occurrence, isolation, physiological action, structure elucidation of Cholesterol, Androsterone, Ttestosterone and Progesterone	Completed	Nil

4	Oct	12	Flavonoids and Isoflavonoids: Introduction, Definition, classification, isolation, physiological action, structure elucidation of Kaempferol and Quercetin	Completed	Nil
5		12	Pigments: Introduction, classification of natural pigments, introduction and classification of carotenoids, functions of carotenoids in plants and animals, structure and synthesis of α – carotene and β – carotene.	Completed	
	A.G.&	S.G. Sidd	hartha Degree College of Arts & Science, Vuy SEMESTER TEACHING PLAN	yuru-52116:	5
Name of Smt.Dils Departme	the Teac had Begu ent: Chei	her: um nistry(PG)	Program: Academic Year:2021-2022 M.Sc.(Chemistry) Course Code: CH3T2		
Semester	· III		Course Name: Organic Reaction mechanism		
S.No.	Month	Probable Number of Periods in Month	Topics to be covered during the month	Completed/ Not- Completed	Remarks
1	July	12	Oxidations: Definition and types of Oxidations, oxidations with ruthenium tetroxide, iodobenzenediacetate, Tl(III) nitrate, Chromium (VI) oxidants, Lead tetra acetate, SeO2, MnO2, Ag2CO3, Oppenauer oxidation, perhydroxylation using KMnO4, OsO4, HIO4, oxidation with iodine silver carboxylate (Woodward and Prevost conditions), Definition & mechanism of epoxidation by peracids.	Completed	Nil
2	Aug	12	Reductions :Definition and types of reductions, reduction by dissolving metals - Reduction with metal and liquid ammonia (Birch Reduction of aromatic compounds), Reduction with metal acid - Clemensons reduction, Reduction by hydride transfer reagents, Aluminium alkoxide - Meerwein Pondorf Verley Reduction, LiAlH4, NaBH4, Diisobutylaluminium hydride(DIBAL), Sodium cyano borohydride, trialkyl borohydrides, Reduction with diimide,. Wolff-Kishner reduction	Completed	Nil

			Molecular Rearrangements: Migration to electron		
			deficient carbon atom. Pinacole-Pinacolone		
			Dienone-Phenol rearrangement Benzil-Benzilic acid		
		rearrangement. Favorski rearrangement			
3	Sep	12	Migration to electron deficient hetero atom:.Wolf, Hofmann, Curtius, Schmidt, Beckmann rearrangement, Baeyer-Villiger rearrangement, Stevens, Neber rearrangements. Fries, Fischer-Hepp, Orton, Bamberger, Dakin, Cumene Hydroperoxide rearrangement	Completed	Nil
4	Oct	12	Pericyclic Reactions – I :Definition, classification of pericyclic reactions, Molecular Orbital energy level diagrams, electronic configuration in ground and first excited states of Ethylene, 1,3-Butadiene, 1,3,5 – Hexatriene, allyl system, stereo chemical notations – suprafacial, antarafacial, conrotatory and disrotatory modes, Woodward and Hoffmann selection rules. Electrocyclic reactions : Mechanism, Stereochemistry of (4n) and (4n+2) π systems. PMO, FMO and correlation methods. Cyclo additions : Mechanism, stereochemistry of (2+2) and (4+2) π systems, PMO, FMO and correlation methods. Sigmatropic rearrangements : Classification, mechanism for FMO and PMO approach under thermal and photo chemical conditions. (Detailed treatment of Claisen, Cope rearrangements).	Completed	Nil
5		12	Photochemistry: Photochemical processes: Energy transfer, sensitization and quenching. Singlet and triplet states and their reactivity. Photochemistry of olefins – conjugated olefins, Aromatic compounds– isomerisation–additions. Photochemistry of carbonyl compounds. Norrich tune Lond II reactions. Paterne	Completed	
			Buchi Reaction. Photoreduction, Photochemical rearrangements–Photo Fries rearrangement, Di- π -methane rearrangement, Barton reaction.		
A.G.& S.G. Siddhartha Degree College of Arts & Science, Vuyyuru-521165					
SEIVLESTEK TEACHING PLAIN Name of the Teacher: M.Rekha Program: Academic Year:2021-2022					
Department: Chemistry(PG)			M.Sc.(Chemistry) Course Code: CH3T3		
Semester: III Course Name: Organic Synthesis					
S.No.	Month	Probable	Topics to be covered during the month	Completed/	Remarks
		Number		Not-	
		in Month		Completed	

1	July	12	Formation of carbon-carbon single bonds: Alkylation of relatively acidic methylene groups, alkylation of ketones, enamine and related reactions, umplong (dipole inversion). Allylic alkylation of alkenes, alkylation of α - thiocarbanions- α -selenocarbanions, formation of carbon carbon single bonds by the addition of free radicals to alkenes, synthetic applications of carbenes and carbenoids	Completed	Nil
2	Aug	12	Formation of carbon-carbon double bonds Pyrolytic syn elimination reactions sulphoxide-sulphonate rearrangement, synthesis of allyl alcohols, the witting reaction, alkenes from sulphones, decarboxylation of β -lactones, alkenes. Stereo selective synthesis of tri and tetra substituted alkenes, oxidative decarboxylation of carboxylic acids, stereospecific synthesis from 1,2- diols, reductive dimerization of carbonyl compounds.	Completed	Nil
3	Sep	12	Diels–Aider and related reactions : The dienophile, heterodienophile, oxygen as dienophile, The diene, acyclic dienes, heterodienes, 1,2-dimethylene cycloalkanes, vinyl cycloalkenes, and vinyl arenes, cyclic dienes and furans. Intra molecular Diels –Alder reactions, stereochemistry and mechanism of Diels – Alder reaction, retro Diels – Alder reaction, catalysis by lewis acids, photosensitized Diels- Alder reactions and 1,3-dipolar cycloaddition reactions.	Completed	Nil
4	Oct	12	Disconnection approach Introduction to Retro-synthetic analysis, Disconnection approach with suitable examples, Definitions: FGI, Disconnection, synthons, synthetic equivalent, reagent, target molecule, General strategy: choosing a disconnection, greatest simplification, symmetry, high yielding steps, recognizable starting materials. Chemo, regio and stereo selectivity with examples. One group C-C disconnections-Alcohols, carbonyl compounds, alkene synthesis, two group disconnections: 1,3 – dicarbonyl compounds, α,β – unsaturated carbonyl compounds.	Completed	Nil

5	12	Protecting groups: Theory and importance of functional group protection and deprotection in organic synthesis:-Protecting agents for the protection of functional groups: Hydroxyl group, Amino group, Carbonyl group and Carboxylic acid group carbon-carbon multiple bonds; chemo- and regioselective protection and deprotection. Illustration of protection and deprotection in	Completed	
		regioselective protection and deprotection. Illustration of protection and deprotection in organic synthesis.		

A.G&S.G.S DEGREE COLLEGE OF ARTS & SCIENCE, VUYYURU DEPARTMENT OF COMPUTER SCIENCE (PG) 2021-2022 CURRICULAR PLANS

ODD SEMESTER

SEMESTER -	SEMESTER – I				
Subject Code:	bubject Code: 21CS1T1				
<u>Title:</u> Problem	m Solving	Using Python Programming			
Month	Unit No.	Topic to be covered			
Feb-2022	1	Features of Python, History of Python, The			
		Future of Python, Writing and Executing First			
		Python Program.			
Mar - 2022	2	Conditional Branching Statements, Function			
		Definition, Function Call, Variable Scope and			
		Lifetime.			
Apr -2022	3	Concatenating, Appending and Multiplying Strings,			
		Sequence, Lists, Functional Programming.			
Apr-2022	4	Classes and Objects, Class Method and self			
		Argument, Built-in Class Attributes, Class			
		Methods, Static Methods.			
May-2022	5	Inheriting Classes in Python, Types of Inheritance,			
		Introduction to Errors and Exceptions.			

SEMESTER – I

Subject Code: 21CS1T2 Title: Computer Organization

Month	Unit No.	Topic to be covered
Feb-2022	1	Digital Computers, Logic Gates, Boolean Algebra, Map Simplification, Data Types, Complements, Fixed- Point Representation.
Mar - 2022	2	Register Transfer Language, Register Transfer, Bus & Memory Transfers, Computer Registers, Computer Instructions, Timing & Control, Instruction Cycle.
Apr -2022	3	Control Memory, Address Sequencing, Micro Program Example, General Register Organization, Stack Organization.
Apr-2022	4	Addition and Subtraction, Multiplication Algorithm,
May-2022	5	Peripheral Devices, Input-Output Interface, Asynchronous Data Transfer, Memory

	Hierarchy.

SEMESTER – I

Subject Code:	21CS1T3	<u>Title:</u> Software Engineering
Month	Unit No.	Topic to be covered
Feb-2022	1	The Nature of Software: Defining Software, Software Application Domains, Legacy Software, A Generic Process Model: Defining a Framework Activity.
Mar - 2022	2	Principles That Guide Process, Principles That Guide Practice, Principles. Requirements Modeling: Scenarios, Information, and Analysis Classes
Apr -2022	3	Software Quality Assurance, Software Testing Strategies, Testing Conventional Applications.
Apr-2022	4	The Management Spectrum: The People, The Product, The Process, Process and Project Metrics
May-2022	5	Online Marketing E- CRM Architectural components

SEMESTER – I

Subject Code	<u>21CS1T4</u>	<u>Title:</u> Database Management Systems
Month	Unit No.	Topic to be covered
Feb-2022	1	Introduction, An Example, Characteristics of the
		Database Approach, Actors on the Scene, Database
		System Concepts and Architecture,
Mar - 2022	2	
		SQL Data Definition and Data Types, Specifying
		Constraints in SQL, The Relational Algebra and
		Relational Calculus.
Apr -2022	3	Data Modeling Using the Entity-Relationship (ER)
		Model, The Enhanced Entity-Relationship (EER) Model.
Apr-2022	4	Disk Storage, Basic File Structures and Hashing,
		Indexing Structures for Files.
May-2022	5	Introduction to Transaction Processing Concepts and
		Theory, Concurrency Control Techniques,
		Distributed Databases.

SEMESTER – I Subject Code: 21CS1T5 <u>Title:</u> Theory of Computation

Month	Unit No.	Topic to be covered
Feb-2022	1	Strings, Alphabet, Language, Operations, Finite
		Automaton Model, Finite Automata: Deterministic
		Finite Automaton, Non Deterministic
		Finite Automaton (Simple Problems).
Mar - 2022	2	Regular Sets, Regular Expressions, Identity Rules for
		Regular
		Expression,

Apr -2022	3	Regular Grammars - Right Linear and Left Linear
		Grammars, Context Free Grammars.
Apr-2022	4	Push Down Automata: Definition, Model, and
		Design of PDA.
May-2022	5	Turing Machine, Computability Theory.

SEMESTER – III

Subject Code:	20CS3T1	Title: Cryptography A& Network Security
Month	Unit No.	Topic to be covered
Feb-2022	1	Computer & Network Security Concepts, Classical Encryption Techniques, Advanced Encryption Standard.
Mar - 2022	2	Public key cryptography and RSA, Key Management, Message authentication and hash functions.
Apr -2022	3	Digital Signatures and Authentication protocols.
Apr-2022	4	Email Security, IP Security, Web security.
May-2022	5	Intruders: Intruders, Intrusion Detection, Firewalls: The Need for Firewalls, Firewall Characteristics and Access Policy.

SEMESTER – III

Subject Code 20CS3T2 Title: Design & Analysis of Algorithms

Month	Unit No.	Topic to be covered
Feb-2022	1	Algorithm Specification Pseudo code Conventions, Elementary Data Structures.
Mar - 2022	2	Divide-and-Conquer: General Method, Defective
		Chess Board, Binary Search, The Greedy Method.
Apr -2022	3	Requirements Engineering Tasks - Initiating The
		Requirements Engineering Process
Apr-2022	4	Design Process And Design Quality
May-2022	5	Software Quality Assurance (SQA)

SEMESTER – III Subject Code 20CS3T3

Title: WEB TECHNOLOGIES

Month	Unit No.	Topic to be covered
Feb-2022	1	Evolution of Internet and World Wide Web, Editing HTML5, First HTML5 Example,

Mar - 2022	2	CSS: Introduction, Inline Styles, Embedded Style
		Sheets, Conflicting Styles, JavaScript.
Apr -2022	3	JQuery Basics: String, Numbers, Boolean, Objects,
		jQuery-DOM Attributes:
Apr-2022	4	Apply CSS Properties, Apply Multiple CSS
		Properties, JQuery Effect
		Methods, jQuery Hide and Show.
May-2022	5	Introduction, Simple PHP Program, Converting
		Between Data Types.

SEMESTER – III <u>Subject Code</u> 20CS3T4 <u>Title:</u> Data Mining Techniques

Month	Unit No.	Topic to be covered
Feb-2022	1	Warehouse: What is it, Who need it, and Why?
		Things to consider, Managing the
		Data Warehouse.
Mar - 2022	2	Data Warehouse Design Methodology: The preferred
		Architecture, Alternate
		Warehouse architectures.
Apr -2022	3	Data Mining, Mining Association rules in large
		databases.
Apr-2022	4	Classification and Prediction: Introduction to
		classification by decision tree
		Induction.
May-2022	5	Cluster Analysis : Introduction, types of data in
		cluster analysis, a categorization of
		Major clustering methods.

SEMESTER – III

Subject Code 21CS30EL2 Title: WEB PROGRAMMING

Month	Unit No.	Topic to be covered
Feb-2022	1	Internet Protocols: Internet Protocols, Host Names,
		Internet Applications World Wide Web, Basics of
		WWW and Browsing, URL, Types of Browsers.
Mar - 2022	2	Working with Links, Working with images, Working
		with tables.
Apr -2022	3	Creating Forms, Named Input Fields, Frames:
		Introduction to Frames, Frames Document.
Apr-2022	4	CSS: Introduction to Style Sheets, Inline Styles,
		External Style Sheets, Internal
		Style Sheets, Style Classes, Multiple Styles.
May-2022	5	Make a Website with Wix, Building Your Wix
		Website.

APPENDIX - IV

ADD ON COURSE

Applicable for the batch of students applicable during the Academic Year 2021-2022 M.Sc. (Computer Science) III SEMESTER Course Code: 21CS3A1 Title of the Course: PHP with My SQLCertification

EVEN SEMESTER

SEMESTER – II

Subject Code 20CS2T1 Title: Computer Networks

Month	Unit No.	Topic to be covered
July-2021	1	Network Hardware, Network Software, Reference
		Models
Aug - 2021	2	Data Link Layer: Data Link Layer Design Issues, Error
-		Correcting Codes, Error Detecting Codes, Elementary
		Data Link Protocols
Sep -2021	3	The Network Layer, Network Layer Design Issues,
		Routing Algorithms, Internet Working, The Network
		Layer in the Internet
Sep-2021	4	The Transport Layer, Elements of Transport Protocols
Oct-2021	5	The Application Layer, Electronic Mail, The World Wide
		web, Streaming Audio and Video

SEMESTER – II Subject Code 20CS2T2

Title[.] Data Structures

Subject Code	2003212	<u>Thie.</u> Data Structures
Month	Unit No.	Topic to be covered
July-2021	1	Elementary Data Organization, Data Structures, Data
		Structure operations, Mathematical Notation and
		Functions
Aug - 2021	2	String Processing: Storing Strings, Character Data Type,
		String Operations, Arrays, Records and Pointers
Sep -2021	3	Linked Lists: Representation, Traversing, Searching,
		Memory Allocation, Stacks, Queues, Recursion: Stacks,
		Array representation, Linked List representation
Sep-2021	4	Trees: Binary Trees, Representing and Traversing Binary
		trees, Traversal Algorithms Using Stacks.
Oct-2021	5	Graphs: Terminology, Sequential representation of
		Graphs, Warshall's Algorithm, Linked Representation of
		Graphs, Sorting and Searching
SEMESTER	– II	

Subject Code20CS2T3Title:Web TechnologiesMonthUnit No.Topic to be covered

July-2021	1	Outline of an HTML Document, Head Section Body
		Section: Headers, Paragraphs, Text Formatting.
Aug - 2021	2	Java Script: Introduction to Scripting, Control
		Statements VB Script: Introduction, Embedded
		VBScript code in an HTML Document, Comments.
Sep -2021	3	Dynamic HTML (DHTML), XML, XML DTD,
		DTD Elements, DTD Attributes
Sep-2021	4	Servlets: Introduction, Advantages of Servlets over
		CGI, Installing Servlets, The Servlet Life Cycle,
		Servlets API, PHP
Oct-2021	5	Java Server Pages (JSP), Active Server Pages (ASP).

SEMESTER – II

Subject Code 20CS2T4		<u>Title:</u> Operating systems
Month	Unit No.	Topic to be covered
July-2021	1	Features of MS-Word – MS-Word Window
		Components
Aug - 2021	2	Features of PowerPoint – Creating a Blank
		Presentation - Creating a Presentation using a
		Template
Sep -2021	3	Creating a new worksheet, Selecting cells, Entering
		and editing Text, Numbers.
Sep-2021	4	Creating a Simple Database and Tables, Forms: The
		Form Wizard.
Oct-2021	5	Queries and Dynasts, Creating and using select
		queries, Returning to the Query Design.

SEMESTER – II <u>Subject Code</u>: 20CS2OEL1

<u>Title:</u> DATAVISUALIZATION

Month	Unit No.	Topic to be covered
July-2021	1	Creating Visual Analytics with Tableau Desktop,
		Connecting to Your Data - How To Connect To
		Your Data.
Aug - 2021	2	Building Your First Visualization-How Me
		Works-Chart Types, Text Tables, Maps, Bar
		Chart, Line Charts.
Sep -2021	3	Creating Calculations to enhance Your Data - What
		is Aggregation, What are Calculated Values and
		Table
		Calculations.
Sep-2021	4	Using Maps to Improve Insights - Create a Standard
		Map View, Plotting Your Own Locations on a Map
Oct-2021	5	Developing an Adhoc Analysis Environment -
		Generating New Data with Forecasts, Providing Self
		Evidence
		Adhoc Analysis with Parameters, Editing Views in
		Tableau Server.

SEMESTER – IV				
Subject Code:	21MCS40	<u>1 Title:</u> MOOCS		
Month	Unit No.	Topic to be covered		
July-2021	1	Installing and Configuring MySQL		
Aug - 2021	2	Working with Functions and Arrays.		
Sep -2021	3	Working with Forms.		
Sep-2021	4	Working with Files and Directories.		
Oct-2021	5	Interacting with MySQL using PHP		

SEMESTER – IV

Subject Code	21MCS402	2 <u>Title:</u> BIG DATA AND ANALYTICS
Month	Unit No.	Topic to be covered
July-2021	1	Classification of Digital Data. Introduction to Big Data: Characteristics of data, Evolution of Big Data, Definition of big data.
Aug - 2021	2	Big data analytics
Sep -2021	3	No-SQL, Hadoop, Why Hadoop?, Why not III RDBMS?, RDBMS versus Hadoop, Hadoop Overview.
Sep-2021	4	What is Mongo DB?, Why Mongo DB?, Terms used in RDBMS and Mongo DB, Data types in Mongo DB, Mongo DB query language.
Oct-2021	5	What is Pig?, Pig on Hadoop, Pig Latin Overview, Data Types in Pig, Running Pig, Execution Modes of Pig, HDFS commands, Relational Operators.

SEMESTER – IV

Subject Code 21MCS403

<u>Title:</u> Artificial Intelligence with Machine Learning

Month	Unit No.	Topic to be covered
July-2021	1	Problem Solving Agents, Example Problems,
		Searching for Solutions, Uninformed Search
		Strategies, Informed (Heuristic) Search
		Strategies, Heuristic Functions.
Aug - 2021	2	First Order Logic: Representation Revisited, Syntax
		and Semantics of First Order
		Logic, Using First Order Logic, Knowledge
		Engineering in First Order Logic.
Sep -2021	3	Classical Planning, Knowledge Representation.
Sep-2021	4	Learning from Examples, Reinforcement Learning.
Oct-2021	5	Artificial Neural Networks, Instance Based Learning.

SEMESTER -	- IV	
Subject Code	21MCS4	04 <u>Title:</u> CLOUD COMPUTING
Month	Unit No.	Topic to be covered
July-2021	1	Era of Cloud Computing, Introducing Virtualization
Aug - 2021	2	Cloud Computing Services, Open Source Cloud Implementation and Administration.
Sep -2021	3	Application Architecture for Cloud, Cloud Programming.
Sep-2021	4	Risks, Consequences and Costs for Cloud Computing, AAA administration for clouds.
Oct-2021	5	Application Development for cloud, Mobile Cloud Computing