

# **Government College for Women(A), Guntur**

## **OUT COMES**

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**GOVERNMENT COLLEGE FOR WOMEN(A),  
GUNTUR**

**Programmes Offered**

S.No	Name of the Programme	Programme Code	Programme details		
1	B.A (H.E.P.)	101	HISTORY	ECONOMICS	POLITICS
2	B.A (H.P.FE)	106	HISTORY	POLITICS	FINANCIAL ECONOMICS
3	B.A (E.P.CE)	103	ECONOMICS	POLITICS	COMMUNICATIVE ENGLISH
4	B.A(E.P.Psy)	105	ECONOMICS	POLITICS	PSYCHOLOGY
5	B.A(H.ST.Soc)	102	HISTORY	SPECIAL TELUGU	SOCIOLOGY
6	B.A(H.SE.TTM)	104	HISTORY	SPECIAL ENGLISH	TRAVEL & TOURISM MANAGEMENT
7	B.Com(General)	201	COMMERCE	COMMERCE	COMMERCE
8	B.Com(Computer Applications)	202	COMMERCE	COMMERCE	COMPUTER APPLICATIONS
9	B.Com(BFI)	203	COMMERCE	COMMERCE	BANKING AND FINANCIAL INSURANCE
10	B.Com (Accounting Taxation)	204	COMMERCE	COMMERCE	COMMERCE
11	B.Sc(M.P.C)	301	MATHEMATICS	PHYSICS	CHEMISTRY
12	B.Sc (M.P.Cs)	302	MATHEMATICS	PHYSICS	COMPUTERS
13	B.Sc(M.E.Cs)	305	MATHEMATICS	ELECTRONICS	COMPUTERS
14	B.Sc(M.St.Cs)	303	MATHEMATICS	STATISTICS	COMPUTERS
15	B.Sc(M.Cs.Mm)	306	MATHEMATICS	COMPUTERS	MULTIMEDIA
16	B.Sc(M.Cs.Cc)	307	MATHEMATICS	COMPUTERS	CLOUD COMPUTING
17	B.Sc(B.Z.C.(TM))	401	BOTANY	ZOOLOGY	CHEMISTRY
18	B.Sc(B.Z.C.(EM))	409	BOTANY	ZOOLOGY	CHEMISTRY
19	B.Sc(B.Bt.C)	406	BOTANY	BIOTECHNOLOGY	CHEMISTRY
20	B.Sc(B.Bc.C)	404	BOTANY	BIOCHEMISTRY	CHEMISTRY
21	B.Sc(Z.Bc.C)	405	ZOOLOGY	BIOCHEMISTRY	CHEMISTRY
22	B.Sc(Bt.Bc.C)	407	BIOTECHNOLOGY	BIOCHEMISTRY	CHEMISTRY
23	B.Sc(Mb.B.C)	402	MICROBIOLOGY	BOTANY	CHEMISTRY

24	B.Sc(Mb.Z.C)	403	MICROBIOLOGY	ZOOLOGY	CHEMISTRY
25	B.Sc (Ft.Mb.Bc)	411	FOOD TECHNOLOGY	MICROBIOLOGY	BIOCHEMISTRY
26	B.Sc (Z.C.At)	410	ZOOLOGY	CHEMISTRY	AQUACULTURE TECHNOLOGY
27	B.Sc (M.P.E)	309	MATHS	PHYSICS	ELECTRONICS
28	B.Sc (Ds.St.Cs)	308	DATASCIENCE	STATISTICS	COMPUTERS
29	B.Sc (Home Science)	408	CLINICAL NUTRITION & DIETETICS		
30	B.Voc (Multimedia & Animation)	601	VOCATIONAL COURSE		
31	B.Voc (Software Development)	602	VOCATIONAL COURSE		
<b>PG Program Details</b>					
32	M.A. English	PGTL	M.A ENGLISH		
33	M.A. Economics	PGEC	M.A. ECONOMICS		
34	M.Sc Chemistry	PGCH	M.SC CHEMISTRY		
35	M.Sc Zoology	PGZO	M.SC ZOOLOGY		

**Program Outcomes**  
**Program Specific Outcomes**

# **UG Programmes**

## **BA-100: B A Programmes**

**After completing the B A Programme, the student**

### **1. 101:History-Politics-Economics**

P O s:

- Develops into a political critique
- Develops historical outlook in all aspects
- Learns to participate in economical surveys

P S O: Develops Critical Thinking and awareness about society and its transactions

### **2. 102: Sociology-Special Telugu-History**

P O s:

- Develops historical outlook in all aspects
- Understands the importance of Telugu language & about them in writing prose, poetry.
- Knows the importance of

Society P S O: Develops holistic history

### **3. 103: Economics-Politics-Communicative English**

P O s:

- Develops Functional English Language Skills
- Provides Higher Order Thinking skills
- Prepares for higher education: Extended principles of economics in day today life.

P S O: Develops professional skills to become a news reporter or a teacher or an administrator/Economist.

### **4. 104: History-Special English-Tourism and Travel Management**

P O s:

- Creates an interest and love towards English language by exposing the learner to the richness and glory of English Language
- Develops cross-disciplinary perspective of global issues
- Prepares them for various career prospects available to the students PSO:

Develops professional skills to become a journalist/writer/teacher

### **5. 105: Psychology-Economics-Political Science**

P O s:

- Understands the value of Economics
- Knows how to assess people
- Develops insights about political

conditions P S O: Develops professional skills of acounselor

### **6. 106: History-Politics-Financial Economics**

P O s:

- Develops Historical knowledge by analyzing multiple cultures
- Understands Political process and critically examines the society.
- Knows about Financial instruments and Finance markets

PSO: Develops skills to become financial advisor, administrator

### **B Com-200: B Com Programmes**

**After completing the B Com Programme, the student**

#### **1. 201: B Com(General)**

P Os:

- Understands the qualities of an Entrepreneur
- Develops the skills of an Accountant
- Knows how to be a Tax consultant

P S O: Develops skills to become an expert in Business and Consultancy Services

#### **2. 202: B Com(Computer Applications)**

P Os:

- Understands the qualities of an Entrepreneur
- Develops the skills of an Accountant
- Uses computer background for accounting purpose

P S O: Develops skills to opt Chartered Accountant, Institute of Cost and Works Management /Institute of Company Secretaries / Financial analyst.

#### **3. 203 : B.Com (Banking and Financial Services, Insurance and Exim trade)**

P Os:

- Promoting Student to become a startup member in Business community.
- Comprehend the basic structure and process of Financial Systems, Financial Structure.
- Analyze the Financial scenario and problems and formulate Financial Decision making Policies.Uses computer background for accounting purpose

P S O: Develops skills to become an expert in specific fields of Banking, and service sector.

#### **4. 204 : B.Com (Accounting & Taxation)**

P Os:

- Understands the fundamental aspects of Accounting, Business and Management.
- Apply methods appropriate for accumulation and interpreting data applicable to the discipline of Commerce
- Accounting Standards and Taxation System of the Government and SEBI, RBI guidelines.

P S O: Develops skills to become an expert in Accounts and Tally

### **BSC-300,400: B Sc Programmes**

**After completing the B Sc Programme, the student**

#### **1. 301:Mathematics-Physics-Chemistry**

P Os:

- Solves Mathematical problems
- Develops scientific outlook
- Analyzes different chemical compositions in medicines and nature

P S O: Develops skills to become a scientist or a teacher

## **2. 302:Mathematics-Physics-Computers**

P Os:

- Develops Mathematical skills
- Practices Computer Programming
- Analyzes Physical concepts

P S O: Solves mathematical and physical problems by becoming a computer programmer/teacher

## **3. 303:Mathematics-Statistics-Computers**

P Os:

- Develops Analytical and Mathematical skills
- Applies Statistics in different fields
- Practices Computer Programming

P S O: Helps to become a statistician or a computer programmer

## **4. 305:Mathematics-Electronics-Computers**

P Os:

- Develops Mathematical skills
- Practices Computer Programming
- Designs circuits for different purposes

P S O: Develops skills to become a computer programmer

## **5. 306:Mathematics-Computers-Multimedia**

P O:

- Develops Mathematical skills
- Practices Computer programming
- Practices Computer graphic designing
- Use and apply tools for image processing, video, sound and animation

P S O: Becomes a Computer Programmer or Graphic Designer

## **6. 307: Mathematics-Computers-Cloud Computing**

P Os:

- Develops Mathematical skills
- Applies Cloud computing techniques
- Practices Computer programming

P S O: Develops skills to become a data analyst

## **7. 409&401: Botany-Zoology-Chemistry (E.M & T.M)**

P Os:

- Develops Seed technology and Agro farms
- Practices Aqua culture and adapts management techniques in Dairy and Poultry farms
- Applies practical knowledge in chemical laboratories

P S O: Becomes an agricultural scientist or pharmaceutical scientist

## **8. 402: Microbiology-Botany-Chemistry**

P Os:

- Understands scientific methods.
- Develops observation and critical analysis skills
- Demonstrates practical skills in the use of tools, technologies and methods common to microbiology, Botany and chemistry.

P S O:

- Learns skills required for pharmaceutical & bio processing industries and in the field of Agriculture
- Encourages to pursue higher education in the fields of applied life sciences.
- Becomes a microbiologist

### **9. 403: Microbiology-Zoology-Chemistry**

P Os:

- Understands scientific methods which help them to develop observation and critical analysis skills
- Demonstrates practical skills in the use of tools, technologies and methods common to microbiology, Zoology and chemistry.

P S O:

- Learns skills required for pharmaceutical & bio processing industries and in the field of health care.
- Encourages to pursue higher education in the fields of applied life sciences.
- Becomes a microbiologist

### **10. 404: Botany-Biochemistry-Chemistry**

P Os:

- Develops seed technology and agro farms
- Analyses samples and carryout biochemical and molecular diagnostics.
- Evaluates chemical compositions of compounds

P S O: Becomes a chemical analyst

### **11. 405: Zoology-Biochemistry-Chemistry**

P Os:

- Develops clinical techniques in diagnostic investigations
- Analyses samples and carryout biochemical immunological and molecular diagnostics.
- Practices mechanism for chemical reactions and demonstrates them in laboratory

P S O: Becomes a Lab scientist.

### **12. 406: Botany-Biotechnology-Chemistry**

P Os:

- Understands scientific methods and develops observation and critical thinking
- Demonstrates practical skills in the use of tools, technologies and methods common to Botany-Biotechnology chemistry.
- Able to work in Plant Biotechnology and Plant breeding laboratories.

P S O: Inspires to pursue higher education in Biotechnology and interdisciplinary courses

### **13. 407: Biotechnology-Biochemistry-Chemistry**

POs:

- Understands scientific methods and develops observation and critical thinking
- Demonstrates practical skills in the use of tools, technologies and methods common to



Biochemistry –Biotechnology chemistry.

- Able to work in Molecular Diagnostics laboratories

P S O: Inspires to pursue higher education in Biotechnology and interdisciplinary courses

#### **14. 408: Home Science**

P Os:

- Analyses Child psychology
- Understands the role of dietitian in society
- Improves small scale Entrepreneurship skills

P S O: Becomes a nutritional guide and child care specialist/ entrepreneur.

#### **15. 411: Food Technology-Microbiology-Biochemistry**

P Os:

- Analyzes Food as per standards & Submits the data
- Developing a novel Food Product
- Investigate & Interprets different Lab tests
- Perform Microbial investigations

P S O: Becomes a Food Analyst / Food Safety Officer / Quality Manager / Biochemist /Microbiologist / Researcher

#### **16. 410: Zoology-Chemistry-Aquaculture Technology**

P Os:

- Understands vertebrate and invertebrate zoology, genetics, molecular and cellular biology, as well as physiological processes and anatomy, whole animals, populations, and their ecology
- Practices mechanism for chemical reactions and demonstrates them in laboratory
- Understands the basic principles of Aquaculture, Aquaculture management

P S O: Becomes a Animal breeder, wildlife educator, researcher, Fishery officer

#### **17. 309: Maths-Physics-Electronics**

P Os:

- Develops Mathematical skills
- Analyzes Physical concepts
- Designs circuits for different purposes
- Develops scientific outlook

P S O: Becomes a Mathematician, Research scientist, Electronics engineer

#### **18. 308: Data Science- Statistics-Computer Science**

P Os:

- Develops relevant programming abilities
- Demonstrates proficiency with statistical analysis of data
- Analyze very large data sets in the context of real world problems
- Develops the ability to build and assess data-based models
- Executes statistical analyses with professional statistical software

P S O: Becomes a data analyst or database developer or data scientist or analytics-enables role like a functional business analyst or a data driven manager

### **BVOC-600: B.Voc Programmes**

**After completing the B Voc Programme, the student**

#### **1. 601: Multimedia and Animation**

P Os:

- Uses and applies tools for image processing, video, sound and animation
- Practices Computer graphic designing
- Applies methodology to develop a multimedia system

P S O: Develops skills to become a Graphic Designer or a Film maker

## **2. 602: Software Development**

P Os:

- Develops complex Programs for real world needs
- Designs and analyses automated systems
- Identifying, designing, installing and testing a software system

P S O: Develops skills to become a software developer or a tester

## **PG Programs**

**After completing the PG Programme, the student**

### **1. PGCH: M. Sc. Chemistry**

P Os:

- Develops knowledge about fundamental aspects of all the elements of chemistry such as Organic, Inorganic, Physical and Quantum chemistry.
- Learns the practical skills which are useful in scientific research and industrial field.
- Demonstrates an understanding of major concepts of organic chemistry

P S O: Develops skills to become a teacher or researcher in chemistry/pharmaceutical/food products/material industries.

### **2. PGZO: M. Sc. Zoology**

P Os:

- Expands their knowledge with respect to Animal diversity and various branches of applied zoology
- Inculcates awareness and concern towards surroundings, environment and biodiversity
- Develops the practical skills involved in biological techniques and scientific investigation so as to work in related fields

P S O: Develops skills required to work in aquaculture industry, school/Intermediate/UG colleges, and Diagnostic laboratories.

### **3. PGTE: M. A. English**

P Os:

- Master various language aspects like structure, pronunciation, phonetic linguistic features of English Language.
- Understand and apply various genres of literature and their features in the appreciation of great works of literature
- Read and appreciate the greatest classics and writers of English and other world literatures
- Acquire LSRW skills and use them in their presentation of the appreciation of the literature
- Get the introductory aspects of ELT
- Get and use report writing skills

- Know the basics of research aspects

P S O: Develops professional skills to become lecturer/teacher/writer/editor/news reader and for becoming entrepreneur like event manager

#### **4. PGEC: M. A. Economics**

P Os:

- Understands core economic terms, concepts and theories
- Develops in-depth knowledge about functioning of domestic and global economics
- Improves skill to perform economic analysis for both micro and macroeconomics

P S O: Applies economic analysis to everyday problems in real life, understands current events and evaluate specific policy

# Course Outcomes

## Government College for Women(A),

### Guntur

S.No	Programme & Code	Course	Sem	Course Code	Course Name
1	BA-100	History	I	HIS1101	Ancient Indian History And Culture(From Indus Valley Civilization To 13th Century A.D)
2			II	HIS2101	Medieval Indian History And Culture (1206 A.D. to 1764 A.D.)
3			III	HIS3101	Late Medieval And Colonial History Of India
4			IV	HIS4101	Social Reform Movement And Freedom Struggle
5			V	HIS5101	Age of Rationalism and Humanism (15 <sup>th</sup> to 18 <sup>th</sup> Century)
6				HIS6101	History And Culture Of Andhra Desa (12 <sup>th</sup> to 19 <sup>th</sup> Century)
7			VI	HIS7101A	History Of Modern Europe (From 19 <sup>th</sup> Century to 1945 A.D.)
8				HIS8101A1	Cultural Tourism In Andhra Pradesh
9				HIS8101A2	Popular Movements in Andhra Desa (1848 To 1956 A.D.)-
10				HIS8102A3	Contemporary History Of Andhra Pradesh (1956-2014)
11		Economics	I	ECO1103	Micro Economics - Consumer Behavior
12			II	ECO2103	Economics, Micro Economics – Production and Price theory
13			III	ECO3103	Macro Economics, National Income, Employment and Money
14			IV	ECO4103	Macro Banking and International Trade
15			V	ECO5103	Economic Development and Indian Economy
16				ECO6103	Indian and Andhra Pradesh Economy
17			VI	ECO7103A	Agricultural Economics
18				ECO8103A1	Agribusiness Environment In Andhra Pradesh
19				ECO8103A2	Agricultural Output Marketing
20				ECO8103A3	Agricultural Input Marketing
21		Financial Economics	I	FE1105	Economic Theory
22			II	FE2105	Macro Economic Theory
23			III	FE3105	Quantitative Techniques-I

24			IV	FE4105	Quantitative Techniques-II
25			V	FE5105	Financial Institutions And Markets-I
26				FE6105	Economics Of Insurance
27			VI	FE7105A	Banking Theory and Insurance
28				FE8105A1	Central Banking
29				FE8105A2	Rural And Farm Credit
30				FE8105A3	Project Work
31		Political Science	I	POL1102	Introduction To Political Science
32			II	POL2102	Basic Organs Of The Government
33			III	POL3102	Political System
34			IV	POL4102	Indian Political Process
35			V	POL5102	Indian Political Thought
36				POL6102	Western Political Thought
37			VI	POL7102B	Principles Of Public Administration
38				POL8102 C1	International Relations
39				POL8102 C2	Indian Foreign Policy
40				POL8102 C3	Contemporary Global Issues
41		Sociology	I	SOC1109	Basic Concepts In Sociology
42			II	SOC2109	Sociology Of Indian Society
43			III	SOC3109	Selected Sociological Theories
44			IV	SOC4109	Methods Of Social Research
45			V	SOC5109	Social Demography
46				SOC6109	Rural Sociology and Development
47			VI	SOC7109A	Modern India-Issues and Social Change
48		Psychology	I	PSY1110	General Psychology-I
49			II	PSY2110	General Psychology-II
50			III	PSY3110	Social Psychology-I
51			IV	PSY4110	Social Psychology-II
52			V	PSY5110	Educational Psychology
53				PSY6110	Abnormal Psychology
54			VI	PSY7110A	Counseling Psychology
55				PSY8110A1	Abnormal Psychology-II
56				PSY8110A2	Developmental Psychology
57				PSY8110A3	Project Work
58		Communicative English	I	CE1104	Introduction To Language And Language Skills
59			II	CE2104	Communicative English

60			III	CE3104	Functional Grammar For Effective Writing And Speaking
61			IV	CE4104	Writing Skills And Strategies
62			V	CE5104	An Introduction To The History Of The English Language
63				CE6104	An Introduction To English Language Teaching
64			VI	CE7104C	English Language Teaching: Communicative Approach
65				CE8104A1	Introduction To The Genres Of English Literature
66				CE8104A2	Introduction To The Study Of English Literature
67				CE8104A3	Appreciation Of Literature - Project Work
68		Special English	I	SE1107	An Introduction To English Literature(600-1500)
69			II	SE2107	An Introduction To Elizabethan and Jacobean Literatures
70			III	SE3107	An Introduction To English Literature -III
71			IV	SE4107	An Introduction To English Literature -IV
72			V	SE5107	An Outline Of 20th Century Literature
73				SE6107	Glimpses Of World Literature
74			VI	SE7107C	Major Genres of English Literature
75				SE8107A1	American Literature-I
76				SE8107A1	American Literature-II
77				SE8107A3	Project Work
78		Special Telugu	I	ST1106	PrachinaKavithvamu, Natakamu
79			II	ST2106	PraachinaKavithvamu, AadhunikaKavithvamu
80			III	ST3106	Telugu Sahitya Charitra
81			IV	ST4106	Dakshinaandhra Yugam, Aadhunika Kavithvam
82			V	ST5106	Telugu Bhasha Charitra
83				ST6106	Bala Vyakaranam, Alankaralu, Chandassu
84			VI	ST7106A	Introduction to Bala Vyakaranam, Alankaralu, Chandassu
85				ST8106A1	Journalism
86				ST8106A2	Aadhunika Telugu Bhashaa Nirmanam
87				ST8106A3	Telugu Anuvadam
88		Tourism and Travel Management	I	TTM1108	Tourism Principles And Practices
89			II	TTM2108	Tourism Resources Of Andhra Pradesh
90			III	TTM3108	Tourism Policy Planning And Development

91			IV	TTM4108	Travel Management
92			V	TTM5108	Tourism Management
93				TTM6108	Accommodation Management-I
94			VI	TTM7108	Tourism Marketing
95				TTM8108A1	Accommodation Management-II
96				TTM8108A2	Eco Tourism And Sustainable Development
97				TTM8108A3	Package Tours
98	B.Com-200	Commerce	I	BOM1201	Business Organization And Management (Gen, CA, FB,A&T)
99				FA1217	Fundamentals Of Accounting (Gen, FB, CA and A&T)
100				BEN1203	Business Environment(Gen, A&T)
101			II	BE2201	Business Economics
102				BEN2203	Business Environment-II
103				FA2202	Financial Accounting-II
104			III	CA3201	Corporate Accounting
105				BS3202	Business Statistics
106				BAN3203	Basic Banking Theory And Practice
107			IV	BL4201	Business Law
108				ASO4202	Accounting For Service Organization
109				IT4205	Income Tax
110			V	BL5201	Business Law
111				CMA5202	Cost And Management Accounting
112				AUD5203	Auditing
113				CA5204	Corporate Accounting
114				ACA5205	Advanced Corporate Accounting
115				MA5206	Management Accounting
116			VI	BL5201	Business Law
117				CMA5202	Cost And Management Accounting
118				AUD5203	Auditing
119				CA5204	Corporate Accounting
120				ACA5205	Advanced Corporate Accounting
121				MA5206	Management Accounting
122				CB5212	Central Banking
123				RFC5213	Rural Form Credit
124				PW5502	Project Work
125		Banking and Financial Services, Insurance and Exim trade	I	CAR1212	Computer Fundamentals & Data Analytics
126			II	BAN2203	Banking Theory And Practice
127				CAR2204	Tally
128			VI	PBI5209	Practice of Banking, Insurance and Exim trade



129				PFS5210	Procedure of Financial Services
130				PW5502	Project Work
131		Computer Applications	I	CAR1212	Information Technology
132			II	FA2213	Financial Accounting
133				EC&W2214	E-Commerce & Web Designing
134			III	CAR3207	OAT
135			IV	CAR4207	E-Commerce-1
136			V	CAR5207	Multimedia With Photoshop
137				CAR5207E1	E-Commerce -2
138			VI	CAR6207	HTML And Dream Weaver
139				CAR6207E1	Flash
140				CAR5209	Programming in C
141				CAR5210	Database Management System
142				CAR5211	Web Technology
143		Accounting and Taxation	II	BE2010	Business Communication
144	Languages	Telugu	I	TEL1002	Old Poetry, Modern Poetry And Story
145			II	TEL2002	Telugu
146			III	TEL3002	PracheenaKavithvamu, Natakamu
147		English	I	ENG1001	General English-I
148			II	ENG2001	English
149			III	ENG3001	General English-II
150		Hindi	I	HIN1004	Non Detailed Grammar, Translation & Letter Writing
151			II	HIN2004	Hindi
152			III	HIN3004	History Of Hindi Literature, Kavyadeep, General Essay
153		Urdu	I	URD1005	Urdu-1
154			II	URD2005	Urdu-2
155			III	URD3005	Urdu-3
156		Sanskrit	I	SAN1003	Prose, Poetry And Grammar-1
157			II	SAN2003	Prose, Poetry And Grammar-II
158			III	SAN3003	Drama, Upanishad, Prose, Alankaras, History Of Sanskrit Literature And Grammar
159	BSC-300,400	Botany	I	BOT1306	Fundamentals Of Microbes And Non - Vascular Plants
160			II	BOT2306	Vascular Plants and PhytoGeograpy
161			III	BOT3306	Plant Taxonomy And Embryology
162			IV	BOT4306	Plant Physiology And Metabolism
163			V	BOT5306	Cell Biology, Genetics and Plant Breeding
164				BOT6306	Plant Ecology and PhotoGeography
165			VI	BOT7306C	Plant tissue culture & Biotechnological

					applications
166				BOT8306A1	Plant Diversity And Human Welfare
167				BOT8306A2	Ethnobotany And Medicinal Botany
168				BOT8306A3	Pharmacognosy And Phyto Chemistry
169		Computer Science	I	CS1304	Problem Solving in C
170			II	CS2304	Data Structures Using C
171			III	CS3304	Programming In Java
172			IV	CS4304	Data Structures Using JAVA
173			V	CS5304	Database Management System
174				CS6304	Software Engineering
175			VI	CS7304A	Operating Systems
176				CS7304B	Computer Networks
177				CS8304C1	Php Mysql&Wordpress
178				CS8304C2	Advanced Web Technologies (Java Script Jquery/Ajax/Json/Angular Js)
179				CS8304C3	Project Work
180		Multimedia	I	MUL 1314	Graphic Designing
181			II	MUL 2314	Web Designing Basics
182			III	MUL 3314	Introduction to AV and 2D Animation
183			IV	MUL 4314	Introduction to 3D Animation
184			V	MUL 5314	Character Animation
185				MUL 6314	Facial Animation and Blend Shapes
186			IV	MUL 7314	Advanced 3D Animation
187				MUL8314A1	Multi Media Cluster-I
188				MUL8314A2	Multi Media Cluster-II
189				MUL8314A3	3D Animation
190		Cloud Computing	I	CC1317	Basics and Services Of Cloud Computing
191			II	CC2317	SaaS, PaaS, IaaS In Cloud Computing
192			III	CC3317	Sales force – PaaS : Developing Applications on Cloud through GUI
193			IV	CC4317	Programming Basics through Salesforce.com APEX & Visual force
194			V	CC5317	Advanced JavaScript :jQuery, JSON with Visual force
195				CC6317	Business Intelligence
196			IV	CC7317A	Sales force marketing & sales
197				CC8317A1	Soap Integration
198				CC8317A2	Rest Integration
199				CC8317A3	Project Work
200		Data Science	I	DS1320	Introduction to Data Science and R Programming
201			II	DS2320	Data Mining Concepts and Techniques

202		Mathematics	I	MAT1301	Differential Equations
203			II	MAT2301	Three-Dimensional Geometry
204			III	MAT3301	Group Theory
205			IV	MAT4301	Real Analysis
206			V	MAT5301	Rings Theory & Vector Calculus
207				MAT6301	Numerical Analysis
208			VI	MAT7301C	Linear Algebra
209				MAT8301A1	Integral Transforms
210				MAT8301A2	Advanced Numerical Analysis
211				MAT8301A3	Project Work
212		Statistics	I	STAT1305	Descriptive Statistics
213			II	STAT2305	Probability Theory and Distributions
214			III	STAT3305	Theory Of Estimation
215			IV	STAT4305	Testing Of Hypothesis
216			V	STAT5305	Sampling Techniques And Design of Experiments
217				STAT6305	Quality And Reliability
218			VI	STAT7305A	Applied Statistics
219				STA8305A1	Optimization Techniques
220				STA8305A2	Operations Research
221				STA8305A3	Project Work
222		Physics	I	PHY1302	Mechanics, Waves & Oscillations
223			II	PHY2302	Wave Optics
224			III	PHY3302	Thermodynamics
225			IV	PHY4302	Optics
226			V	PHY5302	Electricity, Magnetism And Electronics
227				PHY6302	Elements Of Modern Physics
228			VI	PHY7302A	Analog And Digital Electronics
229				PHY8302A1	Fiber Optic Communication
230				PHY8302A2	Electronic Instrumentation
231				PHY8302A3	Power Electronics
232		Electronics	I	ELE1315	Basic Circuit Theory
233			II	ELE2315	Digital Electronics-I
234			III	ELE3315	Digital Electronics-II
235			IV	ELE4315	Analog And Digital Applications
236			V	ELE5315	Analog and Digital Communications Code
237				ELE6315	Microprocessor Systems
238			VI	ELE7315A	Microcontrollers and Interfacing
239				ELE8315A1	Embedded System Design
240				ELE8315A2	Electronic Instrumentation
241				ELE8315A3	Power Electronics
242		Chemistry	I	CHE1303	Inorganic And Physical Chemistry
243			II	CHE2303	Organic And General Chemistry

244			III	CHE3303	Inorganics And Organic Chemistry
245			IV	CHE4303	Spectroscopy and Physical Chemistry
246			V	CHE5303	Inorganics, Physics And Organic Chemistry
247				CHE6303	Inorganic, Organic and Physical Chemistry
248			VI	CHE7303B	Environmental Chemistry
249				CHE8303B1	Fuel Chemistry And Batteries
250				CHE8303B2	Inorganic Materials Of Industrial Importance
251				CHE8303B3	Analysis Of Applied Industrial Products
252		Zoology	I	ZO01307	Animal Diversity - Non Chordates
253			II	ZO02307	Animal Diversity - Chordates
254			III	ZO03307	Cell Biology , Genetics And Evolution
255			IV	ZO04307	Embryology, Physiology And Ecology
256			V	ZO05307	Animal Biotechnology
257				ZO06307	Animal Husbandry
258			VI	ZO07307A	Immunology
259				ZO07307B	Cellular Metabolism and Molecular Biology
260				ZO08307A1	Principles Of Aquaculture
261				ZO08307B2	Aquaculture Management
262				ZO08307A3	Post Harvest Technology
263		Biochemistry	I	BC1309	Biomolecules
264			II	BC2309	Bioenergetics and Bioanalytical Techniques
265			III	BC3309	Bioenergetics And Biochemical Techniques
266			IV	BC4309	Intermediary Metabolism
267			V	BC5309	Molecular Biology
268				BC6309	Endocrinology And Clinical Biochemistry
269			VI	BC7309	Immunology
270				BC8309A1	Clinical Biochemistry & Microbiology
271				BC8309A2	Protein Purification and Separation
272				BC8309A3	Fundamental Of Bioinformatics And Protein Modeling
273		Biotechnology	I	BT1310	Bio-Molecules & Analytical Techniques
274			II	BT2310	Microbiology, Cell and Molecular Biology
275			III	BT3310	Bioanalytical Techniques
276			IV	BT4310	Immunology
277			V	BT5310	Molecular Biology
278				BT6310	Genetic Engineering
279			VI	BT7310	Industrial And

					EnvironmentalBiotechnology
280				BT8310B1	Basics Of Fermentation
281				BT8310B2	Fermenter Design And Down-Stream Processing
282				BT8310B3	Bioprocess Technology
283		Microbiology	I	MB1308	Introduction To Microbiology And Microbial Diversity
284			II	MB2308	Microbiology
285			III	MB3308	Microbial Genetics And Molecular Biology
286			IV	MB4308	Microbial Immunology and Medical Microbiology
287			V	MB5308	Environmental And Agricultural Microbiology
288				MB6308	Food And Industrial Microbiology
289			VI	MB7308A	Microbial Biotechnology
290				MB8308A1	Diagnostic Microbiology
291				MB8308A2	Microbial Quality Control In Food And Pharmaceutical Industries
292				MB8308A3	Bioinformatics
293		Home science	I	HS1311	Basic Nutrition
294				HS1312	Human Physiology
295				HS1313	Food Microbiology
296			II	HS2311	Food Science
297				HS2312	Fundamentals Of Family Nutrition
298				HS2313	Growth And Development During Life Span
299			III	HS3311	Nutritional Biochemistry
300				HS3312	Housing and Interior Decoration
301				HS3313	Extension Education for Rural Development
302			IV	HS4311	Food Preservation
303				HS4312	Community Nutrition
304				HS4313	Diet Therapy
305			V	HS5311	Diet Counseling Theory
306				HS5312	Diffusion And Adoption
307				HS5313	Textiles
308				HS5314	Bakery And Confectionery
309				HS5315	Early Childhood Care And Education
310				HS5316	Entrepreneurship Development
311			VI	HS6311A	General Psychology and Counseling
312				HS6312A	Training And Human Resources Development
313				HS6313A	Tye And Dye
314				HS6314C1	Retail Marketing And Merchandising
315				HS6315C1	Resource Management
316				HS8316C1	Project Work

317		Aquaculture Technology	I	AT1918	Basic Principles of Aquaculture-I
318			II	AT2318	Basic Principles of Aquaculture-II
319		Food Technology	I	FT1319	Fundamentals of Food Technology
320			II	FT2319	Food Technology
321	BVOC-600	Multimedia and Animation	I	CSS1008	Communication Soft skills-I (MA and SD)
322				FOC1401	Fundamentals of Computers-I (MA and SD)
323				CK1403	Color Key Artist
324				PST1503	Problem Solving Techniques (MA and SD)
325				GD1502	Graphic Designing (MA and SD)
326				SOS1501	Science of Sound
327			II	FOC1401	Fundamentals of Computers-II (MA and SD)
328				T2405	Tally
329				WD2505	Web Designing
330				N2506	Nuendo
331				BOA2507	Basics of Animation
332		Software Development	I	FA1402	Financial Accounting
333				PC1504	Programming in C
334			II	OS2508	Operating Systems
335				DSU2509	Data Structures using C
336	Extra Courses	Life Skill Courses	I	HV1007	Human Values And Professional Ethics(LSC)
337				CA1006	Basic Computer Applications(LSC)
338				TG1009	Tourism Guidance(SDC)
339				PR1010	Public Relations(SDC)
340				ENT1008	Entrepreneurship(LSC)
341				IP1010	Insurance Promotion(SDC)
342				EA1009	Electrical Appliances(SDC)
343				PN1010	Plant Nursery(SDC)
344			II	ICT2006	Information & Communication Technology(LSC)
345				JRW2009	Journalistic Reporting(SDC)
346				ES2008	Elementary Statistics(LSC)
347				AD2011	Advertising(SDC)
348				ICS2007	Indian Culture And Science(LSC)
349				FA2010	Food And Adulteration(SDC)
350				SE2013	Solar Energy(SDC)
351				DT2009	Dairy Techniques Basic Principles of Aquaculture (SDC)
352				FVP2011	Fruit and Vegetable Preservation(SDC)
353				CSS2008	Communication Soft Skills(SDC)
354			III	CSS3008	Communication Skills And Soft Skills - II
355				ICT3006	Information and Communication

					Technology
356			IV	LSE4009	Leadership Education
357				ENT4011	Entrepreneurship
358				AS4010	Analytical Skills
359		Certificate Courses		CC417OWC	Organic Waste Composting (Zoology)
360				CC4110F	Ornamental Fishes (Zoology)
361				CC409MC	Mushrooms Cultivation (Microbiology)
362				CC120WA	Water Analysis (Chemistry)
363				CC108AFM	Computational Biology (Biotechnology)
364				CC	Website Design with advanced Technologies
365	M.Sc.	Zoology	I	Z101	Structure And Function Of Invertebrates And Vertebrates
366				Z102	Biodiversity And Systematics
367				Z103	Developmental Biology
368				Z104	Molecular Cell Biology
369			II	Z201	Genetics And Evolution
370				Z202	Comparative Animal Physiology
371				Z203	Principles Of Ecology
372				Z204	Tools And Techniques In Biology
373				NCZ 205	Concepts Of Animal Science
374			III	Z301	Animal Biotechnology
375				Z302	Ichthyology
376				Z303	Limnology
377				Z304	Aquatic Toxicology
378				NCZ 305	Applied Zoology
379			IV	Z401	Fish Pathology
380				Z402	Immunology
381				Z403	Aquaculture
382				Z404	Aquacultural Management
383	M.A.	Economics	I	EC1.1	Micro Economic Theory-1
384				EC1.2	Microeconomics
385				EC1.3	Public Finance
386				EC1.4	Evaluation Of Economics Doctrines
387				NCEC1.5	Mathematical Methods
388			II	EC2.1	Micro Economic Theory-II
389				EC2.2	Monetary Economics
390				EC2.3	International Economics
391				EC2.4	Public Finance Administration
392				EC2.5	Statistical Methods
393				NCEC2.6	Indian Constitution And Welfare Administration
394			III	EC3.1	Economic Growth And Development
395				EC3.2	Indian Economy
396				EC3.3	Environmental Economics

397				EC3.4	Computer Applications In Economics
398				EC3.5	Labor Economics
399				EC3.6	Indian Government And Politics
400			IV	EC4.1	Indian Foreign Trade
401				EC4.2	Industrial Economics
402				EC4.3	Agricultural Economics
403				EC4.4	Economics Of Infrastructure
404				EC4.5	Financial Markets And Analysis
405	M.Sc.	Chemistry	I	CH101	General Chemistry
406				CH102	Inorganic Chemistry
407				CH103	Organic Chemistry
408				CH104	Physical Chemistry
409			II	CH201	General Chemistry
410				CH202	Inorganic Chemistry
411				CH203	Organic Chemistry
412				CH204	Physical Chemistry
413			III	CH301	Organic Spectroscopy-1
414				CH302	Organic Synthesis, Mechanism And Nano Chemistry
415				CH303	Alkaloids And Phenothiazines
416				CH304	Chemistry And Natural Products
417			IV	CH401	Organic Spectroscopy-2
418				CH402	Organic Synthesis, Mechanism And Green Chemistry
419				CH403	Antibiotics And Drugs
420				CH404	Techniques For Modern Industrial Applications
421	M.A.	English	I	EG1.1(17)	Structure Of Modern English – I
422				EG1.2(17)	Poetry-I
423				EG1.3(14)	Drama-I
424				EG1.4(14)	Prose & Fiction-I
425				EG1.5 B(14)	Twentieth Century Literature – I
426			II	EG2.1(19)	Structure Of Modern English – II
427				EG2.2(17)	Poetry-II
428				EG2.3(17)	Drama-II
429				EG2.4(17)	Prose & Fiction – II
430				EG2.5 b(17)	Twentieth Century Literature II
431			III	EG3.1	Literary Criticism-I



432				EG3.2	Communicative English-I
433				EG3.3	Indian writing in English
434				EG3.4	American Literature-I
435				EG3.5	English Language Teaching-I
436			IV	EG4.1	Literary Criticism-II
437				EG4.2	Communicative English-II
438				EG4.3	Indian Literature in Translation
439				EG4.4	American Literature-II
440				EG4.5	Colonial/Post Colonial Literature-II

**UG COURSE OUTCOMES**  
***DEPARTMENT OF ENGLISH***

**GENERAL ENGLISH**

**ENG1001: General English**

A student who studies this course

- Understand the need for developing LSRW skills
- Use the tools of communication effectively
- Acquire ability to use Soft Skills in professional and daily life

**ENG2001: General English**

A student who studies this course

- Use reading skills effectively
- Comprehend different texts
- Interpret different types of texts
- Build up a repository of active vocabulary
- Use good writing strategies.

**ENG3001: General English**

A student who studies this course

- Speak fluently and accurately in English
- Participate confidently in any social interaction
- Enhance conversational skills by observing the professional audio podcasts

**COMMUNICATIVE ENGLISH**

**CE1104: An Introduction to Language and Language Skills-I**

A student who studies this course

- Know and understand the origins of language and Linguistic theories
- Apply the mechanics of speaking with focus on phonetic theory
- Understand traits of listening, know barriers to listening
- Know good reading habits, acquire reading strategies and know types of questions
- Know good reading habits, acquire reading strategies and know types of questions
- Know different language functions for speaking, know and use formal and informal conversations and acquire bottom up speaking skills

**CE2104: An Introduction to Language and Language Skills-II**

A student who studies this course

- Know the basics of linguistic terminology
- Know and use the supra segmental features that influence pronunciation
- Know and employ spelling rules; employ idiomatic expressions
- Know and use vocabulary for every day conversations and workplace

- Use basic grammar components to frame meaningful sentences

### **CE3104: Functional Grammar for Effective Writing and Speaking**

A student who studies this course

- Know and use grammar in framing sentences for speaking and writing
- Develop speaking skills for different purposes in real life situations.
- Enhance speaking skills needed in professional environment,
- Acquire and use note making, summarizing and paraphrasing strategies
- Acquire writing skills and strategies needed for various social and professional contexts

### **CE4104: Writing Skills and Strategies**

A student who studies this course

- Know and use five steps (pre writing, drafting, editing, revision, final draft) of writing process
- Acquire and use writing skills for workplace
- Acquire writing for specific purposes of developing an idea and report writing
- Know and use the language needed for writing reviews and write different types of reviews
- Know the strategies for descriptive and narrative essays and write these two types of essays

### **CE5104: An Introduction to the History of the English Language**

A student who studies this course

- know the origin of language and the emergence of language families
- Know and analyze different influences on English Language
- understand and observe language varieties
- understand the features of Modern English
- Assess the influence of the literary writers on English Language

### **CE5104E1: An Introduction to English Language Teaching**

A student who studies this course

- Know and apply the implications of theories on second language Teaching
- analyze and evaluate the benefits of different methods of Teaching Language
- apply different learning styles and intelligences for self learning and classroom teaching
- know and use various features of lesson plan
- understand and differentiate testing and evaluation

### **CE6104: English Language Teaching: Communicative Approach**

A student who studies this course

- know and apply the theories on English language Teaching
- analyze and evaluate the benefits of Communicative Language Teaching
- know and apply classroom management strategies for teaching
- know and use various features of lesson plan
- analyze the importance of fluency, motivation and feedback in language teaching

### **CE6104E1: An Introduction to the Genres of English Literature**

A student who studies this course

- Know and understand the concept of literature and different historical periods in English literature, the basic genres of literature, the origin and development of English poetry.
- Evaluate the growth of drama from the religious plays to modern drama
- Understand and trace the origin and growth of the prose form
- Understand and trace the origin and growth of Fiction in English
- Know and trace different concepts of literary criticism and its history

### **SPECIAL ENGLISH**

#### **SE1107: An Introduction to English Literature -I**

A student who studies this course

- Identify the characteristics in Poetry, Drama and Literary Criticism
- Interpret literature of these periods critically

#### **SE2107: An Introduction to English Literature -II**

A student who studies this course

- Identify the features of Elizabethan and Jacobean periods
- Review the aspects of romantic comedy, and the evolution of prose as a genre
- Distinguish the characteristics that evolved in Poetry, Drama, Prose and Literary Criticism
- Assess literature of these periods critically

#### **SE3107: An Introduction to English Literature -III**

A student who studies this course

- Know about the features of Elizabethan and Jacobean periods
- Recognise the aspects of different literary genres, forms and terms
- Identify the characteristics in literature that reflected the changing trends in society
- Interpret literature of these periods critically

#### **SE4107: An Introduction to English Literature -IV A**

student who studies this course

- Understand the characteristic features of different ages
- Analyse how language changes
- Interpret the ways that led to the formation of Standard English

#### **SE5107: An Outline of 20th century Literature**

A student who studies this course

- Understand the aspects of literature belonging to 20th century
- Analyse the nature of various literary forms
- Interpret the works of representative writers of the age

#### **SE5107E1: Glimpses of World Literature**

A student who studies this course

- Understand the aspects of literature belonging to the World Literature
- Analyse the nature of various literary forms
- Interpret the works of representative writers of the age

### **SE6107: An Introduction to the Genres of English Literature**

A student who studies this course

- Understand the aspects of different genres of literature
- Analyse the nature of various genres and their development through examples
- Interpret the works of representative writers of the age in the light of the genres

### **SE6107E1: American Literature-I**

A student who studies this course

- Understand the aspects of American literature
- analyse the nature of various literary forms and their development in America
- interpret the works of representative writers of the age

### **Foundation Courses / Value Added Courses:**

#### **CSS2008: Communication and Soft skills-I**

A student who studies this course

- Improves in grammar and vocabulary
- Knows about Listening and Reading as Language Skills

#### **CSS3008: Communication and Soft skills-II**

A student who studies this course

- Demonstrates good speaking skills with correct pronunciation, stress and intonation
- Knows about and participates in Group Discussion, Role-play using target language
- Performs better in Public Speaking

#### **CSS4008: Communication and Soft skills-**

III A student who studies this course

- Internalizes soft skills such as Positive Thinking, Emotional Intelligence, and aspects of Body Language
- Practises writing skills such as Paragraph writing, Paraphrasing, Summarizing and Report Writing

## ***DEPARTMENT OF TELUGU***

### **GENERAL TELUGU**

#### **TEL1002: Old poetry, Modern Poetry and Story**

A student who studies this course

- Enjoys the classic “Mahabharatham”, observes the values hidden in the stories and also in the language aspect that vary by the ages/poets/writers
- Learns about genres of time reflecting different issues of the society
- Becomes familiarised to different styles of writers and different dialects of the language

#### **TEL2002: Old poetry, Modern Poetry and Story, Navala**

A student who studies this course

- Understands qualities of prabandhayugam and effect of the luxurious living of 16<sup>th</sup> century/Sri Krishnadevarayayugam
- Appreciates Telugu literature and understands the reflection of social issues in writings of modern poetry and shortstories

#### **TEL3002: PracheenaKavithvamu, Natakamu**

A student who studies thiscourse

- Familiarizes to poets like pothanaand koraviGoparajuand analyses the uniqueness of their poetry
- Understands all the aspects of our mother tongue and its importance for ourexistence

#### **SPECIAL TELUGU**

##### **ST1106: Classical poetry and Drama**

A student who studies this course

- Builds personality through study of old/classicalpoetry
- Develops social awareness through studyof plays
- Appreciates sweetness of poetic form of literature

##### **ST2106: Modern poetry and Satakas**

A student who studies this course

- Appreciates sweetness of poetic form ofliterature
- Promotes awareness of moral values through study of

##### **SatakasST3106: History of Telugu literature (Pragnannaya to**

**Prabandhayuga)** A student who studies thiscourse

- Analyses the changes in literature with changingtime
- Familiarizes with the writings of various writers andpoets
- Understands the social milieu of the relevant times and influences of writer's creation on the socialenvironment

##### **ST4106: History of Telugu literature (Dakshinandhra yuga and modern literature)**

A student who studies this course

- Improves the thinking towards reformations in the society, social changes, humanism and equality
- Promotes social alertness by the demonstrating various progressive and revolutionary literary work of variouswriters
- Understands the emergence of new aspects through the developmentand evolution of various forms like novels, short stories andplays

##### **ST5106: Balavyakaranam and Alankaras**

A student who studies this course

- Learns the basic concepts ofgrammar
- Knows about

##### **AlankarasST5106E1: Literary**

**criticism**A student who studies

thiscourse

- Knows definitions of kaavya given by Indian and westernCritics
- Learns about Rasa swarupamand Rasanishta

### **ST5106E2: Principles of literary Criticism, Modern literary forms and Alankaras**

A student who studies this course

- Improves knowledge among the students about criticism theories
- Learns about modern literary forms
- Familiarizes with Alankaras

### **ST6106: Linguistics and Prosody**

A student who studies this course

- Understands the evolution of Telugu language
- Insights into Dravidian languages
- Develops awareness about Prosody

### **ST6106E1: Literary criticism**

A student who studies this course

- Acquires knowledge about fine arts and modern literary forms
- Develops awareness about Dasavidharoopakalu
- Understands the genesis of Kavya and its benefits

### **ST6106E2: Art of translation/Practical translation**

A student who studies this course

- Practices translations with naturalness, accuracy and clarity
- Imparts practical training in translation

## ***DEPARTMENT OF SANSKRIT***

### **SAN1003: Prose, Poetry and Grammar-I**

A student who studies this course

- Should be able to understand Sanskrit Grammar

### **SAN2003: Prose, Poetry and Grammar-I**

A student who studies this course

- Should be able to understand and reproduce main results and proof of these courses

### **SAN3003: Drama, Upanishad, prose, Alankaras, History of Sanskrit Literature and Grammar**

A student who studies this course

- Should be able to know the meaning of new words
- Should be able to apply the concepts they learned
- LSRW skills should be improved

## ***DEPARTMENT OF URDU***

### **URD1005: Urdu-1**

A student who studies this course

- Develops Listening, Speaking, Reading and Writing skills in Urdu
- Appreciates Urdu literature and recites them
- Gets introduced to Navya Shivala and Faiz Ahmad Faiz poetry

- Knows about religious equality in society

### **URD2005: Urdu-2**

A student who studies this course

- Develops fluency in writing and speaking
- Practices accuracy in prose by analyzing BehesvoJakra



### **URD3005: Urdu-3**

A student who studies this course

- Gets introduced to *Dasthaan* by Shuru Khissa
- Develops positive attitude and habituate to maintain positivity in every suitable situation
- Appreciates Urdu literature and recites them

### ***DEPARTMENT OF HINDI***

#### **HIN1004: Non Detailed Grammar, Translation & Letter writing**

A student who studies this course

- Develops the skills of Hindi language
- Expands the knowledge of vocabulary
- Practices drafting personal letters

#### **HIN2004: Non Detailed Grammar, Translation & Letter writing**

A student who studies this course

- providing
- quality education
- able to become good officers , Research scholars, teachers, and artists.
- As the prescribed syllabus is Skill based students get proficiency in all skills like speaking, writing, understanding, and expressing.

#### **HIN3004: History of Hindi literature, Kavya-Deep, General Essay**

A student who studies this course

- Acquires the knowledge of Hindi Literature, Poets and Poetry
- Develops the knowledge of history of Hindi literature
- Inculcates the habit of thinking on general issues through essays
- Translates Hindi to English and vice-versa
- Practices drafting of official letters

### ***DEPARTMENT OF PSYCHOLOGY***

#### **PSY1110: General Psychology-I**

A student who studies this course

- Acquires knowledge about historical context of psychological study
- Provide a survey of the fields of psychology and apply psychological methods whenever necessary
- Understands the basic concepts of attention, perception, learning and personality

#### **PSY2110: General Psychology-II**

A student who studies this course

- Understands the scientific reasoning and problem solving skills
- Demonstrates fundamental knowledge and comprehension of the major concepts, theoretical perspectives, historical trends, and empirical findings to discuss how psychological principles apply to behavioral problems
- Gets aware of various concepts like Intelligence, Aptitudes, learning theories and Memory

#### **PSY3110: Social Psychology –I**

A student who studies this course

- Acquisition of knowledge that goes beyond mere memorization of facts and moves to an understanding human behavior
- An awareness of major problems and issues in the society and the capacity to Understand the forces that create group differences

### **PSY4110: Social Psychology-II**

A student who studies this course

- Develops competency in writing and in oral and maintain good interpersonal communication skills
- Understands the dynamics of intergroup relationships, conflict, and cooperation
- Apprehends to various leadership styles, Formation of groups and how the rumors spread

### **PSY5110: Educational Psychology**

A student who studies this course

- To help the student of education and the teacher in understanding human nature so that he may be able to motivate and direct the learning and growth and conduct.
- Gives knowledge in providing a better background for understanding the teaching in all its intricacies and a sympathetic attitude towards children
- Students aware of decision-making skills, problem solving skills

### **PSY5110E1: Abnormal Psychology**

A student who studies this course

- Students get knowledge and awareness about the mind's subconscious, the mind's consciousness and the reasons for human behavior.
- Abnormal Psychology is essential to study some kinds of mental disorders and for identifying and treating mental disorders, other biological diseases.

### **PSY6110: Educational Psychology**

A student who studies this course

- To help the student of education and the teacher in understanding human nature so that he may be able to motivate and direct the learning and growth and conduct.
- Gives knowledge in providing a better background for understanding the teaching in all its intricacies and a sympathetic attitude towards children
- Students aware of decision-making skills, problem solving skills

### **PSY6110E1: Abnormal Psychology**

A student who studies this course

- Assists psychologists in some kinds of therapeutic role, clinical practicing, counseling, or school settings
- Practices various therapeutic measures and implement in the society where ever necessary

## **DEPARTMENT OF SOCIOLOGY**

### **SOC1109: Basic Concepts of Sociology**

A student who studies this course

- Gains the basic knowledge on concepts in sociology that helps them analyse different sociological problems and resolve them
- Helps in decision making

### **SOC2109: Sociology of Indian Society**

A student who studies this course

- Student will be able to identify social issues and challenges like caste system, gender equality, child labour, illiteracy and religious conflicts etc. from social and economic aspect

### **SOC3109: Selected Sociological Theories**

A student who studies this course

- Student learns:
  1. Gains knowledge of different social theories
  2. Learns the concept like division of labour, suicides, bureaucracy and authority

### **SOC4109: Methods of Social Research**

A student who studies this course

- Student will be able to
  1. Analyse the gaps in social research and find problems existing in the society and give possible solutions.

### **SOC5109: Modern India: Social Changes and Development, Issues**

A student who studies this course

- Knows the impact of British Rule on Social Change
- Expertises at the trends of Social Change in Modern India

### **SOC5109E1: Applications of Sociology**

A student who studies this course

- Applies the participatory techniques and Counseling skills

### **SOC6109: Social Change – Legislations in Modern India**

A student who studies this course

- Understands the Legislations in Modern India leading to Social Change
- Evaluates the Intervention Programmes and Social Issues

### **SOC6109E1: Advanced Applications of Sociology**

A student who studies this course

- Knows the social research, Methods of Data Collection and Report Analysis

## ***DEPARTMENT OF POLITICAL SCIENCE***

### **POL1102: Basic Concepts of Political Science**

A student who studies this course

- Recalls the basic concepts of Political Science
- Explains the theories of the origin of the state, Sovereignty, Law, Liberty and Equality, Rights and Duties etc.

### **POL2102: Concepts Theories and Institutions**

A student who studies this course

- Summarizes concepts, theories and institutions deals with democracy, ideology

- Classifies the organs of Government

### **POL3102: Indian Political System**

A student who studies this course

- Knows the Indian political system and salient features of Indian Constitution, Federal Government
- Analyses Centre-State relations, fundamental Rights and Duties, Parliament.

### **POL4102: Dynamics of Indian Government**

A student who studies this course

- Identifies the Socio-economic factors in Indian Politics
- Explains the functions of Election Commission, National and Regional Political parties
- Identifies the factors of National Integration, Communalism and Terrorism etc.

### **POL5102: Political Thought**

A student who studies this course

- Explains the features of Ancient Indian Political Thought, Manu-Varna System etc.
- Knows Kautilya's Kingship, Mandala Theory, Buddha Dharma, Sangha
- Analyses Gandhi - Non violence, Nehru's foreign policy and Dr Ambedkar - champion of weaker Sections etc.

### **POL5102E1: Introduction and Approaches of Public Administration**

A student who studies this course

- Analyses the approaches of Public Administration deals with in nature, e-Governance approaches and Globalization, privatization and Liberalization etc.

### **POL6102: Western Political Thought**

A student who studies this course

- Studies different Western political thoughts like Greek political thought, Social Contract Theories and Karl Marx Theory of Scientific Socialism etc.

### **POL6102E2: Principles of Public Administration**

A student who studies this course

- Learns the principles of public administration, principles of organization
- Becomes skilled at Financial Administration, Public Relation and Administrative Accountability

## ***DEPARTMENT OF ECONOMICS***

### **ECONOMICS**

#### **ECO1103: Micro Economics-I**

A student who studies this course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

- Remembers and states in a systematic way (Knowledge)
  - a. the differences between microeconomic analysis and macroeconomic analysis
  - b. various laws and principles of microeconomic theory under consumption
- Explains (understanding)
  - a. various terms and concepts relating to microeconomic analysis with the help of examples of real life
  - b. consumer's equilibrium and consumer's surplus using indifference curve analysis.
  - c. various laws and principles of consumption, production, and income distribution

- d. determination of price and output discriminating different market conditions in short term and long term
- Critically examines using data and figures (analysis and evaluation)
  - a. various laws and principles of microeconomic analysis and market conditions
  - b. application of the concept of demand elasticity and its relation with Average and Marginal Revenue
  - c. the relationship between average and marginal cost/revenue both in long term and
- Draws critical diagrams and graphs to explain and examine the application of various laws and principles of microeconomic analysis

### **ECO2103: Micro Economics-II**

A student who studies this course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

- Remembers and states in a systematic way (knowledge)
  - a. Various concepts, definitions, laws and principles of macroeconomic theory with reference to income, employment, money, banking and finance
- Explains (understanding)
  - a. the difference between various concepts and components of national income with illustrations and methods of measuring national income
  - b. various terms, concepts, laws and principles, theories relating to income, employment, consumption, investment, money, price-level and phases of trade cycles
  - c. functions of commercial banks and central bank, creation and control of credit
- Critically examines using data and figures (analysis and evaluation)
  - a. in order to understand the interrelationship between various components of national income
  - b. the theories of macroeconomics with reference to their assumptions, implications and applicability
  - c. Empirical evidences of Consumption and Investment Functions and factors influencing them
- Draws critical formulae, diagrams and graphs.
  - a. consumption and investment functions; concepts of multiplier and accelerator
  - b. price indices, inflation and trade cycles

### **ECO3103: Macro Economics-I**

A student who studies this course

- Understands the outlook of macro economics and its importance
- Analyses different concepts of National income
- Gets an idea about RBI and its functioning

### **ECO4103: Macro Economics-II**

A student who studies this course

- Recognizes Trade cycles
- Reviews the present banking system
- Identifies defects in Indian money market

### **ECO5103: Economic Development & Indian**

**Economy** A student who studies this course

- Knows the basic concepts of economic growth and development
- Identifies the basic features of Indian economy
- Creates solutions for the problems like poverty, economic inequalities, unemployment and food security

**ECO5103E1: India and AP Economy**

A student who studies this course

- Knows the importance of agriculture in India
- Acquires knowledge about FEMA and five-year plans
- Analyzes the problems in agriculture, infrastructure, crop insurance, gender inequalities etc.

**ECO5103E2: Agricultural Economics**

A student who studies this course

- Understands the nature and scope of agricultural economics
- Develops the knowledge about concept of production function
- Outlines system of farming

**ECO6103: Indian Economy**

A student who studies this course

- Recognize the nature of agriculture in India
- Knows about types of industries
- Outlines the planning in India and develops the knowledge for competitive exams

**ECO6103E1: Quantitative Techniques**

A student who studies this course

- Practices quantitative techniques in Mathematics and Statistics
- Solves different problems using the learned techniques and formulae

**ECO6103E2: Public Finance**

A student who studies this course

- Recognizes the use of public finance
- Knows the collection of taxes and public expenditure
- Identifies the necessity for public welfare

**FINANCIAL ECONOMICS**

**FE1105: Economic Theory**

A student who studies this course

- Learns the theoretical concepts and the importance of Economics
- Outlines diminishing marginal utility
- Understands the production function

**FE2105: Macro Economics**

A student who studies this course

- Analyzes the concept of national income
- Understands about money multiplier
- Recognizes inflation and trade cycles

**FE3105: Quantitative Techniques-I**

A student who studies this course

- Learns quantitative techniques in mathematics and statistics
- Solves different problems in central tendency and regression

#### **FE4105: Quantitative Techniques-II**

A student who studies this course

- Knows basic concepts of Calculus
- Acquires knowledge about basic components of computers
- Solves different problems using the learned techniques and formulae with computer basics

#### **FE5105: Financial Institutions and Financial Markets**

A student who studies this course

- Gets introduced to finance and capital
- Acquires knowledge about commercial banks
- Recognizes the applications of financial systems

#### **FE5105E1: Economics of Insurance**

A student who studies this course

- Learns about essentials of life and health insurance
- Gets basic knowledge of premier construction
- Acquires knowledge about insurance and major risk factors

#### **FE5105E2: The Economics of Finance**

A student who studies this course

- Understands the concept of financial ratios
- Recalls security analysis
- Identifies different sources of investments

#### **FE6105: Financial institutions and markets**

A student who studies this course

- Familiarizes with banking sector of RBI
- Understands the functioning of financial institutions like IDBI, ICICI, SIDBI, IIBI, NABARD etc.
- Knows about non-banking institutions like LIC, UTI etc.

#### **FE6105E1: Essentials of General Insurance**

A student who studies this course

- Knows about the concept of insurance
- Understands the risk factors and features involved
- Constructs retirement planning

#### **FE6105E2: Economics of Finance**

A student who studies this course

- Identifies the use of public finance
- Recognizes the intro-rotational trade
- Identifies the instruments of attaining certain social objectives by means of redistribution of wealth and their reducing in equalities

### ***DEPARTMENT OF ENVIRONMENTAL STUDIES***

#### **ES2008: Environmental Studies**

A student who studies this course

- Classifies Natural resources, pollutions
- Familiarizes with Biodiversity, Environmental management, Policy, Acts, and Sustainable Development etc.
- Identifies local, national, regional, global level issues and their solutions
- Analyses cross cutting issues relevant to social issues, women and child welfare, Value education, Human rights, economic development etc.
- Identifies the measures to be taken for sustainable development by using appropriate Eco- friendly technology

### ***DEPARTMENT OF COMMERCE***

#### **BE1201: Business Economics**

A student who studies this course

- Outlines the basic principles of business Economics

#### **FA1202: Fundamentals of Accounting**

A student who studies this course

- Recalls the basics in accounting knowledge

#### **BO1203: Business Organization**

A student who studies this course

- Classifies various types of business organization and its management

#### **BE2201: Business Economics**

A student who studies this course

- Learns the basic principles of business Economics

#### **FA2202: Fundamentals of Accounting**

A student who studies this course

- Expertises at basics in accounting knowledge

#### **BEN2203: Business Environment**

A student who studies this course

- Analyses micro and macro environment in which organizations are functioning

#### **CA3201: Corporate Accounting**

A student who studies this course

- Learns about Companies Equity, Bonus shares and goodwill and their valuations

#### **BS3202: Business Statistics**

A student who studies this course

- Knows basic business data analysis and its measurements

#### **BAN3203: Banking Theory and Practice**

A student who studies this course

- Analyses functioning of Commercial Banking System and RBI

#### **BL4201: Business Law**

A student who studies this course

- Differentiates agreements and contracts, sale of goods act, consumer protection act etc.

#### **ASO4202: Accounting for Service Organizations**

A student who studies this course

- Identifies the specific accounting principles and procedures followed in various service



organizations viz, electricity supply company, banking and insurance

**IT4205: Income Tax**

A student who studies this course

- Applies principles of taxation and its calculations in solving the problems

**BL5201: Business Law**

A student who studies this course

- Analyzes critical business law agreements and contracts, sale of goods act, consumer protection act etc.

**CMA5202: Cost and Management Accounting**

A student who studies this course

- Identifies the issues of material in factories, wages, overheads, contract accounts and process accounts

**AUD5203: Auditing**

A student who studies this course

- Analyzes the auditing principles and practices in various types of business organizations and to impart skills of report writing and business correspondence

**CA5204: Corporate Accounting**

A student who studies this course

- Defines companies' equity, bonus shares and goodwill and their valuations

**ACA5205 E1: Advanced Corporate Accounting**

A student who studies this course

- Differentiates human resource accounts, social responsibility accounting, inflation accounts, winding up of company

**MA5206E1: Management Accounting**

A student who studies this course

- Identifies management techniques like ratio analysis, funds flow, cash flow statements, capital budgeting etc.

**BL6201: Business Law**

A student who studies this course

- Becomes familiar with sources of business law agreements and contracts, sale of goods act, consumer protection act etc.

**CMA6202: Cost and Management Accounting**

A student who studies this course

- Analyses issues of material in factories, wage policies, overheads, contract accounts and process accounts

**AUD6203: Auditing**

A student who studies this course

- Summarizes auditing principles and practices in various types of business organizations
- Develops skills of report writing and business correspondence

**CA6204: Corporate Accounting**

A student who studies this course

- Analyses Companies Equity, Bonus shares and goodwill and their valuations

**ACA6205 E1: Advanced Corporate Accounting**

A student who studies this course

- Distinguishes human Resource Accounts, Social Responsibility Accounting, Inflation Accounts

**MA6206E1: Management Accounting**

A student who studies this course

- Develops skills in management techniques like ratio analysis, funds flow, cash flow statements, capital budgeting etc.

**DEPARTMENT OF MATHEMATICS**

**MAT1301: Differential Equations**

A student who studies this course

- Solves differential equations by different methods
- Identifies orthogonal trajectories

**MAT2301: Analytical Solid Geometry**

A student who studies this course

- Identifies skew lines and shortest distance between the lines
- Illustrates enveloping cone of a sphere
- Demonstrates inscribed sphere of a cone

**MAT3301: Abstract Algebra**

A student who studies this course

- Analyses nature of functions and relations
- Practices permutation groups

**MAT4301: Real Analysis**

A student who studies this course

- Knows about increasing sequence, decreasing sequence
- Classifies infinite series by Cauchy's test De 'Alembert ratio test

**MAT5301: Linear Algebra**

A student who studies this course

- Labels linear independent vectors and dependent vectors
- Recognizes orthogonal vectors and operates Matrices

**MAT5301E1: Numerical Analysis Part-1**

A student who studies this course

- Knows interpolation of functions
- Employs data to fit Curve

**MAT6301: Laplace Transform**

A student who studies this course

- Defines Laplace transform and solves by integration
- Explains methods of Integration to solve Laplacetransform

**MAT6301E1: Numerical Analysis Part-2**

A student who studies this course

- Recalls oiler'sMethod
- Recognizes Rangi-Kutta method to solve orderly differentialequation

## ***DEPARTMENT OF PHYSICS***

### **PHYSICS**

#### **PHY1302: Mechanics**

A student who studies this course

- Recalls the mechanics principles, Physical quantities, their representation and relations among them
- Identifies the principle of mechanics
- Solves the problems relating to mechanics
- Applies the principles in different fields like rockets

#### **PHY2302: Waves and Oscillations**

A student who studies this course

- Explains the Optics variables and potentials
- Learns the principles experiments related to wave nature of light
- Tests the learned principles in their daily life

#### **PHY3302: Thermodynamics**

A student who studies this course

- Explains thermo dynamical variables and potentials
- Specifies principles, experiments related to thermo dynamics
- Uses the learned principles in their daily life

#### **PHY4302: Optics**

A student who studies this course

- Explains the Optics variables and potentials
- Learns the principles experiments related to wave nature of light
- Tests the learned principles in their daily life

#### **PHY5302: Electricity, Magnetism & Electro magnetic**

A student who studies this course

- Explains the principles and formulae in electricity Magnetism and electromagnetic
- Solves the problems related to above topics
- Tests learned principles and formulae in their daily life

#### **PHY5302E1: Solid State Physics**

A student who studies this course

- Designs the structural arrangement of crystals
- Discriminates different solids and their internal arrangement of atom
- Uses the learned concept in daily life

#### **PHY6302: Modern Physics**

A student who studies this course

- Designs Raman experiments, Explains DE Broglie Hypothesis and other Modern developments in Physics
- Summarizes different theories and developments in modern physics like Raman effect, Uncertainty principle

#### **PHY6302E1: Analog and Digital Electronics**

A student who studies this course

- Identifies different number systems, logic gates
- Designs different combinations of logic gates and their outcomes
- Develops electronic circuits by their own

## **ELECTRONICS**

### **ELE1315: Basic Circuit Theory**

A student who studies this course

- Designs basic electronic circuits
- Identifies different components involved in electronic circuit connections

### **ELE2315: Electronic Devices and Circuits**

A student who studies this course

- Constructs the basic electronic devices used for circuit connections
- Chooses correct electronic devices as per their requirement

### **ELE3315: Digital Electronics**

A student who studies this course

- Identifies different number systems, logic gates, registers, memory devices etc.
- Constructs different digital electronic devices involved in circuits
- Chooses correct memory devices and logic gates as per their requirement

### **ELE4315: Analog and Digital Applications**

A student who studies this course

- Knows Op-Amps, Timers, Converters and Counters etc.
- Chooses correct applications of different Op-amps timers, Converters and Counters

### **ELE5315: Microprocessors-I**

A student who studies this course

- Explains the Microprocessors, their internal parts and working
- Demonstrates the applications of different Microprocessors

### **ELE5315E1: Embedded Systems and Microcontrollers**

A student who studies this course

- Differentiates Embedded Systems and Micro Controllers
- Chooses correct applications of Embedded Systems and Micro Controllers
- Designs Micro Controllers as per their requirement

### **ELE6315: Microprocessors-II**

A student who studies this course

- Writes the programming with Microprocessors and Interrupts that occur
- Applies different Microprocessors at different situations
- Writes correct programming as per their requirement

### **ELE6315E1: Embedded Systems-II**

A student who studies this course

- Tests the programming of Embedded Systems
- Chooses correct Programme and correct controllers as per their requirement

## **DEPARTMENT OF CHEMISTRY**

### **CHE1303: Inorganic and Organic chemistry**

A student who studies this course

- Enables the learner to analyze simple inorganic salts
- Elaborates the basic concepts of inorganic and physical chemistry
- Improves clarity on different types of matter

### **CHE2303: Physical and general chemistry**

A student who studies this course

- Develops in-depth knowledge in Basic organic chemistry and some general chemistry topics
- Creates awareness on various types of titrations

### **CHE3303: Inorganic and organic chemistry**

A student who studies this course

- Enables the learner to know about various types of organic reactions
- Develops fundamental knowledge on spectroscopic techniques and their applications in analysis of compounds
- Introduces the experience in the preparation of organic compounds

### **CHE4303: Spectroscopy and physical chemistry**

A student who studies this course

- Understands the techniques behind the characterization of a compound
- Knows about colligative properties of dilute solutions
- Constructs electro chemical cells

### **CHE5303: Inorganic, organic and physical chemistry-1**

A student who studies this course

- Elaborates knowledge on various bioorganic molecules and organic molecules
- Enables the learner to know importance of light in the chemical reactions

### **CHE5303 E1: Molecular Spectroscopy and Macromolecules**

A student who studies this course

- Learns spectroscopic techniques for molecules
- Gains knowledge about macromolecules

### **CHE5303E2: Drugs, Formulations, Green Chemistry and Material Science**

A student who studies this course

- Identifies the formulation of drugs
- Understands the concepts of green chemistry and material science

### **CHE6303: Inorganic, Organic and Physical Chemistry-2**

A student who studies this course

- Summarizes and Analyses the advanced concepts of chemistry
- Applies basic theoretical and practical knowledge in understanding the structure and reactions of Carbohydrates, Amino acids and Proteins
- Gets trained in studying the kinetics of a chemical reaction
- Familiarizes with different types of photochemical reactions

### **CHE6303E1: Qualitative and Quantitative Aspects Analysis, Separation Techniques,**

### **Spectrophotometry, Thermogravimetry**

A student who studies this course

- Analyses qualitative and quantitative techniques
- Classifies different separation techniques
- Becomes skilled at spectrophotometry and thermogravimetry

### **CHE6303E2: Pesticides, Soil Chemistry, Petrochemicals**

A student who studies this course

- Recognizes different pesticides
- Analyzes different types of soils
- Identifies petrochemicals

### **CERTIFICATE COURSES**

#### **CC112WA: Water Analysis**

A student who studies this course

- Analyze various water samples and estimate various parameters in them and report the same

#### **CC112SA: Soil Analysis**

A student who studies this course

- Becomes skilled in testing the quality of soil
- Estimates the fertility of the soil

### **GENERAL ELECTIVE**

#### **GE401EC: Everyday Chemistry**

A student who studies this course

- Develops analytical skills and laboratory techniques
- Uses the basic principles of chemistry in daily life

### ***DEPARTMENT OF BIO TECHNOLOGY***

#### **BT1310: Microbiology & Cell Biology**

A student who studies this course

- Specifies the general characteristics, cultural conditions of microorganisms
- Outlines functions of organelle functions
- Explains transportations through cell membrane
- Draws cell structure
- Explains DNA technology, Animal and Plant biotechnology

#### **BT2310: Macromolecules, Enzymology and Bioenergetics**

A student who studies this course

- Designs structure and explains the properties of biomolecules
- Classifies the Enzymes
- Uses the principles of Bioenergetics in designing the experiments

#### **BT3310: Bio Analytical Techniques**

A student who studies this course

- Demonstrates working of spectrometry, chromatography
- Identifies the use of Radio isotopes in diagnosis and treatment of diseases

#### **BT4310: Fundamentals of Microbiology & Immunology**

A student who studies this course

- Explains Microbial physiology, cellular and molecular components of immune system

- Designs experiments to evaluate underlying causes of diseases

### **BT5310: Molecular Biology**

A student who studies this course

- Explains Nucleic acids and their properties, transcription, translation, protein sorting,
- Identifies gene expression of prokaryotes as well as eukaryotes which gives strong foundation for gene manipulations

### **BT5310E1: Animal Biotechnology & Plant Biotechnology**

A student who studies this course

- Analyzes the need and procedures involved in production of transgenic animals and plants for enhancing the quality food, pharmaceuticals and healthcare
- Practices commercialization of plant tissue cultures and Animal reproduction and breeding

### **BT5310E2: Entrepreneurship Development**

A student who studies this course

- Develops entrepreneurship to meet the global demand for food, chemicals and pharmaceuticals
- Identifies the inputs in the form of project formation and assessment
- Lists various funding agencies available, inventory direct and indirect raw materials and its management etc.

### **BT6310: Genetic Engineering**

A student who studies this course

- Chooses various vectors and host systems to produce recombinants
- Examines PCR and Hybridization techniques to develop various strategies of gene cloning for lab as well as to the field

### **BT6310E1: Industrial Biotechnology & Environmental Biotechnology**

A student who studies this course

- Identifies various methods of isolation and engineering of industrially useful microorganisms for mass production of chemicals and Pharmaceuticals
- Uses genetically modified organisms for bioremediation, Genetic engineering for conservation of biodiversity and Ecosystems
- Identifies more research problems prevailing in the society

### **BT6310E2: Industrial Fermentation**

A student who studies this course

- Develops skills of bio processing technology, use of genetically engineered microorganisms for mass production of chemicals, therapeutics on commercial scale to meet the global demand
- Examines various productions at laboratory level

## ***DEPARTMENT OF MICROBIOLOGY***

### **MB1308: Introductory Microbiology**

A student who studies this course

- The student will appreciate the contribution of renowned microbiologists and importance of microbiology in human life.
- The student will acquire knowledge of diversified groups of microbes and skills in different microbiological techniques

### **MB2308: Microbial Biochemistry and Metabolism**

A student who studies this course

- The students will be provided with basic theoretical and practical knowledge of the principal methodologies and techniques for the investigation of biomolecules which can be applied to the investigation and measurement of cell functions.
- Students understand about the microbial growth and physiology in order to exploit potential micro organism in industry.

### **MB3308: Microbial Genetics and Molecular Biology**

A student who studies this course

- Students were able to understand the genetic components, their functions and genetic recombination in bacteria.
- They acquire the knowledge about chemical and molecular processes that occur in and between cells so that they are able to describe and explain these processes and how they influence the life of living organisms

### **MB4308: Immunology and Medical Microbiology**

A student who studies this course

- The student acquires the ability to recall the principles of immunology and its applications in diagnosis and research.
- They understand about the normal and common pathogenic organisms associated with human infectious diseases, pathogenesis and their diagnosis.

### **MB5308: Immunology**

A student who studies this course

- Understands the cells, organs and mediators of immune system
- Applies basic principles of immunology in diagnosis and research.

### **MB5308 E1: Environmental and Agricultural Microbiology**

A student who studies this course

- Recognizes the role of microbes in biogeochemical cycling, crop improvement by using bio fertilizers and bio pesticides, bioremediation of heavy metals, microbial degradation of natural substances and xenobiotics
- Specifies the role of microbes in solid waste and sewage management, microbial assessment of water quality

### **MB6308: Medical Microbiology**

A student who studies this course

- Explains microbial virulence mechanisms and host response to infection
- Identifies the normal and common pathogenic organisms associated with human infectious diseases, pathogenesis and their diagnosis

### **MB6308E1: Food and Industrial Microbiology**

A student who studies this course

- students will acquire the knowledge about food and dairy products, mushroom cultivation SCP and their uses. They also get in depth of knowledge about the combination, preservation and spoilage of food products.



- Students are well equipped with principles of exploitation of microorganisms industrially, strain improvement, production of antibodies, enzymes and industrial products like organic acids, vitamins, amino acids alcohol, alcoholic beverages and bioenergy.

### ***DEPARTMENT OF ZOOLOGY***

#### **ZOO1307: Animal diversity- Biology of Non chordates**

A student who studies this course

- Describe general taxonomic rules on animal classification
- Classify Protozoa to Coelenterata with taxonomic keys
- Classify Phylum Platyhelminthes to Annelida phylum using examples from parasitic adaptation and vermin composting
- Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscs
- Describe Echinodermata to Hemi chordata with suitable examples and larval stages in relation to the phylogeny

#### **ZOO2307: Animal Diversity- Biology of Chordates**

A student who studies this course

- Describe general taxonomic rules on animal classification of chordates
- Classify Protochordata to Mammalia with taxonomic keys
- Understand Mammals with specific structural adaptations
- Understand the significance of dentition and evolutionary significance
- Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalia.

#### **ZOO3307: Cell biology, Genetics and Evolution**

A student who studies this course

- Acquires knowledge about cell structure, functions and can identify various cell organelles
- Understands the fundamentals of genetics in day to day life and inheritance of characters from parents to off spring

#### **ZOO4307: Embryology, physiology and ecology**

A student who studies this course

- Knows about the gametes, Zygote and embryonic development in vertebrates
- Understands the structure and functioning of various systems of mammals, focusing of human physiology
- Interrelates different communities of the environment and student role in protecting the environment

#### **ZOO5307: Animal Biotechnology**

A student who studies this course

- Understands the fundamentals of Biotechnology and its applications in different fields of science
- Appreciates the concept of Genetically modified organisms, Gene Therapy, Stem Cells and their applications
- Learns the basics of practical aspects of simple molecular techniques

### **Z005307E1: Animal Husbandry**

A student who studies this course

- Explains the concept of animal husbandry
- Demonstrates poultry management, dairy farm and different types of cattle breeds

### **Z006307: Animal husbandry**

A student who studies this course

- Identifies and compare different breeds of poultry and cattle
- Acquires knowledge about the care and management techniques to be taken in Dairy and poultry farms
- Understands the importance of Dairy, Poultry and their importance as small scale entrepreneur units

### **Z006307E1: Animal Biotechnology**

A student who studies this course

- Explains the concept of Biotechnology and its applications in modern age
- Identifies the role in gene manipulation and cloning and to learn the basics of molecular techniques

## ***DEPARTMENT OF BOTANY***

### **BOT1306: Microbial Diversity Algae and Fungi**

A student who studies this course

- Explain origin of life on the earth.
- Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.
- Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles.
- Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.

### **BOT2306: Diversity of Archegoniate and Plant Anatomy**

A student who studies this course

- Classify Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles.
- Justify evolutionary trends in tracheophytes to adapt for land habitat.
- Critically understand various taxonomical aids for identification of Angiosperms.
- Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.
- Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their goods and services for human welfare.
- Locate different phytogeographical regions of the world and India and can analyze their floristic wealth.

### **BOT3306: Plant Taxonomy and Embryology**

A student who studies this course

- Understand on the organization of tissues and tissue systems in plants.
- Illustrate and interpret various aspects of embryology.

- Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities
- Appraise various qualitative and quantitative parameters to study the population and community ecology.
- Correlate the importance of biodiversity and consequences due to its loss.
- Enlist the endemic/endangered flora and fauna from two biodiversity hot spots

#### **BOT4306: Plant Physiology and Metabolism**

A student who studies this course

- Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
- Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
- Interpret the role of enzymes in plant metabolism.
- Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
- Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.
- Evaluate the physiological factors that regulate growth and development in plants.
- Examine the role of light on flowering and explain physiology of plants under

#### **BOT5306: Cell Biology and Genetics**

A student who studies this course

- Show the understanding of techniques of demonstrating Mitosis and Meiosis in the laboratory and identify different stages of cell division.
- Identify and explain with diagram the cellular parts of a cell from a model or picture and prepare models
- Solve the problems related to crosses and gene interactions.
- Demonstrate plant breeding techniques such as emasculation and bagging

#### **BOT5306E1: Seed Technology and Horticulture**

A student who studies this course

- Practices Seed technology which defines with the methods of improving physical and genetical characteristics of Seed production, processing, certification, testing and storage
- Applies horticulture techniques to develop an attitude to produce garden crops, fruits, vegetables and ornamental plant

#### **BOT6306: Plant Physiology**

A student who studies this course

- Demonstrates the physical chemical and biological functioning of plants
- Compares different patterns and habitats of plants with animals

#### **BOT6306E1: Ecology and Environmental Biology**

A student who studies this course

- Explains ecological relationships between organisms and their environment
- Identifies present day major threats to biodiversity and knows the methods of bio - diversity conservation

### ***DEPARTMENT OF BIOCHEMISTRY***

#### **BC1309: Bio molecules**

A student who studies this course

- Communicate and discuss the various methods available to analyze carbohydrates, AAs & Lipids based on their physical and chemical properties.
- Choose from the various methods available for characterizing biological molecules
- Organize the lab results, discuss the obtained results on the basis of their knowledge and write a formal lab report.

### **BC2309: Proteins & Enzymes**

A student who studies this course

- The basic understanding of energy changes occurring in our body and energy production used in various reactions
- The basic understanding of bioanalytical techniques enhance the students to design experiments to evaluate underlying causes of research
- Students were able to understand isolation, separation and identification of the biomolecules without altering their molecular structure

### **BC3309: Bioenergetics and Bioanalytical Techniques**

A student who studies this course

- The basic understanding of energy changes occurring in our body and energy production used in various reactions
- The basic understanding of bioanalytical techniques enhance the students to design experiments to evaluate underlying causes of research
- Students were able to understand isolation, separation and identification of the biomolecules without altering their molecular structure

### **BC4309: Intermediary Metabolism**

A student who studies this course

- The basic understanding of metabolisms occurring in our body and energy production used in various reactions
- Students were able to understand the function of biological molecules through the study of their metabolic reactions
- Students were able to analyse the cause of metabolic disorders used for the diagnosis

### **BC5309: Molecular biology**

A student who studies this course

- Explain the basic mechanisms of Replication, Transcription and Translation.
- Understand the concepts of history and scope of Microbiology and could deal with different techniques used for the growth of bacteria.

- Determine various important practical aspects starting from isolating DNA to restriction digestion and from growth media to staining of bacteria.

### **BC5309E1: Endocrinology and Clinical Biochemistry**

A student who studies this course

- The basic understanding of cellular and molecular components of immune system, will help the students to design experiments to evaluate underlying causes of diseases.
- Students were able to understand the function of biological molecules through the study of their molecular structure.
- The principles and mechanisms of metabolic control of molecular signalling by hormones.

### **BC5309E2: Physiology and Nutrition**

A student who studies this course

- Lists, summarizes & identifies the functioning of various organs in our body.
- Analyzes the importance of biomolecules, minerals, vitamins and their role in balanced diet.

### **BC6309: Immunology and Microbiology**

A student who studies this course

- Designs experiments to evaluate underlying causes of diseases
- Relates and outline the concepts of history and scope of Microbiology and could deal with different techniques used for the growth of bacteria

### **BC6309E1: Genetic Engineering and Bioinformatics**

A student who studies this course

- Understands the steps in cloning, importance of cloning vectors, introduction into host cells and various techniques
- Acquire knowledge of various biological databases related to bioinformatics and design experiments to retrieve genes, proteins.

### **BC6309E2: Infectious and Non Infectious Diseases**

A student who studies this course

- Identifies various diseases caused by microorganisms which are infectious
- Acquires knowledge in identifying and preventing various diseases caused by lifestyle disorders

## ***DEPARTMENT OF HOME SCIENCE***

### **HS1311: Basic Nutrition**

A student who studies this course

- Differentiates the macro and micro nutrients in terms of their composition and functions
- Recognizes the requirements of food sources and deficiencies

### **HS1312: Human Physiology**

A student who studies this course

- Knows anatomical features of all the major human organ systems
- Identifies different human organs

### **HS1313: Microbiology**

A student who studies this course

- Explains the morphological, growth and reproductive features of various microorganisms

### **HS2311: Food Science**

A student who studies this course

- Knows the structure, composition of cereals, pulses, milk, egg and fleshy foods
- Identifies nutritional importance of various food groups

### **HS2312: Fundamentals of Family Nutrition**

A student who studies this course

- Recognizes the relationship between nutrient requirements, recommended dietary allowances
- Identifies dietary modifications under different physiological conditions

### **HS2313: Growth & Development during Life Span**

A student who studies this course

- Knows various areas of growth and development from conception to adolescence

### **HS3311: Nutritional Biochemistry**

A student who studies this course

- Analyzes the relationship between the effect of nutrients on metabolism

### **HS3312: Food Preservation**

A student who studies this course

- Develops practical skills in various preservation methods like high concentration of sugar, salt etc.

### **HS3313: Extension Education for Rural Development**

A student who studies this course

- Demonstrates various extension methods useful for approaching different sections of community

### **HS4311: Housing and Interior Decoration**

A student who studies this course

- Explains fundamentals of house planning and apply skills in interior decoration

### **HS4312: Community Nutrition**

A student who studies this course

- Develops the skills to assess the nutritional status of the community

### **HS4313: Diet Therapy-I**

A student who studies this course

- Develops skills in planning and management of diets for the different age groups under normal/ physiological conditions keeping in mind the dietary guidelines

### **HS5311: Diet Therapy II**

A student who studies this course

- Applies the general principles and objectives of diet therapy
- Practices disease specific dietary management guidelines and principles

### **HS5312: Diffusion & Adoption**

A student who studies this course

- Knows various homestead technologies with reference to home science

### **HS5313: Textile Science**

A student who studies this course

- Applies different clothing construction and surface ornamentation techniques

### **HS5314: Bakery & Confectionary/Food Service Management**

A student who studies this course

- Understands various baking techniques
- Applies skills in baking

### **HS5315: Early Childhood Education/ Marriage & Family Dynamic**

A student who studies this course

- Prepares Curriculum in ECE-process
- Designs different play activities in ECE centers

### **HS5316: Entrepreneurship Development/ Fashion**

**Designing** A student who studies this course

- Explains different concepts in entrepreneurship
- Develops skill in formulation of project proposals

### **HS6311: Diet Counseling**

A student who studies this course

- Identifies the problems of diet
- Suggests diet counseling for various diseases

### **HS6312: Training and HRD**

A student who studies this course

- Appreciates the role of training objectives in planning, designing and evaluation of a programme

### **HS6313: Tie & Dye**

A student who studies this course

- Illustrates the basic types of dyes and their methods of application

### **HS6314: Sociology/General Psychology**

A student who studies this course

- Analyzes the basic psychological processes
- Applies these processes in everyday life

### **HS6315: Counseling Psychology/ Family Attire and Consumer Education**

A student who studies this course

- Identifies the problems in areas of psychology by application of various tests
- Acquires the basic skills of counseling process

### **HS6316: Resource Management/ Event**

**Management** A student who studies this course

- Explains the basic concepts of resource management and their management in everyday life

## ***DEPARTMENT OF COMPUTERS***

### **CSC1304: Problem Solving in C**

A student who studies this course

- Becomes an efficient Software developer for any Software Company
- Uses IDEs (Integrated Development Environments) for developing different Programs
- Designs, implements, tests, debugs, and documents Programs in C
- Works with any type of data structure to store data in the format the application demand

### **CSC2304: Data Structures using C**

A student who studies this course

- Utilizes different data structures in developing and implementing efficient algorithms
- Exploits various Data Structures like arrays, linked lists, stacks, queues, trees, and graphs in representing memory allocation algorithms
- Uses different traversal techniques for developing Search Engines

#### **CSC3304: Data Base Management system**

A student who studies this course

- Becomes skilled in designing and developing database for large volumes and varieties of data with optimized data processing techniques
- Works as a database administrator in many back-end development Projects
- Applies normalization techniques for efficient data storage techniques in various applications

#### **CSC4304A: Object Oriented Programming through Java**

A student who studies this course

- Understand the benefits of a well-structured program
- Understand different computer programming paradigms
- Understand underlying principles of Object-Oriented Programming in Java
- Develop problem-solving and programming skills using OOP concepts
- Develop the ability to solve real-world problems through software development in high-level programming language like Java

#### **CSC4304B: Operating Systems**

A student who studies this course

- Know Computer system resources and the role of operating system in resource management with algorithms
- Understand Operating System Architectural design and its services.
- Gain knowledge of various types of operating systems including Unix and Android.
- Understand various process management concepts including scheduling, synchronization, and deadlocks.
- Have a basic knowledge about multithreading.
- Comprehend different approaches for memory management.
- Understand and identify potential threats to operating systems and the security features design to guard against them.
- Specify objectives of modern operating systems and describe how operating systems have evolved over time.
- Describe the functions of a contemporary operating system

#### **CSC5304: Data Base Management System**

A student who studies this course

- Becomes skilled in designing and developing database for large volumes and varieties of data with optimized data processing techniques
- Works as a database administrator in many back-end development Projects
- Applies normalization techniques for efficient data storage techniques in various applications

#### **CSC6304: Software Engineering**

A student who studies this course



- Apply the Project management practices in real life projects
- Work in a team as well as independently for software projects
- Apply design and development principles in producing software systems of varying complexities using various project management tools
- Practice to identify, formulate and solve innovative engineering problems

#### **CSC7304A: Operating Systems**

A student who studies this course

- Effectively Use different algorithms for Scheduling in various business processes
- Works in teams to develop operating systems
- Applies virtual memory in various front-end applications as well as in designing processes
- Solves Deadlock situations in various software processes

#### **CSC7304B: Computer Networks**

A student who studies this course

- Identify the different components in a Communication System and their respective roles.
- Describe the technical issues related to the local Area Networks
- Identify the common technologies available in establishing LAN infrastructure.

#### **CSC7304C: Web Technologies**

A student who studies this course

- Accomplishes in using client side and server side scripting to develop web-based information systems
- Designs interactive and dynamic web sites
- Connects to databases as per the need of the application

#### **CSC8304A1: Foundations of Data Science**

A student who studies this course

- Able to apply fundamental algorithmic ideas to process data.
- Learn to apply hypotheses and data into actionable predictions.
- Document and transfer the results and effectively communicate the findings using visualization techniques.

#### **CSC8304A2: Big Data Technology**

A student who studies this course

- Learn tips and tricks for Big Data use cases and solutions.
- Learn to build and maintain reliable, scalable, distributed systems with Apache Hadoop.
- Able to apply Hadoop ecosystem components.

#### **CSC8304B1: Distributed Systems**

A student who studies this course

- Create models for distributed systems.
- Apply different techniques learned in the distributed system.

#### **CSC8304B2: Cloud Computing**

A student who studies this course

- Compare the strengths and limitations of cloud computing
- Identify the architecture, infrastructure and delivery models of cloud computing
- Apply suitable virtualization concept.

- Choose the appropriate cloud player , Programming Models and approach.
- Address the core issues of cloud computing such as security, privacy and interoperability
- Design Cloud Services and Set a private cloud

### **CSC8304C1: P H P- MySQL**

A student who studies this course

- Gains the PHP programming skills needed to successfully build interactive, data-driven sites
- Creates Dynamic websites
- Builds interactive, data-driven pages for many front-end and back-end applications
- Designs effective search engines using cookies and sessions

### **CSC8304C2: Angular JS and JSON**

A student who studies this course

- Create a dynamic website using advanced features of JavaScript and create a website with good and attractive design

## **CLOUD COMPUTING**

### **CC1317: Basics & Services of Cloud Computing**

A student who studies this course

- know how the Cloud Computing is changing software industry with different services and cost saving

### **CC2317: Cloud Computing Services**

A student who studies this course

- the student would be able to understand the sales force environment.

### **CC3317: Application development on Cloud Computing**

A student who studies this course

- having knowledge on various standard elements provided in salesforce user interface
- having knowledge on creating various custom components in salesforce environment
- as per the business requirements
- able to provide organization security and data security in salesforce cloud
- able to develop applications which can be used effectively for customer relationship management

### **CC4317: APEX & Visual force Programming**

A student who studies this course

- having knowledge on Apex core concepts
- having knowledge on various tags of Visual force and usage of controllers
- able to write apex classes and triggers and visual force code
- able to develop UI design (view) and Business logic(controller) of MVC architecture using Visual force and Apex Programming.

### **CC5317: Business Intelligence**

A student who studies this course

- Working with Wave Analytics in Desktop and Mobile Environments
- Business Intelligence using which they can convert raw data into pictorial format
- Analyzing the information to predict the future business.

- having knowledge on various standard elements provided in salesforce user interface

### **CC5317: Advanced JavaScript : JQuery, JSON with Visual force**

A student who studies this course

- the student would be having knowledge on advanced web technologies which are needful to create a web application.
- Students will be able to work with JavaScript functions, JQuery Selectors, Widgets, AJAX Methods, and Angular JS

### **CC6317: Business Intelligence**

A student who studies this course

- Working with Wave Analytics in Desktop and Mobile Environments
- Business Intelligence using which they can convert raw data into pictorial format
- Analyzing the information to predict the future business.

### **CC7317A: Sales force marketing & sales**

A student who studies this course

- CRM functionality in Salesforce.com with different domains and its landscape.
- Administration using SFDC CRM Objects

### **CC7317B: Sales force customer services**

A student who studies this course

- different standard SObjects,
- converting the leads,
- tracking and managing customer purchase,
- creating online communities

### **CC8317A1: SOAP INTEGRATION**

A student who studies this course

- Able to work on SOAP API
- able to create Web services in the process of integration
- able to handle Security management and session management in SOAP API

### **CC8317A2: REST INTEGRATION**

A student who studies this course

- Able to Understand Integration concepts and perform integration
- Able to understand how to perform integration using Curl Tool and Workbench platform
- Able to fetch Sales force org data and can perform various operations by integrating
- able to handle Security management and session management in SOAP API

### **CC8317B1: Sales force Lightning (Client Controller)**

A student who studies this course

- Lightning Components creation
- Styling the components using CSS
- handling events with client-side controllers consisting of JavaScript.

### **CC8317B2: Sales force Lightning (Server controller)**

A student who studies this course

- would understand how to create Apex methods that can be called remotely from Lightning Components code, Make calls from Lightning Components to remote methods, and handle server responses asynchronously using callback functions

## MULTIMEDIA

### **MUL1314: Graphic Designing**

A student who studies this course

- will be able to create text document, Photo editing, Color correction, photo editing , photo editing with filters, creating illustration designs, creating documents.

### **MUL2314: Web Designing Basics**

A student who studies this course

- will be able to create HTML, creating video audio files for web, able to work on css forms, css counters, css responsive.
- Accomplishes in using client side and server side scripting to develop web-based information systems
- Designs interactive and dynamic websites
- Connects to databases as per the need of the application

### **MUL3314: Introduction AV & 2D Animation**

A student who studies this course

- will get keen knowledge about principals of animation,creates their own story board, able to work create TV ads, they will handle cameras and lenses, students can create their own video presentation, students getting basic knowledge of DAW software's.

### **MUL4314: Introduction to 3D Animation.**

A student who studies this course

- will get keen knowledge about CG production workflow, basic film making, getting knowledge of software and hardware, and will be able to create final rendered output

### **MUL5314: Character Animation**

A student who studies this course

- Will be able to create layouts for animation, works on key frame animation, famelier with animation workflow, cand work on non linear animation, can work on modifying, blending and modifying clips.

### **MUL6314: Advanced 3D Animation**

A student who studies this course

- Will be able to create character animation, coil and uncoil poses, timing and spacing, and be able to work on breakdowns, getting femiliraty in motion curvs.

### **MUL8314A1: Facial and Blend Modes**

A student who studies this course

- will be able to work on facial rigging process, morphology behaviour

### **MUL8314A2: Maya live integration**

A student who studies this course

- will be able to work on Autodesk match mover, working on 3D & 2D cameras, problum solving in 2D tracking, understanding the core concepts of camera calibration.

### **MUL8314A3: Character Animation**

A student who studies this course

- will be able to create character animation, coil and uncoil poses, timing and spacing, and be able to work on breakdowns, getting familiarity in motion curves.

### **DATA SCIENCE**

#### **DS1320: Maths for Data science**

A student who studies this course

- learn Fundamental properties of matrices, their norms, and their applications.
- Differentiating/integrating multiple variable functions, and the role of the gradient and the hessian matrix.
- Basic properties of optimization problems involving matrices and functions of multiple variables.

#### **DS2320: Introduction to Data science With R**

A student who studies this course

- Identify and use available R packages and associated Open Source software to meet given Scientific objectives
- Design and write efficient programs using R (and similar high-level languages) to perform routine and specialized data manipulation/management and analysis tasks
- Document, share, and collaborate on code development using a suite of Open Source Standards and tools

### **B.Voc MULTIMEDIA & SOFTWARE DEVELOPMENT**

#### **FOC1401: Fundamentals of computers-I**

A student who studies this course

- Students will create documents that demonstrate proficiency in the use of word processing, spreadsheet,
- database, and present/action applications

#### **PST1503: Problem Solving Techniques**

A student who studies this course

- will know about Analysis, Decision making , code development.

#### **GD1502: Graphic designing**

A student who studies this course

- will be able to create text document, Photo editing, Color correction, photo editing , photo editing with filters, creating illustration designs, creating documents.

#### **FOC2401: Fundamentals of computers-II**

A student who studies this course

- understand some of the benefits of internet and some social media
- students can understand why technology is so attractive to people
- students can understand the positive uses of social media and online.

#### **T2405: Tally**

A student who studies this course

- the student can prepare Financial reports.

**WD2505: Web designing basics**

A student who studies this course

- the student can learn how to develop web Application.

**OS2508: Operating Systems**

A student who studies this course

- Effectively Use different algorithms for Scheduling in various business processes
- Works in teams to develop operating systems
- Applies virtual memory in various front-end applications as well as in designing processes
- Solves Deadlock situations in various software processes

**DSU2509: Data Structures using “C”**

A student who studies this course

- Utilizes different data structures in developing and implementing efficient algorithms
- Exploits various Data Structures like arrays, linked lists, stacks, queues, trees, and graphs in representing memory allocation algorithms
- Uses different traversal techniques for developing Search Engines

**CKA1403: Colour Key Artist**

A student who studies this course

- the student will be able to art for animation

**SOS1501: Science of Sound**

A student who studies this course

- The student will be able to understand construction of the recording studio, equipment used in audio production, and getting sound knowledge on sound engineering.

**N2506: Nuendo**

A student who studies this course

- the student will be able to work on DAW, students can able to record, edit, and final mix for output the recorded audio.

**BOA2504: Basics of Animation**

A student who studies this course

- the student will be able to understand history of animation, technology behind the animation, types of animation, getting familiar with animation workflow

**B.COM COMPUTER APPLICATIONS****CAR1204: Information Technology**

A student who studies this course

- the student will prepare Documents, PPT and create databases.

**EC&W2214: E-Commerce and Web Designing**

A student who studies this course

- the student can learn online business through E learning

**CAR3204: Programming with C and C++**

A student who studies this course

- the students can become code developer

**CAR4204: Database Management System**

A student who studies this course

- Becomes skilled in designing and developing database.
- Works as a database administrator in many back-end development Projects
- Applies normalization techniques for efficient data storage techniques in various applications

**CAR5209: Programming in C**

A student who studies this course

- the students can become code developer

**CAR5210: Database Management System**

A student who studies this course

- Becomes skilled in designing and developing database.
- Works as a database administrator in many back-end development Projects
- Applies normalization techniques for efficient data storage techniques in various applications

**CAR5211: Web Technology**

A student who studies this course

- the student can learn how to develop web Application.

**CAR6209C: Tally**

A student who studies this course

- the student can prepare Financial reports, can learn Accounting principles.

**CAR6210C: E-Commerce**

A student who studies this course

- the student can learn online business through E-learning

**CAR6211C: PHP and My SQL**

A student who studies this course

- Gains the PHP programming skills
- Creates Dynamic websites
  - Designs effective search engines using cookies and sessions

**PG COURSE OUTCOMES**  
***DEPARTMENT OF CHEMISTRY***

**CH101: General chemistry**

**A student who studies this course**

- Recalls fundamental aspects of General chemistry
- Acquires knowledge about analytical data, titrimetric analysis, visible spectro photometry, potentiometry and Programming in FORTRAN77
- Understands the concept of primary standard solutions and secondary standard solutions

**CH102: Inorganic Chemistry**

A student who studies this course

- Recalls fundamental aspects of inorganic chemistry
- Gets knowledge about Quantum Mechanical Results, Chemistry of non- transition elements, and Metal–ligand bonding.
- Sketches periodic table and acquires knowledge about hybridization, clathrate compounds & hydrogen bonding etc.

**CH103: Organic Chemistry**

A student who studies this course

- Develops in-depth knowledge in organic reactions & and writing mechanism
- Elaborates the concepts of aromaticity, heterocyclic compounds, conformational analysis and stereo chemistry
- Expertise in writing stereochemistry of carbon compounds

**CH104: Physical Chemistry**

A student who studies this course

- Outlines Thermodynamics, Surface phenomena, phase equilibria and Electrochemistry
- Develops in-depth knowledge about BET Equation, measurement of EMF etc.
- Elaborates the concepts of energy changes, thermodynamic laws and different thermodynamic processes.

**CH201: General chemistry**

A student who studies this course

- Introduces SPECTROSCOPY both in theory and practical, which is the recent technique to analyze molecules.
- Creates awareness on Symmetry and Group theory in Chemistry.
- Understands the principle and functioning of Raman spectra and Nuclear Magnetic Resonance Spectroscopy

**CH202: Inorganic Chemistry**

A student who studies this course

- Knows about Non metal cages, metal clusters, and organometallic complexes.
- Learns the mechanism of transition metal complex reactions & Electronic spectra of transition metal complexes
- Understands the concepts of Chiroptical properties, Cotton effect and Faraday effect.

**CH203: Organic Chemistry**



A student who studies this course

- Practices reactions and Aliphatic Nucleophilic substitutions, Eliminations and understands the role of protecting agents
- Creates awareness on various analytical tools used in chemical analysis and develops hands on experience in the lab courses.

#### **CH204: Physical Chemistry**

A student who studies this course

- Improves clarity on concepts of Thermodynamic laws, Statistical thermodynamics- Nernst Heat theorem, Polymer chemistry and Electrode potentials at the interface
- Introduces to Chemical kinetics and photochemistry
- Develops skills to determine Quantum yield -Actinometry

#### **CH301: Organic Spectroscopy-I**

A student who studies this course

- Applies the knowledge of Ultraviolet spectroscopy, Infrared spectroscopy, NMR spectroscopy in structural determination of organic molecules
- Predicts IR, NMR spectral data for simple organic compounds
- Practices designing problems and characterization of compounds using spectral data

#### **CH302: Organic Synthesis, Mechanisms and Nano Chemistry**

A student who studies this course

- Introduces to the concept of Nano chemistry.
- Proposes Reaction mechanisms and appreciates the role of Oxidation-Reduction reactions in organic synthesis

#### **CH303: Alkaloids and Phenothiazines**

A student who studies this course

- Learns about the synthesis of Cinchona alkaloids, Isoquinoline alkaloids, Ipecac alkaloids, phenothiazines etc.
- Understands the structural elucidation of alkaloids

#### **CH304: Chemistry of Natural Products**

A student who studies this course

- Develops insight into Chemistry and synthesis of Terpenoids, Steroids, Vitamins and Hormones
- Identifies the structures and functioning of vitamins, hormones Terpenoids and Steroids

#### **CH401: Organic Spectroscopy-II**

A student who studies this course

- Learns the concepts of CMR spectroscopy, Mass spectrometry and 2D NMR spectroscopy
- Exercises elucidating structure of natural products by applying CMR, 2D NMR etc

#### **CH402: Organic Synthesis, Mechanisms and Green Chemistry**

A student who studies this course

- Introduces to eco-friendly topic GREEN CHEMISTRY which comprises environment friendly reactions
- Develops in-depth knowledge in Photochemistry and Pericyclic reactions
- Predicts the feasible pericyclic reaction and possible stereochemistry

#### **CH403: Antibiotics and Drugs**

A student who studies this course

- Understands the concepts of Cell wall biosynthesis, inhibitors, Drugs, Medicinal chemistry and Chemotherapy
- Analyses the advanced techniques in chemotherapy of brain and cancer.
- Identifies the structure and functioning of antimalarial drugs

#### **CH404: Techniques for Modern Industrial Applications**

A student who studies this course

- Elaborates on various analytical techniques available for chemical analysis
- Learns about the Classical Methods of purification, Partition Chromatography, Gas Chromatography, Ion Exchange Chromatography and Electrophoresis.
- Classifies different separation techniques and becomes skilled at Spectrophotometry and chromatography

### ***DEPARTMENT OF ZOOLOGY***

#### **Z101: Structure and Function of Invertebrates and Vertebrates**

A student who studies this course

- Acquires knowledge about invertebrate and vertebrate organization, structure and function and Phylogeny of various invertebratephyla
- Demonstrates the importance of individual organisms and their larvae in the process of evolution

#### **Z102: Biology and Systematics**

A student who studies this course

- Acquires knowledge about Systematics, Biodiversity Hotspots, phylogeny of various vertebratephyla
- Identifies different vertebrate animals basing on their characters

#### **Z103: Developmental Biology**

A student who studies this course

- Acquires knowledge about embryonic development and its significance in Animal evolution
- Learns about larval formation and metamorphosis in animals

#### **Z104: Molecular Cell Biology**

A student who studies this course

- AcquiresknowledgeaboutstructureandfunctionofdifferentBiomoleculesandVitamins.
- Differentiates stages of cell division takes place in growth of the animals

#### **Z201: Genetics and Evolution**

A student who studies this course

- Understand the concepts of inheritance and variations from parents to children.
- Develops knowledge on the concepts of blood group inheritance and interaction of genes

#### **Z202: Comparative Animal Physiology**

A student who studies this course

- Acquires knowledge about physiological processes occur in humans and othervertebrates
- Understands the role of endocrine glands and their importance in homeostasis of human health

#### **Z203: Principles of Ecology**

A student who studies this course

- Learns the sustainable development about the environment and Biodiversity
- Analyses the population densities and their influence on economy of the countries

#### **Z204: Tools and techniques in Biotechnology**

A student who studies this course

- Knows about various types of tools and techniques like microscopy, Spectroscopy, Chromatography, Electrophoresis etc.,
- Understands DNA fingerprinting, its significance and forensic analysis

#### **Z301: Animal Biotechnology and Microbiology**

A student who studies this course

- Learns about genetic engineering, r DNA technology, invitro fertilization and transgenic animals.
- Creates awareness on Gene therapy for some genetical diseases like muscular dystrophy, hemophilia, phenylketonuria and thalassemia etc.,

#### **Z302: Ichthyology**

A student who studies this course

- Learns about structure and Classification of fishes
- Identifies fish species and their structure and physiology

#### **Z303: Limnology**

A student who studies this course

- Acquires knowledge about different types of water environments and lakes
- Appreciates the significance of plankton, nekton, benthos in ponds and rivers and anthropogenic effect on lakes, their consequences and control mechanism

#### **Z304: Aquatic Toxicology**

A student who studies this course

- Develops insight into implications of various types of pollutions such as industrial, thermal, pesticide and radiation pollution
- Knows about Pollution control acts and laws existing in India

#### **Z401: Fish pathology**

A student who studies this course

- Learns about several bacterial, viral and fungal diseases of fishes
- Understands water quality and disease management in fishpond

#### **Z402: Immunology**

A student who studies this course

- Understands the role of immune system and its response to the disease causing agent
- Differentiates different types of immune cells present in our body and the reactions with antigens

#### **Z403: Aquaculture**

A student who studies this course

- Understands the scope of aquaculture in Andhra Pradesh and India
- Learns about fish and shrimp culture methods, intensive and integrated fish culture and recent development in fish culture

#### **Z404: Aquaculture**

A student who studies this course

- Learns to maintain the physical and chemical parameters and pond management in aquaculture
- Understands the techniques involved in processing and preservation of fish on various analytical techniques available for chemical analysis

### ***DEPARTMENT OF ENGLISH***

#### **EG1.1 (17): Structure Of Modern English (17) – I**

It enables the students to

- Acquaint them with International Phonetic Alphabet; identify phonemic symbols and; practice phonetic transcription.
- Recognize the organs involved in producing speech; classify vowels and consonants and; learn consonant clusters.
- Understand the concepts of syllable and word-accent; practice accent and rhythm in connected speech, and intonation.
- Have an understanding of the basic features of human language and animal, communication, the field of linguistics and its branches and learn linguistic theories in studying language. Learn about basic assumptions of modern linguistics ,language varieties, and notions of correctness and acceptability.

#### **EG1.2 (17): Poetry - I**

It enables the students to

- Acquaint the students with the different forms of subjective and objective poetry.
- Provide an insight into the classics in British poetry from the Renaissance to the Victorian Age
- Acquaint the students with the key concepts and trends in British poetry during the period of their foundation, consolidation and expansion.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the poets of the period.

#### **EG1.3 (14): Drama – I**

It enables the students to

- Learn the origin and evolution of English drama.
- Understand the background of the Renaissance Period.
- Understand the importance of Greek drama.
- Learn different types of dramas like Historical Drama, Tragedy, Comedy etc.
- Learn the importance of University Wits.

#### **EG1.4 (14): Prose & Fiction – I**

It enables the students to

- Acquaint the students with the different forms of Fiction and Non-Fiction.
- Provide an insight into the classics of Elizabethan Age to the Victorian Age.
- Acquaint the students with the key concepts and trends in British literature with reference to Fiction and Non-Fiction.
- Appreciate and analyze the various thematic and stylistic aspects in the works of prose writers.

#### **EG1.5 B (14): Twentieth Century Literature – I**

It enables the students to

- To acquaint the students with the different forms of literary works of Twentieth Century.

- To provide an insight into the social issues, Values and Norms in Twentieth Century.
- To acquaint the students with the key concepts and trends in Twentieth Century.
- To enable students to appreciate and analyze the various thematic and stylistic aspects in the works of the writers of the Twentieth Century period.

### **EG 2.1 (19): Structure Of Modern English – II**

It enables the students to

- Realize the different varieties of English language according to region, education, social status etc.
- Learn elements of grammar, and grammatical categories such as verbs, tense, nouns, pronouns, adjectives, adverbs and prepositions at an advanced level.
- Acquire knowledge of common errors in sentences with reference to the grammatical concepts learned in the previous chapters.
- Understand the fundamental concepts of language teaching, differences between first language and second language and learn major methods of teaching English language.
- Learn further methods such as Audio-Lingual method, Situational Language Teaching and Communicative Approach teaching English.

### **EG 2.2 (17): Poetry - II**

It enables the students to

- Acquaint the students with the major literary movements, figures, concepts and trends of the World War, Modern and Post-Modern periods.
- Acquaint the students with the key concepts and trends in British poetry after the advent of the modern age of industrial and technological development.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the poet of the period.

### **EG 2.3 (17): Drama – II**

It enables the students to

- Acquaint the students with the major plays of Shakespeare.
- Acquaint the students with the key concepts in the major Plays of Shakespeare.
- Appreciate and analyze the various thematic stylistic aspects in the major Plays of Shakespeare.

### **EG 2.4 (17): Prose & Fiction – II**

It enables the students to

- Acquaint the students with major literary movements: Modern and Post-Modern Periods.
- Acquaint the students with the key concepts and trends in British Prose works after the advent of modern age of industrial and technological development.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the Prose writers of the period.

### **EG2.5 b (17): Twentieth Century Literature II**

It enables the students to

- Acquaint with different forms of literary works of Twentieth century.
- Provide an insight into the social issues, Values and norms in Twentieth century.
- Acquaint the students with the key concepts and trends in Twentieth century.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the writers of the Twentieth Century period.

### **EG3.1: Literary Criticism-I**

It enables the students to

- Acquaint the students with the key concepts in Literary Criticism from the Classical period to Post-Modern times.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the great writers of different periods.

### **EG3.2: Communicative English - I**

It enables the students to

- Obtain a basic understanding of the definition of communication, process and types.
- Grasp the distinction between verbal and non-verbal communication and their roles in various contexts.
- Learn major language skills and the sub-skills of listening, speaking, reading and writing.
- Understand the usage of words in different contexts in various forms and practice them for effective usage.
- Examine the categories of functional grammar for better understanding of language.

### **EG3.3: Indian Writing in English**

It enables the students to

- Obtain a basic understanding of Indian Writing in English.
- Grasp the basic difference between Anglo-Indian and Indo-Anglian writers and their roles in Indian context.
- Learn major genres of Indian Novel, Poetry, Drama, Short Fiction and Essay.
- Understand the usage of Indian origin words and varied cultures of India.

### **EG3.4: American Literature - I**

It enables the students to

- Acquaint the students with the history, growth, key concepts and trends in American Poetry, Prose and Novel from the Transcendentalists to Post-Modern times.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the great writers of the period.

### **EG3.5: English Language Teaching - I**

It enables the students to

- Obtain a basic understanding of the definition of communication, process and types.
- Grasp the distinction between verbal and non-verbal communication and their roles in various contexts.
- Learn major language skills and the sub-skills of listening, speaking, reading and writing.
- Understand the usage of words in different contexts in various forms and practice them for effective usage.
- Examine the categories of functional grammar for better understanding of language.

### **EG4.1: Literary Criticism - II**

It enables the students to

- Acquaint the students with the key concepts in Literary Criticism from Modern Period to Contemporary times.
- Appreciate and analyze the various thematic and stylistic aspects in the works of the great writers of Modern as well as newly emerging writers of the current periods.

### **EG4.2: Communicative English - II**

It enables the students to

- Understand varieties of English in terms of different registers, dialect and styles.
- Comprehend the elements in an effective discourse such as coherence, cohesion, and paragraph

structure and development.

- Obtain an understanding of the oral communication in various forms such as public speaking, debates, etc, and learn the need for stress and intonation for clarity and meaning.

#### **EG4.3: Indian Literature in Translation**

It enables the students to

- Understand different genres in English literature and appreciate and evaluate important literary writings.
- Improve the students' four skills of the English Language (Listening, Speaking, Reading, and Writing).
- Improve Critical analysis of the literary works by applying critical analysis Theories.
- Improve the skills in English Language Teaching.

#### **EG4.4: American Literature – II**

It enables the students to

- Acquaint the students with the key concepts and trends in American Poetry, Prose and Novel from the Modern to the Post-Modern times.
- Appreciate and analyze the various thematic and stylistic aspects in the work of the great writers of the period.

#### **EG4.5: Colonial/Post Colonial Literature – II**

It enables the students to

- Familiarize the students with history, development, different themes and cultures in Colonial/Post-Colonial period.
- Empower the students to acknowledge and analyze various thematic and stylistic aspects in the works of the famous writers of Colonial and Post-Colonial Era.

### ***DEPARTMENT OF ECONOMICS***

#### **EC1.1: Micro Economics Theory-I**

A student who studies this course

- Learns about the concept of individual decision makers
- Demonstrates the functions of consumers and producers in economic environment

#### **EC1.2: Macro Economics**

A student who studies this course

- Plans to ensure long term stable economic success
- Develops knowledge about macroeconomic goals that most central banks aim to achieve

#### **EC1.3: Public Finance**

A student who studies this course

- Understands the process of taxation with raising revenue
- Appreciates the concept of redistribution of wealth for reducing inequalities

#### **EC 1.4: Evaluation of Economic Doctrines**

A student who studies this course

- Knows about the history of Economic theories
- Develops knowledge about more specialized forms of Economic Theories

#### **EC1.5: Mathematical Methods**

A student who studies this course

- Acquires knowledge about the essential mathematical skills used in Economic Analysis

- Applies mathematical skills in formulating and analyzing economic problems

### **EC2.1: Micro Economics Theory-II**

A student who studies this course

- Develops in-depth knowledge about the principles of Economics
- Demonstrates the functions of consumers and producers within the larger economic systems

### **EC2.2: Monetary Economics**

A student who studies this course

- Understands the concept of Price stability
- Proposes schemes for sustainable economic growth, employment and for increasing economic welfare

### **EC2.3: International Economics**

A student who studies this course

- Learns about the economic policies of developed countries
- Emphasizes the urge of improving trade relations between countries for economical growth

### **EC2.4: Public Finance Administration**

A student who studies this course

- Learns about money management
- Understands about system budgeting for maximum control of public expenditure

### **EC2.5: Statistical Methods**

A student who studies this course

- Develops skills in analysing and interpreting statistical data
- Relates statistical methodology to economic enquiry

### **EC3.1: Economic Growth and Development**

A student who studies this course

- Knows about the government initiatives for full employment, price stability, economic growth and redistribution of income etc.
- Understands the need of improving living standards by raising per capita income

### **EC3.2: Indian Economy**

A student who studies this course

- Learns about five year plans and government actions for economical growth
- Develops awareness for improving performance in agriculture

### **EC3.3: Environmental Economics**

A student who studies this course

- Understands the relation between economic development and environmental quality
- Demonstrates various socio-economic possibilities to reduce pollution and to uplift the standards of living

### **EC3.4: Computer Applications in Economics**

A student who studies this course

- Develops skills of using computer applications and software for solving economic problems
- Learns about quality assurance through critically evaluating procedures and results

### **EC3.5: Labour Economics**

A student who studies this course

- Analyses individuals labour supply as the result of the optimum division of time between



work and leisure

- Understands the importance of education as an investment and its influence on the current and future labour supply

#### **EC4.1: India's Foreign Trade**

A student who studies this course

- Develops insight into India's international trade policy
- Acquires knowledge about trade properties, economic growth and national development

#### **EC4.2: Industrial Economics**

A student who studies this course

- Identifies and explains economic concepts and theories related to the behavior of economic agents, markets, industry and firm structures, legal institutions, social norms and government policies

#### **EC4.3: Agricultural Economics**

A student who studies this course

- Differentiates industrial economics and agricultural economics
- Reflects economical, social and environmental considerations
- Understands the challenges in growth when public resources allocated to agriculture are being reduced

#### **EC4.4: Economics of Infrastructure**

A student who studies this course

- Learns basic infrastructure and services at the community level
- Promotes awareness about waste management, emergency services, social welfare transport and communication facilities etc.

#### **EC4.5: Financial Markets and Analysis**

A student who studies this course

- Demonstrates economic activities in improving standards of living
- Gains knowledge about stock markets