ANDHRA UNIVERSITY

Telegrams: UNIVERSITY
Telephone: 284 4000
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No. L I (1)/UG Courses (CBCS)/2021.

Visakhapatnam,
Dt: 09-06-2021.

From: THE REGISTRAR

To

The Principals of the
All Affiliated Colleges (U.G.),
Courses (B.A., B.Com., B.Sc., B.B.A.)

Sir/Madam,

Sub : Revised Choice Based Credit System (CBCS) Syllabus (w.e.f. 2020- 21) U.G. Courses – Requesting – Reg.

Ref : : Lr.No. Nil received from Academic Cell APSCHE, syllabus of English Literature, email dt. 25-05-2021.

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I am by direction to inform that the Principals of the affiliated colleges to strictly adhere to the APSCHE guidelines for the revised Choice Based Credit System of English Literature (CBCS) placed in A.U. website w.e.f the academic year 2020-21.

Thanking you,

Yours faithfully,

M. Hema Naik

(M. HEMA NAIK)
DEPUTY REGISTRAR (ACADEMIC)

Copies to:

1. The Dean of Academic Affairs, A.U., VSP.
2. The Dean, U.G. & P.G, Professional Courses, A.U., Vsp.
3. The Dean, CDC, A.U., Vsp.
4. The Dean, Confidential, A.U., Vsp.
5. The Controller of Examinations, A.U., Vsp.
6. The Secretary to V.C., Rector Table, P.A. to Registrar, A.U., Vsp.
7. The Director, Computer Centre, A.U., Vsp.
8. O.C. & O.O.F.

B.A SPECIAL ENGLISH SYLLABUS (REVISED - CBCS)

I Year, Semester I, Course - I:

An Introduction to the English Literature (600-1500)

Course Outcomes:

After going through the course, the learner would be able to

- Know about the features of Old, Middle English and Renaissance periods
- Review the aspects of different literary genres, forms and terms
- Identify the characteristics in Poetry, Drama and Literary Criticism
- Interpret literature of these periods critically

Unit	Module	Topic	Marks
1	History of English Literature	Old English , Middle English and Renaissance Periods	15 marks
2	Introduction to the Genres , Literary Forms and Terms	Poetry, drama, criticism, Ballad, Epic, romance, lyric, ode, elegy, pastoral elegy, sonnet, mystery / miracle plays, morality play, rhyme, meter, metaphysical conceit	15 marks
3	Poetry	Chaucer: *Controlling the Tongue* Edmund Spenser: *One day I Wrote Her Name*	15 marks
4	Drama	Marlowe: Dr. Faustus	15 marks
5	Literary Criticism	Sir Philip Sidney: Apologic for Poetry	15 marks
Internals : 25			Total marks: 100

I Year, Semester II, Course-II:

An Introduction to Elizabethan and Jacobean Literatures (1500-1660)

Course Outcomes:

After going through the course, the learner would be able to

- 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

Unit	Module	Topic	Marks
I	History of English Literature Genre, Literary Forms	Elizabethan and Jacobean (16th and 17th Century) Simile, metaphor, personification, alliteration, apostrophe, hyperbole, allegory, allusion, anti-climax, irony, blank verse, tragedy, comedy, tragic-comedy, romantic comedy, chronicle play, masque, comedy of humours, farce	15 marks
3	Drama (Romantic Comedy)	William Shakespeare: *Twelfth Night*	15 marks
2	Poetry	John Donne: *For whom the Bell Tolls* Ben Jonson: *It is not Growing Like a Tree*	15 marks
4	Prose	Francis Bacon: Of Superstition, Of Parents and Children	15 marks
5	Literary Criticism	Aristotle's *Poetics* – Section I	15 marks
Internals : 25			Total marks: 100

II Year, Semester III, Course-III:

An Introduction to Restoration and Augustan Literature (1660 – 1750)

ourse Outcomes:

After going through the course, the learner would be able to

- 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

Unit	Module	Topic	Marks
1	History of English Literature Literary Forms and Terms	Restoration and Augustan Periods (17th and 18th Centuries) Satire, mock-epic, heroic couplet, epistle, heroic tragedy, comedy of manners, genteel comedy, sentimental comedy, periodical essay,	15 marks
2	Poetry	Jonathan Swift: *The Place of the Damned* John Bunyan: *Upon the Disobedient Child*	15 marks
3	Drama	William Congreve: *The Way of the World*	15 marks
4	Prose	*Addison and Steele: A Lady's Diary, Advice in Love*	15 marks
5	Literary Criticism	Samuel Johnson: Preface to Shakespeare	15 marks
Internals : 25			Total marks:100

II Year, Semester IV, Course-IV:

An Introduction to Romantic and Victorian (1757-1901)

Course Outcomes:

After going through the course, the learner would be able to

- Relate the features of Romantic and Victorian periods
- Observe the aspects of poetry and the contribution of women as literary artists
- Analysethe characteristics in Poetry, Drama, Prose and Literary Criticism
- Compare and evaluate literature of these periods critically

Unit	Module	Topic	Marks
1	History of English Literature Literary Forms and Terms	Romantic and Victorian Periods biography, autobiography, melodrama, historical novel, sentimental novel, gothic novel, regional novel, flat character, round character, protagonist,antagonist	15 marks
2	Poetry	Wordsworth: Tintern Abbey Christina Rosetti: A Birthday Elizabeth Barret Browning: The Lady's Yes.	15 marks
3	Drama	Oliver Goldsmith: She Stoops to Conquer	15 marks
4	Fiction	Jane Austen: *Pride and Prejudice*	15 marks
5	Literary Criticism	Matthew Arnold: The Study of Poetry	15 marks
Internals : 25			Total marks:100

II Year, Semester IV, Course-V
A Study of the English Language

Course Outcomes:

After going through the Course the learner would be able to

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

Unit	Topic	Marks
1	Indo-European Family of Languages, Grimm's Law , Verner's Law and the First Sound Shift	15 marks
2	Old English, Middle English and Modern English	15 marks
3	Various Influences on the English Language – Latin, French and Scandinavian	15 marks
4	Change of Meaning , Word - Formation and Standard English	15 marks
5	English across the World – British, American, GIE	15 marks
	Internals : 25 (Study Project, Written Test and Assignment)	Total Marks: 100

II Year, Semester IV, Course-VI:

Glimpses of World Literature

Course Outcomes:

After going through the Course the learner would be able to

- Understand the aspects of literature from all over the world
- Analyse what makes the artists respond in different contexts
- Interpret how different forms contribute to reflect life across the world

Unit	Module	Topic	Marks
1	Poetry	1. Anna Akhmatova: *How I Taught Myself to live simple* 2. A.D. Hope: *The Sacred Way* 3.Maya Angelou: *Caged Bird*	15
2	Drama	Vijay Tendulkar: *Silence! The Court is in Session*	15
3	Fiction	Nadine Gordimer: *July's People*	15
4	Short Story	Tillie Olsen: *I Stand Here Ironing* Glenda Adams: *Lies*	15
5	Literary Criticism	1. A.D.McKenzie: *What is Commonwealth Literature?* 2. Chinua Achebe: *"An Image of Africa: Racism in Conrad's Heart of Darkness."*	15
Internals : 25			Total : 100

Overall Structure of the Syllabus/Curriculum

Year	Semester	Paper	Category	Hrs/wk	Credits	Marks	Internal	External
1	I	I	Core	5	4	100	25	75
	II	II	Core	5	4	100	25	75
2	III	III	Core	5	4	100	25	75
	IV	IV	Core	5	4	100	25	75
		V	Core	5	4	100	25	75
		VI	Core	5	4	100	25	75
3	V	V	Skill Enhancement Course	5	4	100	25	75
		VI	Skill Enhancement Course	5	4	100	25	75
	VI	Internship						

Note: Student Activities like Practice, Analysis, Reviews, Seminars, Assignments, Group Discussions, Case studies, Fieldwork, Surveys, Study Projects, Models and Watching videos are Part of Curriculum in all papers. The teacher shall identify appropriate activities for each unit and assign them to the students for improving domain skills.

Recommended Reference Books

1. *A History of English Literature* by W.J Long

2. *A Critical History of English Literature* by David Daiches (Published by Supernova)

3. *The Cambridge History of English Literature* by Ward and Waller (Published byKessinger)

4. *A Glossary of Literary Terms* by M.H Abrams (Published by Cengage)

5. *The Penguin Dictionary of Literary Terms and Literary Theory* by J.A. Cuddon(Published by Penguin)

6. A.C.Baugh: *A Study of the English Language*

7. Bill Ashcroft, Graham Griffiths, Helen Tiffin: *The Empire Writes Back*

Subject Experts

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ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

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REVISED SYLLABUS OF ENGLISH under (Part – I)

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: THREE-YEAR B.A. /B.Sc./B.Com/BCA/BBM/BHM & CT, etc.

Andhra Pradesh State Council of Higher Education, Mangalagiri, Guntur District

Revised English Syllabus from 2020-21 Onwards

Under Choice Based Credit System

Introduction

The turn of the twenty first century has made the English Language skills a passport to the job market to all job seekers. Ability to communicate well in English has become a hallmark of good educational foundation and a prerequisite for all graduates. The students are expected to possess a measurable knowledge and a set of skills in using English language in personal and professional life. The present course **English Praxis** in three parts offers suitable context to teach, learn and practise target language skills. Each part of the course aims at certain specified skills which are taught through various text-based classroom activities and the English Language Laboratory activities. The syllabus of the course offers an open platform to the teacher to facilitate active participatory learning to the students. Hence the whole course is offered in three semesters. The first part of the course offers fundamentals of the English language in five units: Listening, Speaking, Grammar, Writing and Soft Skills. These introductory units are developed into full length courses in the subsequent semesters in addition to Reading Skills so as to prepare the learner into a fully equipped individual.

In addition to the classroom interaction, the course also aims at language enhancement through various ICT based online and offline activities in the English Language Laboratory. Each Unit is reinforced with Laboratory activities. The College administration will bestow special attention to make the **English Praxis** course an activity oriented one. The innovative methods and creativity of the English faculty will enhance the learners' participation in teaching and learning.

Semester-I English Praxis Course-I : **A Course in Communication and Soft Skills**

Semester-II English Praxis Course -II : **A Course in Reading & Writing Skills**

Semester-III English Praxis Course -III**: A Course in Conversational Skills**

English Syllabus-Semester-I

English Praxis Course-I

A Course in Communication and Soft Skills

Learning Outcomes

By the end of the course the learner will be able to :

- Use grammar effectively in writing and speaking.
- Demonstrate the use of good vocabulary
- Demonstrate an understating of writing skills
- Acquire ability to use Soft Skills in professional and daily life.
- Confidently use the tools of communication skills

I. UNIT: Listening Skills

i. Importance of Listening
ii. Types of Listening
iii. Barriers to Listening
iv. Effective Listening

II. UNIT: Speaking Skills

a. Sounds of English: Vowels and Consonants
b. Word Accent
c. Intonation

III. UNIT: Grammar

a) Concord
b) Modals
c) Tenses (Present/Past/Future)
d) Articles
e) Prepositions
f) Question Tags
g) Sentence Transformation (Voice, Reported Speech & Degrees of Comparison)
h) Error Correction

IV. UNIT: Writing

i. Punctuation
ii. Spelling
iii. Paragraph Writing

V. UNIT: Soft Skills

a. SWOC
b. Attitude
c. Emotional Intelligence
d. Telephone Etiquette
e. Interpersonal Skills

English Syllabus-Semester-II

English Praxis Course-II

A Course in Reading & Writing Skills

Learning Outcomes

By the end of the course the learner will be able to :

- Use reading skills effectively
- Comprehend different texts
- Interpret different types of texts
- Analyse what is being read
- Build up a repository of active vocabulary
- Use good writing strategies
- Write well for any purpose
- Improve writing skills independently for future needs

I. UNIT

Prose	: 1. How to Avoid Foolish Opinions	Bertrand Russell
Skills	: 2. Vocabulary: Conversion of Words	
	: 3. One Word Substitutes	
	: 4. Collocations	

II. UNIT

Prose	: 1. The Doll's House	Katherine Mansfield
Poetry	: 2. Ode to the West Wind	P B Shelley
Non-Detailed Text	: 3. Florence Nightingale	Abrar Mohsin
Skills	: 4. Skimming and Scanning	

III. UNIT

Prose	: 1. The Night Train at Deoli	Ruskin Bond
Poetry	: 2. Upagupta	Rabindranath Tagore
Skills	: 3. Reading Comprehension	
	: 4. Note Making/Taking	

IV. UNIT

Poetry	: 1. Coromandel Fishers	Sarojini Naidu
Skills	: 2. Expansion of Ideas	
	: 3. Notices, Agendas and Minutes	

V.UNIT

Non-Detailed Text	: 1. An Astrologer's Day	R K Narayan
Skills	: 2. Curriculum Vitae and Resume	
	: 3. Letters	
	: 4. E-Correspondence	

English Syllabus-Semester-III

English Praxis Course-III

A Course in Conversational Skills

Learning Outcomes

By the end of the course the learner will be able to :

- Speak fluently in English
- Participate confidently in any social interaction
- Face any professional discourse
- Demonstrate critical thinking
- Enhance conversational skills by observing the professional interviews

I. UNIT

Speech : 1. Tryst with Destiny Jawaharlal Nehru
Skills : 2. Greetings
: 3. Introductions

II. UNIT

Speech : 1. Yes, We Can Barack Obama
Interview : 2. A Leader Should Know How to Manage Failure
Dr.A.P.J.Abdul Kalam/ India Knowledge at Wharton
Skills : 3. Requests

III. UNIT

Interview : 1. Nelson Mandela's Interview With Larry King
Skills : 2. Asking and Giving Information
: 3. Agreeing and Disagreeing

IV. UNIT

Interview : 1. JRD Tata's Interview With T.N.Ninan
Skills : 2. Dialogue Building
: 3. Giving Instructions/Directions

V. UNIT

1. **Speech** : 1. You've Got to Find What You Love Steve Jobs
Skills : 2. Debates
: 3. Descriptions
: 4. Role Play

SUBJECT EXPERTS

Prof. K.Ratna Shiela Mani,
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SYLLABUS VETTED BY

Prof. C.L.L.Jayaprada,
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Visakhapatnam.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

REVISED UG SYLLABUS UNDER CBCS
(Implemented from Academic Year 2020-21)
PROGRAMME: FOUR YEAR B.Sc. (Hons)
Domain Subject**: BOTANY**

Skill Enhancement Courses (SECs) for Semester V, from 2022-23 *(Syllabus with LearningOutcomes, References, Co-curricular Activities & Model Q.P. Pattern)*

Structure of SECs for Semester – V

(To choose One pair from the Four alternate pairs of SECs)

Univ. Code	Course NO. 6 & 7	Name of Course	Th. Hrs. / Week	IE Mar-ks	EE Mar-ks	Credits	Prac. Hrs./ Wk	Mar-ks	Credits
	6A	Plant Propagation	**3**	**25**	**75**	**3**	**3**	**50**	**2**
	7A	Seed Technology	**3**	**25**	**75**	**3**	**3**	**50**	**2**
		OR							
	6B	Vegetable Crops – Cultivation Practices	**3**	**25**	**75**	**3**	**3**	**50**	**2**
	7B	Vegetable Crops – Post Harvest Practices	**3**	**25**	**75**	**3**	**3**	**50**	**2**
		OR							
	6C	Plant Tissue Culture	**3**	**25**	**75**	**3**	**3**	**50**	**2**
	7C	Mushroom Cultivation	**3**	**25**	**75**	**3**	**3**	**50**	**2**
		OR							
	6D	Gardening and Landscaping	**3**	**25**	**75**	**3**	**3**	**50**	**2**
	7D	Agroforestry	**3**	**25**	**75**	**3**	**3**	**50**	**2**

Note-1: For Semester–V, for the domain subject Botany, any one of the four pairs of SECs shall bechosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The pair shall notbe broken (ABCD allotment is random, not on any priority basis).

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.*

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course-6A: Plant Propagation

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Explain various plant propagation structures and their utilization.
2. Understand advantages and disadvantages of vegetative, asexual and sexual plant propagation methods.
3. Assess the benefits of asexual propagation of certain economically valuable plants using apomictics and adventive polyembryony.
4. Demonstrate skills related to vegetative plant propagation techniques such as cuttings, layering, grafting and budding.
5. Apply a specific macro-propagation technique for a given plant species.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)

(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit – 1: Basic concepts of propagation (10h)

1. Propagation: Definition, need and potentialities for plant multiplication; asexual and sexual methods of propagation - advantages and disadvantages.
2. Propagation facilities: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses, phytotrons nursery - tools and implements.
3. Identification and propagation by division and separation: Bulbs, pseudobulbs, corms, tubers and rhizomes; runners, stolons, suckers and offsets.

Unit – 2: Apomictics in plant propagation (10h)

1. Apomixis: Definition, facultative and obligate; types – recurrent, non-recurrent, adventitious and vegetative; advantages and disadvantages.
2. Polyembryony: Definition, classification, horticultural significance; chimera and bud sport.
3. Propagation of mango, *Citrus* and *Allium* using apomictic embryos.

Unit – 3: Propagation by cuttings (10h)

1. Cuttings: Definition, different methods of cuttings; root and leaf cuttings.

2. Stem cuttings: Definition of stem tip and section cuttings; plant propagation by herbaceous, soft wood, semi hard wood, hard wood and coniferous stem cuttings.
3. Physiological and bio chemical basis of rooting; factors influencing rooting of cuttings; Use of plant growth regulators in rooting of cuttings.

Unit – 4: Propagation by layering (10h)

1. Layering: Definition, principle and factors influencing layering.
2. Plant propagation by layering: Ground layering – tip layering, simple layering, trench layering, mound (stool) layering and compound (serpentine layering).
3. Air layering technique – application in woody trees.

Unit – 5: Propagation by grafting and budding (10h)

1. Grafting: Definition, principle, types, graft incompatibility, collection of scion wood stick, scion-stock relationship, and their influences, bud wood certification; micrografting.
2. Propagation by veneer, whip, cleft, side and bark grafting techniques.
3. Budding: Definition; techniques of 'T', inverted 'T', patch and chip budding.

III. References:

1. Sharma RR and Manish Srivastav.2004. Plant Propagation and Nursery Management International Book Distributing Co. Lucknow.
2. Hartman, HT and Kester, D.E.1976. Plant Propagation: Principles and Practices, Prentice Hall of India Pvt. Ltd. Bombay.
3. Sadhu, M.K. 1996. Plant Propagation. New Age International Publishers, New Delhi.
4. Web resources suggested by the teacher concerned and college librarian including reading material.

Course -6A: Plant Propagation - Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Make use of different plant propagation structures for plant multiplication.
2. Explore the specialized organs or asexual propagules in some plants for their proliferation.
3. Demonstrate skills on micropropagation of plants through vegetative propagation techniques.
4. Evaluate and use a suitable propagation technique for a given plant species.

V. Practical (Laboratory) syllabus: (30hrs): The following experiments/practices shall be conducted by students in the lab.

1. Preparation of nursery beds – flat, raised and sunken beds.
2. Propagation through apomictic.
3. Propagation by separation and division technique.

4. Propagation by cuttings.
5. Propagation by layering
6. Propagation by grafting.
7. Propagation by budding.
8. Preparation of potting mixture, potting and repotting.

VI. Lab References:

1. Prasad, V. M. and Balaji Vikram, 2018. Practical Manual on Fundamentals of Horticulture and Plant Propagation, Write & Print Publications, New Delhi
2. Upadhyay S. K. (Ed.) 2013. Practical Manual Basic Horticulture-I, Akashdeep Printers, New Delhi
3. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/field training of students by teacher: (Lab: 10 + field: 05 hours):*

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of different plant propagation structures, containers, preparation of soil, plant propagation through separation and division, apomictics, cuttings, layering, grafting and budding.
2. **For Student**: Students shall (individually) visit horticulture nurseries in a University/, research institute /private nursery and observe propagation structures, propagation techniques etc., write their observations and submit a hand-written Fieldwork/Project work/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by experts in plant vegetative propagation methods.
2. Assignments (including technical assignments like identifying propagation structures and their operational techniques for a specific plant species.
3. Seminars, Group discussions, Quiz, Debates etc. (suggested topics):
4. Preparation of videos on plant propagation techniques in relation to different economically useful plants.
5. Collection of material/figures/photos related to plant propagation methods, writing and organizing them in a systematic way in a file.
6. Visits to Horticulture/Agriculture/Forest nurseries, research organizations, universities etc.
7. Invited lectures and presentations on related topics by experts in the specified area.

Model Question Paper pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Course -6A: Plant Propagation

Max. Time: 3 Hrs. Max. Marks: 50

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1. Demonstration plant propagation using separation and division /apomictics 'A' 10
2. Demonstration plant propagation using cuttings/layering technique 'B' 10
3. Demonstration of plant propagation using grafting/budding technique 'C' 10
4. Scientific observation and data analysis 4 x 3 = 12
   - D. Plant propagation structure model/photograph
   - E. Plant Growth Regulator
   - F. Nursery bed model /photograph
   - G. Asexual propagule/container/pot mixture for propagation
5. Record + Viva-voce 5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course-7A: Seed Technology

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning outcomes:

Students at the successful completion of the course will be able to:

1. Explain the causes for seed dormancy and methods to break dormancy.
2. Understand critical concepts of seed processing and seed storage procedures.
3. Acquire skills related to various seed testing methods.
4. Identify seed borne pathogens and prescribe methods to control them.
5. Understand the legislations on seed production and procedure of seed certification.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit - 1: Seed dormancy (10h)

1. Seed and grain: Definitions, importance of seed; structure of Dicot and Monocot seed.
2. Role and goals of seed technology; characteristics of quality seed material.
3. Dormancy: Definition, causes for seed dormancy; methods to break seed dormancy.

Unit – 2: Seed processing and storage (10h)

1. Principles of seed processing: seed pre-cleaning, precuring, drying, seed extraction; cleaning, grading, pre-storage treatments; bagging and labelling, safety precautions during processing.
2. Seed storage; orthodox and recalcitrant seeds, natural longevity of seeds.
3. Factors affecting longevity in storage; storage conditions, methods and containers.

Unit – 3: Seed testing (10h)

1. Definition of seed vigour, viability and longevity; seed sampling and equipment; physical purity analysis.
2. Seed moisture – importance – methods of moisture determination.
3. Seed germination tests using paper, sand or soil – standard germination test; TZ test to determine seed viability; seed health testing.

Unit – 4: Seed borne diseases (10h)

1. A brief account of different seed borne diseases and their transmission.
2. Different seed health testing methods for detecting microorganisms.
3. Management of seed borne diseases; seed treatment methods: spraying and dusting.

Unit – 5: Seed certification (10h)

1. Objectives - Indian seed Act; seed rules and seed order; new seed policy (1988).
2. Seed Inspector: Duties and responsibilities; classes of seeds, phases of certification standards (i.e., Land requirement, isolation distance) etc.
3. Issue of certificates, tags and sealing; pre and post control check: Genetic purity verification, certification, records and reporting.

III. References:

1. Umarani R, Jerlin R, Natarajan N, Masilamani P, Ponnuswamy AS 2006. Experimental Seed Science and Technology, Agrobios, Jodhpur
2. Agrawal, 2005. Seed Technology. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Desai B D 2004. Seeds Hand Book: Processing and Storage, CRC Press
4. Agarwal V K and J B Sinclair 1996, Principles of Seed Pathology, CRC Press
5. Tunwar NS and Singh SN. 1988. Indian Minimum Seed Certification Standards. CSCB, Ministry of Agriculture, New Delhi.
6. McDonald, M.B. and L.O. Copland. 1999. Seed Science and Technology Laboratory Manual. Scientific Publishers, Jodhpur
7. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course -7A: Seed Technology Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Demonstrate skills on various methods to break the seed dormancy.
2. Determine seed moisture, seed germination percentage, seed viability and vigour.
3. Identify the seed borne pathogens and prescribe methods to prevent or control them.
4. Evaluate various methods to produce healthy seeds.

V. Practical (Laboratory) syllabus: (30hrs)

1. Determination of physical properties of seeds of 3 select local crops (1 each from cereals, millets, pulses and oil seeds).
2. Breaking seed dormancy in 3 select local crops.
3. Measurement of seed moisture content by O S W A or moisture meter or oven drying method.
4. Seed germination tests and evaluation.
5. Seed vigour - conductivity test.
6. Accelerated ageing tests.
7. Tetrazolium test.
8. Priming and invigoration treatments for improving germination and vigour.

9. Techniques of seed health testing - visual examination of seeds, washing test, incubation methods, embryo count method, seed soak method for the detection of certain seed borne pathogens.
10. Using various types of tools for dusting and spraying pesticides/insecticides.

VI. Lab References:

1. Sanjeev Kumar, 2019. Practical Manual Seed Technology of Vegetable Crops, M/s Asian Printery, Ahmedabad
2. Divakara Sastry, E.V., Dhirendra Singh and S.S.Rajput, 2013. Seed Technology: Practical Manual, Swami Keshwanand Rajasthan Agricultural University, Jobner
3. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

Mandatory: (*Lab/field training of students by teacher: (Lab: 10 + field: 05 hours)*

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than15 hours on the field techniques/skills of identifying and drawing seed structure, methods of breaking seed dormancy, seed cleaning, seed storage, identification of seed borne diseases, seed certification procedure.
2. **For Student**: Students shall (individually) visit horticulture/agriculture/ forest nursery/commercial seed production firms/ seed testing laboratories in government or private sector, observe seed production techniques, processing and storage, seed testing and certification procedures etc., write their observations and submit a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

a) Suggested Co-Curricular Activities:

1. Training of students by experts in seed technology.
2. Assignments (including technical assignments like seed processing and storage techniques, seed testing, seed certification, seed borne diseases- prevention and control).
3. Seminars, Group discussions, Quiz, Debates etc. (suggested topics):
4. Preparation of videos on various aspects related to seed technology.
5. Collection of material/figures/photos related to seed technology, writing and organizing them in a systematic way in a file.
6. Visits to seed production units in Industries/Horticulture/Agriculture/Forest universities/colleges; research organizations, seed testing laboratories etc.
7. Invited lectures and presentations on related topics by experts in the specified area.

Model Question Paper pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Course – 7A: Seed Technology

Max. Time: 3 Hrs. Max. Marks: 50

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1. Demonstration of a method to break seed dormancy 'A'	10
2. Determination of seed moisture content/ seed germination test 'B'	10
3. Demonstration of test for seed viability/ seed vigour 'C'	10
4. Scientific observation and data analysis	4 x 3 = 12
D. Monocot / Dicot seed	
E. Seed sampling equipment	
F. Seed borne pathogen specimen/photograph	
G. Seed certification agency/procedure	
4. Record + Viva-voce	5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 6B: Vegetable Crops – Cultivation Practices
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Identify different vegetable plants and realize their value in human nutrition.
2. Analyse the types of soils to cultivate vegetable crops.
3. Demonstrate skills on agronomic practices for cultivation of vegetable crops.
4. Acquire knowledge on water, weed and disease managements in vegetable farming.
5. Comprehend aspects related to harvesting and storage of produce.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit – 1: Introduction to Olericulture (10h)

1. Vegetables and Olericulture: Definitions, nutritive value of vegetables and economic significance of vegetable farming.
2. Classification of vegetable crops (Botanical, based on climatic zones and economic parts used).
3. Types of vegetable gardens (kitchen gardening, terrace gardening, market gardening and truck gardening); implements used in vegetable gardening; vegetable forcing – a brief concept.

Unit – 2: Cultivation of leafy vegetables (10h)

1. Leafy vegetables: Definition and a brief account of locally cultivated crops.
2. Study of the following leafy vegetable crops: (a) *Amaranthus* (b) Palak (c) *Hibiscus cannabinus* (d) Fenugreek: systematic position, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

Unit – 3: Cultivation of fruity vegetables (10h)

1. Fruity vegetables: Definition and a brief account of locally cultivated crops.
2. Study of the fruity vegetable crops: (a) Okra (b) Tomato (c) Chillies (d) Brinjal: systematic position, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield- storage, disease and pest control and seed production

Unit – 4: Cultivation of peas and beans (10h)

1. A brief account of locally cultivated peas and beans.

2. Study of the following crops: (a) *Dolichos* (b) Cluster bean (c) French bean: Systematic position, nutritive value, origin, area, production, improved Varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

Unit – 5: Cultivation of root and tuber crops (10h)

1. A brief account of locally cultivated root and tuber crops.
2. Study of the following crops: (a) Carrot (b) Radish (c) Sweet potato (d) Potato: Systematic position, family, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

III. References:

1. Bose T K et al. (2003) Vegetable crops, Naya Udhyog Publishers, Kolkata.
2. Singh D K (2007) Modern vegetable varieties and production, IBN Publisher Technologies, International Book Distributing Co, Lucknow.
3. Premnath, Sundari Velayudhan and D P Sing (1987) Vegetables for the tropical region, ICAR, New Delhi
4. Shanmugavelu, K. G. 1989. Production Technology of Vegetable Crops. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi.
5. Rana MK. 2008. Scientific Cultivation of Vegetables. Kalyani Publ., New Delhi
6. Rubatzky VE and Yamaguchi M. (Eds.). 1997. World Vegetables: Principles, Production and Nutritive Values. Chapman & Hall, London.
7. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 7B: Vegetable Crops – Cultivation Practices – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. List out, identify and handle different garden implements.
2. Identify the important vegetable crops grown in their locality.
3. Demonstrate various skills in cultivation of vegetable crops.
4. Identify pests, diseases and their remedies that are specific to a vegetable crop.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of seeds of important local vegetable plants and preparation of herbarium.
2. Identification of local vegetable crops and handling of garden tools.
3. Analysis of garden soil for ratios of physical characteristics by sieve separation.
4. Determination of chemical characters of garden soil (pH, EC, Organic Carbon, SAR).
5. Planning and layout of a vegetable crop farm.

6. Preparation of nursery bed (raised, sunken and flat beds) and sowing of seeds.
7. Transplanting and care of vegetable seedlings.
8. Intercultural operations in vegetable plots.
9. Estimation of Total Soluble Solids (TSS) by Refractometer in a fruit and a leafy vegetable.
10. Estimation of Vitamin - C in a fruit and a leafy vegetable by DCIP method.
11. Identification of pests and disease-causing organisms on any two vegetable plants.
12. Seed extraction in tomato and brinjal.

VI. Lab References:

1. Akhilesh Sharma (Ed.), 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
2. Biswajit Saha and Shri Dharampal Singh, 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
3. Saini RS, K.D. Sharma, O.P, Dhankhar and R.A. Kaushik (Eds.). 2001. Laboratory Manual of Analytical Techniques in Horticulture. Agrobios, Jodhpur
4. Ranganna S. 1986. Handbook of Analysis and Quality Control for Fruit and Vegetable Products. Tata-McGraw Hill, New Delhi
5. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours***)**

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of vegetable plants identification, vegetable gardening, agronomic practices, water, weed and disease management; harvesting and storage of produce.
2. **For Student**: Students shall (individually) visit a horticulture university/ research station or vegetable crop farm in their locality, observe different vegetable crops/ varieties of a vegetable crop, intercultural operations, pests and diseases, harvesting and storage etc., write their observations and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts or farmers.
2. Assignments (including technical assignments like tools in vegetable gardening and their handling, agronomic practices, modern irrigation methods, organic farming practices etc.)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on cultivation practices for vegetable crops.
5. Collection of material/figures/photos related to different vegetable crop species, writing and organizing them in a systematic way in a file.

6. Visits to horticulture universities, research organizations, private vegetable farming units etc.
7. Invited lectures and presentations on related topics by field/industrial experts

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Vegetable Crops – Cultivation Practices

Max. Time: 3 Hrs. Max. Marks: 50

1. Demonstration of nursery bed making/transplanting of seedlings 'A' 8
2. Determination of physical or chemical characters of a given soil sample / Preparation of slide and identification of pest/disease-causing organism in plant part given 'B' 10
3. Estimation of Total Soluble Solids/Vitamin-C in a given plant sample 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Identification of a garden tool
   E. Identification of seed/specimen of a vegetable crop species
   F. Identification of a weed/irrigation method
   G. Identification of a pest/disease causing organism
5. Record + Viva-voce 5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 7B: Vegetable Crops – Post Harvest Practices
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand various practices for vegetable produce from harvesting to marketing.
2. Demonstrate skills on storage, processing and preservation of vegetables.
3. Summarize causes for spoilage of vegetables before and during storage and methods to prevent and control them.
4. Make use of preservation methods to reduce the loss of vegetable produce.
5. Explain about value added products, packaging and marketing of vegetables.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit – 1: Introduction to Post Harvest Practices (10h)

1. Post-harvest technology: Definition; importance, scope and future status of post-harvest management of vegetables.
2. Study of maturity standards of vegetables; harvest techniques of vegetables, methods stages, signs of harvesting; harvesting and its relationship with quality, sorting and grading.
3. Careful handling of harvested vegetables; pre-harvest and post-harvest factors responsible for ripening.

Unit – 2: Methods of storage (10h)

1. Climacteric and non-climacteric types of vegetables.
2. Methods of storage to prolong shelf life of harvested vegetables; on-farm storage, evaporatively cooled stores, ventilated storage, pit storage etc.
3. Refrigerated storage, refrigeration cycle, controlled and modified atmosphere, hypobaric storage.

Unit – 3: Processing of vegetables (10h)

1. Causes for spoilage of vegetables and control measures during storage; post-harvest disease and pest management.
2. Techniques to prevent deterioration; vegetable processing equipment; minimal processing of vegetables.
3. Safe chemicals and microbial limits; application of growth regulators for quality assurance; grading.

Unit -4: Preservation and value-addition (10h)

1. Importance and scope of vegetable preservation in India; principles underlying general methods of preservation.
2. Methods of preservation; food additives and food colours.

3. Fried products, process of frying; dried vegetables; sauces and chutneys, pickles and salted vegetables; by-product and waste utilization.

Unit – 5: Marketing (10h)

1. Packing line operations, packaging of vegetables and their products; transportation; codex norms for export of perishables.
2. Demand supply analysis of important vegetables; market potential of various vegetables products.
3. Important marketing agencies and institutions; importance of cooperative marketing.

III. References:

1. Salunkhe DK and Kadam SS. (Ed.). 1998. Hand Book of Vegetable Science and Technology: Production, Composition, Storage and Processing. Marcel Dekker, New York.
2. Arthey D and Dennis C. 1996. Vegetable Processing. Blackie/Springer-Verlag, New York
3. Verma LR and Joshi VK. 2000. Post-harvest Technology of Fruits and Vegetables: Handling, Processing, Fermentation and Waste Management. Indus Publishing Company, New Delhi
4. Srivastava RP and Kumar S. 2003. Fruit and Vegetable Preservation: Principles and Practices. International Book Distribution Company, Lucknow.
5. Giridharilal GS, Siddappa and Tandon GL. 1986. Preservation of Fruits and Vegetables. ICAR, New Delhi.
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 7B: Vegetable Crops – Post harvest Practices – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Identify stages of maturity in vegetable crops.
2. Handle material for storage of vegetables.
3. Identify physical and biological causes for spoilage of vegetables.
4. Make some value-added products of vegetables.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Maturity selection and harvest, harvesting practices.
2. List and cost of equipment, utensils, and additives required for small scale processing industry.
3. Study of different types of spoilages in fresh as well as processed vegetables.
4. Identification and classification of spoilage organisms.
5. Estimation of total carbohydrates (Anthrone method) in a stored vegetable and un-stored vegetable.
6. Estimation of protein (Lowry method) in a stored vegetable and un-stored vegetable.
7. Sensory evaluation of fresh and processed vegetables.
8. Assessment of quality and grading, pre-packaging and protective treatments.
9. Identification of packaging materials, containers for packaging.
10. Preparation of pickle from a vegetable.

11. Preparation of tomato sauce, ketchup and chutney.

VI. Lab References:

1. Swati Barche, Reena Nair and P. K. Jain, 2016. A Practical Manual on Post Harvest Value Addition and Processing of Horticulture Crops. Agrobios (India), Jodhpur
2. Antonio L. Acedo Jr., Md. Atiqur Rahman, Borarin Buntong and Durga Mani Gautam, 2016. Vegetable Postharvest Training Manual, AVRDC - The World Vegetable Center, Taiwan
3. Akhilesh Sharma (Ed.), 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
4. Biswajit Saha and Shri Dharampal Singh, 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
5. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of harvesting indices of vegetables, storage methods, tools and techniques for processing, causes for spoilage and methods to control, preservation methods, marketing chain and in making value added products.
2. **For Student**: Students shall (individually) visit any one of the places like horticulture university/ research station; vegetable storage units in public and private sector; vegetable processing industries in their locality and observe harvesting practices, storage methods, processing and preservation; grading, value added products and marketing. Write their observations and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b). Suggested Co-Curricular Activities:

1. Training of students by related industrial experts or farmers.
2. Assignments (including technical assignments like tools and techniques for storage, processing and preservation, causes for spoilage and methods to avoid losses, value added products of some vegetables, packaging and marketing etc.)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on cultivation practices for vegetable crops.
5. Collection of material/figures/photos related to harvesting, storage, processing and preservation of vegetable crop produce, writing and organizing them in a systematic way in a file.

6. Visits to horticulture universities, research organizations; storage, processing industries in public or private sector; industries making value added products of vegetables etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Vegetable Crops – Post Harvest Practices

Max. Time: 3 Hrs. Max. Marks: 50

1. Identification of organism(s) responsible for spoilage of vegetable 'A' 8
2. Assessment of quality and grading/ technique of packaging and protective treatment. 10
3. Estimation of carbohydrates/protein content in a vegetable sample 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Identification of harvesting stage
   E. Identification of equipment for processing
   F. Identification of PGR/chemical used for PHT of vegetables.
   G. Identification of a packaging material/value added product.
5. Record + Viva-voce 5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 6C: Plant Tissue Culture
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Comprehend the basic knowledge and applications of plant tissue culture.
2. Identify various facilities required to set up a plant tissue culture laboratory.
3. Acquire a critical knowledge on sterilization techniques related to plant tissue culture.
4. Demonstrate skills of callus culture through hands on experience.
5. Understand the biotransformation technique for production of secondary metabolites.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit - 1: Basic concepts of plant tissue culture (10h)

1. Plant tissue culture: Definition, history, scope and significance.
2. Totipotency, differentiation, dedifferentiation, and redifferentiation; types of cultures.
3. Infrastructure and equipment required to establish a tissue culture laboratory.

Unit - 2: Sterilization techniques and culture media (10h)

1. Aseptic conditions – Fumigation, wet and dry sterilization, UV sterilization, ultrafiltration.
2. Nutrient media: Composition of commonly used nutrient culture media with respect to their contents like inorganic chemicals, organic constituents, vitamins, amino acids etc.
3. Composition and preparation of Murashige and Skoog culture medium.

Unit - 3: Callus culture technique (10h)

1. Explant: Definition, different explants for tissue culture: shoot tip, axillary buds, leaf discs, cotyledons, inflorescence and floral organs, their isolation and surface sterilization; inoculation methods.
2. Callus culture: Definition, various steps in callus culture.
3. Initiation and maintenance of callus - Growth measurements and subculture; soma clonal variations.

Unit – 4: Micropropagation (10h)

1. Direct and indirect morphogenesis, organogenesis, role of PGRs; somatic embryogenesis and synthetic seeds.
2. Greenhouse hardening unit operation and management; acclimatization and hardening of plantlets - need, process, packaging, exports.
3. Pathogen (Virus) indexing- significance, methods, advantages, applications.

Unit – 5: Applications of plant tissue culture (10h)

1. Germplasm conservation: cryopreservation methods, slow growth, applications and limitations; cryoprotectants.
2. Plant transformation techniques and bioreactors; production of secondary metabolites-optimization of yield, commercial aspects, applications, limitations.
3. Transgenic plants- gene transfer methods; BT cotton.

III. References:

1. Kalyan Kumar De (2001) An Introduction to Plant Tissue Culture, New Central Book Agency (P) Ltd., Calcutta
2. Razdan, M.K. (2005) Introduction to Plant Tissue Culture, Oxford & IBH Publishers, Delhi
3. Bhojwani, S.S. (1990) Plant Tissue Culture: Theory and Practical (a revised edition). Elsevier Science Publishers, New York, USA.
4. Vasil, I.K. and Thorpe, T.A. (1994) Plant Cell and Tissue Culture. Kluwer Academic Publishers, the Netherlands.
5. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 6C: Plant Tissue Culture – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. List out, identify and handle various equipment in plant tissue culture lab.
2. Learn the procedures of preparation of media.
3. Demonstrate skills on inoculation, establishing callus culture and Micro propagation.
4. Acquire skills in observing and measuring callus growth.
5. Perform some techniques related to plant transformation for secondary Metabolite production.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Principles and applications of- Autoclave, Laminar Airflow, Hot Air Oven.
2. Sterilization techniques for glass ware, tools etc.,
3. MS medium - Preparation of different stock solutions; media preparation
4. Explant preparation, inoculation and initiation of callus from carrot.
5. Callus formation, growth measurements.
6. Induction of somatic embryos, preparation of synthetic seeds.
7. Multiplication of callus and organogenesis.
8. Hardening and acclimatization in green house.

VI. Lab References:

1. Reinert, J. and M.M. Yeoman, 1982. Plant Cell and Tissue Culture - A Laboratory
2. Manual, Springer-Verlag Berlin Heidelberg
3. Robert N. Trigiano and Dennis J. Gray, 1999. Plant Tissue Culture Concepts and Laboratory Exercises. CRC Press, Florida

4. Ashok Kumar, 2018. Practical Manual for Biotechnology, College of Horticulture & Forestry, Jhalawar, AU, Kota
5. Chawla, H.S., 2003. Plant Biotechnology: A Practical Approach, Nova Science Publishers, New York
6. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/field training of students by teacher: Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of sterilization procedures, preparation of media, establishment of callus culture, growth measurements; morphogenesis and organogenesis; acclimatization and hardening of plantlets.
2. **For Student**: Students shall (individually) visit anyone of plant tissue culture laboratories in universities/research organizations/private facilities, write their observations on tools, techniques, methods and products of plant tissue culture; and submit a hand-written Fieldwork/Project work Report not exceeding 10 pages to the teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying tools in plant tissue culture and their handling, operational techniques with safety and security, IPR)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in plant tissue culture.
5. Collection of material/figures/photos related to products of plant tissue culture, writing and organizing them in a systematic way in a file.
6. Visits to plant tissue culture/biotechnology laboratories in universities, research organizations, private firms, etc.
7. Invited lectures and presentations on related topics by field/industrial experts

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Plant Tissue Culture

Max. Time: 3 Hrs. Max. Marks: 50

1. Demonstration of a sterilization technique 'A'	8
2. Preparation of MS medium 'B'	10
3. Demonstration of callus culture technique/growth measurements 'C'	12
4. Scientific observation and data analysis	4 x 3 = 12
D. Tissue culture equipment /photograph	
E. Morphogenesis or organogenesis - photograph	
F. Bioreactor/Secondary metabolite	
G. Transgenic plant/photograph	
5. Record + Viva-voce	5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 7C: Mushroom Cultivation
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand the structure and life of a mushroom and discriminate edible and poisonous mushrooms.
2. Identify the basic infrastructure to establish a mushroom culture unit.
3. Demonstrate skills preparation of compost and spawn.
4. Acquire a critical knowledge on cultivation of some edible mushrooms.
5. Explain the methods of storage, preparation of value-added products and marketing.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit – 1: Introduction and value of mushrooms (10h)

1. Mushrooms: Definition, structure of a mushroom and a brief account of life cycle; historical account and scope of mushroom cultivation; difference between edible and poisonous mushrooms.
2. Morphological features of any four edible mushrooms, Button mushroom (*Agaric us Bosporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajor-caju*) and Paddy straw mushroom (*Volvariella volvacea*).
3. Nutraceutical value of mushrooms; medicinal mushrooms in South India - *Ganoderma lucidum, Phellinus rimosus, Pleurotus florida and Pleurotus pulmonaris* – their therapeutic value; Poisonous mushrooms - harmful effects.

Unit – 2: Basic requirements of cultivation system (10h)

1. Small village unit and larger commercial unit; layout of a mushroom farm - location of building plot, design of farm, bulk chamber, composting, equipment and facilities, pasteurization room and growing rooms.
2. Compost and composting: Definition, machinery required for compost making, materials for compost preparation.
3. Methods of composting- long method of composting and short method of composting.

Unit – 3: Spawning and casing (10h)

1. Spawn and spawning: Definition, facilities required for spawn preparation; preparation of spawn substrate.
2. Preparation of pure culture, media used in raising pure culture; culture maintenance, storage of spawn.

3. Casing: Definition, Importance of casing mixture, Quality parameters of casing soil, different types of casing mixtures, commonly used materials.

Unit – 4: Mushroom cultivation (10h)

Raw material, compost, spawning, casing, cropping, and problems in cultivation (diseases, pests and nematodes, weed molds and their management strategies), picking and packing for any Four of the following mushrooms:

(a) Button mushroom (b) Oyster mushroom (c) Milky mushroom and (d) Paddy straw mushroom

Unit – 5: Post harvest technology (10h)

1. Shelf life of mushrooms; preservation of mushrooms - freezing, dry freezing, drying and canning.
2. Quality assurance and entrepreneurship - economics of different types of mushrooms; value added products of mushrooms.
3. Management of spent substrates and waste disposal of various mushrooms.

III. References:

1. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
2. Pandey R.K, S. K Ghosh, (1996). A Hand Book on Mushroom Cultivation. Emkey Publications
3. Nita Bhal. (2000). Handbook on Mushrooms (Vol. I and II). Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tripathi, D.P. (2005) Mushroom Cultivation, Oxford & IBH Publishing Co. Pvt. Ltd, New Delhi.
6. Pathak V.N., Nagendra Yadav and Maneesha Gaur (2000), Mushroom Production and Processing Technology Vedams Ebooks Pvt. Ltd., New Delhi
7. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 7C: Mushroom Cultivation – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Identify and discriminate different mushrooms based on morphology.
2. Understand facilities required for mushroom cultivation.
3. Demonstrate skills on preparation of spawn, compost and casing material.
4. Exhibit skills on various cultivation practices for an edible mushroom.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of different types of mushrooms.
2. Preparation of pure culture of an edible mushroom.
3. Preparation of mother spawn.

4. Production of planting spawn and storage.
5. Preparation of compost and casing mixture.
6. Demonstration of spawning and casing.
7. Hands on experience on cropping and harvesting.
8. Demonstration of storage methods.
9. Preparation of value-added products.

VI. Lab References:

1. Sushma Sharma Sapna Thakur Ajar Nath Yadav, 2018. Mushroom Cultivation: A Laboratory Manual, Eternal University, Sirmour, H.P.
2. Kadhila-Muandingi, N.P., F. S. Mubiana and K. L. Halueendo, 2012. Mushroom Cultivation: A Beginners Guide, The University of Namibia
3. Gajendra Jagatap and Utpal Dey, 2012. Mushroom Cultivation:Practical Manual, LAMBERT Academic Publishing, Saarbrücken, Germany
4. Deepak Som, 2021. A Practical Manual on Mushroom Cultivation, P.K.Publishers & Distributors, Delhi
5. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/field training of students by teacher: Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for not less than 15 hours on the field techniques/skills of identification of edible and poisonous mushrooms, basic facilities of a mushroom culture unit, preparation of compost and spawn, cultivation practices of edible mushrooms, storage and marketing of produce.
2. **For Student**: Students shall (individually) visit mushroom culture units in universities/research organizations/private sector write their observations on infrastructure, cultivation practices and products of a mushroom culture unit etc., and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
6. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
4. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying various mushrooms, tools and techniques for culture, identification and control of diseases etc.,
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in mushroom culture.
5. Collection of material/figures/photos related to edible and poisonous mushrooms, cultivation of mushrooms in cottage industries, writing and organizing them in a systematic way in a file.
6. Visits to mushroom culture units in universities, research organizations, private firms, etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Mushroom Cultivation

Max. Time: 3 Hrs. Max. Marks: 50

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1. Demonstration of preparing pure culture/mother spawn 'A' 8
2. Preparation method for planting spawn and storage/compost and casing material 'B' 10
3. Demonstration of spawning and casing/storage and making a value-added product 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Edible/poisonous mushroom specimen/photograph
   E. Infrastructure/tool used in mushroom cultivation
   F. Material for compost/casing
   G. Storage practice/ a value-added product
5. Record + Viva-voce 5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 6D: Gardening and Landscaping

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Acquire a critical knowledge about the aesthetic value, types and styles of gardens.
2. Perform filed operations in a garden by understanding the role of a gardener.
3. Identify various ornamental plants and explain the growth habits.
4. Propagate garden plants through various propagation techniques.
5. Demonstrate skills of designing and developing a garden.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)
(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit -1: Basics of Gardening (10h)

1. Garden and gardening: Definitions, objectives and scope; types of gardens (domestic garden, flower garden, woodland garden, rock garden, water garden and herb and vegetable garden).
2. Speciality gardens (vertical garden, roof garden and scented garden); principles of gardening; garden components and adornments;
3. Styles of garden: formal, informal, free style and wild; some famous gardens of India.

Unit -2: Garden operations (10h)

1. Bio-aesthetic planning, eco-tourism, theme parks, indoor gardening, therapeutic gardening.
2. Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.
3. Lawn making, methods of designing rockery and water garden.

Unit-3: Ornamental plants (10h)

1. Ornamental plants: flowering annuals and perennials; climbers and creepers; shade and ornamental trees.
2. Bulbous and foliage ornamental plants; cacti and succulents; palms, ferns.
3. Bonsai: definition, types and styles, art of making bonsai.

Unit-4: Propagation techniques (10h)

1. Propagation of ornamental plants by rhizomes, corms tubers, bulbs and bulbils.
2. Vegetative propagation techniques – a brief account of cuttings, layering and grafting.
3. Types of seed beds; sowing of seeds and raising seedlings, transplanting of seedlings; growing plants in pots, potting and repotting.

Unit-5: Landscaping (10h)

1. Landscaping: definition, landscaping of parks and public gardens.
2. Urban planning and planting avenues; Landscaping highways and educational institutions; beautifying villages and colonies.
3. Computer Aided Designing (CAD) for outdoor and indoor-scaping.

III. References:

1. Bose T.K. and Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K. 1989 Plant Propagation, Wiley Eastern Ltd., Bengaluru.
3. Nambisan, K. M. P. 1992. Design Elements of Land Scape Gardening Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Bose, T. K. Malti, R. G. Dhua, R. S and Das, P. 2004. Floriculture and Landscaping. Nayaprakash, Calcutta.
5. Arora, J.S. 2006. Introductory Ornamental Horticulture. Kalyani Publishers, Ludhiana.
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 6D: Gardening and Landscaping – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Perform various skills related to gardening.
2. Identify the living and non-living components required for garden development.
3. Identify the pests and diseases of garden plants and control the same.
4. Demonstrate skills of making bonsai and developing lawn.
5. Make landscape design using CAD.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Preparation of beds for growing nursery of herbs, shrubs and trees.
2. Tools, implements and containers used for propagation and nursery techniques.
3. Identification of different ornamental plants.
4. Demonstration of types and styles of gardens using photos or videos.
5. Gardening operations: soil laying, manuring, watering.
6. Identification of pathogenic and non-pathogenic diseases of garden plants and grasses.
7. Propagation by cutting, layering, budding and grafting.
8. Planning and designing of gardens, functional uses of plants in the landscape.
9. Preparation of land for lawn and planting.
10. Exposure to CAD (Computer Aided Designing)
11. Demonstration of bonsai making.
12. Making of topiaries.

VI. Lab References:

1. Paul Wagland, 2011. Garden Landscaping Manual: A Step-by-Step Guide to Landscaping & Building Projects in Your Garden, Haynes Publishing UK
2. Misra Kaushal Kumar, 2016. Practical Manual of Horticulture, Biotech Books, Open Library.org
3. Hemla Naik, B., S.Y. Chandrashekhar and M. Jawaharlal, 2013. Principles of Landscape Gardening, TNAU, Agrimoon.Com.
4. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of garden operations, lawn making, art of bonsai, plant propagation methods, Using CAD.
2. **For Student**: Students shall (individually) visit the parks in public and private places, study the living and non-living elements of gardening – landscaping; write their observations (on various plants, growth habit, propagation, design of garden etc.,) and submit a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place(s) visited, observations, findings, and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying ornamental plants, types and styles of gardens, propagation of garden plants, landscaping)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on plant propagation, garden operations, ornamental gardening.
5. Collection of material/figures/photos related to gardening and landscaping, writing and organizing them in a systematic way in a file.
6. Visits to gardens and parks in public places and/or private firms; famous gardens in A.P. and India etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Gardening and Landscaping

Max. Time: 3 Hrs. Max. Marks: 50

1. Demonstration a vegetative propagation technique 'A'	8
2. Demonstration of bed making/ garden operations' 'B'	10
3. Demonstration of bonsai technique/ designing a landscape 'C'	12
4. Scientific observation and data analysis	4 x 3 = 12
D. Type or style of garden	
E. Ornamental plant	
F. Garden adornments	
G. Pest or disease of garden plants	
5. Record + Viva-voce	5+3 = 8

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **BOTANY**
IV Year B. Sc. (Hons) – Semester – V

Max Marks: 100

Course 7D: Agroforestry

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand the concepts and economic value of agroforestry.
2. Acquire a critical knowledge on systems and design of agroforestry.
3. Explain silviculture practices in relation to agroforestry.
4. Understand the role of agroforestry to reclaim the waste lands.
5. Perform skills in relation to tree measurement techniques.

II. Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05)

(*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

Unit-1: Basic concepts of Agroforestry (10h)

1. Forest and Agroforestry. Definition, objectives, scope and advantages of agroforestry; classification of agroforestry; differences between social forestry and agroforestry.
2. Agroforestry practices as existing in India and Andhra Pradesh.
3. Criteria for selection and screening of tree species; design and diagnosis methodology in relation to agroforestry.

Unit-2: Systems of Agroforestry (10h)

1. Global agroforestry system: shifting cultivation, taungya cultivation, shelter belt and wind breaks, and energy plantation and homestead gardens.
2. Multipurpose tree species and their characteristics; criteria for selection of agroforestry design, role tree architecture and management in agroforestry.
3. Alley cropping, high density short rotation plantation systems, silvicultural woodlots, energy plantations.

Unit-3: Silviculture of Agroforestry trees (10h)

1. Silviculture: Definition, objectives and scope and its place in agroforestry.
2. Choice of species, site selection, and pure verses mixed crop, planting techniques and methods, protection of seedlings/ plantations from environmental and biological adversaries, tending operations, concept of coppice etc.
3. Silviculture of agroforestry trees with special reference to: (a) *Azadirachta indica,* (b) *Tectona grandis* (c) *Emblica officinalis* and (d) *Tamarindus indica*.

Unit-4: Waste land reclamation (10h)

1. Wasteland definition, types: ecological characteristics, landslides, soil erosion, hoods, drought, salinity, water logging and fire.
2. Biological causes of deforestation, grazing, shifting cultivation and faulty agricultural practices.

3. Reclamation of wastelands, scientific land use practices, afforestation, soil conservation practices, improvement of water catchment areas and development of recreational and amenity areas.

Unit-5: Measurements in Agroforestry (10h)

1. Tree measurement techniques: Instruments and methods for measurement of tree diameter, height, bark thickness, crown volume crown surface area.
2. Tree stem form, yield tables, volume tables, concept of sustained yield, and kind of tree rotation, increment and yield; estimation of biomass.
3. Determination of tree age and introduction of working plan.

III. References:

1. Dwivedi, A.P. 1992. Agroforestry: Principles and Practices. Oxford & IBH
2. Nair, P.K.R. 1993. An Introduction to Agroforestry. Kluwer.
3. Nair P.K.R., M.R. Rai and L.E.Buck, 2004. New Vistas in Agroforestry. Kluwer
4. Rajeshwar Rao G., M. Prabhakar, G. Venkatesh, I. Srinivas and K. Sammi Reddy (2018) Agroforestry Opportunities for Enhancing Resilience to Climate Change in Rainfed Areas, ICAR-CRIDA, Hyderabad
5. Young, A. 1997. Agroforestry for Soil Management. CABI
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

Course 7D: Agroforestry – Practical syllabus

IV. Learning Outcomes: On successful completion of this practical course, student will be able to:

1. Identify suitable tree species for agroforestry and their products.
2. Demonstrate skills on raising tree species from seeds and by vegetative propagation.
3. Perform skills on measurements related to wood-based products.
4. Estimate biomass in an energy plantation.

V. Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of agroforestry tree-species.
2. Identification of important major and minor agroforest products.
3. Collection and maintenance of agro-forest products and herbarium
4. Nursery lay out seed sowing and pre-sowing seed treatments.
5. Vegetative propagation techniques – hard wood cuttings and air layering.
6. Diameter measurements using calipers and tape; diameter measurements of forked, buttressed, fluted and leaning trees.
7. Height measurement of standing trees by shadow method, single pole method and hypsometer.
8. Volume measurement of logs using various formulae.
9. Biomass estimation in energy plantations.

VI. Lab References:

1. Meena, R. N. and R.K. Singh, 2014. A Practical Manual on Agroforesty, Srijan Samiti Publication, Varanasi
2. Dadhwal, K.S., P.Panwar, R.Kaushal, H.S.Saralch and R.Chauhan, 2014. Practical Manual on Agroforestry, Jaya Publishing House, Delhi

3. Sen, N. L., R. C. Dadheech, L. K. Dashora and T. S. Rawat, 2010. Manual of Agroforestry and Social forestry, Agrotech Publishing Academy, Udaipur
4. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by the teacher in the laboratory/field for not less than 15 hours on techniques like selection and screening of tree species, design and diagnosis methodology in agroforestry, silviculture practices for some selected tree species and measurements in agroforestry.
2. **For Student**: Students shall (individually) visit to nurseries of forest department, agroforestry division in Horticulture university/research station, agroforest/silviculture sites, write their observations on nursery practices, various species grown in an agroforest, growth habit, cultivation practices, measurements, products etc., and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

a) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like criteria for selection of agroforestry tree species; silviculture practices in agroforests; measurements in agroforestry; economic, social, land use and cultural services of agroforestry)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on various agroforestry methods, silviculture practices, tree measurement techniques etc.,
5. Collection of material/figures/photos related to agroforestry, writing and organizing them in a systematic way in a file.
6. Visits to social forest nurseries, energy plantations and forest research centres; nearby agro-forest based industries in A.P.
7. Invited lectures and presentations on related topics by field/industrial experts

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Agroforestry

Max. Time: 3 Hrs. Max. Marks: 50

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1. Demonstration pre-sowing seed treatments 'A' 8
2. Demonstration of hard wood cutting/air layering technique 'B' 10
3. Demonstration of technique of diameter/height measurement 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Agroforest plant
   E. Agroforest product
   F. A tool used for measurement
   G. A herbarium specimen collected by him/her for identification
5. Record + Viva-voce 5+3 = 8

Suggested pattern for Question Paper of Theory Examination(s) at Semester end

Max. Time: 3 Hrs. Max. Marks: 75 M

Section – A

Answer <u>all</u> the following questions. 5 x 2 = 10 M

- ✓ One question should be given from each Unit in the syllabus.

Section – B

Answer any <u>Four</u> of the following questions. Draw a labelled diagram wherever necessary

3 x 5 = 15 M

- ✓ One question should be given from each Unit in the syllabus.

Section – C

Answer any <u>five</u> of the following questions. Draw a labelled diagram wherever necessary

5 x 10 = 50 M

- ✓ Two questions (a & b) are to be given from each Unit in the syllabus (internal choice in each unit). Student has to answer 5 questions by choosing one from a set of questions given from a Unit.

Note: Questions should be framed in such a way to test the understanding, analytical and creative skills of the students. All the questions should be given within the frame work of the syllabus prescribed.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

REVISED UG SYLLABUS UNDER CBCS

(Implemented from Academic Year 2020-21)

PROGRAMME: FOUR YEAR B.Com. (Hons)

Domain Subject**: Commerce**

Skill Enhancement Courses (SECs) for Semester V, from 2022-23 *(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)*

Structure of SECs for Semester– V

(To choose Three pairs from the Nine alternate pairs of SECs)

(For each SEC: Hours/Week: 05, Credits: 4, Max Marks: 100)

Pairs of Skill Enhancement Courses (SEC) under each series in Commerce for Semester-V.

Course No.	***Series-A: Accountancy***	***Course No.***	***Series-B: Services***	***Course No.***	***Series-C: E commerce***
	Course Name		*Course Name*		*Course Name*
16-A	Advanced Corporate Accounting	16-B	Advertising and Media Planning	16-C	Digital Marketing
17-A	Software Solutions to Accounting	17-B	Sales Promotion and Practice	17-C	Service Marketing
18-A	Management Accounting	18-B	Logistics Services and Practice	18-C	Income Tax Procedure& Practice
19-A	Cost Control Techniques	19-B	EXIM Procedure and practice	19-C	GST Procedure &Practice
20-A	Stock Markets	20-B	Life Insurance with Practice	20-C	E Commerce
21-A	Stock Market Analysis	21-B	General Insurance with practice	21-C	E filing

Note: In Semester-V a B.Com. General students have to study Three pairs of SECs (a total of 6 courses). The Pairs are, SEC numbers 16 & 17, 18 & 19 and 20 &21.As there shall be choice to students under CBCS, a total of 9 pairs shall be offered from which B.Com. General students have to choose a total of Three pairs of SECs.
The 9 pairs are from 3 series namely (A) Accountancy, (B) Services and (C) E-Commerce. Students can, however, choose their **Three pairs** from any of the **Nine** pairs but a pair shall not be broken.
For example students can choose any Three pairs like the following;
16-A &17-A (from Accountancy), 18-B, 19-B (from Services) and 20-C, 21-C from E-Commerce.
Or 16-A&17-A, 18-C &19-C and 20-B &21-B
Or 16-B &17-B, 18-A &19-A and 20-C &21-C
Or 16-B &17-B, 18-C &19-Cand 20-A &21-A
Or 16-C &17-C, 18-B & 19-B and 20-A &21-A
Or 16-C &17-C, 18-A &19-A and 20-B, 21-B

Whereas, B.Com Computers Students can choose any two pairs from the above 9 pairs.

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B. Com. (Hons)
Domain Subject: COMMERCE
IV YEAR B.COM (HONS) - Semester -V-

Max Marks: 100 Time: 3 Hrs

Course 16-C: DIGITAL MARKETING
(Skill Enhancement Course (Elective) 4 credits**)**

I. Learning Outcomes

Upon successful completion of the course students will be able to;

1. Analyze online Micro and Macro Environment
2. Design and create website
3. Discuss search engine marketing
4. Create blogs, videos, and share

II. Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE etc.)

Unit 1: Introduction

Digital marketing: Meaning – importance – traditional online marketing vs digital marketing – online market place analysis Micro Environment – Online Macro Environment - trends in digital marketing – competitive analysis.

Unit – II: Web site planning and creation

Web Site: meaning – objectives – components of website - website creation – incorporation of design and– adding content, installing and activating plugins.

Unit 3: Search Engine Optimization (SEO)

SEO: Meaning – History and growth of SEO –Importance of Search Engine - On page Optimization – off page optimization – Role of Search Engine Operation- google Ad words – Search Engine Marketing: Campaign Creation – Ad Creation, Approval and Extensions.

Unit 4: Social Media Marketing:

Meaning of social media and Social Media Marketing – social Management tools-strategy and planning – social media network – Social Networking – video creation and sharing – use of different social media platforms - Content creation - Blogging – Guest Blogging.

Unit 5: Email marketing:

Meaning – Evolution of email – importance of email marketing – Development and Advancements in e mail marketing - email marketing platforms – creating and Tracking emailers–create forms – create opt-in lists – mapping industry trends and eliminating spam messages.

III. References

1. Digital Marketing for Dummies **by** Ryan Deiss & Russ Henneberry, publisher John Wiley first edition 2020.
2. **Youtility by** JayBaer, Published by Gilda MedialL C Portfolio 2013,
3. **Epic Content Marketing by** Joe Pulizzi, McGraw-Hill Education, 2013

4. New Rules of Marketing and PR byDavid Meerman Scott.Wiley, 2017
5. **Social Media Marketing All-in-one Dummies by** JanZimmerman, DeborahNg, John Wiley &Sons.
6. Digital Marketing 2020 **by** Danny Star, Independently Published, 2019
7. *Web sources suggested by the concerned teacher and college librarian including reading material*.

IV. Co-Curricular Activities:

A. Mandatory *(Student training by teacher in field related skills: 10 hrs.):*

1. **For Teachers**: teacher shall train students (using actual field material)in classroom/field for not less than 10 hours in the skills in digital marketing viz., SEO, SEM, Social media Marketing, content writing, e-mail marketing, web designing and development, Blogging, Google ad words.

2. **Students**: Students shall individually undertake an online study on any aspect such as Analysis of local online Micro and Macro Environment and make a trend analysis of digital marketing, Build a blog on any topic or subject of their interest, Develop website to market for (real/imaginary) product or service, Create video with product or service description to evoke customer attention. Each student has to submit his/her observations as a handwritten Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page, student details, contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. Suggested Co-Curricular Activities

1. Organize short term training on Digital Marketing in collaboration with local or online skill providers.
2. Seminars/Conference/ Workshops on significant and emerging areas in Digital Marketing
3. Real time work experience with Digital marketing service providers.
4. Arrange for Interaction with Area Specific Experts.

V. **Suggested Question Paper Pattern**:

Max. Marks 75 Time: 3 hrs

SECTION - A (Total 25 marks)

Answer any FIVE Questions (5×5 Marks)

OUT OF EIGHT. COVER ALL UNITS

SECTION - B (Total 50 marks)

Answer any FIVE Questions (5×10 Marks)

OUT OF EIGHT. COVER ALL UNITS

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B. Com. (Hons)
Domain Subject**: COMMERCE**
IV YEAR B.COM (HONS) - Semester -V

Max Marks: 100 Time: 3Hrs

Course 17 C -Service Marketing

(Skill Enhancement Course (Elective) 4 credits)

I. Learning Out comes

Upon successful completion of the course the student will be able to;

1. Discuss the reasons for growth of service sector.
2. Examine the marketing strategies of Banking Services, insurance and education services.
3. Review conflict handling and customer Responses in services marketing
4. Describe segmentation strategies in service marketing.
5. Suggest measures to improve services quality and their service delivery.

II. Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE etc.)

Unit 1: Introduction: Nature and Scope of services

Introduction: Nature and Scope of services characteristics of services, classification of services – need for service marketing - reasons for the growth of services sector, Overview of marketing Different Service Sectors -Marketing of Banking Services -Marketing in Insurance Sector - Marketing of Education Services.

Unit-2: Consumer Behavior in Services Marketing

Customer Expectations on Services- Factors influencing customer expectation of services. - Service Costs experienced by Consumer, the Role of customer in Service Delivery, Conflict Handling in Services, Customer Responses in Services, Concept of Customer Delight

Unit-3: Customer Relationship marketing and Services Market Segmentation.

Customer Relationship marketing: Meaning -Importance of customer & customer's role in service delivery, Benefits of customer relationship, retention strategies. Services Market Segmentation: - Market segmentation -Basis & Need for segmentation of services, bases of segmentation services, segmentation strategies in service marketing.

UNIT 4: Customer Defined Service Standards.

Customer Defined Service Standards - Hard and Soft, Concept of Service Leadership and Service Vision -Meeting Customer Defined Service Standards -Service Flexibility Versus Standards - Strategies to Match Capacity and Demand - managing Demand and Supply of Service –applications of Waiting Line and Queuing Theories to Understand Pattern Demand.

Unit 5: Service Development and Quality Improvement.

Service Development – need, importance and Types of New Services - stages in development of new services, service Quality Dimensions - Service Quality Measurement and Service Mapping, Improving Service Quality and Service Delivery, Service Failure and Recovery.

III. References

1. John E.G. Bateson, K.Douglas Hoffman: Services Marketing, Cengage Learning, 4e, 2015 publication
2. Vinnie Jauhari, Kirti Dutta: Services Marketing: Operations and Management, Oxford University Press, 2014.
3. Valarie A. Zeithaml and Mary Jo-Bitner: Services Marketing – Integrating Customer Focus Across The Firm, Tata McGraw Hill Publishing Company Ltd., 6e, 2013.
4. Nimit Chowdhary, Monika Chowdhary, Textbook of Marketing Of Services: The Indian Experience, Macmillan, 2013.
5. K. Rama Mohana Rao, Services Marketing, Pearson, 2e, 2011.
6. Dr. K. Karunakaran, Service Marketing (Text and Cases in Indian Context), Himalaya Publications.
7. *Web sources suggested by the concerned teacher and college librarian including reading material*.

IV. Co-Curricular Activities:

A. Mandatory *(Student training by teacher in field related skills: 10 hrs.):*

1. For Teachers: Teacher shall train students (using actual field material)in classroom/field for 10 hours in the skills in service marketing such as planning and designing marketing strategies for any real/imaginary service of their interest, procedure to identify customer behavior and their satisfaction for any service and issues thereof.

2. Students: Students shall individually take up a study on marketing strategies adopted (w.r.t.) any one specific service product) adopted by any of the service providers like Banking, Insurance, Telecom companies, (BSNL, Reliance Jio, Airtel, etc.) any other sector like electric household appliances, hospitals, hotels etc. Assess Customer expectations and Customer satisfaction feedback on services provided by Network providers. Of Mobile Companies/Banking/Insurance/hospitals Zamoto, Swiggy, etc. Each student has to submit his/her observations as a handwritten Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page, student details, contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. Suggested Co-Curricular Activities

1. Organize short term training on specific technical skills in collaboration with Computer Department or skill training institution (Government or Non-Government Organization). Like Zoho, Fresh book, MS Excel….
2. Seminars/Conference/ Workshops on emerging trends in service marketing
3. Real time work experience with service marketing providers
4. Arrange for Interaction with Area Specific Experts.

V. Suggested Question Paper Pattern:

Max. Marks 75 Time: 3 hrs

SECTION - A (Total 25 marks)
Answer any FIVE Questions (5×5 Marks)

OUT OF EIGHT. COVER ALL UNITS

SECTION - B (Total 50 marks)
Answer any FIVE Questions (5×10 Marks)

OUT OF EIGHT. COVER ALL UNITS

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A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Com. (Hons)
Domain Subject: **COMMERCE**
IV Year B. Com.(Hons) – Semester – V

Max Marks: 100 Time: 3 Hrs

Course-18-C. INCOME TAX ASSESSMENT PROCEDURES AND PRACTICE

(Skill Enhancement Course (Elective), 4 Credits)

I: Course Learning Outcomes

After successfully completing the course, the student shall be able to:

1. Understand the basic concepts in computation of tax liability under all heads of income of the individuals.
2. Analyze the clubbing provisions, aggregate income after set-off and carry forward of losses under the Income Tax Act.
3. Compute taxable income and tax liability of individuals and firms.
4. Acquire the ability to file online returns of income.
5. Acquire skills of TDS/TCS and online filing of Tax returns.

II. Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE etc.)

Unit-I: Computation of Total Income and Tax Liability

Computation of Total Income and Tax Liability of Individuals- Firms and Companies - Procedure for Assessment including Problems in calculation of tax for firms& Companies

Unit-II: Clubbing of Income-Set off of Losses

Meaning of clubbing of income– Different items come under the provisions of clubbing of income

Meaning of set-off of losses and carry-forward and set-off of losses – Types of set-off - Intra-set off and Inter-set off

Unit-III: Tax Payment- Penalties

Advance Payment of Tax - Persons liable to pay Advance Tax – Procedure for Computation of Advance Tax – Due Dates for the Payment of Advance Tax - Consequences of Non-payment of Advance Tax- Refund of tax, interest on refund – Appeals and Revisions

Unit-IV: Returns Filing

Procedure for Assessment - Filing of Return – Prescribed Forms for filing of Returns – PAN & TAN - On-line filing of Returns- 26 AS - Traces.

Unit-V: TDS &TCS and e-Filing

TDS-TCS- Provisions in brief relating to TDS/TCS- Schedule for deposit & Submission of Returns of TDS- Form-16 generation.

III: References:

1. Systematic Approach to Income Tax, Girish Ahuja & Ravi Gupta, Bharat Law House Pvt. Ltd, New Delhi.
2. Income Tax, Vinod K. Sinhania & Monica Sinhania, Taxmann Publications Pvt. Ltd, New Delhi.
3. Taxation Law & Practice, Mehtrotra & Goyal, Sahitya Bhavan Publications, Agra.
4. E.A. Srinivas, Corporate Tax Planning, Tata McGraw Hill.
5. Vinod K. Singhania, Taxman's Direct Taxes Planning and Management.

6. Bhagawati Prasad, Direct Taxes Laws Practice, Vishwa Prakashan.
7. https://incometaxindia.gov.in
8. Web resources suggested by the Teacher concerned and the College Librarian including reading material

IV. Co-Curricular Activities

A. Mandatory *(Student training by teacher in field related skills: 10 hrs.):*

1. For Teachers: Training of students by the teacher (using actual field material) in classroom/field for not less than 10 hours on techniques in tax consultancy, Income Tax calculation and Tax filing. Tax filing in respect to individuals, firms and Corporate. Income Tax Portal for a selected Tax Payer. Each student has to be trained in using forms for filing of returns.

a. Tax Calculation and preparation of Annexure w.r.t employees in the institutions and selected organizations (ref. unit-1)

b. Working with Clubbing income and set of losses/carry forward losses for a given Company/organization (ref. unit-2)

c. Working with CBDT website for Income Tax website for various provisions and Penalties (ref. unit-3)

d. Working with Online tax portal for downloading different formats (ref.unit 4)

e. Preparation of TDS and TCS reports and generating Form 16 from respective DDO (ref. unit.5)

2. For Students: Students shall individually take up a field study and make observations on Tax Assessment and Submission of Tax Return to Income tax department, payment of tax and other formalities. They may also work with an Income Tax Practitioner and participate in the real time submissions of Tax. Each student has to submit his/her observations as a handwritten Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work Report: 05

4. Suggested Format for Fieldwork/Project work (not more than 10 pages**):** Title page, student details, Contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. **Suggested Co-Curricular Activities**

1. Training of students by a related field expert.
2. Assignments including technical assignments like Working with Tax Consultancy for observation of Tax Assessment and Return Filing Procedure.
3. Seminars, Conferences, discussions by inviting concerned institutions
4. Field Visit
5. Invited lectures and presentations on related topics

V. Suggested Question Paper Pattern:

Max. Marks 75 Time: 3 hrs

SECTION - A (Total 25 marks)
Answer any FIVE Questions (5×5 Marks)

SECTION - B (Total 50 marks)
Answer any FIVE Questions (5×10 Marks)

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Com. (Hons)
Domain Subject: **COMMERCE**
IV Year B. Com.(Hons) – Semester – V

Max Marks: 100 Time: 3Hrs

Course 19-C-GOODS AND SERVICES TAX WITH TALLY

(Skill Enhancement Course (Elective), 4 Credits)

I: Course Learning Outcomes

After completing the course, the student shall be able to:

1. Understand the concept of Liability and Payment of GST
2. Create a new company in Tally with GST components and establish environment for GST Voucher entry.
3. Comprehend the utilization of input tax credit, and the reverse charge mechanism in GST
4. Acquire Skills of preparation of GST Returns in accordance with GST Law and Tally
5. Acquire skill of online payment of GST through GST Portal.

II. Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE etc.)

Unit 1: GST- Liability and Payment

Output tax liability - Input tax credit utilization-- Schedule for payment of GST- Interest/penalty for late/non-filing of return-Payment of GST- GST Network

Unit-II: GST – Accounting Masters and Inventory Masters in Tally

Company Creation- General Ledgers & GST Ledgers Creation - Stock Groups , Stock Items and Unit of Measure - GST Rate Allocation to Stocks

Unit-III: GST Voucher Entry

GST Vouchers - Customizing the Existing Voucher types with applicable GST Rates –Mapping of Input Tax Credit on Purchase Vouchers - Output Tax on Sales Vouchers- Purchase and Sales Voucher Entries with Single Rated GST and Multiple Rated GST Goods.

Unit-IV: GST Returns

Regular Monthly returns and Annual Return- Returns for Composition Scheme- Generation of Returns - GSTR-1, GSTR-2, GSTR-3, GSTR-4, GSTR-9, GSTR-3B

Unit-V: Payment of GST online

Payment of GST- Electronic Filing of GST Returns – Refunds – Penalties- Administrative structure of GST Officers- Powers- Jurisdiction.

III: References:

1. Ahuja, Girish, Gupta Ravi, GST & Customs Law.
2. Babbar, Sonal, Kaur, Rasleen and Khurana, Kritika. Goods and Service Tax (GST) and Customs Law. Scholar Tech Press.
3. Bansal, K. M., GST & Customs Law, Taxmann Publication.
4. Singhania,Vinod K. and Singhania Monica. Students' guide to Income Tax. University Edition. Taxmann Publications Pvt Ltd.,New Delhi.
5. Sisodia Pushpendra, GST Law, Bharat Law House.
6. ***Web resources****:*https://cbic-gst.gov.in
7. Web resources suggested by the Teacher concerned and the College Librarian including reading material

IV. Co-Curricular Activities

A. Mandatory *(Student training by teacher in field related skills: 10 hrs.):*

1. For Teachers: Training of students by the teacher (using actual field material) in classroom/ field for not less than 10 hours on techniques in computation of and online submission of GST. On Tally ERP 9 for entering entries of a selected firm.

a. Calculation of output tax liability and input Tax Credit through voucher entries (ref. unit-1)

b. Creation of Company and working with Masters in Tally ERP9 (ref. unit-2)

c. Voucher entry along with Input tax and output taxed entries (ref. unit-3)

d. Preparation of GST Returns for regular dealer and composite dealer in tally (Ref. unit 4)

e. Online Payment of GST using Tally (ref. unit.5)

2. For Students: Students shall take up individual field study on Entry of GST Voucher, Calculation of Input Tax and Output Tax including single rated /multi rated GST with a selected organizations. Submission of online GST Returns for a selected business firm. Each student has to submit his/her observations as a handwritten Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Title page, student details, contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. Suggested Co-Curricular Activities

1. Training of students by a related field expert.
2. Assignments including technical assignments like Working with Tally for Observation of real-time entries for transaction of accounting with inventory
3. Seminars, Conferences, discussions by inviting concerned institutions
4. Field Visit
5. Invited lectures and presentations on related topics.

V. Suggested Question Paper Pattern:

Max. Marks 75 Time: 3 hrs

SECTION - A (Total 25 marks)
Answer any FIVE Questions (5×5 Marks).
OUT OF EIGHT COVERIBG ALL UNITS
SECTION - B (Total 50 marks)
Answer any FIVE Questions (5×10 Marks)
OUT OF EIGHT COVERIBG ALL UNITS

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Com. (Hons)
Domain Subject: **COMMERCE**
IV Year B. Com.(Hons) – Semester – V

Max Marks: 100 Time: 3 Hrs

Course **20C**: **E COMMERCE**
(Skill Enhancement Course) (Elective 4 Credits)

I. Learning Outcomes:

By the completion of the course, the students are able to

1. Understand the mechanism of ecommerce
2. Equip specialization in website designing for e commerce
3. Enhance their skills in operational services of e commerce
4. Involve in activities of e commerce
5. Able to create awareness among the public one commerce activities

II. Syllabus Total 75hrs (Teaching 60, Training10 and others 05 including IE etc)

UNIT 1: Introduction, Nature and Scope

Introduction- Definition –importance- Nature and scope of e commerce-Advantages and limitations-Types of ecommerce – B2B,B2C,C2B,C2C,B2A,C2A- Framework e commerce

UNIT 2:- Environmental and Technical support Aspects

Technical Components- Internet and its component structure-Internet Vs Intranet, Vs Extranet and their differences-Website design- its structure-designing, developing and deploying the system-

UNIT 3. –Security and Legal Aspects

Security environment –its preliminaries and precautions-protecting Web server with Firewalls-Importance of Digital Signature –its components – Cyber Law-Relevant Provisions of IT Act 2000.

UNIT 4. - Operational Services of e Commerce

E retailing –features- E Services-Banking, Insurance, Travel, Auctions, Learning, Publication and Entertainment-Payment of utilities (Gas, Current Bill, Petrol Products)- On Line Shopping (Amazon, Flip kart, Snap deal etc.)

UNIT 5.–E Payment System

Types of e payment system- its features-Digital payments (Debit Card/Credit Cards, Internet Banking, Mobile wallets- Digital Apps (unified Payment Services-Phone Pay, Google Pay, BHIM Etc.) Unstructured Supplementary Services Data (Bank Prepaid Card, Mobile banking)-

III. References:

1. Bharat Bhaskar , Electronic Commerce Framework, Technology and Application. McGraw Hill Education
2. Bajaj,D.Nag,E Commerce, Tata McGraw Hill Publication
3. Whitely David , E-Commerce, McGraw Hill
4. TN Chhabra ,E Commerce, Dhanapat Rai & Co
5. Dave Chaffey, E Business and E Commerce Management, Pearson Publication
6. Dr.Pratikkumar Prajapati, Dr.M.Patel, E Commerce , Redshine Publication

7. Web resources suggested by the Teacher concerned and the College Librarian including reading material

IV Co-Curricular Activities (teacher participation: total 15 hours):

A. Mandatory

1. For Teachers: Training of students by the teacher (using actual field material) in classroom and field for a total of not less than 10 hours on the skills of listing out the local institutions who are involved in e commerce activities, Identifying the institutions and their experience in operational activities of e commerce, Case studies are to be **a**nalyzed of various problems raised at the time of e payment and operational activities of e commerce

2. For Students: Students shall individually undertake field study by contact website designers and studying various procedures adopted by the merchants and individuals and their experiences. Each student has to record and submit his/her observations in a handwritten Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.

3. Max marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Title page, student details, contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. **Suggested Co-Curricular Activities**

1 Training of students by a related field expert.

2.Assignments (including technical assignments like volume of business operated through e commerce, Case Studies of problems raised at the time of e commerce

3. Seminars, Conferences, discussions by inviting concerned institutions

4. Conduct surveys on pros and cons of ecommerce

5. Invited lectures and presentations on related topics by field experts.

V. Suggested Question Paper Pattern:

Max. Marks 75 Time: 3 hrs

SECTION - A (Total 25 marks)
Answer any FIVE Questions (5×5 Marks)

OUT OF EIGHT COVER ALL UNITS
SECTION - B (Total 50 marks)
Answer any FIVE Questions (5×10 Marks)

OUT OF EIGHT COVERING ALL UNITS
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A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Com. (Hons)
Domain Subject: **COMMERCE**
IV Year B. Com.(Hons) – Semester – V

Max Marks: 100 Time: 3 Hrs

Course **21 C**: **e FILING**
(Skill Enhancement Course (Elective) 4credits)

Learning Outcomes:

By the completion of the course, the students are able to

- Understand and apply basic knowledge of Indian Tax System
- Equip specialization in taxation system
- Enhance their skills in presenting returns
- Involve in activities of Charted Accountants for filing returns
- file returns of Income Tax and GST

II. Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE etc.)

UNIT 1: Introduction, Nature and Scope

Introduction- Definition –importance and scope of returns--Types of Assesses –under Income Tax and Goods and Service Tax-Sources of income-

UNIT 2:- **Returns filing under Income Tax**

Types of Returns- Mode of filing-Manual-Electronic Bureau of Internal Revenue Form (eBIR) Electronic Filing and Electronic and Payment System (eFPS)-for Individuals-ITR1,ITR2,ITR3,ITR4,For Firms and CompaniesITR5,ITR6,ITR7.

UNIT 3: –Penalties and Prosecution under Income Tax

Nonpayment, failure to comply,-Concealment-, Book Audit, Loans-International transactions, TDS

UNIT 4:-.Returns filing under Goods Service Tax

GSTR1. GSTR1, GSTR2, GSTR2A, GSTR3B, GSTR4, GSTR5, GSTR6

UNIT 5.–Penalties and Prosecution under GST

Differences between fees and penalty-Types of penalties under section 122 to 138

III. References:

1. Varun Panwar ,Jyothi Mahajan Introduction to efiling returns MKM Publishers
2. Hemachandjain and H.N.Tiwari Computer Application in Business Taxman's Publication
3. SusheelaMadan Computer Application in Business MKM Publishers
4. www.incometaxindiafiling.gov.in
5. www.taxguru.in 6. www.bharatlaws.com
7. www.cbic-gst.gov.in 8.. www.taxmann.com

Web resources suggested by the Teacher concerned and the College Librarian including reading material

IV Co-Curricular Activities (teacher participation: total 15 hours):

A. Mandatory

1. For Teachers: Training of students by the teacher (using actual field material) in classroom and field for not less than 10 hours on the skills of Local tax consultants and the problems raised at the time of e filing, Identifying the assesses and their experience in e filing activities, Analysis of various returns filed through manual and e filing and their difficulties and advantages, Listing out assesses who paid penalties and identify the various reasons

2. For Students: Filing of tax returns through the tax experts and concerned websites, Students shall be submitted a project report on filing of returns.

3. Max marks for Fieldwork/Project work Report: 05**.**

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Title page, student details, contents, objective, step-wise work done, findings, conclusions and acknowledgements.

5. Unit tests (IE).

B. **Suggested Co-Curricular Activities**

- Training of students by a related field expert.
- Assignments (including technical assignments like collection of submitted returns of various organizations, Case Studies of problems raised at the time of submission of returns.
- Seminars, Conferences ,discussions by inviting concerned institutions
- Visits to local charted Accountants to expose the practical filing procedure
- Invited lectures and presentations on related topics by field experts.

V. Suggested Question Paper Pattern:

Max. Marks 75 Time: 3 hrs.

SECTION - A (Total 25 marks)
Answer any FIVE Questions (5×5 Marks)

.OUT OF EGHIT UNITS COVERING ALL UNITS
SECTION - B (Total 50 marks)
Answer any FIVE Questions (5×10 Marks)

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OUT OF EIGHT COVERING ALL UNITS
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ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

Revised UG Syllabus Under CBCS

(Implemented from Academic Year 2020-21)

PROGRAMME: FOUR YEAR B.Sc. (Hons)

Domain Subject**: COMPUTER SCIENCE**

Skill Enhancement Courses (SECs) for Semester V, from 2022-23 *(Syllabus with Learning Outcomes, References, Co-curricular Activities)*

Structure of SECs for Semester – V

(To choose one pair from the three alternate pairs of SECs)

Univ Code	Course Number 6 & 7	Name of Course	Hours/ Week Theo+Prac	Credits Theo+Prac	Marks	
					IA – 20 Filed Work 05	Sem End
	6A	Web Interface Designing Technologies	3 + 3	3+ 2	25	75
	7A	Web Applications Development using PHP& MYSQL	3 + 3	3 + 2	25	75
OR						
	6B	Internet of Things	3 + 3	3+ 2	25	75
	7B	Application Development using Python	3 + 3	3 + 2	25	75
OR						
	6C	Data science	3 + 3	3+ 2	25	75
	7C	Python for Data science	3 + 3	3 + 2	25	75

Note-1: For Semester–V, for the domain subject Computer Science **any one** of the **three** pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field related skills of the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 6A: Web Interface Designing Technologies
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Understand and appreciate the web architecture and services.
2. Gain knowledge about various components of a website.
3. Demonstrate skills regarding creation of a static website and an interface to dynamic website.
4. Learn how to install word press and gain the knowledge of installing various plugins to use in their websites.

II. Syllabus: *(Total Hours: 90 including Teaching, Lab, and Field training, Unit tests etc.)*

Unit - I (10 hours)

HTML: Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, elements, attributes, headings, paragraphs, styles, colours, HTML formatting, Quotations, Comments, images, tables, lists, blocks and classes, HTML CSS, HTML frames, file paths, layout, symbols, HTML responsive.

Unit – II (10 hours)

HTML forms: HTML form elements, input types, input attributes, HTML5, HTML graphics, HTML media – video, audio, plug INS, you tube.

HTML API'S: Geo location, Drag/drop, local storage, HTML SSE.

CSS: CSS home, introduction, syntax, colours, back ground, borders, margins, padding, height/width, text, fonts, icons, tables, lists, position, over flow, float, CSS combinators, pseudo class, pseudo elements, opacity, tool tips, image gallery, CSS forms, CSS counters, CSS responsive.

Unit – III (10 hours)

Client side Validation: Introduction to JavaScript - What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions. Objects in JavaScript - Data and objects in JavaScript, regular expressions, exception handling. DHTML with JavaScript - Data validation, opening a new window, messages and confirmations, the status bar, different frames, rollover buttons, moving images.

Unit – IV (10 hours)

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus.

Unit – V (10 hours)

Working with themes-parent and child themes, using featured images, configuring settings, user and user roles and profiles, adding external links, extending word press with plug-ins. Customizing the site, changing the appearance of site using css , protecting word press website from hackers.

III. References

1. Chris Bates, Web Programming Building Internet Applications, Second Edition, Wiley (2007)
2. Paul S.WangSanda S. Katila, an Introduction to Web Design plus Programming, Thomson (2007).
3. Head First HTML and CSS, Elisabeth Robson, Eric Freeman, O'Reilly Media Inc.
4. An Introduction to HTML and JavaScript: for Scientists and Engineers, David R. Brooks. Springer, 2007
5. Schaum's Easy Outline HTML, David Mercer, Mcgraw Hill Professional.
6. Word press for Beginners, Dr.Andy Williams.
7. Professional word press, Brad Williams, David damstra, Hanstern.
8. Web resources:
    a. http://www.codecademy.com/tracks/web
    b. http://www.w3schools.com
    c. https://www.w3schools.in/wordpress-tutorial/
    d. http://www.homeandlearn.co.uk
9. Other web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities

a) Mandatory: *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying the case study to build a website, designing the format, structure, menus, submenus etc for a website and finally to build a website.

2. **For Student**: Students shall (individually) search online and visit any of the agencies like hotels, hospitals, super bazaars, organizations, etc. where there is a need for a website and identify any one case study and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a firm or business to develop a website, identifying various business entities to be included in the website, identifying menu bar and content to be placed in their websites.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.

5**.** Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Build a website with 10 pages for the case study identified.
2. Training of students by related industrial experts.
3. Assignments
4. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
5. Presentation by students on best websites.

Course 6A: Web Interface Designing Technologies – PRACTICAL SYLLABUS

V. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Create a basic website with the help of HTML and CSS.
2. Acquire the skill of installing word press and various plugins of Word press.
3. Create a static website with the help of Word press.
4. Create an interface for a dynamic website.
5. Apply various themes for their websites using Word press.

VI. Practical (Laboratory) Syllabus: *(30 hrs.)*

HTML and CSS:

1. Create an HTML document with the following formatting options:

   (a)Bold, (b) Italics, (c) Underline, (d) Headings (Using H1 to H6 heading styles), (e) Font (Type, Size and Color), (f) Background (Colored background/Image in background), (g) Paragraph, (h) Line Break, (i) Horizontal Rule, (j) Pre tag

2. Create an HTML document which consists of:

   (a) Ordered List (b) Unordered List (c) Nested List (d) Image

3. Create a Table with four rows and five columns. Place an image in one column.
4. **Using "table" tag, align the images as follows:**

5. Create a menu form using html.
6. Style the menu buttons using css.
7. Create a form using HTML which has the following types of controls:

   (a) Text Box (b) Option/radio buttons (c) Check boxes (d) Reset and Submit buttons

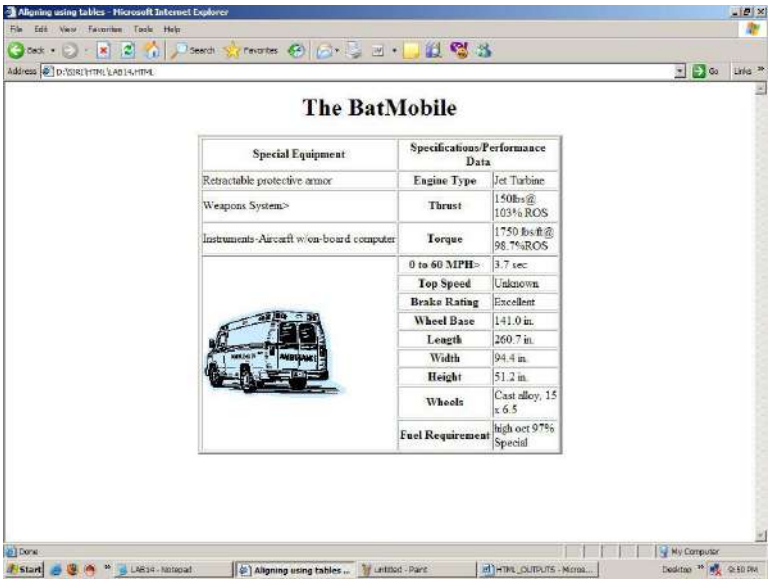
8. Embed a calendar object in your web page.

9. Create an applet that accepts two numbers and perform all the arithmetic operations on them.

10. Create nested table to store your curriculum.

11. Create a form that accepts the information from the subscriber of a mailing system.

12. Design the page as follows:



13. Create a help file as follows:

14. Create a webpage containing your bio data (assume the form and fields).

15. Write a html program including style sheets.

16. Write a html program to layers of information in web page.

17. Create a static webpage.

Word press:

18. Installation and configuration of word press.
19. Create a site and add a theme to it.
20 Create a child theme
21. Create five pages on COVID – 19 and link them to the home page. .
22. Create a simple post with featured image.
23. Add an external video link with size 640 X 360.
24. Create a user and assign a role to him.
25. Create a login page to word press using custom links
26. Create a website for your college.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four -year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 7A: Web Applications Development using PHP & MYSQL
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

Students after successful completion of the course will be able to:

1. Write simple programs in PHP.
2. Understand how to use regular expressions, handle exceptions, and validate data using PHP.
3. Apply In-Built functions and Create User defined functions in PHP programming.
4. Write PHP scripts to handle HTML forms.
5. Write programs to create dynamic and interactive web based applications using PHP and MYSQL.
6. Know how to use PHP with a MySQL database and can write database driven web pages.

II. Syllabus: *(Total Hours: 90 including Teaching, Lab, and Field training, Unit tests etc.)*

Unit-1: (10 hours)

The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments.

Unit-2: (10 hours)

Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

Unit-3: (10 hours)

Working with Forms: Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, and Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

Unit-4: (10 hours)

Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen(), Running Commands with exec(), Running Commands with system() or passthru().

Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

Unit-5: (10 hours)

Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

III. References

1. Julie C. Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson Education (2007).

2. Steven Holzner , PHP: The Complete Reference, McGraw-Hill

3. Robin Nixon, Learning PHP, MySQL, JavaScript, CSS & HTML5, Third Edition O'reilly, 2014

4. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

5. Web resources:

e. http://www.codecademy.com/tracks/php
f. http://www.w3schools.com/PHP
g. http://www.tutorialpoint.com

6. Other web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities:

a) Mandatory: *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on demonstrating various **interactive and dynamic websites** available online, addressing the students on identifying the case study to build an interactive and database driven website, forms to be used in website, database to be maintained, reports to be produced, etc.

2. **For Student**: Students shall (individually) search online and visit any of the agencies like malls, hotels, super bazaars, etc. where there is a need for an interactive and database driven website and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a firm or business to develop a website, identifying forms to be placed in the websites, back end databases to be maintained and reports to be generated and placed in the websites.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place or websites visited, structure of the website and acknowledgements*.
5**.** Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Arrange expert lectures by IT experts working professionally in the area of web content development
2. Assignments (in writing or implementing contents related to syllabus or outside the syllabus. Shall be individual and challenging)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation by students on best websites.
5. Arrange a webpage development competition among small groups of students.

Course 7A: Web Applications Development using PHP & MYSQL– PRACTICAL SYLLABUS

V. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Write, debug and implement the Programs by applying concepts and error handling techniques of PHP.
2. Create an interactive and dynamic website.
3. Create a website with reports generated from a database.
4. Write programs to create an interactive website for e-commerce sites like online shopping, etc.

VI. Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
9. Write PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add new Rows in a Table.
12. Write a PHP application to modify the Rows in a Table.
13. Write a PHP application to delete the Rows from a Table.
14. Write a PHP application to fetch the Rows in a Table.
15. Develop an PHP application to implement the following Operations

i. Registration of Users.
ii. Insert the details of the Users.
iii. Modify the Details.
iv. Transaction Maintenance.
    a) No of times Logged in
    b) Time Spent on each login.
    c) Restrict the user for three trials only.
    d) Delete the user if he spent more than 100 Hrs of transaction.

16. Write a PHP script to connect MySQL server from your website.
17. Write a program to read customer information like cust-no, cust-name, item-purchased, and mob-no, from customer table and display all these information in table format on output screen.
18. Write a program to edit name of customer to "Kiran" with cust-no =1, and to delete record with cust-no=3.
19. Write a program to read employee information like emp-no, emp-name, designation and salary from EMP table and display all this information using table format in your website.
20. Create a dynamic web site using PHP and MySQL.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four -year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 6B: INTERNET OF THINGS
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Appreciate the technology for IoT
2. Understand various concepts, terminologies and architecture of IoT systems.
3. Understand various applications of IoT
4. Learn how to use various sensors and actuators for design of IoT.
5. Learn how to connect various things to Internet.
6. Learn the skills to develop simple IOT Devices.

II. Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

Unit - I (10 hours)

Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.

Applications of IoT: Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.

Unit - II (10 hours)

Sensors Networks : Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, RaspberriPi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.

Unit - III (10 hours)

Wireless Technologies for IoT: WPAN Technologies for IoT: IEEE 802.15.4, Zigbee, HART, NFC, Z-Wave, BLE, Bacnet And Modbus.
IP Based Protocols for IoT IPv6, 6LowPAN, LoRA, RPL, REST, AMPQ, CoAP, MQTT. Edge connectivity and protocols.

Unit - IV (10 hours)

Arduino Simulation Environment: Arduino Uno Architecture, Setting up the IDE, Writing Arduino Software, Arduino Libraries, Basics of Embedded C programming for Arduino, Interfacing LED, push button and buzzer with Arduino, Interfacing Arduino with LCD.

Sensor & Actuators with Arduino: Overview of Sensors working, Analog and Digital Sensors, Interfacing of Temperature, Humidity, Motion, Light and Gas Sensors with Arduino, Interfacing of Actuators with Arduino, Interfacing of Relay Switch and Servo Motor with Arduino.

Unit - V (10 hours)

Developing IOT's: Implementation of IoT with Arduino, Connecting and using various IoT Cloud Based Platforms such as Blynk, Thingspeak, AWS IoT, Google Cloud IoT Core etc. Cloud Computing, Fog Computing, Privacy and Security Issues in IoT.

III. References

9. Internet of Things - A Hands-on Approach, ArshdeepBahga and Vijay Madisetti, Universities Press, 2015, ISBN: 9788173719547
10. Vijay Madisetti and ArshdeepBahga, "Internet of Things (A Hands-onApproach)", 1st Edition, VPT, 2014
11. Daniel Minoli, ― "Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications", ISBN: 978-1-118-47347-4, Willy Publications
12. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
13. Open source software / learning websites

    a. https://github.com/connectIOT/iottoolkit
    b. https://www.arduino.cc/
    c. https://onlinecourses.nptel.ac.in/noc17_cs22/course
    d. http://www.cse.wustl.edu/~jain/cse570-15/ftp/iot_prot/index.html
    e. Contiki (Open source IoT operating system)
    f. Ardudroid (open source IoT project)
    g. https://blynk.io (Mobile app)
    h. IoT Toolkit (smart object API gateway service reference implementation)

6. Other web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities:

a) Mandatory: *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying the case study for the IoT, design an IoT solution, build physical IoT device, connect it to a mobile app and deploy the IoT device.

2. **For Student**: Students shall (individually) search online and visit any of the places like aquaculture farms, agencies using IOT devices, etc to identify problems for IoT solution and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a Problem for IoT solution (agriculture, aquaculture, smart home appliances, testing moisture levels, oxygen levels, etc), reasons why IoT solution is feasible for the said problem, material required, Design and architecture for the proposed IoT device, method of implementation and how to connect the device to mobile.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of websites searched, place visited, observations, findings, proposed IOT problem, and design of the IOT device, implementation and acknowledgements*.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Preparation and presentation of power-point slides, which include videos, animations, pictures, graphics, etc by the students.
4. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
5. Field visits to identify the problems for IoT solutions.

Course 6B: Internet of Things – PRACTICAL SYLLABUS

V. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Acquire the skills to design a small IoT device.
2. Connect various sensors, actuators, etc to Arduino board.
3. Connect the things to Internet
4. Design a small mobile app to control the sensors.
5. Deploy a simple IoT device.

VI. Practical (Laboratory) Syllabus: *(30 hrs*)

1. Understanding Arduino UNO Board and Components
2. Installing and work with Arduino IDE
3. Blinking LED sketch with Arduino
4. Simulation of 4-Way Traffic Light with Arduino
5. Using Pulse Width Modulation
6. LED Fade Sketch and Button Sketch
7. Analog Input Sketch (Bar Graph with LEDs and Potentiometre)
8. Digital Read Serial Sketch (Working with DHT/IR/Gas or Any other Sensor)
9. Working with Adafruit Libraries in Arduino
10. Spinning a DC Motor and Motor Speed Control Sketch
11. Working with Shields
12. Design APP using Blink App or Things peak API and connect it LED bulb.
13. Design APP Using Blynk App and Connect to Temperature, magnetic Sensors.

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Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 7B: APPLICATION DEVELOPMENT USING PYTHON
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Understand and appreciate the web architecture and services.
2. Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.
3. Demonstrate proficiency in handling Strings and File Systems.
4. Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
5. Interpret the concepts of Object-Oriented Programming as used in Python.
6. Apply concepts of Python programming in various fields related to IOT, Web Services and Databases in Python.

II. Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

Unit - I (10 hours)

Python basics, Objects- Python Objects, Standard Types, Other Built-in Types, Internal Types, Standard Type Operators, Standard Type Built-in Functions, Categorizing the Standard Types, Unsupported Types

Numbers - Introduction to Numbers, Integers, Floating Point Real Numbers, Complex Numbers, Operators, Built-in Functions, Related Modules

Sequences - Strings, Lists, and Tuples, Mapping and Set Types

Unit – II (10 hours)

Files: File Objects, File Built-in Function [open()], File Built-in Methods, File Built-in Attributes, Standard Files, Command-line Arguments, File System, File Execution, Persistent Storage Modules, Related Modules

Exceptions: Exceptions in Python, Detecting and Handling Exceptions, Context Management, Exceptions as Strings, Raising Exceptions, Assertions, Standard Exceptions, Creating Exceptions, Why Exceptions (Now)?, Why Exceptions at All?, Exceptions and the sys Module, Related Modules

Modules: Modules and Files, Namespaces, Importing Modules, Importing Module Attributes, Module Built-in Functions, Packages, Other Features of Modules

Unit – III (10 hours)

Regular Expressions: Introduction, Special Symbols and Characters, Res and Python Multithreaded Programming: Introduction, Threads and Processes, Python, Threads, and the Global Interpreter Lock, Thread Module, Threading Module, Related Modules

Unit – IV (10 hours)

GUI Programming: Introduction, Tkinter and Python Programming, Brief Tour of Other GUIs, Related Modules and Other GUIs

Web Programming: Introduction, Wed Surfing with Python, Creating Simple Web Clients, Advanced Web Clients, CGI-Helping Servers Process Client Data, Building CGI Application, Advanced CGI, Web (HTTP) Servers

Unit – V (10 hours)

Database Programming: Introduction, Python Database Application Programmer's Interface (DBAPI), Object Relational Managers (ORMs), Related Modules

III. References

1. **C**ore Python Programming, Wesley J. Chun, Second Edition, Pearson.
2. Think Python, Allen Downey, Green Tea Press.
3. Introduction to Python, Kenneth A. Lambert, Cengage.
4. Python Programming: A Modern Approach, Vamsi Kurama, Pearson.
5. Learning Python, Mark Lutz, O' Really.
6. Web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities:

a) Mandatory: *(Training of students by teacher in field related skills: (lab: 10 + field: 05)*

1. **For Teacher**: Training of students by the teacher in laboratory/field for not less than 15 hours on field related skills like building an IOT device with the help of Python.

2. **For Student**: Students shall (individually) identity the method to link their IOT project done in Paper 7A with Python and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. It should include a brief report on the selected case study of IOT device, algorithm and Python program to operate the IOT device.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, design of the IOT device, implementation of Python program to connect the IOT device, findings and acknowledgements*.

5**.** Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Presentation by students on best websites.

Course 7B: Application Development Using Python– <u>PRACTICAL SYLLABUS</u>

V. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Implement simple programs in Python
2. Implement programs related to various data structures like lists, dictionaries, etc.
3. Implement programs related to files.

4. Implement applications related to databases, Web services and IOT.

VI. Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.

2. Write a python program to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria :
   Grade A: Percentage >=80
   Grade B: Percentage>=70 and <80
   Grade C: Percentage>=60 and <70
   Grade D: Percentage>=40 and <60
   Grade E: Percentage<40

3. Write a python program to display the first n terms of Fibonacci series.

4. Write a python program to calculate the sum and product of two compatible matrices.

5. Write a function that takes a character and returns True if it is a vowel and False otherwise.

6. Write a menu-driven program to create mathematical 3D objects
   I. curve
   II. sphere
   III. cone
   IV. arrow
   V. ring
   VI. Cylinder.

7. Write a python program to read n integers and display them as a histogram.

8. Write a python program to display sine, cosine, polynomial and exponential curves.

9. Write a python program to plot a graph of people with pulse rate p vs. height h. The values of P and H are to be entered by the user.
10. Write a python program to calculate the mass m in a chemical reaction. The mass m (in gms) disintegrates according to the formula m=60/ (t+2), where t is the time in hours. Sketch a graph for t vs. m, where t>=0.

11. A population of 1000 bacteria is introduced into a nutrient medium. The population p grows as follows:
    P (t) = (15000(1+t))/ (15+ *e)*

12. Where the time t is measured in hours. WAP to determine the size of the population at given time t and plot a graph for P vs t for the specified time interval.

13. Input initial velocity and acceleration, and plot the following graphs depicting equations of motion:
    I. velocity wrt time (v=u+at)
    II. distance wrt time (s=u*t+0.5*a*t*t)

III. distance wrt velocity (s=(v*v-u*u)/2*a)

14. Write a program that takes two lists and returns True if they have at least one common member.

15. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and 5th elements.

16. Write a program to implement exception handling.

17. Try to configure the widget with various options like: bg=”green”, family=”times”, size=20.

18. Write a Python program to read last 5 lines of a file.

19. Design a simple database application that stores the records and retrieve the same

20. Design a database application to search the specified record from the database.

21. Design a database application to that allows the user to add, delete and modify the records.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 6C: DATA SCIENCE
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Develop relevant programming abilities.
2. Demonstrate proficiency with statistical analysis of data.
3. Develop the ability to build and assess data-based models.
4. Demonstrate skill in data management
5. Apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively

II. Syllabus: (*(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

UNIT I (10 hours)

Introduction: The Ascendance of Data, What is Data Science? , Finding key Connectors, Data Scientists You May Know, Salaries and Experience, Paid Accounts, Topics of Interest, Onward.

Python: Getting Python, The Zen of Python, Whitespace Formatting, Modules, Arithmetic, Functions, Strings, Exceptions, Lists, Tuples, Dictionaries, Sets, Control Flow, Truthiness, Sorting, List Comprehensions, Generators and Iterators, Randomness, Object – Orienting Programming, Functional Tools, enumerate, zip and Argument Unpacking, args and kwargs, Welcome to Data Sciencester!

Visualizing Data: matplotlib, Bar charts, Line charts, Scatterplots.

Linear Algebra: Vectors, Matrices

UNIT II (10 hours)

Statistics: Describing a Single Set of Data, Correlation, Simpson's Paradox, some Other Correlation Caveats, Correlation and Causation.

Probability: Dependence and Independence, Conditional Probability, Bayes's Theorem, Random Variables, Continuous Distributions, The Normal Distribution, The Central Limit Theorem.

Hypothesis and Inference: Statistical Hypothesis Testing, Example: Flipping a Coin, Confidence Intervals, P-hacking, Example: Running an A/B Test, Bayesian Inference.

Gradient Descent: The Idea behind Gradient Descent, Estimating the Gradient, Using the Gradient, Choosing the Right Step Size, Putting It All Together, Stochastic Gradient Descent.

UNIT III (10 hours)

Getting Data: stdin and stdout, Reading Files – The Basics of Text Files, Delimited Files, Scraping the Web - HTML and the parsing Thereof, Example: O'Reilly Books About Data, Using APIs – JSON (and XML), Using an Unauthenticated API, Finding APIs.

Working with Data: Exploring Your Data, Exploring One-Dimensional Data, Two Dimensions Many Dimensions, Cleaning and Munging, Manipulating Data, Rescaling, Dimensionality Reduction.

Machine Learning: Modeling, What Is Machine Learning? Over fitting and under fitting, Correctness, The Bias-Variance Trade-off, Feature Extraction and Selection

UNIT IV (10 hours)

K-Nearest Neighbors: The Model, Example: Favorite Languages, The Curse of Dimensionality.

Naive Bayes: A Really Dumb Spam Filter, A More Sophisticated Spam Filter, Implementation, Testing Our Model.

Simple Linear Regression: The Model, Using Gradient Descent, Maximum Likelihood Estimation.

Multiple Regression: The Model, Further Assumptions of the Least Squares Model, Fitting the Model, Interpreting the Model, Goodness of Fit.

UNIT V (10 hours)

Logistic Regression: The Problem, The Logistic Function, Applying the Model, Goodness of Fit Support Vector Machines.

Decision Trees: What Is a Decision Tree? Entropy, The Entropy of a Partition, Creating a Decision Tree, Putting It All Together, Random Forests.

Neural Networks: Perceptron, Feed-Forward Neural Networks And Back propagation, Example: Defeating a CAPTCHA.

Clustering: The Idea, The Model, Example: Meetups , Choosing k, Example: Clustering Colors, Bottom-up Hierarchical Clustering.

III. References

1. Data Science from Scratch by Joel Grus O'Reilly Media
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition, 2018.
3. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly, 2017.
4. Web resources:
    a. https://www.edx.org/course/analyzing-data-with-python
    b. http://math.ecnu.edu.cn/~lfzhou/seminar/[Joel_Grus]_Data_Science_from_Scratch_First_Princ.pdf
5. 9. Other web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities:

a) Mandatory: *(Training of students by teacher in field related skills: (lab:10 + field: 05):*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying, analyzing and presenting the data and then to predict the future instances.

2. **For Student**: Students shall (individually) search online and visit any of the agencies like Statistical cell, weather forecasting centers, pollution control boards, manufacturing industries, agriculture departments, etc. to observe the manual process going on to collect the data, maintain the data, present the data and to predict the data for future instances and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5**.** Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Presentation by students in related topics.

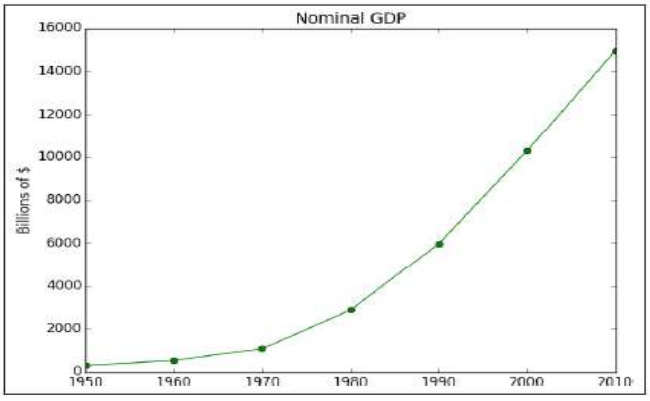
Course 6C: Data Science – <u>PRACTICAL SYLLABUS</u>

V. Learning Outcomes: On successful completion of this practical course, student shall be able to:

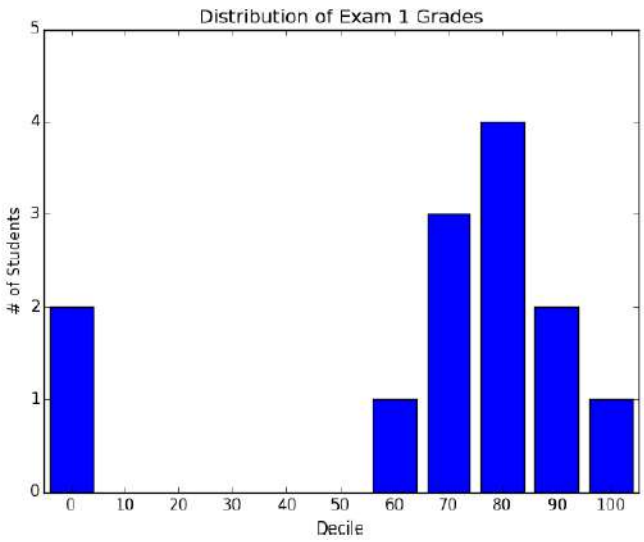
1. Apply data science solutions to real world problems.
2. Implement the programs to get the required data, process it and present the outputs using Python language.
3. Execute statistical analyses with Open source Python software.

VI. Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a Python program to create a line chart for values of year and GDP as given below



2. Write a Python program to create a bar chart to display number of students secured different grading as given below



3. Write a Python program to create a time series chart by taking one year month wise stock data in a CSV file
4. Write a Python program to plot distribution curve
5. Import a CSV file and perform various Statistical and Comparison operations on rows/columns. Write a python program to plot a graph of people with pulse rate p vs. height h. The values of P and H are to be entered by the user.
6. Import rainfall data of some location with the help of packages available in R Studio and plot a chart of your choice.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four -year B.Sc.(Hons)
Domain Subject: **Computer Science**
IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100 + 50

Course 7C: Python for Data Science
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify the need for data science and solve basic problems using Python built-in data types and their methods.
2. Design an application with user-defined modules and packages using OOP concept
3. Employ efficient storage and data operations using NumPy arrays.
4. Apply powerful data manipulations using Pandas.
5. Do data pre-processing and visualization using Pandas

II. Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

Unit - I (10 hours)

Introduction to Data Science - Why Python? - Essential Python libraries - Python Introduction- Features, Identifiers, Reserved words, Indentation, Comments, Built-in Data types and their Methods: Strings, List, Tuples, Dictionary, Set - Type Conversion- Operators. Decision Making- Looping- Loop Control statement- Math and Random number functions. User defined functions - function arguments & its types.

UNIT –II (10 hours)

User defined Modules and Packages in Python- Files: File manipulations, File and Directory related methods - Python Exception Handling.
OOPs Concepts -Class and Objects, Constructors – Data hiding- Data Abstraction- Inheritance.

UNIT –III (10 hours)

NumPy Basics: Arrays and Vectorized Computation- The NumPy ndarray- Creating ndarrays- Data Types for ndarrays- Arithmetic with NumPy Arrays- Basic Indexing and Slicing - Boolean Indexing-Transposing Arrays and Swapping Axes.
Universal Functions: Fast Element-Wise Array Functions- Mathematical and Statistical Methods-Sorting- Unique and Other Set Logic.

UNIT –IV (10 hours)

Introduction to pandas Data Structures: Series, Data Frame and Essential Functionality: Dropping Entries- Indexing, Selection, and Filtering- Function Application and Mapping- Sorting and Ranking.
Summarizing and Computing Descriptive Statistics- Unique Values, Value Counts, and Membership. Reading and Writing Data in Text Format

UNIT –V (10 hours)

Data Cleaning and Preparation: Handling Missing Data - Data Transformation: Removing Duplicates, Transforming Data Using a Function or Mapping, Replacing Values, Detecting and Filtering Outliers- String Manipulation: Vectorized String Functions in pandas.

Plotting with pandas: Line Plots, Bar Plots, Histograms and Density Plots, Scatter or Point Plots.

III. References

1. Y. Daniel Liang, "Introduction to Programming using Python", Pearson, 2012.
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition, 2018.
3. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly, 2017.
4. Wesley J. Chun, "Core Python Programming", Prentice Hall, 2006.
5. Mark Lutz, "Learning Python", O'Reilly, 4th Edition, 2009.
6. Web resources:
    a. https://www.edx.org/course/python-basics-for-data-science
    b. https://www.edx.org/course/analyzing-data-with-python
    c. https://www.coursera.org/learn/python-plotting?specialization=data-science-python
    d. https://www.programmer-books.com/introducing-data-science-pdf/
    e. https://www.cs.uky.edu/~keen/115/Haltermanpythonbook.pdf
7. Other web sources suggested by the teacher concerned and the college librarian including reading material.

IV. Co-Curricular Activities:

a) Mandatory: *(Training of students by teacher in field related skills: (lab:10 + field: 05):*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on collecting the data, analyzing the data and presenting the data using Python language with some real time data.

2. **For Student**: Students shall (individually) visit any of the agencies like Agriculture dept, statistical cell, irrigation department, Ground water department, CPO office, Rural Water Supply and Sanitation department etc or search online to get real time data like Aids database, weather forecasting database, social networking data, etc and identify any one database, implement and present the necessary charts in Python language and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Identifying a database, get the data, present the data in required charts and to predict the future instances if possible.

3. Max marks for Fieldwork/Project work/Project work/Project work/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, and details of place visited, observations, method of data collection, database identified, and implementation in Python language, other findings and acknowledgements*.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities

2. Training of students by related industrial experts.
3. Assignments
4. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
5. Presentation by students on the topics within and outside the syllabus.

Course 7C: Python for Data Science – PRACTICAL SYLLABUS

V. Learning Outcomes: On successful completion of this practical course, student shall be able to:

1. Implement simple programs in Python.
2. Implement programs related to various structures like arrays, lists, Data frames, etc.
3. Implement programs related to files.
4. Implement applications related to data science.

VI. Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Perform Creation, indexing, slicing, concatenation and repetition operations on Python built-in data types: Strings, List, Tuples, Dictionary, Set
2. Apply Python built-in data types: Strings, List, Tuples, Dictionary, Set and their methods to solve any given problem.
3. Handle numerical operations using math and random number functions
4. Create user-defined functions with different types of function arguments.
5. Create packages and import modules from packages.
6. Perform File manipulations- open, close, read, write, append and copy from one file to another.
7. Write a program for Handle Exceptions using Python Built-in Exceptions
8. Write a program to implement OOP concepts like Data hiding and Data Abstraction.
9. Create NumPy arrays from Python Data Structures, Intrinsic NumPy objects and Random Functions.
10. Manipulation of NumPy arrays- Indexing, Slicing, Reshaping, Joining and Splitting.
11. Computation on NumPy arrays using Universal Functions and Mathematical methods.
12. Load an image file and do crop and flip operation using NumPy Indexing.
13. Create Pandas Series and Data Frame from various inputs.
14. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Visualize the first and last 10 records
    (b) Get the shape, index and column details
    (c) Select/Delete the records (rows)/columns based on conditions.
    (d) Perform ranking and sorting operations.

    (e) Do required statistical operations on the given columns.

(f) Find the count and uniqueness of the given categorical values.
(g) Rename single/multiple columns

15. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Handle missing data by detecting and dropping/ filling missing values.
    (b) Transform data using apply () and map() method.
    (c) Detect and filter outliers.
    (d) Perform Vectorized String operations on Pandas Series.
    (e) Visualize data using Line Plots, Bar Plots, Histograms, Density Plots and Scatter Plots.

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Draft Syllabus prepared by:

1. *Dr. A.V. Kavitha, Asst. Professor in Computer Science, Government Degree College for Women, Guntur.*

2. *Dr. M. Hussainaiah, Asst. Professor, Department of Computer Science, Vikram Simhapuri University, Nellore.*

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

REVISED UG SYLLABUS UNDER CBCS

(To Be Implemented from Academic Year 2020-21)

PROGRAMME: FOURYEAR B.A. (Hons)

Domain Subject**: ECONOMICS**

Skill Enhancement Courses (SECs) for Semester V

(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)

Structure of SECs for 5th Semester

(To Choose One pair from the Four (A, B, C, & D) alternative pairs of SECs)

Uni Code	Course Number 6 & 7	Name of Course	Hours/ Week	Credits	Marks	
					IA – 20 Fieldwork/Project work 5	Sem End
	6A	Rural Entrepreneurship	5	4	25	75
	7A	Farmer Producer Organizations	5	4	25	75
OR						
	6B	Urban Entrepreneurship and MSMEs	5	4	25	75
	7B	Retail and Digital Marketing	5	4	25	75
OR						
	6C	Insurance Services	5	4	25	75
	7C	Banking and Financial Services	5	4	25	75
OR						
	6D	Inferential Statistics and Software Packages	5	4	25	75
	7D	Project Designing and Report Writing	5	4	25	75

Note1: *For Semester–V, for the domain subject, Economics, any one of the four pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The pair shall not be broken (ABCD allotment is random, not on any priority basis).*

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject among students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations*

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons).

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 6A: **Rural Entrepreneurship**
(Skill Enhancement Course (Elective) (4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Explain the basic theories and essentials of entrepreneurship;
2. Identify and analyze the entrepreneurship opportunities available in local rural area;
3. Apply the theories of entrepreneurship to the conditions of local rural area and formulate appropriate business ideas;
4. Demonstrate practical skills that will enable them to start rural entrepreneurship.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit - 1: Entrepreneurship: Concept and Theories

Concept and Importance of Entrepreneurship - Theories of Entrepreneurship: Innovations, X-Efficiency, Risk Bearing - Qualities and Functions of an Entrepreneur –Women Entrepreneurship – Ecopreneurship.

Unit - 2: Rural Entrepreneurship, Business Planning and Agribusiness

Rural Entrepreneurial Ecosystem – Factors, Problems and Challenges of Rural Entrepreneurships - Process of Identification of new Entrepreneurship Opportunities in Rural Areas - Formulation of Business Planning for Rural Entrepreneurship - Agribusiness and Value Addition: Procuring, Processing, Storing, and Marketing.

Unit- 3: New Rural Entrepreneurship Opportunities

New Entrepreneurship Opportunities in Farm sector: Organic Farm Products, Nutri-Cereals, Horticultural Products, Forest Produce, Medicinal Plant Products - New Entrepreneurship Opportunities in Rural Non-farm sector: Poultry, Aquaculture, Sericulture, Honeybee, Mushrooms Cultivation, Handicrafts.

Unit - 4: Financing and Marketing for Rural Entrepreneurship

Financing the Rural Entrepreneurship: Procedures to obtain formal loans from banks and other institutions - Preparation of Detailed Project Report for Loan - New avenues of Finance: Crowd Funding and Venture Capital - Marketing of Rural Products: Market Survey, Demand Forecasting, Marketing Strategies, Branding, Planning and Promotion, Digital and Social Media Marketing.

Unit - 5: Institutional Support and Case Studies of Rural Entrepreneurship

Institutional Support for Rural Entrepreneurship - Special Role of NABARD in promoting and supporting the Rural Entrepreneurship - Government Schemes for promotion of Rural Entrepreneurship– Rules and Procedures to start a Rural Entrepreneurship Firm – Discussion of two different types of Case Studies related to Rural Entrepreneurship with local relevance.

III. References:

1. Gordona, E and N. Natarajan: ***Entrepreneurship Development***, Himalaya Publishing House Pvt Ltd, Mumbai, 2017.
2. Sudhir Sharma, Singh Balraj, Singhal Sandeep, ***Entrepreneurship Development***, WisdomPublications, Delhi, 2005.
3. Drucker, P., ***Innovation and Entrepreneurship: Practice and Principles***, Harper & Row, New York, 1985; revised edn., Butterworth-Heinemann, Oxford, 1999.
4. National Council of Rural Institute (NCRI): Curriculum for Rural Entrepreneurship, 2019. http://www.mgncre.org/pdf/Rural%20Entrepreneurship%20Material.pdf
5. NITI Aayog: ***Report of Expert Committee on Innovation and Entrepreneurship***, New Delhi, 2015. https://niti.gov.in/writereaddata/files/new_initiatives/report-of-the-expert-committee.pdf
6. Vardhaman Mahavir Open Unversity, ***Entrepreneurship Development & Small Scale Business,*** Kota. http://assets.vmou.ac.in/BBA12.pdf
7. MANAGE: ***Agri-Business and Entrepreneurship Development***, Course Material AEM-202, 2013. https://www.manage.gov.in/pgdaem/studymaterial/aem202.pdf
8. NABARD:***Model Bankable Farming on Hi-Tech Agriculture, Green Farming***, 2015. https://www.nabard.org/demo/auth/writereaddata/ModelBankProject/1612162301Precision_farming_for_vegetable_cultivation_in_Kerala_(E).pdf
9. Johanne Hanko:***A Handbook for Training of Disabled on Rural Enterprise Development***, Food and Agricultural Organisation (FAO), 2003. http://www.fao.org/3/ad453e/ad453e.pdf
10. IGNOU: ***Marketing for Managers***, New Delhi. http://egyankosh.ac.in/handle/123456789/4271
11. www.nirdpr.org

12. https://www.nabard.org/
13. http://sfacindia.com/
14. Other Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like identification business product, making business plan, preparing DPR for loan, application for bank loan, doing marketing survey, marketing a product etc pertaining to any type of rural entrepreneurship of local relevance and make a field visit to any one such unit. The expertise of practicing rural entrepreneurs can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of rural entrepreneurship of their interest in the local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing entrepreneurs, concerned government officials
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 7A: **Farmer Producer Organizations (FPOs)**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Explain the concept and organization of FPO and its economic activities.
2. Identify and analyse the opportunities related to FPO in local rural area.
3. Apply the concepts to the identified FPO related opportunities available in the local area and formulate business ideas.
4. Demonstrate practical skills that will enable them to start a FPO or earn wage employment in it

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit 1: Concept of FPO and Importance

Concept and importance of FPO – Types of FPOs - Organizational structure and Functions of FPO - Ecosystem required for FPO - Role of FPOs in present Indian Agricultural Development – Factors, Problems and Challenges of FPOs in India.

Unit 2: Establishing FPO and Collaborations

Situation Analysis and Mobilizing Farmer Producers for FPO - Rules and Regulation related to FPOs - Procedures to start FPO –Infrastructure required for FPO - Collaboration with Other Organizations –Training and Capacity Building to Persons in FPO – Managing Financial Accounts of FPO.

Unit 3: Economic Activities and Business Planning of FPO

Economic Activities undertaken by FPO: Input Purchase, Custom Hiring Machines - Output Business: Procuring, Processing, Storage, Logistics, Marketing, Exporting etc. - Product Identification and Value Chain Analysis for FPO - Business Planning for FPO - Viable Business Models of FPO: Multi-product and Value Added.

Unit 4: Financing and Marketing of FPO

Financial Planning in FPO - Mobilization of Capital from Members, Promoters, Banks and other Funding Agencies-Marketing of FPO Products: Market Survey, Demand Forecasting, Marketing Strategies, Branding, Planning and Promotion, Digital and Social Media Marketing.

Unit 5: Institutional Support and Case Studies of FPOs

Institutional Support and Resource Supporting Agencies for FPOs - Special Roles of NABARD and SFAC – Government Schemes for promotion of FPOs - Discussion of two important Case Studies related to FPOs with different product or process types of local relevance.

III. References:

1. NABARD: ***Farmer Producer Organizations***, FAQs. Mumbai, 2015.https://www.nabard.org/demo/auth/writereaddata/File/FARMER%20PRODUCER%20ORGANISATIONS.pdf
2. NABARD: ***Farmer Producer Organizations: Status, Issues and Suggested Policy Reforms,*** Mumbai, 2019-20.https://www.nabard.org/auth/writereaddata/CareerNotices/2708183505Paper%20on%20FPOs%20-%20Status%20&%20%20Issues.pdf
3. NABARD: ***FPO e-Learning Module***. https://www.nabard.org/FPO/story_html5.html
4. SFAC: ***Formation and Promotion of 10, 000 Farmer Producer Organisations: Operational Guidelines***, New Delhi, 2020. http://sfacindia.com/UploadFile/Statistics/Formation%20&%20Promotion%20of%2010,000%20FPOs%20Scheme%20Operational%20Guidelines%20in%20English.pdf
5. FAO:***Course on Agribusiness Management for Producers' Associations***,2009. http://www.fao.org/3/i0499e/i0499e00.htm
6. Richa Govil, Annapurna Neti and Madhushree R. Rao: ***Farmer Producer Organizations: Past, Present and Future***, Azim Premji University, Bengaluru, 2020 . http://publications.azimpremjifoundation.org/2268/
7. IGNOU: ***Marketing for Managers***, New Delhi. http://egyankosh.ac.in/handle/123456789/4271
8. https://www.nabard.org/
9. http://sfacindia.com/FPOS.aspx
10. Other Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like preparing business model, value chain analysis of any product, application for the support of NABARD, SFAC and any similar supporting organization, financial planning, capacity building form staff and members

etc. pertaining to FPO of local relevance and make a field visit to any one such unit. The expertise of practicing FPO persons can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of FPO in their local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing FPO persons, concerned government officials
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 6B: **Urban Entrepreneurship and MSMEs**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Explain the basic theories and essentials of entrepreneurship
2. Identify and analyze the entrepreneurship opportunities available in local urban area.
3. Apply the theories of entrepreneurship to the conditions of local urban area and formulate appropriate business ideas.
4. Demonstrate practical skills that will enable them to start urban entrepreneurship

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit1: Entrepreneurship: Concept and Theories

Concept and Importance of Entrepreneurship - Theories of Entrepreneurship: Innovations, X-Efficiency, Risk Bearing - Qualities and Functions of an Entrepreneur – Women Entrepreneurship -Ecopreneurship.

Unit2: Urban Entrepreneurship and Business Planning

Urban Entrepreneurial Ecosystem – Factors, Problems and Challenges of Urban Entrepreneurships - Process of Identification of new Entrepreneurship Opportunities in Urban Areas - Formulation of Business Planning for Urban Entrepreneurship.

Unit 3: MSMEs and New Urban Entrepreneurship Opportunities

Features of Micro Small Medium Enterprises (MSMEs) – Cluster Development Approach and Leveraging Technology for MSMEs – Problems and Challenges of MSMEs - New Entrepreneurial Opportunities in Urban Area: Food and Beverages, Sanitary and Health Products, Solid Waste and Scrap Disposal, Tourism and Hospitality Services, Consultancy Services and Event Management, Logistic services.

Unit 4: Financing and Marketing of Urban Entrepreneurship

Financing the Urban Entrepreneurship and MSMEs: Procedures to obtain formal loans from Banks and other Institutions, Preparing Detailed Project Report for Loan - New avenues of Finance: Crowd Funding and Venture Capital –Marketing of Urban Entrepreneurship and MSMEs products: Market Survey, Demand Forecasting, Marketing Strategies, Branding, Planning and Promotion, Digital and Social Media Marketing – Public Procurement Policy to purchase MSME Products.

Unit 5: Institutional Support and Case Studies of Urban Entrepreneurship

Institutional support for Urban Entrepreneurship and MSMEs - Government Schemes for promotion of Urban Entrepreneurship and MSMEs: Startup, Standup, PMKVY, PLI etc. – Rules and Procedures to start a Urban Entrepreneurship Firm and MSME –Discussion of two different types of Case Studies related to Urban Entrepreneurship with local relevance.

III. References:

1. Gordona, E and N. Natarajan: ***Entrepreneurship Development***, Himalaya Publishing House Pvt Ltd, Mumbai, 2017.
2. Sharma Sudhir, Singh Balraj, Singhal Sandeep, ***Entrepreneurship Development***, Wisdom Publications, Delhi, 2005.
3. Drucker, P., ***Innovation and Entrepreneurship: Practice and Principles***, Harper & Row, New York, 1985; revised edn, Butterworth-Heinemann, Oxford, 1999.
4. NITI Aayog: ***Report of Expert Committee on Innovation and Entrepreneurship***, New Delhi, 2015. https://niti.gov.in/writereaddata/files/new_initiatives/report-of-the-expert-committee.pdf
5. Vardhaman Mahavir Open University, ***Entrepreneurship Development & Small Scale Business***, Kota. http://assets.vmou.ac.in/BBA12.pdf
6. Reserve Bank of India: ***Report of Expert Committee on Marginal, Small, Medium Enterprises***, Mumbai, 2019.https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=924
7. IGNOU: Marketing for Managers, New Delhi. http://egyankosh.ac.in/handle/123456789/4271
8. https://nimsme.org
9. Other Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like identification business product, making business plan, preparing DPR for loan, application for bank loan, marketing

survey, marketing a product etc pertaining to any type of urban entrepreneurship of local relevance and make a field visit to any one such unit. The expertise of practicing rural entrepreneurs can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of urban entrepreneurship of their interest in the local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing entrepreneurs, concerned government officials
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 7B: **Retail and Digital Marketing**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Explain the concepts and principles about the retail and digital marketing;
2. Identify and analyse the opportunities related to retail and digital marketing available in the local area;
3. Apply the concept to formulate the new strategies related to retail and digital marketing;
4. Demonstrate the practical skills required to get employment in retail and digital marketing or to start own digital marketing.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit 1: Concept of Marketing

Concept of Marketing - Type of Markets – Marketing Mix – Marketing Strategies – Marketing Segmentation – Marketing Organization - Marketing Research - Pricing Policies and Practices - Major Players in Retail and Digital Market in India.

Unit 2: Understanding Product and Consumer

Marketing Product Types – Product Decision and Strategies - Product Life Cycle - Consumer Behavior Model – Factors of Consumer Behavior -Understanding Indian Consumer - Strategies of persuading the Consumer – Sale Promotion: Advertisement, Branding and Packaging.

Unit 3: Retail Marketing

Concept of Retail Marketing – Types of Retailing – Big and Small Retail Markets - Retail Marketing Mix – Essentials of Successful Retail Marketing - Retail Marketing Strategies – Multichannel Retailing – Store Management – Shopping Market Dynamics.

Unit 4: Digital Marketing

Digital Marketing: Concept and Types – Telemarketing –Online or e-tailing – Essentials of Digital Marketing –Difference between Physical Retail and Digital Marketing – Digital Marketing Channels - Customer Behavior in Digital Marketing – Major players in Digital Marketing and their Marketing Strategies - Tools and Apps of Digital Marketing.

Unit 5: Marketing Models and Case Studies

Marketing Models of Retail and Digital Market Companies/Shops: Global, National and Local levels- Discussion of two different types of Case Studies related to Retail and Digital Marketing.

III. References:

1. Venkatesh Ganapathy: ***Modern Day Retail Marketing Management***, Bookboon Company, 2017.https://mmimert.edu.in/images/books/modern-day-retail-marketing-management.pdf
2. Prashant Chaudary: ***Retail Marketing in the Modern Age***, Sage Publication, 2019
3. Jermy Kagan and Siddarth Shekar Singh: ***Digital Marketing & Tactics***, Wiely Publishers, 2020.
4. Philip Kotler:***Marketing Management***, 11thEdition, Prentice-Hall of India Pvt. Ltd., New Delhi. , 2002
5. S.Neelamegham:***Marketing in India***, 3rdedition, Vikas Publications, New Delhi, 2000.
6. IGNOU: ***Marketing for Managers***, New Delhi. http://egyankosh.ac.in/handle/123456789/4271
7. Digitalmarketer: The Ultimate Guide to Digital Marketing. https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf
8. NITI Aayog: ***Connected Commerce: Creating a Roadmap for Digitally Inclusive Bharat, 2021***. https://niti.gov.in/writereaddata/files/Connected-Commerce-Full-Report.pdf
9. IASRI Course in ***Agribusiness Management and Trade Concepts in Marketing***http://ecoursesonline.iasri.res.in/mod/page/view.php?id=710
10. World Bank: ***Digital Economy in South East Asia: Strengthening the Foundations for Future Growth,*** 2019. https://documents1.worldbank.org/curated/en/328941558708267736/pdf/The-Digital-Economy-in-Southeast-Asia-Strengthening-the-Foundations-for-Future-Growth.pdf
11. Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like marking research, product life

cycle analysis, preparing marketing model, behavior with customer, store management, use of important digital marketing websites and apps etc. pertaining to retail and digital marketing organization and make a field visit to any one such unit in local area. The expertise of practicing marketing persons can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of retail and digital marketing organization in their local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts and practicing marketing persons
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 6C: **Insurance Services**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to

1. Explain the concept and principles of insurance service and functioning of insurance service agencies;
2. Identify and analyse the opportunities related insurance services in local rural area;
3. Apply the concepts and principles of insurance to build a career in Insurance services;
4. Demonstrate practical skills to enable them to start insurance service agency or earn wage employment in it.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit 1: Insurance Concept and Principles

Risk Management: Risk and Uncertainty, Risk Classification – Concept, Importance and Types of Insurance– Principles of Insurance – Insurance Regulations in India - Role of IRDA and Insurance Ombudsman –Scope for Insurance Business in India.

Unit 2: Life Insurance and Products

Life Insurance: Nature and Features - Major Life Insurance Companies in India - Important Life Insurance Products/policies and their Features: Conventional, Unit Linked, Annuities, Group Policies – Medical Examiner.

Unit 3: General and Health Insurances and Products

General Insurance: Nature, Features and Types - Major General Insurance Companies in India - Important General Insurance Products/Policies and their Features - Surveyor – Health Insurance: Nature and Features - Health Insurance Companies in India - Major Health Insurance Products/policies and their Features: Individual, Family, Group.

Unit 4: Practicing as an Insurant Agent

Insurance Contract and Terms of Insurance Policy - Registration of Insurance Agency with the Company — Procedure to issue a Policy: Application and Acceptance – Policy Lapse and Revival – Premium Payment, Assignment, Nomination and Surrender of Policy – Policy Claim - Important Websites and Apps of Insurance in India.

Unit 5: Understanding the Customer and Case Studies

Insurance Customer and Categories – Understanding Customer Mindset and Satisfaction - Addressing the Grievances of the Customer – Ethical Behavior in Insurance – Moral Hazard –Discussion of two different Case Studies related to Life or General or Health Insurance Services.

III. References:

1. Insurance Institute of India: ***Principles of Insurance (IC-01***), Mumbai, 2011.
2. Insurance Institute of India: ***Practice of Life Insurance (IC-02),*** Mumbai, 2011.
3. Insurance Institute of India: ***Practice of General Insurance (IC-11),*** Mumbai, 2011
4. IGNOU: ***Life Insurance*** https://egyankosh.ac.in/bitstream/123456789/6472/1/Unit-20.pdf
5. IGNOU: ***Non-Life Insurance*** https://egyankosh.ac.in/bitstream/123456789/6470/1/Unit-21.pdf
6. P. Periyaswamy: ***Principles and Practice of Insurance,*** Himalaya Publishers, New Delhi (2nd Edition), 2019.
7. G. Dionne and S.E. Harrington (Eds.): ***Foundations of Insurance Economics***, Kluwer Academic Publishers, Boston, 1997.
8. K. Jr. Black, and H.D. Skipper Jr.:***Life and Health Insurance,*** Prentice Hall, Upper Saddle River, New Jersey, 2000.
9. https://www.irdai.gov.in
10. https://www.insuranceinstituteofindia.com
11. https://licindia.in/
12. Other Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like explaining the details of an insurance policy to a customer – life, health and general policy, filling up application for a policy, calculation of premium and claim, make use of important websites and apps etc. pertaining to insurance and make a field visit to any insurance organization in local area. The expertise of practicing insurance agent or trainer can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of insurance agency of their interest in the local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing insurance agents. Trainers, concerned officials.
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 7C: **Banking and Financial Services**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Explain the concept and essentials banking and financial services.
2. Identify and analyse the employment opportunities related to banks and other financial institutions.
3. Apply the concepts to banking and financial opportunities and formulate ideas related to them.
4. Demonstrate practical skills to enable them to get employment in Banks and other financial institutions as business correspondents or Common Service Centers or marketing agents.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit1: Principles of Banking and Indian Banking System

Meaning of Banking – Principles of Banking – Functions of Banking – Structure of Indian Banking System – Regulations of Banking in India – Role of RBI in Banking – Anti-money Laundering - Basics of Financial literacy - Problems and Challenges of Banking in India.

Unit 2: Deposits, Loans and Digital Banking

Bank Deposit Account Types – Account Opening and Closing – Banking Customer types – KYC Norms – Negotiable Instruments: Cheque, Bill of Exchange, Promissory Note, Endorsement - Principles of Lending – Different categories of Loans – Mortgaging -Priority Sector Lending – E-Banking facilities: Debit Card, Credit Card, Net Banking, Mobile Banking, Tele-banking, Micro ATMs, Digital Currency – Core Banking Solutions.

Unit 3: Banking Correspondents and Common Service Centers

Banking Correspondent Model - Activities of Banking Correspondent: Deposit Mobilization. Identification of Borrowers, Collection and Recovery Loan, Other Banking Services – Common Services Centre (CSC) - Provision of Services by CSC – Requirement for Registering CSC and Telecentre - Case Study of Banking Correspondents with any Bank or CSC in Local Area.

Unit 4: Financial Services of NBFIs

Non-Banking Financial Institutions (NBFIs): Types and Major Players of NBFIs in India – Important Financial Services offered by NBFIs and their Features – Concept of EMI - Micro Finance: Concept and Operation - Chit Funds: Concept and Operations– Payment Banks - Regulations of NBFIs in India – Problems and Challenges of NBFIs in India.

Unit 5: Work with Finance Service Company (FSC)

Types of loans by Finance Service Company (FSC) – Customer of FSC: Types and Needs - Marketing of FSC's Loans – Procedures and Requirements in FSC's Loan Sanction - Collection and Recovery of FSC Loans - Case Study of a FSC's services in Local Area.

III. References:

1. Indian Institute of Banking and Finance: ***Principles and Practices of Banking,*** Macmillan India Limited, 2021. https://drive.google.com/file/d/1VU7aN4s5ikPQl7nX6mTBW-sVLQCNhfvK/view
2. Indian Institute of Banking and Finance: ***Retail Baking,*** Macmillan India Limited, 2015.
3. D.R.Patade Babasaheb Sangale and T.N.Salve : ***Banking and Finance:*** *Fundamental of Banking,* Success Publications, Pune, January *2013.* https://app1.unipune.ac.in/external/course-material/Fundamental-of-Banking-English.pdf
4. N. Mukund Sharma: ***Banking and Financial Services***, Himalaya Publishers, 2015.
5. Akhan Ali Jafor: ***Non-Banking Financial Companies in India: Functioning and Practice,*** New Century Publications, New Delhi, 2010.
6. RBI: "Non-Banking Financial Institutions" in ***Report on Trend and Progress of Banking in India 2019-20.***
7. RBI: Discussion Paper on ***Engaging Business Correspondents***. https://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2234
8. Govt. of India: Ministry of Electronic and Information Technology: ***Digital Seva-Operational Manual for Common Service Centre***s. https://csc.gov.in/assets/cscmanual/digitalsevaoperationalmanual.pdf
9. http://www.cscentrepreneur.in/ for Telecentre Entrepreneurship Course
10. https://www.rbi.org.in/
11. http://www.iibf.org.in/

12. Other Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like opening and closing bank account, explaining negotiable instruments, loan application process at banks, operation of digital banking, operating common service center, loan application and sanction in FSC, make use of important websites and apps etc. pertaining to banks and FSCs and make a field visit to any bank and FSC in local area. The expertise of practicing insurance agent or trainer can be utilized for this purposes.

2) **For Student:** Students shall visit and understand the functioning of bank and FSC of their interest in the local area. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing bankers, trainers and concerned officials.
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

Note: For the latest topics which have no formal material available, the teacher is expected to prepare own material by using multiple latest sources and practical knowledge.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 6D: **Inferential Statistics and Software Packages**
(Skill Enhancement Course (Elective), 4 Credits)

1. Learning Outcomes:

Students at the successful completion of the course shall be able to:

1. Demonstrate the knowledge related to the important concepts and techniques of inferential statistics
2. Calculate correlation, regression coefficients and interpret the results.
3. Use Excel sheets and SPSS package to analyse the data and derive the results.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit 1: Concept and Theories of Probability

Concept of Probability - Definitions of Probability: Classical or Mathematical and Empirical or Statistical – Axiomatic Approach to Probability – Theorems of Probability: Addition and Multiplication (without proofs).

Unit 2: Theoretical Probability Distributions

Binomial Distribution: Constants (without proof) and Properties – Poison Distribution: Constants (without proof) and Properties – Normal Distribution: Constants (without proof) and Properties – Standard Normal Distribution and Standard Normal Curve – Economic and Practical Applications of Binomial, Poison and Normal Distributions.

Unit 3: Test of Significance - Large and Small Sample Tests

Steps involved in Testing of Hypotheses – Large Sample or Z-Test – Testing the difference between Means and Proportions – Small Sample Tests – Difference between Large and Small Sample Tests – Applications of Student's t-test, χ^2 test, F-test – One way and Two way ANOVA.

Unit 4: Linear and Non-linear Multiple Regression Models

Four Variable Linear Multiple Regression Model – Notation – Assumptions – Estimation of Partial Regression Coefficients – Interpretation of Regression coefficients - Testing the coefficients: t-test, p- value – Coefficient of Determination: R^2 and adjusted R^2 – Estimation of Non-linear Multiple Regression: Cobb-Douglas Production Function and Interpretation of Elasticity Coefficients.

Unit 5: Excel and Software Packages for Data Analysis

Worksheet – Entering data in Worksheets – Creating Graphs and Charts - Mathematical and Statistical Functions -Data Analysis Pack in Excel - Descriptive Statistics, Testing of Hypotheses, ANOVA, Correlation and Regression, Random Number Generation - Data Handling Using SPSS - Opening Excel files in SPSS - Analysis Tools - Descriptive Statistics - Selection of Variables in Multiple Linear Regression – Estimation of Regression Coefficients using SPSS and their interpretation.

III. References:

1. S. C. Gupta: **Fundamentals of Statistics,** Himalaya Publishing House, Bombay, 1982.
2. S. P. Gupta: ***Statistical Methods,*** S. Chand & Company, New Delhi, 2000.
3. K. V. S. Sharma : ***Statistics Made Simple: Do it yourself on PC, (Second edn.)*** Prentice Hall of India, New Delhi, 2010.
4. తెలుగు అకాడమీ ప్రచురణ "పరిమాణాత్మక పద్ధతులు"
5. B. N. Gupta: ***Statistics Theory and Practice,*** Sahitya Bhavan, Agra, 1992.
6. Goon A.M., M. K. Gupta and B. Dasgupta: ***Fundamentals of Statistics,*** Vol.1, The World Press, Ltd, Calcutta, 1975.
7. Nagar, A.L. and R. K. Das: ***Basic Statistics,*** Oxford University Press, New Delhi, 1996.
8. ***D N Elhance,*** Veena Elhance & B M Aggarwal ***Foundation of Statistics,*** Kitab Mahal, New Delhi, 2018.
9. Relevant web resources suggested by the teacher and college librarian

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like calculation and interpretation normal curve, Z-values, t-test, χ^2 test, F-test, ANOVA, regression results, t, p and R^2values using Excel and/or SPSS. The expertise of practicing persons can be utilized for this purposes.

2) **For Student:** Students shall take up a real time data of any economic organisation or firm and calculate the important statistical tests for the data and write the results with

interpretations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts, practicing persons.
2. Hands on experience by field experts.
3. Assignments
4. Debates on related topics
5. Seminars, Group discussions, Quiz, etc.

###

A.P. State Council of Higher Education

Semester-Wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-Year B.A. (Hons)

Domain Subject: **ECONOMICS**

IV Year B.A.(Hons)-Semester-V

Max Marks: 100

Course 7D: **Project Designing and Report Writing**
(Skill Enhancement Course (Elective), 4 Credits)

I. Learning Outcomes:

The Student at the successful completion of the course shall be able to:

1. Demonstrate the knowledge relating to research, its role in enhancement of knowledge in social sciences in general and economics in particular;
2. Formulate a good research design to undertake mini research projects with a view to studying the socio-economic problems of the society;
3. Undertake a field survey by himself/herself to collect relevant data and information relating to his/her project work;
4. Develop capacity to write a simple project report with all relevant components on the research project undertaken by him/her.

II. Syllabus: (Hours: Teaching: 60, Training: 10, Others Including Unit Tests: 05)

Unit 1: Foundations of Research

Meaning and Importance of Research - Scientific Research – Social Science Research – Methods of ensuring Objectivity in Social Science Research – Limitations of Research in Social Science – Ethics in Research.

Unit 2: Classification of Research

Pure and Applied Research – Exploratory and Descriptive Research – Diagnostic Research – Action Research – Analytical Research – Evaluation Research – Experimental Research Design – Concepts of Independent and Dependent Variables – Case Study method.

Unit 3: Planning of Research Project

Selection of a Research Problem – Criteria for Selecting a Research Problem **–** Review of Theoretical and Related Research Studies - Choice of Secondary and Primary Data for the Study - Choice of Census and Sample Data – Preparation of a Research Proposal – Components of a good Research Proposal.

Unit 4: Implementation of a Project Design

Fieldwork/Project work and Collection of Data – Choice of Schedules and Questionnaire – Pilot Study – Role of Observation and Participation – Documentary Evidences - Projective Techniques: Functions and Types - Editing Data – Graphical and Statistical Analysis of Data using Appropriate Statistical Techniques.

Unit 5: Report Writing

Types of Research Report – Target Audience – Nature of Language to be used in Research Report - Outlines of a good Research Report – Prefatory Items – Body of the Report – Terminal Items: Differences between References and Bibliography – Appendices - Ethical values in Research Report - Plagiarism Test - Components of a good Research Paper.

III. References:

1. C. T. Kurien: ***A Guide to Research in Economics,*** Sangam Publishers for Madras Institute of Development Studies, Chennai, 1973.
2. O. R. Krishnaswami and M. Ranganatham: ***Methodology of Research in Social Sciences,*** Himalaya Publishing House, Mumbai, 2018.
3. C. R. Kothari: ***Research Methodology: Methods and Techniques,*** New Age International (Pvt.) Ltd. Publishers, New Delhi, 2004.
4. K. V. S. Sharma : ***Statistics Made Simple: Do it yourself on PC,*** (Second edn.) Prentice Hall of India, New Delhi, 2010.
5. John W. Creswell and J. David Creswell : ***Research Design: Qualitative, Quantitative, and Mixed Methods Approaches,*** Sage Publications, New Delhi, 2018.
6. Shanti Bhushan Mishra and Shashi Alok,***Handbook of Research Methodology***, Educreation, Bilaspur, 2017.
7. Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams: ***The Craft of Research***, University of Chicago Press, Chicago, 2016.
8. Dr. Ranjit Kumar: ***Research Methodology: A Step-by-Step Guide for Beginners***, Sage Publications, New Delhi, 2014.
9. Geoffrey Marczyk, David DeMatteo, and David Festinger: ***Essentials of Research Design and Methodology***, John Wiley and Sons, New Jersey, 2005.
10. Sharan B. Merriam: ***Qualitative Research: A Guide to Design and Implementation*** Jossey Boss, San Francisco, 2009.
11. Mark Balnaves & Peter Caputi: ***Introduction to Quantitative Research Methods: An Investigative Approach***, Sage Publications, New Delhi, 2001.
12. Relevant web resources suggested by the teacher and college librarian.

IV. Co-Curricular Activities:

a) Mandatory (*Training of students in the related skills by the teacher for a total 10 Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a total of not less than10 hours on skills and hands on experience like evaluation of program, selection of research problem, doing literature survey, preparation of research proposal, data editing, graphs and statistics, writing research report and paper etc. and make field visit to study a simple research issue. The expertise of practicing researcher can be utilized for this purposes.

2) **For Student:** Students shall take up small research issue of their interest and visit a field area related to that problem. They shall write their individual observations in the given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/Project work Report

3) **Suggested Fieldwork/Project work Format (***Report shall not exceed 10 pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process, Findings, Conclusion & References.
4) Max Marks for Fieldwork/Project work Report: 05
5) Unit Tests/Internal Examinations.

b) Suggested Co-Curricular Activities

1. Invited Lectures with academic experts and researchers.
2. Hands on experience by field experts.
3. Assignments.
4. Debates on related topics.
5. Seminars, Group discussions, Quiz, etc.

###

MODEL QUESTION PAPER PATTERN

Max. Marks: 75 Time: 3 Hours

Section A (Total 5 x 5 Marks = 25 Marks)

Write Short Answers for any ***five*** of the following Questions. Each Answer Carries *5 Marks*

1	
2	
3	
4	
5	
6	
7	
8	

(At least one question should be given from every unit of all the five units. At least two questions should be related to testing skills)

Section B (Total 5 x 10 Marks = 50 Marks)

Write Answers for the following ***five*** Questions.
Each Answer Carries *10 Marks*

9	(a) Or (b)
10	(a) Or (b)
11	(a) Or (b)
12	(a) Or (b)
13	(a) Or (b)

(Each set of question contains two internal choice sub-questions (a or b) which should be given from the same unit and one set form each unit of all the five units. At least two choice sub-questions should be related to testing skills)

Prepared by:

1. Prof. D. Krishnamoorthy, Department of Economics, Sri Venkateswara University, Tirupati.
2. Dr. Ch. Sankar Rao, Lecturer in Economics, T.R.R. Govt. Degree College, Kandukur, Prakasam District, A.P.

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REVISEDUGSYLLABUS UNDERCBCS **ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION**

(A Statutory body of the Government of Andhra Pradesh)

(Implemented from AcademicYear 2020-21)

PROGRAMME: FOUR YEAR B.Sc. (Hons)

Domain Subject**: PHYSICS**

Skill Enhancement Courses (SECs) for Semester V, from 2022-23 *(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)*

Structure of SECs for Semester–V

(To choose one pair from the three alternate pairs of SECs)

Univ. Code	Course No. 6&7	Name of Course	Th. Hrs / Week	IE Marks	EE Marks	Credits	Prac Hrs/ Wk	Marks	Credits
	6A	Optical Instruments and Optometry	3	25	75	3	3	50	2
	7A	Optical Imaging and Photography	3	25	75	3	3	50	2
		OR							
	6B	Low Temperature Physics & Refrigeration	3	25	75	3	3	50	2
	7B	Solar Energy and Applications	3	25	75	3	3	50	2
		OR							
	6C	Applications of Electricity & Electronics	3	25	75	3	3	50	2
	7C	Electronic Instrumentation	3	25	75	3	3	50	2

Note-1: *For Semester–V, for the domain subject Physics, any one of the above three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis*).

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.*

A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)

Domain Subject: **PHYSICS**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 6A: OPTICAL INSTRUMENTS AND OPTOMETRY

[Skill Enhancement Course (Elective), Credits: 05]

I. Learning Outcomes: Students at the successful completion of the course will be able to:

1. Understand the construction and working principles of various optical instruments used in daily life.
2. Acquire a critical knowledge on the various defects of eye and their correcting methods with suitable lenses.
3. Demonstrate skills of using biological microscope through hands on experience.
4. Understand the various techniques used in optometry and computer based eye testing.
5. Comprehend the various applications of microscopes and telescopes.

II. **Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT-I OPTICAL MICROSCOPES (10hrs)

Introduction to Microscopes**,** Need of a Microscope**,** Different types of microscopes and their uses, Simple microscope-Construction, Magnifying power, normal adjustment; Compound microscope-Construction, Magnifying power, normal adjustment, Phase contrast microscope-Operating principle, Travelling microscope-Construction, working and uses

UNIT-II TELESCOPES (10hrs)

Introduction to Telescopes**,** Different types of Telescopes and their uses, Refracting Telescopes and Reflecting telescopes, Construction, working and magnifying power of Astronomical Telescope and Terrestrial Telescopes, Binoculars – working principle and applications.

UNIT-III APPLICATIONS OF OPTICAL INSTRUMENTS (10hrs)

Introductory ideas and applications of various microscopes *viz*., (i) Optical microscopes (Compound microscope, Stereo microscope, Confocal microscope) (ii) Electron microscopes (TEM, SEM), (iii) Scanning Probe microscope (iv) Scanning Acoustic microscope and (v) X-ray microscope.

Introductory ideas and applications of various telescopes *viz*., (i) Optical telescopes (ii) Radio telescopes (iii) Solar telescopes (iv) Infrared telescope (v) Ultraviolet telescope (vi) X-ray telescope and (vii) Gamma ray telescope

UNIT-IVOPTICAL VISION (10hrs)

Introduction to optical Vision, Eye as an optical instrument, Formation of image in the eye and the camera, Ophthalmic lenses, Power of the lenses, Far point and near points, Myopia and Hypermetropia defects, Removal of defects in vision using ophthalmic lenses, Contact lenses-Working principle, Different types of Contact lenses.

UNIT-V OPHTHALMIC TECHNIQUES AND OPTOMETRY (10hrs)

Ophthalmoscope and keratometer and their working principles, Evaluation of eye disorders, Guidelines for standardized eye chart preparation, Simple phoropter and its working principle and its uses, Checking the power of lenses, Principles of Computer based eye testing

References:

1. Optics and Optical Instruments: An Introduction by B. K. Johnson, Dover Publications.
2. Modern Optical Instruments and their construction by or ford Henry-Publisher: Biblio Life, LLC.
3. A Text Book of Optics by Brj Lal and N.Subramanyam, S.Chand & Co.
4. Practical Optics by Menn Naftly, Elsevier Science Publishing.
5. Applications of Optics in daily life | CK-12 Foundation. https://flexbooks.ck12.org ›
6. Web sources suggested by the teacher concerned and the college librarian including Reading material.

Course 6A: Optical Instruments and Optometry –

PRACTICAL SYLLABUS *(30 Hrs. Max Marks: 50)*

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

1. List out, identify and handle various equipments like binoculars, telescopes and microscopes.
2. Learn the procedures of operation of various optical instruments.
3. Demonstrate skills on testing the power of lenses, improving the resolution of telescopes and microscopes.
4. Acquire skills in observing and measuring the power, focal length and different refractive errors of eye.
5. Perform some techniques related to testing the blood and other biological samples.
6. Understand the technique of operation of Computer eye testing and evaluation.

V. Practical (Laboratory) Syllabus: *(30 hrs*)

1. Evaluation of magnifying power of simple microscope.
2. Measurement of reflection and transmission coefficient of certain materials using a microscope.
3. Resolving power of telescope
4. Determination of radii of different capillary tubes using travelling microscope.
5. Refractive index of a liquid (water) using (i) concave mirror and (ii) convex lens and a plane mirror.
6. Removal of refractive errors of eye using combination of lenses.
7. Determination of power of a convex lens by finding its focal length.

VI. Lab References:

1. A Practical Guide to Experimental Geometrical Optics byYuriy A. Garbovskiy-Cambridge Univ. Press
2. https://physics.columbia.edu/sites/default/files/content/Lab%20Resources/1292%20Lab%20Manual.pdf
3. https://www.lnmiit.ac.in/Department/Physics/uploaded_files/lab-manual.pdf
4. Basic Optics Experiments -http://www.phys.unm.edu › Optics Lab › Basics
5. A Practical Guide to Experimental Geometrical Optics by Yuriy A. Garbovskiy, Anatoliy V. Glushchenko, Cambridge Univ. Press
6. Web sources suggested by the teacher concerned.

http://www.phy.olemiss.edu/~thomas/weblab/Optics_lab_Items/Telescope_Microscope_PROCED_Spring_2018.pdf

VII. Co-Curricular Activities

(a) Mandatory: (*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for a total of not less than 15 hours on the field techniques/skills on the familiarization of various optical instruments available in the laboratory; construction of different types of telescopes and their comparison in construction, operation and their utility and limitations; the details of construction of eye and various defects in the eye sight, emerging techniques in the design of eye lenses including contact lenses and making the student to understand on the testing of a biological sample using a clinical microscope

For Student: Students shall (individually) visit and observe the functioning of optical instruments at any one of the following places /centres like (a) pathological laboratory **or** (b) a local ophthalmologist **or** (c) a local optician to understand the various types of eye lenses **or** (d) a local computer based eye testing centre**or** (e) an optician, who fixes contact lenses **or** (f) a local cinema theatre **or** (g) a planetarium.Student shall write the observations and submit a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to the teacher.

2. Max marks for Fieldwork/Project work: 05.
3. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
4. Unit tests (IE).

(b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying tools in the lens grinding, frame fitting, lens cleaning culture and other operational techniques with safety and security, IPR)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in optical instruments and optical lenses, contact lenses.
5. Making a model microscope and measuring its magnification.
6. Making a simple astronomical telescope using two convex lenses.
7. Checking the power of your spectacles or lenses at home.
8. Students shall take up making their own (i) Telescope and (ii) Binoculars with the accessories available at home.

https://paksc.org/pk/science-experiments/physics-experiments/how-to-make-astronomical-telescope

https://kids.nationalgeographic.com/nature/article/make-a-telescope

https://learning-center.homesciencetools.com/article/how-to-make-a-telescope-optical-science-project/

http://scipop.iucaa.in/Amateurs/telemaking.html

9. Collection of material/figures/photos related to various types of lenses and their power.
10. Visit to any eye research laboratories, if available
11. Invited lectures and presentations on related topics by field/industrial experts

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A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)

Domain Subject: **PHYSICS**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 7A: OPTICAL IMAGING AND PHOTOGRAPHY

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify the different types of cameras and camera lenses according to different purposes.
2. Identify and understand the focal length of the different types of lenses
3. Acquire a critical knowledge on natural and artificial sources of light and their application in photography.
4. Demonstrate skills of camera usage especially Digital Cameras.
5. Understand the various Image development and editing techniques.
6. Comprehend the concept of different types of common shooting techniques.

II. **Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

Unit-I: INTRODUCTION TO PHOTOGRAPHY: (10 hrs)

Photography-Introduction, Working principle of a camera, Image formation in simple camera and human eye, Types of cameras , Pin-hole camera , Single Lens Reflex (SLR) camera, Twin Lens Reflex (TLR) camera , Digital Single-lens reflex camera (DSLR), Digital camera, Drone flying cameras, Care and maintenance of camera, Factors influencing choice of camera

Unit-II: DIGITAL PHOTOGRAPHY: (10 hrs)

Different types of Digital cameras and their parts, Working of DSLR camera, Types of lenses-Normal, Wide angle, telephoto, Zoom lenses, Digital Image formation, Digital camera image sensors, Size of the image, Depth of focus, Depth of field, Exposure time, Aperture, Shutter speed, ISO, filters, knowledge on pixels and their uses , resolution, Camera accessories

Unit-III: PHOTOGRAPHIC LIGHT SOURCES: (10 hrs)

Need for the light in photography, Light sources- Natural light, Sun light, Moon light,Ambient light, Artificial light sources-Flood light, Spot light, Halogen light, Halogen flash light, Digital lights, Exposure, Studio photography

Unit-IV: PHOTOGRAPHIC SHOOTING TECHNIQUES: (10 hrs)

Significance and role of Camera lens in photo shooting, Arrangement of lenses in a Camera-Positioning, Techniques involved in the use of DSLR cameras, Usage of Filters, Techniques of Photomicrography, High speed Photography with motor driven camera, Basic ideas on Underwater Photography, Medical Photography, Astronomical Photography, Infra-Red (IR) Photography, Ultra Violet (UV) Photography and Forensic Photography.

Unit-V : PHOTO MANIPULATION : (10 hrs)

Developing and printing the photographs, equipment and materials used in developing and printing, image mixing and printing, Image editing through image editing software's like Adobe Photoshop – Adjustment of Brightness, Contrast, Tonal and Colour Values, Factors influencing quality of digital image, Methods of storing and processing, Image transportation through Pendrive, CD, HDD and CLOUD [Internet]

III Reference Books:

1. Object and image; An introduction to photography by George M Craven, PHI
2. An Introduction to Digital Photo Imaging Agfa, 1994
3. Advance Photography by M. Langford.
4. Digital Photography-A hands on Introduction by Phillip Krejcarek, Delmer Publishers
5. Multimedia – An Introduction by John Villamil, PHI
6. https://www.adobe.com/in/creativecloud/photography/discover/dslr-camera.html
7. Web sources suggested by the teacher concerned and the college librarian including reading material.

Course 7A: Optical Imaging and Photography

PRACTICAL SYLLABUS *(30 Hrs, Max Marks: 50)*

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

1. List out, identify and understand various image formation techniques including Eye.
2. Learn the procedures of using Analog and Digital cameras.
3. Demonstrate the focusing techniques of Analog and Digital cameras.
4. Acquire skills in the editing and development of photos and videos.
5. Perform some experimental skills related to images, videos using the equipment available in the lab or in a local studio.

V. Practical (Laboratory) Syllabus: *(30 hrs*)

1. Construction of a simple pin hole Camera and study it's working.
2. Capture an image using a Digital Camera and apply editing techniques.
3. Understanding various image formats and convert one image format intoother (For ex: JPEG to BMP)
4. Convert a video stream into image stream by using a suitable editingsoftware.
5. Evaluate the number of pixels and size of digital Image.
6. Comparison of the quality of a 8-bit, 16-bit and 32 bit images.
7. Perform the reduction and enlargement of a given Digital Image.
8. Change the appearance of an image by applying the filters (For ex: from the IR image of the given digital Image by suitable IR filter)

VI. Lab References:

1. DSLR Photography for Beginners by Brian Black
2. The Art of Photography by Bruce Barnbaum
3. Photoshop for Photographers by John Slavio
4. https://www.youtube.com/channel/UCwWyFRy2l6aUFMsRemP51Sw. You Tube resource.
5. https://www.udemy.com/course/complete-photography-course/
6. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*):

1. For Teacher: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for not less than 15 hours on the field techniques/skills of Image formation by using lenses and mirrors. Also to make students to understand the construction, operation and the Physics principles involved in a normal Camera and Digital Camera.

2.For Student: Students shall (individually) visit a local Photo studio or any such facility in a university/research organization/private and observe (i) the operation of different digital cameras, compact and SLR and in taking photographs using different types of lenses by varying aperture, shutter speed for still camera, video camera, CCTV and spy camera **or** (ii) the use of natural light, tungsten light, fluorescent light, electronic flash reflectors, exposure meters, studio flash and its accessories **or** (iii) the usage of various lighting techniques for different lenses and will do practice on special areas of photography in outdoor and indoor conditions **or** (iv) the different processes viz., audio video recording, mixing, editing, dubbing of sound, using different types of microphones **or** (v) the handling of the digital video cameras, DVD, HDD, accessories and exposure to take different common shots, dimension of images and movements as per requirement **or** (v) the computer system by digital editing software, printing the photographs taken by digital cameras and the image transportation to the storage media, sending photographs through E-mail and Scanning the photographs, capture frames and analysis of images and record their observations and submit a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work: 05.

4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.

5. Tests (IE).

(b) Suggested Co-Curricular Activities:

1. Training of students by a related skilled person from a Photo studio.
2. Assignments (including technical assignments like identifying the tools &techniques involved in photography and handling, operational techniques of different Cameras with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques related to Image formation and Photographic Techniques.
5. Practice taking outdoor photographs with a digital camera in (i) Black & White and (ii) Colour in the following conditions**:**

   Landscapes – Street / Building – Sculpture – Insect / Animal movement – Industrial plant (outside view) – Children, birds (close up / long shot / model photography)- slow and fast moving objects-Night photography etc.
6. Shooting of different areas and topics such as sports, wildlife, modeling, drama, documentary, serial, story board making, news, interview, seminar/ workshop, industrial, live broadcasting, musical event, advertisement, etc.
7. Collection of material/figures/photos related to various components of a Camera, writing and organizing them in a systematic way in a file.
8. Visits to any local Photo Studio or any Lab in universities, research organizations, private firms, etc.
9. Invited lectures and presentations on related topics by field/industrial experts.

A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)

Domain Subject: **PHYSICS**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 6B: LOW TEMPERATURE PHYSICS & REFRIGERATION

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to

1. Identify various methods and techniques used to produce low temperatures in the Laboratory.
2. Acquire a critical knowledge on refrigeration and air conditioning.
3. Demonstrate skills of Refrigerators through hands on experience and learns about refrigeration components and their accessories.
4. Understand the classification, properties of refrigerants and their effects on environment.
5. Comprehend the applications of Low Temperature Physics and refrigeration.

II. **Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT-I PRODUCTION OF LOW TEMPERATURE (10 hrs)

Production of low temperatures-Introduction, Freezing mixtures, Joule-Thomson effect, Regenerative cooling, Different methods of liquefaction of gases, liquefaction of air, Production of liquid hydrogen and nitrogen, Adiabatic demagnetization, Properties of materials at low temperatures, Superconductivity

UNIT-II MEASUREMENT OF LOW TEMPERATURE (10 hrs)

Gas thermometer and its correction and calibration, Secondary thermometers, resistance thermometers, thermocouples, Vapour pressure thermometers, Magnetic thermometers, Advantages and drawbacks of each type of thermometer.

UNIT-III PRINCIPLES OF REFRIGERATION (10 hrs)

Introduction to Refrigeration- Natural and artificial refrigeration , Stages of refrigeration, Types of refrigeration - Vapor compression and vapor absorption refrigeration systems, Refrigeration cycle and explanation with a block diagram, Introductory ideas on air-conditioning.

Refrigerants-Introduction, Ideal refrigerant, Properties of refrigerant, Classification of refrigerants, commonly used refrigerants, Eco-friendly refrigerants

UNIT-IV COMPONENTS OF REFIGERATOR (10 hrs)

Refrigerator and its working, Block diagram, Coefficient of Performance (COP), Tons of refrigeration (TR) and Energy Efficiency Ratio (EER), Refrigerator components: Types of compressors, evaporators and condensers and their functional aspects, defrosting in a refrigerator, Refrigerant leakage and detection

UNIT-V APPLICATIONS OF LOW TEMPERATURE & REFRIGERATION (10 hrs.)

Applications of Low temperatures: Preservation of biological material, Food freezing, liquid nitrogen and liquid hydrogen in medical field, Superconducting magnets in MRI- Tissue ablation (cryosurgery) - Cryogenic rocket propulsion system.

Applications of refrigeration: Domestic refrigerators, Water coolers, Cold storages, Ice plants, Food preservation methods, Chemical and Process industries, Cold treatment of metals, Construction field, Desalination of water, Data centers.

III. References:

1. Heat and Thermodynamics by Brij Lal &N.Subramanyam, S.Chand Publishers.
2. Thermal Physics by S C Garg, R M Bansal & C K Ghosh, McGrawHill Education, India
3. Heat and Thermodynamics by M MZemansky,McGrawHill Education (India).
4. Low-Temperature Physics by Christian E. & Siegfried H., Springer.
5. Thermal Engineering by S. Singh, S.Pati, Ch:18 Introduction to Refrigeration.
6. The Physics Hyper Text Book. Refrigerators.https://physics.info/refrigerators/
7. Refrigeration and Air Conditioning by Manohar Prasad, New age international (P) limited, New Delhi
8. A course in Refrigeration and Air Conditioning by S.C. Arora and S. Domkundwar, Dhanpatrai and sons, Delhi
9. https://trc.nist.gov/cryogenics/Papers/Review/2017-Low_Temperature_Applications_and_Challenges.pdf
10. https://nptel.ac.in/content/storage2/courses/112105129/pdf/RAC%20Lecture%203.pdf
11. Other Web sources suggested by the teacher concerned and the reading material.

https://nptel.ac.in

Course 6B: Low Temperature Physics & Refrigeration

PRACTICAL SYLLABUS *(30 Hrs. Max Marks: 50)*

IV. Learning Outcomes: On completion of practical course, student shall be able to

1. List out, identify and handle equipment used in refrigeration and low temperature lab.
2. Learn the procedures of preparation of Freezing Mixtures.
3. Demonstrate skills on developing various Freezing mixtures and materials and their applications in agriculture, medicine and day to day life.
4. Acquire skills in observing and measuring various methodologies of very low temperatures
5. Perform some techniques related to Refrigeration and Freezing in daily life.

V. Practical (Laboratory) Syllabus: *(30 hrs. Max marks: 50)*)

1. Record the Principles and applications of Refrigerators and Freezers.
2. Measure the temperatures below Melting point of Ice using a thermometer available in the Lab.
3. Make a freezing mixture by adding different salts viz., Sodium chloride, Potassium Hydrate (KOH), Calcium chloride to ice in different proportions and observe the temperature changes.
4. Study the operation of a refrigerator and understand the working of different parts.
5. Study the properties of refrigerants like chlorofluorocarbons-hydrochlorofluoro- carbons and record the lowest temperatures obtained.
6. Consider a simple faulty refrigerator and try to troubleshoot the simple problems by understanding its working.

7. Understand the practical problem of filling the Freon Gas into the Refrigerator.
8. Get the Liquid Nitrogen or Liquid Helium from nearby Veterinary Hospital and measure their temperatures using chromel-alumel thermocouple or mercury thermometer and observe their physical properties like colour, smell etc and precautions to be taken for their safe handling.
9. Preparation of freeze drying food with Dry ice and liquid nitrogen
10. Preparation of freeze drying food with liquid nitrogen

VI. Lab References:

1. Experimental techniques in low temperature physics by Guy White, PhilipMeeson.
2. Experimental low-temperature physics by A. Kent, Macmillan physical science series
3. Physics and Chemistry at Low Temperatures by Leonid Khriachtchev.
https://www.routledge.com/Physics-and-Chemistry-at-Low-Temperatures /Khriachtchev/p/book/9789814267519
4.Practical Cryogenics .http://research .physics illinois.edu /bezryadin /links/ practical%20Cryogenics.pdf
5. Freeze-Drying, 3rd Edition by Peter Haseley, Georg-Wilhelm Oetjen, Wiley (e-Book)
6. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities:

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for a total of not less than 15 hours on the techniques/skills of Low Temperature Production, methods used and applications of Low temperatures and refrigeration in day to day life and other applications in medicine and industry.
2. **For Student**: Student shall (individually) visit (i) a small ice plant or a cold storage plant (ii) Air Conditioner (AC) repair shop or (iii) Refrigerator repair shop to understand the construction, working principle and the trouble shooting of these devices after interacting with the technicians. **Or** Student shall observe the various thermodynamic processes taking place while working with the refrigerator and observe the leak detection in refrigeration system by different methods, air removal and charging of a refrigeration unit and testing of a refrigeration system to find out the Refrigerating capacity/Ton of refrigeration (TR) and the Power input. **Or** Student shall identify the refrigerant cylinder by color coding and standing pressure. **Or** Student shall visit the freezer aisle of a supermarket and observes the bags of different frozen fruits. Student shall write the observations and submit a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5. Unit tests (IE).

(b) Suggested Co-Curricular Activities

1. Training of students by related Factory, industrial experts.
2. Assignments (including technical assignments like identifying tools in Refrigerators, Freezers and their handling, operational techniques with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in Low Temperatures and applications.
5. Collection of material/figures/photos related to substances used in Freezing Mixtures, their Properties and availability etc., writing and organizing them in a systematic way in a file.
6. Visits to Ice plants and labs in universities, research organizations, private firms, etc.
7. Making your own mini refrigerator at home
8. Build your own water cooler with the materials available at home.
9. Making hand launched liquid nitrogen rockets
10. Experiments with Liquid nitrogen and strawberry/ banana/ lemon/ onion/ mushroom/ egg etc. (*To be tried under professional supervision only*).
11. Invited lectures and presentations on related topics by field/industrial experts
12. Identification of different Ozone-depleting substances (ODS) that damage the ozone layer in the upper atmosphere.
13. Demonstration to illustrate the greenhouse effect and the role of carbon dioxide as a greenhouse gas using plastic water bottles, flood light lamp, beakers and temperature sensors and observe the temperature changes.

    https://edu.rsc.org/experiments/modelling-the-greenhouse-effect/1543.article
    https://sealevel.jpl.nasa.gov/files/archive/activities/ts1hiac1.pdf

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A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code**:**

Four-year B.Sc. (Hons)

Domain Subject**: Physics**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 7B: Solar Energy and Applications

[Skill Enhancement Course (Elective), Credits: 05]

I. Learning Outcomes: After successful completion of the course, the student will be able to:

1. Understand Sun structure, forms of energy coming from the Sun and its measurement.
2. Acquire a critical knowledge on the working of thermal and photovoltaic collectors.
3. Demonstrate skills related to callus culture through hands on experience
4. Understand testing procedures and fault analysis of thermal collectors and PV modules.
5. Comprehend applications of thermal collectors and PV modules.

***II*. Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

Unit - I: BASIC CONCEPTS OF SOLAR ENERGY (10hrs)

Spectral distribution of solar radiation, Solar constant , zenith angle and Air-Mass, standard time, local apparent time, equation of time, direct, diffuse and total radiations. Pyrheliometer - working principle, direct radiation measurement, Pyranometer-working Principle, diffuse radiation measurement, Distinction between the two meters.

Unit - II: SOLAR THERMAL COLLECTORS (10hrs)

Solar Thermal Collectors-Introduction, Types of Thermal collectors, Flat plate collector – liquid heating type, Energy balance equation and efficiency, Evacuated tube collector, collector overall heat loss coefficient, Definitions of collector efficiency factor, collector heat-removal factor and collector flow factor, Testing of flat-plate collector, solar water heating system, natural and forced circulation types.

Concentrating collectors, Solar cookers, Solar dryers, Solar desalinators.

Unit - III: FUNDAMENTALS OF SOLAR CELLS (10hrs)

Semiconductor interface, Types, homo junction, hetero junction and Schottky barrier, advantages and drawbacks, Photovoltaic cell, equivalent circuit, output parameters, conversion efficiency, quantum efficiency, Measurement of I-V characteristics, series and shunt resistance, their effect on efficiency, Effect of light intensity, inclination and temperature on efficiency

Unit -IV: TYPES OF SOLARCELLS AND MODULES (10 hrs)

Types of solar cells, Crystalline silicon solar cells, I-V characteristics, poly-Si cells, Amorphous silicon cells, Thin film solar cells-CdTe/CdS and CuInGaSe2/CdS cell configurations, structures, advantages and limitations, Multi junction cells – Double and triple junction cells. Module fabrication steps, Modules in series and parallel, Bypass and blocking diodes

Unit – V: SOLAR PHOTOVOLTAIC SYSTEMS (10hrs)

Energy storage in PV systems, Energy storage modes, electrochemical storage, Batteries, Primary and secondary, Solid-state battery, Molten solvent battery, lead acid battery and dry batteries, Mechanical storage – Flywheel, Electrical storage –Super capacitor

III. References:

1. Solar Energy Utilization by G. D. Rai, Khanna Publishers
2. Solar Energy- Fundamentals, design, modelling and applications by G.N. Tiwari, Narosa Publications, 2005.
3. Solar Energy-Principles of thermal energy collection & storage by S.P. Sukhatme, Tata Mc-Graw Hill Publishers, 1999.
4. Science and Technology of Photovoltaics, P. Jayarama Reddy, CRC Press (Taylor & Francis Group), Leiden &BS Publications, Hyderabad, 2009.
5. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
6. Web sources suggested by the teacher concerned and the college librarian including reading material.
   (a) https://courses.edx.org/c4x/DelftX/ET.3034TU/asset/solar_energy_v1.1.pdf
   (b) https://www.sku.ac.ir/Datafiles/BookLibrary/45/John%20A.%20Duffie,%20William%20A.%20Beckman(auth.)-Solar%20Engineering%20of%20Thermal%20Processes,%20Fourth%20Edition%20(2013).pdf

Course 6B: Solar Energy and Applications – Practical (lab) work *(30 hrs, Max Marks:50)*

IV. Learning Outcomes : On successful completion of this practical course, student shall be able to:

1. List out and identify various components of solar thermal collectors and systems, solar photovoltaic modules and systems.
2. Learn the procedures for measurement of direct, global and diffuse solar radiation, I - V characteristics and efficiency analysis of solar cells and modules.
3. Demonstrate skills acquired in evaluating the performance of solar cell / module in connecting them appropriately to get required power output.
4. Acquire skills in identification and elimination of the damaged panels without affecting the output power in a module / array.
5. Perform procedures and techniques related to general maintenance of solar thermal and photovoltaic modules.

V. Practical (Laboratory) Syllabus: (**30 hrs**) (Max.50 Marks)

1. Measurement of direct radiation using pyrheliometer.
2. Measurement of global and diffuse radiation using pyranometer.
3. Evaluation of performance of a flat plate collector
4. Evaluation of solar cell / module efficiency by studying the I – V measurements.
5. Determination of series and shunt resistance of a solar cell / module.
6. Determination of efficiency of two solar cells / modules connected in series.
7. Determination of efficiency of two solar cells / modules connected in parallel.
8. Study the effect of input intensity on the performance of solar cell / module.
9. Study the influence of cell / module temperature on the efficiency.
10. Study the effect of cell / module inclination on the efficiency.

VI. Lab References:

1. Solar Photo voltaic- Alab training manual, C.S. Solanki et al., Foundation Books Publishers, 2012.
2. Laboratory Manual on Solar thermal experiments, HP Garg, TC Kandpal, Narosa Publishing House 2000.
3. Web sources suggested by the teacher concerned.
https://renewablelab.niu.edu/experiments/solarPanel
Development of simple solar hot water collector:
https://www.youtube.com/watch?v=WP8H5IOTwYU
https://www.instructables.com/Solar-Water-Heater-From-Scratch/

VII. Co-curricular Activities:

(a) Mandatory: (*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for not less than 15 hours on the field techniques/skills related to measurement of direct, diffused and global solar radiation; demonstration of procedures used in the performance evaluation of solar flat plate collectors, solar photovoltaic cells and modules measurement of different parameters in the calculation of efficiency.

2. **For Student**: Students shall visit to solar thermal and photovoltaic laboratories in universities/research organizations/ nearby industries to observe and understand the techniques and procedures used for evaluation of solar collector, solar cell and module efficiencies. They shall write their observations and submit to the teacher hand-written Fieldwork/Project work not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/Project work: 05.

4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.

5. Unit tests (IE).

(b) Suggested Co-Curricular Activities

1. Training of students by related industrial/ technical experts using guest lectures/ invited talks.
2. Assignments (including technical assignments like identifying components of a solar hot water and solar photovoltaic systems and their handling, operational techniques and maintenance procedures with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. on related topics.
4. Preparation of videos on thermal and photovoltaic systems and technical procedures.
5. Collection of brochures/figures/photos related to products and applications of solar energy and organizing them in a systematic way in a file.
6. Making a (i) solar panel (ii) solar light (iii) solar cooker (iv) solar oven (v) solar inverter at Home.
7. Visits to nearby solar thermal system as well as solar photovoltaic power stations, firms,research organizations etc.

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A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)

Domain Subject: **PHYSICS**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 6C: APPLICATIONS OF ELECTRICITY & ELECTRONICS

(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify various components present in Electricity& Electronics Laboratory.
2. Acquire a critical knowledge of each component and its utility (like resistors, capacitors, inductors, power sources etc.).
3. Demonstrate skills of constructing simple electronic circuits consisting of basic circuit elements.
4. Understand the need & Functionality of various DC & AC Power sources.
5. Comprehend the design, applications and practices of various electrical & Electronic devices and also their trouble shooting.

II. **Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

Unit-I INTRODUCTION TO PASSIVE ELEMENTS (10 hrs.)

Passive and Active elements-Examples, **Resistor**-Types of Resistors, Color coding - Applications of a Resistor as a heating element in heaters and as a fuse element. **Capacito**r-Types of Capacitors, Color coding, Energy stored in a capacitor, Applications of Capacitor in power supplies, motors(Fans) etc.**, Inductor**-Types of Inductors, EMF induced in an Inductor, Applications of Inductor, Application of choke in a fan and in a radio tuning circuit, Series resonance circuit as a Radio tuning circuit.

Unit-II Power Sources (Batteries) (10 hrs.)

Types of power sources-DC & AC sources, Different types of batteries, Rechargeable batteries –Lead acid batteries, Ni-MH batteries, Li-ion batteries- Li-PO batteries, Series, Parallel& Series-Parallel configuration of batteries, Constant Voltage source-Constant Current Source-Applications of Current sources & Voltage sources, SMPS used in computers.

Unit-III Alternating Currents (10 hrs)

A.C Power source-Generator, Construction and its working principle, Transformers-Construction and its working principle, Types of Transformers-Step-down and Step-up Transformers, Relation between primary turns and secondary turns of the transformer with emf., Use of a Transformer in a regulated Power supplies, Single phase motor –working principle, Applications of motors(like water pump, fan etc.).

Unit-IV Power Supplies (Skill Based) (10 hrs.)

Working of a DC regulated power supply, Construction of a 5 volts regulated power supply, Design of a step-down (ex: 220-12V) and step-up (ex: 120-240V) transformers-Simple Design of FM Radio circuit using LCR series resonance (tuning) circuit, Checking the output voltage of a battery eliminator using a MultiMate.(Trouble shooting), Design of a simple 5 volts DC charger, Power supply for computers(SMPS)

Unit-V Applications of Electromagnetic Induction (10 hrs.)

DC motor –Construction and operating principle, Calculation of power, voltage and current in a DC motor, Design of a simple Motor (for example Fan) with suitable turns of coil-DC generator-Construction, operating principle and EMF equation, Construction of a simple DC generator, Difference between DC and AC generators

III. References:

1. Grob's Basic Electronics by Mitchel Schultz , TMH or McGraw Hill
2. Electronic and Electrical Servicing by Ian Robertson Sinclair, John Dunton, Elsevier Publications
3. Troubleshooting Electronic Equipment by R.S.Khandapur , TMH
4. Web sources suggested by the teacher concerned and the college librarian including reading material.

Course 6C: Applications of Electricity & Electronics–

PRACTICAL SYLLABUS *(30 hrs, Max Marks:50)*

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

1. List out, identify and handle various equipment in Electrical & Electronics laboratory.
2. Learn the procedures of designing simple electrical circuits.
3. Demonstrate skills on the utility of different electrical components and devices.
4. Acquire the skills regarding the operation, maintenance and troubleshooting of various Devices in the lab.
5. Understand the different applications of Electromagnetic induction.

V. Practical (Laboratory) Syllabus: *(30 hrs, Max marks:50)*

1. Acquainting with the soldering techniques
2. Design and Construction of a 5 Volts DC unregulated power supply
3. Construction of a Step down Transformer and measurement of its output voltage. And to compare it with the calculated value.
4. Connect two or three resistors or capacitors or inductors and measure the Series, Parallel Combination values using a Multimeter and compare the values with the Calculated values.
5. Use the Digital Multimeter and Analog Multimeter to measure the output voltage of an AC &DC power supply and also the voltage and frequency of a AC signal using CRO.
6. Use the Multimeter to check the functionality of a Diode and Transistor. Also test whether the given transistor is PNP or NPN.
7. Construct a series electric circuit with R, L and C having an AC source and study the frequency response of this circuit. Find the Resonance Frequency.
8. Construct a Parallel electric circuit with R, L & C having an AC source and study the frequency response of this circuit .Find the resonant frequency.
9. Test whether a circuit is a Open circuit or Short Circuit by measuring continuity with a Multimeter and record your readings.

VI. Lab References:

1. Laboratory Manual for Introductory Electronics Experiments by Maheshwari, L.K. Anand, M.M.S., New Age International (P) Ltd.
2. Electricity-Electronics Fundamentals: A Text-lab Manual by Paul B. Zbar,Joseph Sloop, & Joseph G. Sloop , McGraw-Hill Education
3. Laboratory Manual Basic Electrical Engineering by Umesh Agarwal, Notion Press
4. Basic Electrical and Electronics Engineering by S.K. Bhattacharya , Pearson Publishers.
5. Web sources suggested by the teacher concerned.

VI. Co-Curricular Activities:

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for not less than 15 hours on the understanding of various electronic &electrical components and devices. And also understand the functional knowledge of these components and devices so that the student can safely handle these electronic components.

2. **For Student**: Students shall (individually) visita local Radio, TV or Mobile repair shop to understand the testing and soldering techniques and different electronic components in the devices that we use daily life. And also to understand the troubleshooting and working of domestic appliances such as cell phone chargers, fan, electric iron, heater, inverter, micro oven, washing machine etc.(Or)Students shall also visit the Physics/Electronics or Instrumentation Labs of nearby local institutions and can get additional knowledge by interacting with the technical people working there. (Or)Students shall also visit the local motor winding shop to understand the motor winding and working of different types of motors. After the observations, a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to be submitted to the teacher.
3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5. Unit tests (IE).

(b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying various electrical and electronic components &devices and their handling, operational techniques with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in Electrical & Electronic Appliances in daily life.
5. Collection of material/figures/photos related to Electrical products like Heaters, Motors, Fans etc. and writing and organizing them in a systematic way in a file.
6. Visits to nearby electrical or electronic industries or laboratories in universities, research organizations, private firms, etc.
7. Invited lectures and presentations on related topics by field/industrial experts

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A.P. STATE COUNCIL OF HIGHER EDUCATION

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)

Domain Subject: **PHYSICS**

IV Year B. Sc.(Hons) – Semester – V

Max Marks: 100+50

Course 7C: ELECTRONIC INSTRUMENTATION

[Skill Enhancement Course (Elective), Credits: 05]

I. Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify various facilities required to set up a basic Instrumentation Laboratory.
2. Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.
3. Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands on experience.
4. Understand the Principle and operation of different display devices used in the display systems and different transducers
5. Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oxymeter etc. and know the handling procedures with safety and security.

***II.* Syllabus:** *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT-I INTRODUCTION TO INSTRUMENTS (10 hrs)

Types of electronic Instruments- Analog instruments & Digital Instruments, DC Voltmeter and AC Voltmeter, Construction and working of an Analog Multimeter and Digital Multimeter (Block diagram approach),Sensitivity, 3½display and 4½ display Digital multimeters, Basic ideas on Function generator

UNIT-II OSCILLOSCOPE (10 hrs)

Cathode Ray Oscilloscope-Introduction, Block diagram of basic CRO, Cathode ray tube, Electron gun assembly, Screen for CRT, Time base operation, Vertical deflection system, Horizontal deflection system, Use of CRO for the measurement of voltage (DC and DC), frequency, phase difference, Different types of oscilloscopes and their uses, Digital storage Oscilloscope

UNIT-III TRANSDUCERS (10 hrs)

Classification of transducers, Selection of transducers, Resistive, capacitive & inductive transducers, Resistive and capacitive touch screen transducer used in mobiles, Displacement transducer-LVDT, Piezoelectric transducer, Photo transducer, Digital transducer, Fibre optic sensors

UNIT-IVDISPLAY INSTRUMENTS (10 hrs)

Introduction to Display devices, LED Displays, Seven Segment Displays, Construction and operation (Display of numbers),Types of SSDs(Common Anode &Common Cathode type), Limitations of SSDs, Liquid Crystal Displays, Principle and working of 2x16 display and 4x16 LCD modules, Applications of LCD modules.

UNIT-VBIOMEDICAL INSTRUMENTS (10 hrs)

Basic operating principles and uses of (i) Clinical thermometer (ii) Stethescope (iii) Sphygmomanometer (iv) ECG machine (v) Radiography (vi) Ophthalmoscope (vii) Ultrasound scanning (viii) Ventilator (ix) Pulse oxymeter (x) Glucometer, Basic ideas of CT scan and MRI scan

III Reference Books:

1. Electronic Instrumentation by H.S.Kalsi , TMH Publishers
2. Electronic Instrument Hand Book by Clyde F. Coombs , McGraw Hill
3. Introduction to Biomedical Instrumentation byMandeep Singh, PHI Learning.

4. Biomedical Instrumentation and Measurements by Leslie Cromwell ,Prentice Hall India.
5. Electronic Measurements and Instrumentation by Kishor, K Lal, Pearson, New Delhi
6. Electrical and Electronic Measurements by Sahan, A.K., Dhanpat Rai, New Delhi
7. Electronic Instruments and Measurement Techniques by Cooper, W.D. Halfrick, A.B., PHI Learning, New Delhi
8. Web sources suggested by the teacher concerned and the college librarian including reading material.

Course 7C: Electronic Instrumentation– PRACTICAL SYLLABUS

(30 Hrs. Max Marks: 50)

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

1. List out, identify and handle various equipment in Instrumentation Laboratory or Electronic Laboratory.
2. Learn the construction, operational principles of various instruments.
3. Demonstrate skills on handling, Maintenance & trouble shooting of different instruments used in the Labs.
4. Acquire skills in observing and measuring various electrical and electronic quantities.
5. Perform some techniques related to Biomedical Instrumentation and measurement of Certain physiological parameters like body temperature, B.P. and sugar levels etc.

V. Practical (Laboratory) Syllabus: *(30 hrs. Max marks: 50*)

1.Familiarisation of digital multimeter and its usage in the measurements of (i) resistance (ii) current, (iii) AC & DC voltages and for (i) continuity test (ii) diode test and (iii) transistor test

2. Measure the AC and DC voltages, frequency using a CRO and compare the values Measured with other instruments like Digital multimeter.

3. Formation of Sine, Square wave signals on the CRO using Function Generator and measure their frequencies. Compare the measured values with actual values.

4. Display the numbers from 0 to 9 on a single Seven Segment Display module by Applying voltages.

5. Display the letters **a** to **h** on a single Seven Segment Display module by applying voltages.

6. Measurement of body temperature using a digital thermometer and list out the error and corrections.

7. Measurement of Blood Pressure of a person using a B.P. meter and record your values and analyze them.

8. Get acquainted with an available ECG machine and study the ECG pattern to understand the meaning of various peaks

9. Observe and understand the operation of a Digital Pulse oxymeter and measure the pulse rate of different people and understand the working of the meter.

VI. Lab References:

1. Electronic Measurement and Instrumentation by J.P. Navani. ,S Chand & Co Ltd
2. Principles of Electronic Instrumentation by A De Sa, Elsevier Science Publ.
3. Electronic Measurements and Instrumentation by S.P.Bihari, YogitaKumari, Dr. Vinay Kakka, Vayu Education of India .
4. Laboratory Manual For Introductory Electronics Experiments by Maheshwari, New Age
International (P) Ltd., Publishers.

5. Electricity-Electronics Fundamentals: A Text-lab Manual by Paul B. Zbar ,Joseph Sloop, & Joseph G. Sloop, McGraw-Hill Education.
6. Web sources suggested by the teacher concerned.

VII. Co-Curricular Activities

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field:05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for not less than 15 hours on the field techniques/skills of understanding the operation, Maintenance and utility of various electrical and electronic instruments both in the Laboratory as well as in daily life.

For Student: Students shall (individually)visit a local electrical and electronics shop or small firm to familiarize with the various electrical and electronic instruments available in the market and also to understand their functionality, principle of operation and applications as well as the troubleshooting of these instruments.(Or) Student shall visit a diagnostic centre and observe the ECG machine and the ECG pattern(Or) Student shall visit a diagnostic centre and observe the CT scan and MRI scan.(Or) Student shall visit a mobile smart phone repair shop and observe the different components on the PCB(Motherboard), different ICs (chips) used in the motherboard and trouble shooting of touch screen in smart phones.

Observations shall be recorded in a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to be submitted to the teacher.

2. Max marks for Fieldwork/Project work: 05.
3. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
4. Unit tests (IE)

(b)Suggested Co-Curricular Activities

1. Training of students by related industrial / technical experts.
2. Assignments (including technical assignments like identifying different measuring instruments and tools and their handling, operational techniques with safety and security.
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Making your own stethoscope at home.
5. Making seven segment display at home.
6. Preparation of videos on tools and techniques in various branches of instrumentation.
7. Collection of material/figures/photos related to products of Measuring Instruments, Display Modules and Biomedical Instruments and arrange them in a systematic way in a file.
8. Visits to Instrumentation Laboratories of local Universities or Industries like Cement, Chemical or Sugar Plants etc. or any nearby research organizations, private firms, etc.
9. Invited lectures and presentations on related topics by Technical /industrial experts

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Draft syllabus prepared by,

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ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

REVISED UG SYLLABUS UNDER CBCS

(To Be Implemented from Academic Year - 2020-21)

PROGRAMME: FOUR YEAR B.A. (Hons)

Domain Subject**: POLITICAL SCIENCE**

Skill Enhancement Courses for Semester V

(Syllabus with Learning Outcomes, References, Co-curricular Activities& Model Q.P. Pattern)

Structure of SECs for 5th Semester

(To Choose One pair from the Four alternative pairs of SECs)

Uni Code	Course Number 6 & 7	Name of Course	Hours/ Week	Credits	Marks	
					IA – 20 Filed Work 5	Sem End
	6A	Political Reporting	5	4	25	75
	7A	Legal Literacy-Rights Awareness	5	4	25	75
OR						
	6B	E-Governance	5	4	25	75
	7B	Local Administration	5	4	25	75
OR						
	6C	Office Management	5	4	25	75
	7C	Personnel Administration	5	4	25	75
OR						
	6D	Electoral Politics and Voting Behaviour	5	4	25	75
	7D	Legislative Procedures and Practices	5	4	25	75

Note-1: Note: For Semester–V, for the domain subject Political Science, any one of the four pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 6A: **POLITICAL REPORTING**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1) Understand the need, scope and concepts in Political Reporting.
2) Identify various sources for Political Reporting.
3) Provide an overview of interpreting the political phenomena from the gross roots level to the Parliament.
4) Develop insights and enhance skills in a professional manner in the age of mass media.
5) Learn skills related to reporting, enlarge job opportunities and make it as a career.

II. Syllabus:(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Introduction to Political Reporting-Nature-The role of Mass Media in Political Reporting-Press, Radio and Television-State Meaning, Nature and role in Developments-Political Issues and Dynamics.

Unit: 2

Organs of the Government-Union, State and Local Governments and Judiciary-Reporting on their working and assessment- Ethics for political reporter-Role and responsibilities of Press-Freedom of press and its limitations.

Unit: 3

Political News-Meaning, Nature and Forms of Political News-Sources of Political News and its Limitations-Working of Lobbies and Pressure Groups in Political Reporting.

Unit: 4

Writing Reports-Background Information-Framing and crafting Political Stories-Watchdog of enforcement of States' Laws, Rules and Regulations-Political Reporting in deadline situations-Reporting on Political Campaigns.

Unit: 5

Political Reporting Skills-Interviewing-Types and Forms of Interviewing and Techniques-Questionnaire –Opinion Polls-Writing Blogs-Role in citizen's civic engagement, political communication and political participation-Analyzing politician's media strategy.

III. References:

1. Raymond Kuhn, Political Journalism New Challenges, New York: New Practices, Rutledge, 2003
2. Gail Sedorkin and Judy Mc gregor, Interviewing – A Guide for Journalist and Writers, Crow's Nest, NSW: Allen and Unwin, 2002
3. R.T.Jangam, Political Analysis, New Delhi: Oxford and IBH Publication, 1997
4. J.C.Johari, Comparative Politics, New Delhi, Sterling Publishers, 2002
5. Robert A. Dahl, Modern Political Analysis, New Delhi : Prentice Hall of India, 2001
6. Davis Merrit, Public Journalism and Public Life, London, 2014
7. Erik Albaek, Arjen Van Dalen, Neel Jebril& Claes H. de.Vreese, Londan, Cambridge University Press, 2014
8. Alok Mehta, Power, Press and Politics, 2021
9. Claes H. de.Vreese, Frank Esser& David Nicolas Hopmann (editors), Comparing Political Journalism (Communication and Society)
10. Web resources suggested by the Teacher concerned and the College Librarian including reading material**.**

IV. Co-Curricular Activities*(Training of students by the teacher :Total 10 hours):*

a) Mandatory:

1. **FOR TEACHER**: Training of students by teacher in the classroom for a total of not less than10 hours on techniques on understanding political establishment, observing of procedures and practices, identifying sources of political reporting, framing and crafting of political stories, application of ICT in political writings, discuss about the components involved in political writings such as real world consequences, disturbances or peace, high taxes, jobs or unemployment, health care, use of social media and its impact on citizens political participation in political process i.e. political campaigns and democracy.
2. **FOR STUDENT**: Students have to go to the field, observe activities related to political reporting such as news reporting, report on political meeting or incident and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Suggested Fieldwork/Project work Format:

   Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05
5. Unit Tests /Internal Examinations

b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by a related field expert.
2. Reading Local Daily newspaper either print or online and visit political websites.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments (including technical assignments like identifying sources of political reporting).
5. A few minutes of each class period shall be devoted to the past week's major political stories and their coverage.
6. Seminars, Group discussions, Quiz, Debates etc.
7. Preparation of videos on Political popular personalities.
8. Collection of material/figures/photos related to political writings by experts covered in Dailies and magazines and organizing them in a systematic way in a file.
9. Visits to press, media houses, governmental offices etc.
10. Invited lectures and presentations on related topics by field experts such as political reporters, editors and professionals in political communication.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 7A: **LEGAL LITERACY- RIGHTS AWARENESS**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

1. Acquaint student with the structure and manner of functioning of the legal system in India.
2. Understand of the laws related to rights applicable in India.
3. Provide an overview of access to courts and enforcement of rights.
4. Develop an understanding of the formal and Alternate Dispute Redressal (ADR) mechanism that exist in India.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Brief understanding of Legal Literacy-Rights and Duties of citizens-Indian Constitution - Fundamental Rights and other constitutional rights and enforcement of certain rights under Article 21 with emphasis on Public Interest Litigation.

Unit: 2

Laws relating to criminal jurisdiction-Provisions relates to FIR, Arrest, Bail, Search and Seizure-Important offences under Indian Penal Code-Offences against Women-Dowry, Sexual harassment and violence, Juvenile justice.

Unit: 3

Anti-terrorist laws-Implication of security and protection of Human Rights-Laws relating to Consumer rights and Cybercrimes.

Unit: 4

System of Courts and Tribunals and their jurisdiction in India-Civil and Criminal courts, Writ jurisdiction, specialized courts such as Juvenile courts, Mahila courts etc.

Unit: 5

Legal Services Authority Act, 1987 and Right to Free Legal Aid-Alternate Dispute Resolution Mechanism (ADR), Lok Adalats and Conduct of Legal Literacy camps-Role of NGOs in promoting legal awareness.

III. References:

1. Basu, D.D, Introduction to Constitution of India, Nagpur, Lexis Nexis Butter worths, 2018.
2. Kashyap, S, Our Constitution: An Introduction to India's Constitution and Constitutional Laws, New Delhi, National Book Trust, 1994.
3. D.Srivastava, Sexual Harassment and Violence against Women in India : Constitutional and Legal Perspectives in C.Kumar and C.Chockalingam (eds) Human Rights, Justice and Constitutional Empowerment, Delhi, Oxford University Press, 2015.
4. B.L.Wadhera, Public Interest Litigation- A Handbook, Universal Publications, New Delhi, 2016.
5. Aggarwal, N., Women and Law in India, New Century Publishing House, New Delhi, 2019.
6. Kamala Sankaran and Ujwal Singh (eds), Creating Legal Awareness, Oxford University Press, New Delhi, 2017.
7. Indian Social Institute, New Delhi, Legal Literacy Booklets.
8. P.C.Rao and William Sheffiled, Alternate Dispute Resolution: What it is and How it works, Universal Law Books and Publishers, New Delhi, 2012.
9. Parmanand Singh, Access to Justice and the Indian Supreme Court, 10& 11, Delhi Law Review, 1981-82.
10. J.Kothari, Criminal Law on Domestic Violence, Economic and Political Weekly, 2005, Vol.40 (46), pp., .4843-4849.
11. Centre for Good Governance, Right to Information Act,2005 : A Citizen's Guide
12. A.Pandey, Rights of the Consumer, New Delhi, Indian Social Institute, 2004.
13. Pandey, Laws relating to Criminal Justice :Challenges and Prospects in K.Sankaran and U.Singh, Towards Legal Literacy, New Delhi, Oxford University Press, 2008, pp.61-77.
14. S.K.Garg, Guide to Lok Adalats and Free Legal Services under Legal Services Authorities Act, New Delhi, 2018.
15. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities *(Training of students by the teacher: Total 10 hours):*

A). Mandatory:

1. **FOR TEACHER:** Training of students by teacher in the classroom for a total of not less than10 hours on understanding various rights enshrined in the Constitution, preparation of FIR, conduct of moot court, identifying techniques of ADR mechanism (Negotiation, Arbitration and Conciliation), drafting of a Public Interest Litigation etc.,

2. **FOR STUDENT:** Visit to either a court or a legal services authority set up by the LSA Act, observe the proceedings, interact with persons who are seeking legal remedy and interact/interview the advocates if possible and record their experiences and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b). Suggested Co-Curricular Activities

1. Training of students by a related field expert.
2. Reading Local Daily newspaper either print or online.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent Ordinance, Bill or Act in the Parliament or State Legislature.
6. Discuss any contemporary practice or event that violates the equality and protection against discrimination laws.
7. Seminars, Group discussions, Quiz, Debates etc.
8. Witness any incident occurred in surroundings that would be considered offensive under the penal code and make a class-room presentation on it. Example: Offenses relates to IPC, Consumer Protection Act, 1986, Filing a petition under RTI Act, 2005 etc.,
9. Invited lectures and presentations on related topics by experts in jurisprudence and ADR Mechanism.
10. Read the guidelines issued by Supreme Court in landmark cases relating to Child abuse, domestic violence, sexual harassment at work place.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 6 B: **E GOVERNANCE**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Acquaint student with the introduction to good governance and how it can be achieved by information and communication technology.
2. Understand the growing needs of E-Governance, improving transparency in the system of governance
3. Have understanding of various government schemes and E-Governance projects and initiatives.
4. Provide the practical knowledge about the effective delivery of citizen services through online mode.
5. Realize the issues and challenges of E-Governance.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Brief Introduction to Governance-E-Governance –Meaning, Definition, Nature, Scope, Objectives and Significance-Domains of E-Governance- E-Governance and Good Governance-Global trends in the growth of E-Governance.

Unit: 2

E-Governance in India- - National E-Governance Plan (NeGP)-National Informatics Centre-Strategies for E-Governance-E-Governance Implementations: Required infrastructure of Network, Computing, Cloud Governance, Data system, Human resources, Legal and Technological infrastructure- Major E-Governance Projects and Initiatives:Gyandoot, E-choupal, E-Bhoomi, E-Seva, CARD, E-Panchayat, Real Time Governance (RTG) etc.

Unit: 3

Role of Information and Communication Technology in Administration, Effective delivery of services for public utilities through E-Governance-Online filing of complaints, application registration, issuance of certificates, issuance of land records, online payments of fees, dues etc, e-

tendering, easy access to information and E-Governance in Social security and welfare schemes: Direct transfer of benefits, Biometric authentication through Aadhar, etc.

Unit: 4

E-Governance under Information Technology Act-Legal status for digital transactions-Public Private Partnership and expansion of E-Governance.

Unit: 5

E-Governance-Transparency and Accountability at gross root level-Issues and Challenges: Digital Divide, Capacity Building, Cyber Security in Cyber Crimes, Socio-political implications, Issues of integration, Networking with NGOs.

III. References:

1. B.Sreenivas Raj, E-Governance Techniques-Indian and Global Experiences, New Century Publications, New Delhi, 2008.
2. Subhash Bhatnagar, Unlocking E-Government Potential-Concepts, Cases and Practical Insights, Sage Publications, New Delhi, 2009.
3. Y.Parthasaradhi, E-Governance and Indian Society, Kanishka Publications, New Delhi, 2009.
4. R.P.Sinha, E-Governance in India, Initiatives and Issues in India, Centre for Public Policy, 2006.Anil Kumar Dhiman, E-Governance –Good Governance using ICTs, S.K.Book Agency, New Delhi, 2017.
5. Ashok Aggarwal, Governance-Case Studies, University Press India Pvt. Ltd, Hyderabad, 2017.
6. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities *(Training of students by the teacher: Total 10 hours):*

a) Mandatory:

1. **FOR TEACHER**: Training of students by teacher in the classroom for a total of not less than10 hours on techniques of application of ICT for getting services from the government departments, filing of grievances through online mode, making digital transactions for issuance of certificates or payment of fees, identifying components in e-governance and techniques to handle cyber security etc.,

2. **FOR STUDENT**: Students have to visit urban or local administration offices and have practical study and assess the implementation of E-Governance initiatives, models, citizen centric services, citizen charter and interact with the beneficiaries about the fulfillment of their needs in time or not and if any lapses they noticed or visit to nearby government

institution covering the various citizen centric services delivering through online mode and observe the citizen charter, mode of operation, time limitation, fees prescribed for services and observe the operation of Real Time Governance (RTG) in administration and record their experiences and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by a related field expert.
2. Reading Daily newspaper either print or online about the misuse of technology which leads to cybercrimes.
3. Reading articles, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent technological advancements.
6. Discuss the case laws and judgments reported on E-Governance initiatives.
7. Seminars, Group discussions, Quiz, Debates etc.
8. Invited lectures and presentations on related topics by experts in Cyber Security especially the Police personnel associated with the cases of IT Act.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 7B: **LOCAL ADMINISTRATION**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

1. Understand the existing context of Local Government Institutions in India.
2. Have knowledge on the need of empowerment and autonomy of LGIs.
3. Provide an overview on financial resources and constitutional provisions.
4. Analyse the issues, problems and conflicts in Local Administration.
5. Develop communication skills to interact with the elected members and officials.
6. Enhance skills for observation, organizing, networking, documentation.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Local Government: Meaning, Nature and Importance, Thoughts on Local Governments by M.K.Gandhi, Jawaharlal Nehru and Dr.B.R.Ambedkar, Important Committees: Balwant Rai Mehta (1957), Ashok Mehta (1978), L.M.Singhvi(1986).

Unit: 2

Decentralization of powers (Political, Administrative and Economic) from the States to Local Institutions- 73rd and 74thConstitutional Amendment Acts-Empowering Local Governments-Decision making powers during crisis and disasters-Relationship between local government authorities and Central and State Government service providers-Role of District Collector in strengthening LGIs.

Unit: 3

Revenue raising avenues for Local Governments-Grants, Aid and support from Centre and State Governments-Public Private Partnerships-Concept of Local Development-Village as a unit, SWOC analysis of a village, existing conditions, expected developmental opportunities, the gap, natural, government and private resources, year-wise planning, finances required -Role of Local Governments in implementation of welfare and developmental programmesi.e., (MGNREGS), (SGSY), (IAY) and (PURA).

Unit: 4

Challenges for Local Administration, Financial, administrative and Political Constraints-Public relations in Local Administration-Need for training for elected representatives and other stakeholders-Audit training and Participatory training.

Unit: 5

Preparation of Reports-Minutes and Documentation-Types of Reports, Content of Minutes-Methods of Documentation-Best practices of Reporting on functioning of Local Administration-Use of ICT in documentation.

III. References:

1. Basu, D.D, Introduction to Constitution of India, Nagpur, Lexis Nexis Butterworths, 2018
2. Niraja Gopal Jayal, Representing India: Ethnic Diversity and Governance of Public Institutions, 2006, Palgrave Mc Millan Publications.
3. R Venkata Ravi, Empowering Rural India: Experiments and Experiences, Kanishka Publishers, New Delhi, 2006.
4. Sawalia Bihari Verma, Empowerment of the Panchayati Raj Institutions in India, Sarup and Sons, New Delhi, 2006.
5. World Bank, Empowerment in Practice: Analysis and Implementation, World Bank Institute, Washington D.C.
6. S.Chandrasekhar, Panchayati Raj and Financial Resources, Regal Publications, 2008, New Delhi.
7. Rajesh Tondon and Mohini Kak (Eds), Citizen Participation and Democratic Governance, New Delhi, 2016.
8. Anand Prakash, State and District Administration, Wisdom Press, New Delhi, 2008.
9. N.Lalitha, Rural Development in India: Emerging Issues and Trends, Dominant Publishers, New Delhi, 2014.
10. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities*(Training of students by the teacher: Total 10 hours):*

a) Mandatory:

1. **FOR TEACHER**: Training of students by teacher in the classroom fora total of not less than10 hours on techniques of identifying financial resources to local bodies, skilling on various components involved in auditing of accounts, analyzing the data of beneficiaries of welfare schemes by using statistical tools, preparation of minutes and reports, imparting

technical skills with regard to communication and procedures and practices in documentation.

2. **FOR STUDENT**: Students have to visit to a Rural Local Government Institution, understand its profile, sources of revenue and expenditure, identify major issues and challenges, analyse its development and welfare initiatives, record the experiences, collecting data on implementation of poverty alleviation, employment generation schemes sponsored by governments and interpretation of data and indicate suggestions for better functioning **(or)**

   Participate in regular Gram Sabha meeting observe and record the proceedings and outcome of the meeting, indicate suggestions for better functioning of Gram Sabha

   (or) students may take a village as a unit, make SWOC analysis and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

   Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by a related field expert.
2. Reading Local Daily newspaper either print or online.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent Ordinance, Bill or Act in the Parliament or State Legislature.
6. Carry out a resource mapping of a selected area.
7. Plan and organize a capacity building session for the stakeholders
8. Seminars, Group discussions, Quiz, Debates etc.
9. Invited lectures and presentations on related topics by experts in Local Administration.
10. Make visit to a Self-Help Group or NGO, interact with its members and record their experiences.
11. Conduct an interview with an important person at the District Level using a structured schedule (District Panchayat Officer / CEO of Zilla Parishad / District Collector) and document their interventions in local administration and record their experiences.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V
Max Marks: 100
Course 6C: **OFFICE MANAGEMENT**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

1. Understand fundamental knowledge of Office Management that can be applied to a career.
2. Have knowledge on office administration and identify job competencies.
3. Understand the importance of record management and allied sections.
4. Comprehend the administrative process in office
5. Identify the challenges in the background of ICT.
6. Enhance skills, strategies and techniques to compete with the global competencies in office management.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Introduction to Office, Office structure-Office Management: Meaning, Nature, Importance, Elements and Functions of Office Management-Basic Principles of office management.

Unit: 2

Office organization: Definition, Characteristics-Office Planning, Accommodation, Layout and Office Environment.

Unit: 3

Office Record Management-Objectives and Importance-Filing System: Steps in filing, Essentials for filing, Classification and arrangements of files, Modern filing methods using Information and Communication Technology and devices-Indexing: Essentials of a good indexing and Records retention and Micro filing.

Unit: 4

Office Communication: Meaning and mailing, Barriers to communication -Correspondence and Report Writing-Types- Periodical reports.

Unit: 5

Form Letters: Meaning, Principles, Factors in designing office forms-Supervisory Skills-Importance of Motivation and Leadership-Issues in Office Management-Recent trends: e-office, use of modern appliances and application of IT in office management.

III. References:

1. R.S.N.Pillai&Bagavathi, Office Management, S.Chand Publishers, New Delhi, 2014.
2. R.K.Chopra, Office Management, Himalaya Publishing House, New Delhi, 2016.
3. B.N.Tandon, Manual of Office Management and Correspondence, S.Chand Publications, New Delhi, 2014.
4. Sudhir Andrews, Front Office Management and Operations, Tata McGraw Hill Publishing Co. Ltd, India, New Delhi, 2008.
5. Balachandran V, Office Management, Tata McGraw Hill Publishing Co. Ltd, India, New Delhi, 2009.
6. Bhatia R.C, Principles of Office Management, Lotus Press, New Delhi, 2005.
7. Sharma, R.K & Others, Office Management, Kalyani Publishers, New Delhi, 1991.
8. Chopra, R.K, Modern Office and Its Management, Himalaya Publishing House, Hyderabad, 2008.
9. Niraj Kumar, Modern Office Management, New Royal Book Co, Lucknow, 2013.
10. Gopal Krishnan and Sundaresan, M, Material Management: An Integrated Approach, Prentice Hall of India, New Delhi, 2014.
11. Satyasnarayana, J, E-Government, Prentice Hall of India, New Delhi, 2015.
12. Kooiman, J (ed), Modern Governance: New Government-Society Interactions, Sage Publications, London, 2014.
13. Bhatnagar, S.C, E-Government: From Vision to Implementation, Sage Publications, New Delhi, 2014.
14. Singhal. A and Evertt, Rogers, India's Information Revolution, Sage Publications, New York, 1990.
15. Srinivas Vallabhan, S.V, Computer Application in Business, Sultan Chand & Sons, New Delhi, 2014.
16. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities*(Training of students by the teacher: Total 10 hours):*

a) Mandatory:

1. **FOR TEACHER**: Training of students by teacher in the classroom or in the field for a total of not less than10 hours on application of ICT tools in Office Management, utilizing the modern tools through hands on experience, procedures and practices in filing, indexing and maintaining office records, imparting skills on office correspondence.
2. **FOR STUDENT**: Students have to visit to a Government office or industry or private organization and observe the filing system, records management, utilization of manuals

available, application of ICT, communication flow in the organizations, problems encountered by management in communication, record individual observations and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05
5. Unit Tests /Internal Examinations

b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by a related field expert in Office Management.
2. Reading Local Daily newspaper either print or online.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent trends, technological advancements and invention of new appliances that are to be used in modern officer management.
6. Plan and organize a capacity building session for the stakeholders.
7. Seminars, Group discussions, Quiz, Debates etc.
8. Invited lectures and presentations on recent global trends in office management.
9. Make visit to a Government office or reputed industry or private firm interact with its members and record their experiences and gain Hands on Experience of records maintenance, indexing and filing procedures.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 7C: **PERSONNEL ADMINISTRATION**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

1. Understand Personnel Administration that can be applied to a career.
2. Acquire knowledge on recruitment, selection and training and identify job competencies.
3. Understand the importance and role of civil services in Indian Governance.
4. Provide an overview on issues in administration.
5. Enhance skills, strategies and techniques for redressal of grievances in administration

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Personnel Administration: Concept, Nature, Scope and Significance-Hierarchy in Personnel Administration-Roles and Responsibilities of Personnel Administrative Officers- Bureaucracy: Meaning, Characteristics, Nature, Importance and its role in modern state.

Unit: 2

Recruitment: Meaning and Importance, Types of Recruitment, Methods of recruitment with regard to All India, Central and State Services-Union Public Service Commission and State Public Service Commissions-Constitutional provisions and Composition, Functions and Role.

Unit: 3

Training: Meaning, Objectives, Types and Significance-Training Institutions in India-Promotion-Promotion procedure-Career Planning, Evaluation and Development-Motivation and Morale-Performance Appraisal.

Unit: 4

Administrative Ethics-Integrity in administration-Code of Conduct-Common Lapses and Disciplinary Procedure-Employee and Employer Relations-Rights of Civil Servants.

Unit: 5

Problems in Personnel Administration-Employees participation in administration-Grievances-Institutional arrangements for settlement of disputes-Change in work place, Counseling and Time Management.

III. References:

1. Avasthi Maheswari, Public Administration, Lakshminarayan Agarwal, Agra, 2008.
2. Goel, S.L, Personnel Administration, Deep and Deep Publications, New Delhi, 2009.
3. Sharma, M.P, Public Administration Theory and Practice, Kitab Mahal, Allahabad, 2005.
4. Tripathi P.C, Human Resource Development, S.Chand Publications, New Delhi, 2016.
5. David E.Kalaignar, Public Personnel Management, IPMA, Prentice Hall Inc, Eaglewood Chiffs, New Jersy, 1986.
6. C.M.Jain, Public Personnel Administration, College Book Depot, Jaipur, 2003
7. K.Aswarthappa, Human Resource Management : Text and Cases, Tata McGraw Hill, New Delhi, 2008
8. V.S.P.Rao, Human Resource Management, Excel Books, New Delhi, 2007
9. O.GlennStanl, Public Personnel Administration, Oxford IBH Publication Co, New Delhi, 2008.
10. Chatterjee.Bhaskar, Human Resource Management, Sterling Publications, New Delhi, 2009.
11. Administrative Reforms Commission, 1969, Report on Personnel Administration.
12. Government of India, Second ARC, Tenth Report on Refurbishing of Personnel Administration.
13. Jain, R.B, Aspects of Personnel Administration, IIPA, New Delhi, 2008.
14. Maheswari Sriram, Public Administration in India: The Higher Civil Service, Oxford University Press, New Delhi, 2007.
15. Naff, Katherine C, Norma M, Riccucci, Personnel Management in Government, Politics and Process, Tayolr& Francis, New York, 2014.
16. Tead, Ordway, Personnel Administration, University of California Libraries.
17. Pundrik Ojha & Kiran Sharma, Personnel Administration, Raj Publishers, Agra, 2018.
18. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities*(Training of students by the teacher: Total 15 hours):*

a) Mandatory:

1.**FOR TEACHER**: Training of students by teacher in the classroom for a total of not less than10 hours on techniques of preparation of training schedules, training programmes, conducting interviews as part of selection, preparation of confidential reports, skilling on minutes reporting and maintaining service records, identifying the techniques for settlement of disputes in the organization.

2. **FOR STUDENT**: Students have to visit to a Government office or industry, observe the hierarchy of staff, recruitment and selection process, role and responsibilities, interact/interview the employer and employees in order to know how the strategies and techniques using for resolving disputes relating to personal or organizational issues and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by a related field expert in Personnel Administration.
2. Reading Local Daily newspaper either print or online.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent Ordinance, Bill or Act in the Parliament or State Legislature with regard to service matters of civil servants.
6. Plan and organize a capacity building session for the stakeholders
7. Seminars, Group discussions, Quiz, Debates etc.
8. Invited lectures and presentations on recent global trends in Personnel Administration.
9. Make visit to a Government office or reputed industry, interact with its members and record their experiences on job satisfaction, promotions, motivation and institutional arrangements for grievances.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 6 D: **ELECTORAL POLITICS AND VOTING BEHAVIOUR**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

1. Acquaint student with the structure and manner of functioning of Election Commission of India.
2. Understand the political issues in Electoral Politics.
3. Provide an overview on voter turnout, voting behavior in India.
4. Aware of the role of new media and technology in election campaign.
5. Develop an understanding of the required skills for data collection, research in election management.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Electoral Democracy-Electoral Politics in India-Pre and Post-Independence, Nature, Characteristics-Electoral Process: Nature and Significance.

Unit: 2

Election Commission of India: Composition, Powers and Functions-Merits and Demerits of Electoral system in India-Political Participation-General Elections in India since 1952-Elections to Local Bodies-State Election Commission.

Unit: 3

Issues in Electoral Politics: Corruption, Money power, rigging, booth capturing, undemocratic party system, politics of Political Defections and Reservations-Need of Reforms in present Electoral System-Reports of Tarkunde, Goswamy, Indrajeet Gupta Committees.

Unit: 4

Public Opinion: Meaning and its role in Democratic Politics-Voting Behaviour: Meaning, Nature and determinants of voting behavior: Caste, Religion, Language, Region etc.

Unit: 5

Management of Elections: Moral Code of Conduct, Filing Election Nominations and Affidavits - Use of new techniques and methods in election campaigns: Membership drive, Responsibility Management, Booth Management, New ways of generating funds, Polling research, Opinion

Polls, Predictions, Techniques of interpreting collected election data, use of print, electronic and social media in elections.

III. References:

1. Basu, D.D, Introduction to Constitution of India, Nagpur, Lexis Nexis Butterworths, 2018.
2. P.R.Brass, The Politics of India since Independence, Cambridge, Cambridge University Press, 1974.
3. C.P.Bhambhari, Politics in India since Independence, Delhi, Shipra Publications, 1990.
4. J.C.Aggarwal&N.K.Choudari, Election in India, Shipra Publications, New Delhi, 1998.
5. R.Ali, Representative Democracy and Concept of Free and Fair Elections, Deep and Deep Publications, New Delhi, 2006.
6. D.Anand, Electoral Reforms-Curbing Role of Money Power, Indian Institute of Public Administration, New Delhi, 2005.
7. A.Bajpai, Indian Electoral System-An Analytical Study, Nardeen Book Centre, New Delhi, 2002.
8. A.K.Bhagat, Elections and Electoral Reforms in India, Vikas Publications, New Delhi, 2006.
9. R.P.Bhalla, The Electoral System, Its Operation, and Implications for Democracy in India, Teaching Politics, New Delhi, 1989.
10. R.Hegde, Electoral Reforms-Lack of Political Will, Bangalore, Karnataka State Janata Party, 1987.
11. P.N.Sharma, Elections and National Politics, Shipra Publications, New Delhi, 2004.
12. Eldersveld, S.J, Experimental Propaganda Techniques and Voting Behaviour,The American Political Science Review, New York, 1986.
13. Eldersveld, S.J, Theory and Method in Voting Behaviour Research, The American Political Science Review, New York, 1992.
14. Jain, S, State Funding of Elections and Political Parties in India Journal of the Indian Law Institute, Allahabad, 1999.
15. Sridharan, E, Toward State Funding of Elections in India : A Comparative Perspective on Possible Options, The Journal of Policy Reforms, 3:3, pp.229-254.
16. Rosenblum, N, Political Parties as Membership Groups, Columbia Law Review, 100(3), pp.813-844.
17. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. **Co-Curricular Activities** *(Training of students by the teacher: Total 10 hours):*

A). Mandatory:

1. **FOR TEACHER**: Training of students by teacher in the classroom for a total of not less than10 hours on collection of data relating to General Elections to Lok Sabha/Assembly or elections to Local bodies for a particular period, analysis of data by using statistical tools, preparation of questionnaire on voting behavior, identifying techniques for interpretation of election data and imparting skills involved in political campaigning by using new media.

2. **FOR STUDENT**: Students have to visit to nearby residential colony or street or a village, collect data regarding their voting behavior, voter turnout by interviewing the voters using formal and informal questionnaire, interaction with the voters and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b). Suggested Co-Curricular Activities

1. Training of students by a related field expert.
2. Reading Local Daily newspaper either print or online.
3. Reading Editorial pages, blogs and websites for various ideological perspectives.
4. Assignments.
5. Discuss the debates around any recent Ordinance, Bill or Act in the Parliament or State Legislature.
6. Discuss any contemporary practice or event that violates the true spirit of democracy and political equality.
7. Seminars, Group discussions, Quiz, Debates etc.
8. Witness any incident occurred in your surroundings that would be considered for obstacle for reforms in politics
9. Invited lectures and presentations on related topics by experts in Electoral Politics.
10. Read the guidelines issued by Supreme Court in landmark cases relating to Political Defections, Anti-democracy acts of political parties.
11. Arrange Guest Lectures inviting election authorities such as District Returning Officer /Observers / Experts in Election Management.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four - Year B.A. (Hons)
Domain Subject: **POLITICAL SCIENCE**
IV Year B. A.(Hons) – Semester – V

Max Marks: 100

Course 7 D: **LEGISLATIVE PROCEDURES AND PRACTICES**
(Skill Enhancement Course (Elective), 4 credits)

I. Learning Outcomes:

Students at the successful completion of the course will be able to;

6. Make familiar with legislative procedures and practices.
7. Equip the students with the adequate skills of participation in deliberative processes and democratic decision making.
8. Understand complex policy issues, draft new legislation, analyze ongoing bills, make speeches and floor statements.
9. Provide skills to be part of a legislative support team and expose them to real life legislative work.
10. Enhance understanding of procedures, practices, different committees and motions in the House.

II. **Syllabus:**(Hours: Teaching: 60, Training: 10, Others incl. unit tests: 05)

Unit: 1

Brief Introduction on Legislative bodies, roles and responsibilities-Constitutional Provisions of Legislative Procedures: Articles 107-122, Kinds of Bills: Ordinary Bills, Money Bills, Finance Bills, Constitution Amendment Bills and Private Member Bills.

Unit: 2

Powers and Functions of People's Representatives in Legislative Process: Members of Parliament, Members of State Legislatures, Political Heads of Rural and Urban Local Governments.

Unit: 3

Drafting of the Bill-First Reading and Departmental Standing Committee-Second and Third Reading-Framing rules and regulations, Passage of the Bill, Consent by the President of India and Gazette Notifications.

Unit: 4

Legislative Committees in India: Role in reviewing government policies, finances, programmes and legislation, Types of Committees: Department Standing Committees, Select Committees, Joint Parliamentary Committees, Public Accounts Committee, Estimates Committee, Business Advisory Committee, Ethics Committee etc.

Unit: 5

Budget process: Reviewing the Union Budget, Examination of Demands for Grants of Ministries, Working of Ministries-Motions and Hours in the House: Question Hour : Rules of putting questions, Types of Questions-Rules relating to Calling Attention Motion, Adjournment Motion, Privilege Motion, Censure Motion, No-Confidence Motion, Cut Motion including Resolutions, Discussion and Short Discussion

III. **References:**

1. Basu, D.D, Introduction to Constitution of India, Nagpur, Lexis Nexis Butterworths, 2018.
2. Jayal, N.G., and Mehta, P. (eds), The Oxford Companion to Politics in India, Oxford University Press, New Delhi, 2007.
3. Bhambri, P.C., Parliamentary Control over State Enterprize in India, Delhi Metropolitan Book Dept, New Delhi, 1998.
4. H.Karla, Public Engagement with the Legislature Process, PRS Centre for Policy Research, New Delhi, 2011 available at http://www.prsindia.org.
5. Kaul, M.N. &S.L.Shakdher, Practice and Procedure of Parliament, New Delhi, Lok Sabha Secretariat, 2016.
6. Mehra, A.K, The Indian Parliament and Democratic Transformation, New Delhi, Routledge, 2017.
7. Pai, Sudha & Kumar, A, (eds), The Indian Parliament : A Critical Appraisal, Orient Black Swan, New Delhi, 2014.
8. Shankar, B. & Rodriguez V, The Indian Parliament : A Democracy at Work, Oxford University Press, New Delhi, 2011.
9. Singh, D, The Indian Parliament : Beyond the Seal and Signature of Democracy, Universal Law Publishing, Gurgaon, 2016.
10. Kapur, D and P.Mehta (eds), Public Institutions in India: Performance and Design, Oxford University Press, New Delhi, 2005.
11. Kapur, D., Mehta, P. &Vaishnab, M (eds), Rethinking Public Institutions in India, Oxford University Press, New Delhi, 2017.
12. Kashyap, S. Reviewing the Constitution, Shipra Publications, New Delhi, 2000.
13. Kashyap, S.Our Parliament, National Book Trust, New Delhi, 2015.
14. Web resources suggested by the Teacher concerned and the College Librarian including reading material.

IV. Co-Curricular Activities *(Training of students by the teacher: Total 10 hours):*
A). Mandatory:

1. **FOR TEACHER:** Training of students by teacher in the classroom for a total of not less than10 hours on conducting of a Mock Parliament, Conduct of Sessions, preparation of budget, formulation of policy, Collection and analysis of data for legislation, Imparting skills on asking questions and identifying communication skills.

2. FOR STUDENT: Students have to visit to a legislative/ local body unit nearby, observe legislative/ local body meetings, interact with stakeholders, monitor media and press releases, understanding political process and individually submit his / her observation as a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format to the teacher.

3. Suggested Fieldwork/Project work Format:

Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

4. Max marks for Fieldwork/Project work Report: 05

5. Unit Tests /Internal Examinations

b). Suggested Co-Curricular Activities

1. Training of students by a related field expert.
2. Reading Local Daily newspaper either print or online.
3. Watching live stream of sessions of Parliament or State Legislature.
4. Reading Editorial pages, blogs and websites for various ideological perspectives.
5. Assignments.
6. Discuss the debates around any recent Ordinance, Bill or Act in the Parliament or State Legislature.
7. Discuss any contemporary practice or event that violates the true spirit of democracy and political equality.
8. Seminars, Group discussions, Quiz, Debates etc.
9. Invited lectures and presentations on related topics by experts in Legislative Procedures.
10. Read the guidelines issued by Supreme Court in landmark cases relating to Political Defections, Anti-democracy acts of political parties.

MODEL QUESTION PAPER PATTERN

Time: 3 Hours Max. Marks: 75

Section - A (Total 5 x 5 Marks = 25 Marks)

Answer any *five* of the following. Each answer carries *5 Marks*
(At least one question should be given from each unit)

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Section - B (Total 5 x 10 Marks = 50 Marks)

Answer any *five* of the following. Each answer carries *10 Marks*
(At least one question should be given from each unit)

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Prepared by: Prof.B.V.Raghavulu, Dept. of Political Science & Public Administration, SK University, Anantapur

&

Dr.T.S.Shyam Prasad, Lecturer in Political Science, Government College (Autonomous), Anantapur.

Andhra Pradesh State Council of Higher Education
(A Statutory body of the Government of Andhra Pradesh)
Revised UG Syllabus under CBCS
(Implemented from Academic year 2020-21)
Progamme: Three year B.A.,

ఆంధ్రప్రదేశ్ రాష్ట్ర ఉన్నతవిద్యామండలి
బి.ఏ తదితర ప్రోగ్రాములు (మూడు సంవత్సరాల వ్యవధి)
సి.బి.సి.ఎస్. పద్ధతిలో సవరించబడిన పాఠ్యప్రణాళిక
2020-21 విద్యా సంవత్సరం నుంచి అమలు

ప్రధాన విషయం: ప్రత్యేక తెలుగు (Special Telugu)

ఐదవ సెమిస్టర్‌కు సంబంధించిన నైపుణ్యాభివృద్ధి కోర్సులు (2022-23 విద్యా సంవత్సరం నుంచి)

అభ్యసఫలితాలు, ఆధారగ్రంథాలు/వ్యాసాలు, సహపాఠ్యకార్యక్రమాలు, ప్రశ్నాపత్ర నిర్మాణం, మాదిరిప్రశ్నాపత్రంతో కూడిన

పాఠ్యప్రణాళిక

ఐదవ సెమిస్టర్-ఐచ్ఛికాంశాలు

(విద్యార్థులు క్రింద సూచించిన నాలుగు జతల్లో ఒక జతను పాఠ్యప్రణాళికగా ఎంపిక చేసుకోవలసి ఉంటుంది)

యూనివర్శిటీ కోడ్	కోర్సు సంఖ్య 6 & 7	కోర్సు పేరు	పీరియడ్స్ వారానికి	క్రెడిట్లు	మార్కులు	
					అంతర్గత మార్కులు **I.A-20** Field Work-5	Semester End Exam
	6A	**తెలుగుభాషాస్వరూపం**	5	4	25	75
	7A	**తెలుగు రచనారీతులు**	5	4	25	75
			(లేదా)			
	6B	**లలితకళలు**	5	4	25	75
	7B	**జానపదకళలు**	5	4	25	75
			(లేదా)			
	6C	**మాధ్యమాలకు రచన**	5	4	25	75
	7C	**అనువాదం**	5	4	25	75
			(లేదా)			
	6D	**తెలుగు-బోధన పద్ధతులు**	5	4	25	75
	7D	**వాచికాభివృద్ధి**	5	4	25	75

ఐదోసెమిస్టర్‌లో స్పెషల్ తెలుగుకు సంబంధించి, పైన పట్టికలో సూచించిన నాలుగు జతల పాఠ్యాంశాల్లో (6&7), విద్యార్థులు ఏదో ఒక జతను ఎంపిక చేసుకొని చదవవలసి వుంటుంది. అవి-6A మరియు 7A / 6B మరియు 7B / 6C మరియు 7C / 6D మరియు 7D - వీటిలో ఏదో ఒక జత ఎంపిక చేసుకోవాలి. ఈ జతలోని పాఠ్యాంశాలు విడగొట్టకుండా, కలిపే ఎంచుకోవాల్సి ఉంటుంది. ABCD అనే శీర్షిక విభజనకోసం చేసిందే కానీ, ప్రాధాన్యతాక్రమంలో చేసింది కాదు.

ఈ నైపుణ్యాభివృద్ధి కోర్సు (SECs) లకు సంబంధించిన ప్రధానలక్ష్యాల్లో ఒకటి - 'ఆ ప్రత్యేకాంశానికి సంబంధించిన నైపుణ్యాలను అందించడం.' ఈ పాఠ్యప్రణాళిక కూడా పాక్షికంగా నైపుణ్యాభివృద్ధి కేంద్రంగా తయారుచేయబడింది. కాబట్టి, అధ్యాపకులు పాఠ్యప్రణాళికలో ఉద్దేశించిన నైపుణ్యశిక్షణను క్షేత్రస్థాయిలో విద్యార్థులకు అందించే దృష్టితో బోధన చేయాల్సి ఉంటుంది.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

6-A తెలుగు భాషా స్వరూపం

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. తెలుగు వ్యాకరణ ప్రయోజనాలు
2. తెలుగు వ్యాకరణపరిభాష పట్ల అవగాహన
3. ప్రాచీన, ఆధునిక తెలుగులోని సంధులను,సమాసాలను తెలుసుకోవడం ద్వారా రచనానైపుణ్యాల అభివృద్ధి
4. క్రియావిజ్ఞానాన్ని అవగాహన చేసుకోవడం ద్వారా తెలుగు క్రియారూపాల వైవిధ్యాన్ని గమనించడం
5. వాక్యవిజ్ఞానం ద్వారా మహాకవుల, రచయితల వాక్యనిర్మాణ రీతులను తెలుసుకోవడం.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు : 15)

యూనిట్: I తెలుగు వ్యాకరణ పరిచయం 15 పీరియడ్లు

వ్యాకరణం– పరిచయం, ప్రయోజనాలు

వ్యాకరణ సంజ్ఞలు: అచ్చు, హల్లు, తత్సమము, తద్భవము, దేశ్యము, ఆచ్చికము, గ్రామ్యము

అన్యదేశ్యం, వర్ణం–సవర్ణం, పదాంశం–సపదాంశం.

యూనిట్–II సంధి, సమాసం 15 పీరియడ్లు

తెలుగులో 'సంధి' స్వరూపం: ఆగమ, ఆదేశ, లోప సంధులు (బాలవ్యాకరణం సంధిపరిచ్ఛేదం)

ఆధునికభాషలో సంధి స్వరూపం

సమాసం: నిర్వచనం, సమాసం–స్వరూపం : సాంస్కృతికం, ఆచ్చికం, మిశ్రం

సమాసం–రకాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, బహువ్రీహి, ద్వంద్వం (బాలవ్యాకరణం–సమాస పరిచ్ఛేదం);

ఆధునిక భాషలో సమాస స్వరూపం

యూనిట్–III క్రియావిజ్ఞానం 10 పీరియడ్లు

తెలుగు'క్రియా'రూపాలు–వైవిధ్యం; సకర్మక, అకర్మక, ప్రేరణార్థక క్రియలు;
సమాపక, అసమాపక క్రియలు,సంయుక్త క్రియలు;

ధాతువులకు క్రియారూపాలు నిర్మించడం: 'పాడు, పంచు, చేయు, అను, ఉండు'

యూనిట్: IV వాక్య విజ్ఞానం 10 పీరియడ్లు

వాక్యం–కారకం: నిర్వచనాలు; తెలుగు వాక్యస్వరూపం: సామాన్య, సంశ్లిష్ట, సంయుక్తవాక్యాలు;

వాక్య భేదాలు: నిశ్చయార్థక, ప్రశ్నార్థక, విధ్యర్థక, నిర్బంధార్థక, నిషేధార్థక, అనుమత్యర్థక,
సంభావనార్థక, సందేహార్థక, ప్రేరణార్థక, ప్రార్థనార్థక, ఆశీర్యర్థక క్రియలు.

యూనిట్-V వాక్యప్రయోగ రీతులు: ప్రాచీన, ఆధునిక ప్రయోగాలు 10 పీరియడ్లు

సమాన సన్నివేశంలో వివిధ కవుల వాక్యప్రయోగశైలులు : భేదసామ్యాలు

I. ప్రాత:కాల, సంధ్యావర్ణనలు: ధూర్జటి-తిలక్

ధూర్జటి: శ్రీకాళహస్తిమాహాత్మ్యము: ద్వితీయాశ్వాసం

ప్రాత:కాల వర్ణన : నిర్నిద్ర పూర్వాద్రి .... అరుణ శోణాంశురాజి (138వ పద్యం)

సంధ్యావర్ణన : ప్రాగ్వధూమణి .... భానుబింబంబు గ్రుంకె. (128వ పద్యం)

తిలక్:'అమృతం కురిసిన రాత్రి'

ప్రాత:కాలవర్ణన: 'ప్రాత:కాలం' (4,5 పేజీలు)

సంధ్యావర్ణన : 'సంధ్య' (6వ పేజీ)

II. సామాన్యుని వర్ణన: విశ్వనాథ- రావిశాస్త్రి

విశ్వనాథ సత్యనారాయణ - పులుల సత్యాగ్రహం-పుటలు 20-22

(ఇట్లా ఉండగా ఆ ఊరికి పటేలు వచ్చినప్పుడు పట్వారీ రాడు... ఎలాగౌతుంది?)

రాచకొండ విశ్వనాథశాస్త్రి - అల్పజీవి - పుటలు 5-8

(సుబ్బయ్య సుందరుడు కాడు..... తర్వాత ఏమి జరిగిందో సుబ్బయ్యకు జ్ఞప్తి లేదు)

◆ **ఆధారగ్రంథాలు/ వ్యాసాలు**

1. బాలవ్యాకరణము - చిన్నయసూరి
2. ప్రౌఢ వ్యాకరణం - బహుజనపల్లి, సీతారామాచార్యులు
3. సంధి - కోరాడ రామకృష్ణయ్య
4. ఆంధ్రభాషా వికాసము - ఆచార్య గంటి జోగిసోమయాజి.
5. తెలుగుభాషాచరిత్ర - సం.భద్రిరాజు కృష్ణమూర్తి
6. ఆధునిక తెలుగుభాష:సంగ్రహవర్ణన- చేకూరి రామారావు, తెలుగుభాషాచరిత్ర-సం.భద్రిరాజు కృష్ణమూర్తి
7. తెలుగువాక్యం - చేకూరి రామారావు
8. అమృతం కురిసిన రాత్రి (మూడో కూర్పు) - దేవరకొండ బాలగంగాధర తిలక్, విశాలాంధ్ర ప్రచురణ
9. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్య కార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు, విద్యార్థులు తప్పనిసరిగా చేయాల్సిన పనులు :

1. అధ్యాపకులు :- విద్యార్థులకు తరగతిగదిలో (అవసరమైతే ప్రత్యేక నిపుణుల ద్వారా) తెలుగు వ్యాకరణాంశాలపై అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి. తెలుగుభాషపై సంస్కృతభాషా ప్రభావాన్ని తెలియజేస్తూ, వ్యాకరణంలోని సంజ్ఞ, సంధి, సమాస, క్రియ,వాక్యాది భేదాలపై శిక్షణ ఇవ్వాలి.

2. విద్యార్థులు:- విద్యార్థులు పై యూనిట్లలోని 'సంజ్ఞ,సంధి,సమాస,క్రియ,వాక్యాది విషయాలలో ఏదోఒక అంశం మీద క్షేత్రస్థాయిలో/ అంతర్జాలం ద్వారా వాడుకలో ఉన్న వాటిని పరిశీలించాలి. వాటిపై తమపరిశీలనను క్రోడీకరిస్తూ, స్వీయ దస్తూరీలో, పది పేజీలకు మించని ఒక 'నివేదిక'ను తయారుచేసి, అధ్యాపకుడికి సమర్పించాలి. ఉదా: 'పాడు, పంచు, చేయు, అను, ఉండు' ధాతువులకు క్రియారూపాలు నిర్మించడం-మొదలైనవి.

3. ఈ క్షేత్ర పరిశీలనా నివేదిక (Filedwork Report) కు 5 అంతర్గత మార్కులు.

4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు / తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు , విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

(1) సంబంధిత రంగంలో నిపుణులచేత శిక్షణ ఇప్పించడం

(2) అసైన్‌మెంట్లు, సెమినార్ల నిర్వహణ

(3) బృందచర్చల ద్వారా వ్యాకరణరీతులపై ఆసక్తిని పెంపొందించడం

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ **మాదిరి ప్రశ్నాపత్రం**

I. క్రింది వానిలో ఐదింటికి సంగ్రహసమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 5 మార్కులు

1. తత్పురుష
2. అన్యదేశ్యాలు
3. వర్ణం–సవర్ణం
4. ఆచ్చికము
5. వ్యాకరణం
6. సంయుక్త క్రియలు
7. విధ్యర్థకం
8. విశ్వనాథవారి వాక్యప్రయోగ శైలి
9. తిలక్ ప్రాత:కాల వర్ణన
10. కారకం.

II. ఈ క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. 'పదాంశం – సపదాంశాలను' విశ్లేషించండి.

(లేదా)

'తత్సమ–తద్భవ–దేశ్యాలను' గురించి వ్రాయండి.

12. ఆదేశసంధులను గూర్చి వ్యాసం రాయండి.

(లేదా)

ఆధునికభాషలో సంధి స్వరూపాన్ని వివరించండి.

13. తెలుగు క్రియారూపాల వైవిధ్యాన్ని గురించి రాయండి.

(లేదా)

'ఉండు', 'చేయు' ధాతువులకు క్రియారూపాలను గుర్తించండి.

14. తెలుగు వాక్యస్వరూపాన్ని గూర్చి విశ్లేషణాత్మక వ్యాసం రాయండి.

(లేదా)

వాక్యభేదాలను గురించి రాయండి.

15. 'ధూర్జటి–తిలక్' కవుల వాక్యశైలుల మధ్య భేదసామ్యాలను గురించి వివరించండి.

(లేదా)

సామాన్యుని వర్ణనలో 'విశ్వనాథ–రావిశాస్త్రి' చూపించిన వాక్యప్రయోగవైవిధ్యాన్ని తెలపండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

7-A తెలుగు రచనారీతులు

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1 వివిధ రంగాలలోని తెలుగు రచనారీతులపై ప్రాథమిక అవగాహన

2. అనువాద రంగంలో, ముద్రణా మాధ్యమరంగంలోని రచనారీతులను తెలుసుకోవడం

3. ప్రసార మాధ్యమాలు, సామాజిక మాధ్యమాల లోని రచనావిధానాలను అవగాహన

4. భాషలోని అర్థపరిణామ, ధ్వనిపరిణామాలు, అన్యదేశ్యాలపై అవగాహన

5. సృజనరంగంలోని ప్రధాన ప్రక్రియల రచనావిధానాలను తెలుసుకోవడం.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు : 15)

యూనిట్-I తెలుగు రచనారీతులు-పరిచయం 10 పీరియడ్లు

తెలుగు రచనా రీతులు- అనువాదరంగం, ముద్రణ-ప్రసార-సామాజిక మాధ్యమ రంగాలు: ప్రాథమిక అవగాహన

అనువాదరంగం: నిఘంటువులు, పారిభాషిక పదకోశాలు, అనువాద రచనావిధానాలు

ముద్రాణామాధ్యమరంగం: వార్తా రచన, శీర్షికారచన, సంపాదకీయాలు, సమీక్షలు, పత్రికారచనా విధానాలు

యూనిట్-II తెలుగు-రచనారీతులు-ప్రసార, సామాజిక మాధ్యమాలు 15 పీరియడ్లు

ప్రసారమాధ్యమరంగం: రేడియో రచన, టెలివిజన్ రచన, సినిమా రచనా విధానాలు

సామాజిక మాధ్యమరంగం: వెబ్‌సైట్, ఫేస్‌బుక్, యూట్యూబ్, ట్విట్టర్, వాట్సాప్, బ్లాగ్-రచనావిధానాలు

యూనిట్-III అర్థపరిణామ, ధ్వనిపరిణామ రీతులు 10 పీరియడ్లు

అర్థపరిణామం: కారణాలు, రకాలు; తెలుగులో అర్థపరిణామం

ధ్వని పరిణామం: కారణాలు, రకాలు, తెలుగులో ధ్వనుల మార్పులు

యూనిట్-IV మాండలిక విజ్ఞానం 10 పీరియడ్లు

మాండలికం: నిర్వచనం, స్వరూపం, భేదాలు; మాండలికాలు-కారణాలు, ప్రయోజనాలు, రకాలు;

తెలుగు మాండలికాల గుర్తింపు; శిష్టభాష-ప్రామాణిక భాష.

యూనిట్-V సృజనరంగంలో తెలుగు 15 పీరియడ్లు

'కవిత, కథ, వ్యాసం, 'నాటకం-నాటిక-ఏకాంకిక', ప్రకటన, పాట- పరిచయం

'ప్రకటన: ముద్రణ రంగం, ప్రసార మాధ్యామాలు; ప్రకటన రచన, విషయసేకరణ-కూర్పు, కంపోజింగ్, వ్యాఖ్యానం (యాంకరింగ్), పాట (సినిమా, లలితసంగీతం; జానపద, మాండలిక గేయాలు) - రచనా విధానం: పరిచయం

◆ **ఆధారగ్రంథాలు వ్యాసాలు**

1. తెలుగు మాండలికాలు: ప్రమాణ భాష (వ్యాసం) – ఆచార్య భద్రిరాజుకృష్ణమూర్తి సం. తెలుగుభాషా చరిత్ర
2. ఆంధ్రభాషా వికాసము – ఆచార్య గంటి జోగిసోమయాజి
3. తెలుగు భాషా వికాసం – డా.బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
4. అనువాద పాఠాలు – బూదరాజు రాధాకృష్ణ
5. తెలుగు మౌలికాంశాలు: భాషా నైపుణ్యాలు – డా.బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
6. మాధ్యమాల రచన – డా.బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
7. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్య కార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు, విద్యార్థులు తప్పనసరిగా చేయాల్సిన పనులు :

1. అధ్యాపకులు:– తరగతిగదిలో (అవసరమైతే ప్రత్యేకనిపుణుల ద్వారా) అధ్యాపకులు విద్యార్థులకు తెలుగు రచనారీతులను గురించి నైపుణ్యశిక్షణ ఇవ్వాలి. ఉదా. అనువాదరంగం, ముద్రణా మాధ్యమరంగం, ప్రసార మాధ్యమ, సామాజిక మాధ్యమ రంగాలు–రచనా విధానాలు; సృజన రంగంలోని ప్రక్రియల్లో రచనావిధానాలు.
2. విద్యార్థులు:– విద్యార్థులు పైన తెలిపిన 'అనువాదరంగం, ముద్రణా మాధ్యమరంగం, ప్రసార మాధ్యమ, సామాజిక మాధ్యమ రంగాలు–రచనా విధానాల నుండి గానీ, సృజనరంగంలోని ప్రక్రియల్లో రచనావిధానాల నుండి గాని ఏదోఒక అంశాన్ని ఎన్నుకొని, పరిశీలించాలి. తమ విశ్లేషణను క్రోడీకరిస్తూ, స్వీయ దస్తూరీలో, పదిపేజీలకు మించకుండా 'పరిశీలనా నివేదిక' రూపొందించి అధ్యాపకుడికి సమర్పించాలి.
3. ఈ క్షేత్రపరిశీలనా నివేదికకు (Filedwork Report) 5 అంతర్గతమార్కులు.
4. క్షేత్రపరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు / తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు , విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన సహపాఠ్య కార్యక్రమాలు**

1. సంబంధితరంగంలో రచనా నిపుణులచేత శిక్షణ ఇప్పించడం.
2. అసైన్‌మెంట్లు సెమినార్ల నిర్వహణ
3. బృందచర్చల ద్వారా విద్యార్థులను రచనారీతులపై అభిరుచిని కలిగించడం.
4. అంతర్జాల వేదికల ద్వారా రచనా రీతుల పరిశీలన

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ మాదిరి ప్రశ్నాపత్రం

I. క్రింది వానిలో ఐదింటికి సంగ్రహ సమాధానాలు రాయండి. **5×5=25 మా.**

1. తెలుగు మాండలికాలు
2. ప్రమాణ భాష
3. అర్థపరిణామం
4. శిష్ట భాష
5. అనువాద రచన
6. సంపాదకీయాలు
7. టెలివిజన్ రచన
8. వీడియో నేపథ్య రచన
9. కవితా రచనావిధానం
10. వ్యాఖ్యాన (యాంకరింగ్) రచన.

II. క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు.

11. అనువాదరంగ ప్రాధాన్యాన్ని వివరిస్తూ, అనువాద రచనావిధానాన్ని గూర్చి రాయండి.

(లేదా)

పత్రికా రచనా విధానాలను సమీక్షించండి.

12. ప్రసారమాధ్యమ రచనారీతులను గురించి వ్రాయండి.

(లేదా)

సామాజిక మాధ్యమ రచనా విధానాన్ని వివరించండి.

13. అర్థపరిణామరీతులను విశ్లేషించండి.

(లేదా)

తెలుగులో ధ్వనుల మార్పులను గురించి రాయండి.

14. మాండలిక స్వరూప స్వభావాలను వివరించండి.

(లేదా)

మాండలికాలకు కారణాలను వివరిస్తూ, తెలుగు మాండలికాలను గూర్చి రాయండి.

15. 'నాటకం–నాటిక–ఏకాంకిక' రచనా విధానాలను సమీక్షించండి.

(లేదా)

'ప్రకటన, విషయసేకరణ–కూర్పు, పాట'–రచనా విధానాలను గురించి రాయండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

6-B లలితకళలు

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. కళల ప్రాధాన్యాన్ని, లలిత కళల్లోని సౌందర్యాన్ని గ్రహించడం
2. తెలుగు పాలకుల కళాభిరుచిని తెలుసుకోవడం; భారతీయ శిల్పకళల పట్ల, చిత్రకళల పట్ల అవగాహన
3. భారతీయ సంగీత రీతుల విశిష్టతను తెలుసుకోవడం; నాట్య-నృత్త-నృత్యాంశాలపై అభిరుచిని వృద్ధి చేసుకోవడం
4. లలితకళల్లో కవిత్వ ప్రాధాన్యాన్ని గుర్తించి, సృజనరీతులపట్ల అభిరుచి పెంచుకోవడం
5. తెలుగు వాగ్గేయకారుల గేయాల ప్రాధాన్యాల గుర్తింపు ;'సంకీర్తన-పద-కృతుల' పై అవగాహన.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు : 15)

యూనిట్-I కళలు 10 పీరియడ్లు

కళలు-నిర్వచనం, ఉత్పత్తి వికాసాలు; కళలు-వర్గీకరణ; లలితకళలు-ప్రత్యేకత

యూనిట్-II శిల్పం, చిత్రలేఖనం 15 పీరియడ్లు

భారతీయ శిల్పకళ, చిత్రకళలు-ప్రాథమిక అవగాహన;

తెలుగువారి శిల్పకళారీతులు:

రామప్పదేవాలయం (కాకతీయులు) లేపాక్షీ ఆలయాలు, హంపీ హజారా రామాలయం(విజయనగర రాజులు);

తెలుగు వారి ఆధునిక కళారీతులు- దామెర్ల రామారావు, బాపు, పి.టి.రెడ్డి.

యూనిట్-III సంగీతం, నాట్యం 15 పీరియడ్లు

భారతీయ సంగీత సంప్రదాయాలు - హిందూస్థానీ, కర్ణాటక

తెలుగులో లలితగీతాలు, సంకీర్తనలు

నాట్యం-సమాహార కళ, తెలుగు నాట్య రీతులు-కూచిపూడి, ఆంధ్రనాట్యం, పేరిణి.

యూనిట్-IV సాహిత్యం-కవిత్వం 10 పీరియడ్లు

సాహిత్య రూపాలు- కవిత్వం; కవిత్వం-ప్రాచ్య, పాశ్చాత్యుల నిర్వచనాలు; లలితకళల్లో కవిత్వ స్థానం

కవిత్వం-భేదాలు: పద్యకవిత్వం, వచనకవిత్వం

యూనిట్-V సంప్రదాయ గేయసాహిత్యం-వాగ్గేయకారులు 10 పీరియడ్లు

సంప్రదాయ గేయసాహిత్యం-పరిచయం, విభాగాలు

వాగ్గేయకారుల సాహిత్యం-అవగాహన: 'అన్నమయ్య త్యాగయ్య, క్షేత్రయ్య, రామదాసు'

"సంకీర్తన - కీర్తన-పదం-కృతి" - ప్రక్రియలు: అవగాహన

◆ **ఆధారగ్రంథాలు/వ్యాసాలు**

1. మన ప్రాచీన కళలు, పుట్టుపూర్వోత్తరాలు – ఎల్లోరా
2. లలిత కళలు, వికసన చరిత్ర – తెలుగు విశ్వవిద్యాలయం ప్రచురణ
3. సంగీత, వాద్య నిర్మాణ కేంద్రం (వ్యాసం) – మనవి మాటలు : తిరుమల రామచంద్ర
4. త్యాగయ్య కీర్తన సంపద (వ్యాసం) – మనవి మాటలు : తిరుమల రామచంద్ర
5. ఆధునిక చిత్రకళ–ప్రజాసామాన్యం (వ్యాసం)– మనవి మాటలు : తిరుమల రామచంద్ర
6. తెలుగు సాహిత్య సమీక్ష (రెండవ సంపుటం)– ఆచార్య జి.నాగయ్య
7. లలితకళా విలాసం – డా॥ మూల మల్లికార్జునరెడ్డి
8. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్య కార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు, విద్యార్థులు తప్పనిసరిగా చేయాల్సిన పనులు:

1. అధ్యాపకులు:– విద్యార్థులకు తరగతిగదిలో (అవసరమైతే సంస్థల సందర్శన ద్వారా) 'కళాకారుల, కళల,కళారంగాల' లోని అంశాలపై అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి. ఉదా. శిల్పకళ, చిత్రకళ, లలితగీతాలు, కవిత్వం, గేయసాహిత్యం–అనే అంశాలలోని విశేషాలు, రకాలు, స్థలకాలాలు, పరిణామవికాసాలు, మేటి కళాకారులు తదితర విషయాల్లో నైపుణ్య శిక్షణ ఇవ్వాలి.
2. విద్యార్థులు:– విద్యార్థులు లలితకళల్లోని 'శిల్పకళ, చిత్రకళ, లలితగీతాలు, కవిత్వం, గేయసాహిత్యం' మొదలైన ఐదు అంశాల్లో ఏదో ఒక అంశానికి సంబంధించిన విషయాన్ని, 'క్షేత్ర/అంతర్జాల పరిశీలన'కు ఎంచుకోవాలి. తమ పరిశీలనలను క్రోడీకరిస్తూ, స్వీయదస్తూరీతో ఒక నివేదిక తయారుచేసి, అధ్యాపకుడికి సమర్పించాలి.
3. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) కు విద్యార్థికి 5 అంతర్గత మార్కులు
4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు/తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు, విషయప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

1. సంబంధిత రంగాల్లో నిపుణులచేత శిక్షణ ఇప్పించడం.
2. అసైన్‌మెంట్లు, సెమినార్లు, నిర్వహణ
3. బృందచర్చలు నిర్వహించడం ద్వారా విద్యార్థులను ప్రోత్సహించడం
4. సంబంధిత అంశాలను అంతర్జాల వేదిక ద్వారా ప్రదర్శించడం.

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ మాదిరి ప్రశ్నాపత్రం

I. క్రింది వానిలో ఐదింటికి సంగ్రహ సమాధానాలు రాయండి **5×5=25 మా.**

1. కళలు–నిర్వచనం
2. లలితకళలు – ప్రత్యేకత
3. చిత్రకళలు
4. బాపు
5. లలితగీతాలు
6. కూచిపూడి నృత్యం.
7. వచన కవిత్వం
8. కవిత్వం
9. అన్నమయ్య సంకీర్తనలు
10. 'కృతి'–విశిష్టత

II. క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. కళల ఉత్పత్తి, వికాసాలను సమీక్షించండి.

(లేదా)

కళలను వర్గీకరించి, వివరించండి.

12. తెలుగు వారి శిల్పకళా వైభవాన్ని గూర్చి రాయండి.

(లేదా)

ఆధునిక తెలుగు కళారీతులను వివరిస్తూ బాపు, పి.టి.రెడ్డిల గురించి రాయండి.

13. భారతీయ సంగీత సాంప్రదాయాలను గూర్చి వివరించండి.

(లేదా)

నాట్యాన్ని నిర్వచిస్తూ, తెలుగు వారి నాట్యరీతులను గురించి రాయండి.

14. కవిత్వాన్ని నిర్వచిస్తూ, లలితకళల్లో కవిత్వస్థానాన్ని నిర్ణయించండి.

(లేదా)

కవిత్వ ప్రక్రియలోని ప్రధాన భేదాలను గురించి విశ్లేషించండి.

15. క్షేత్రయ్య–త్యాగయ్య –రామదాసు ల ప్రదిద్ధ గేయసాహిత్యాన్ని పరిశీలించండి.

(లేదా)

'సంకీర్తన–కీర్తన పదం– కృతి' – ప్రక్రియల భేదసాదృశ్యాలను వివరించండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

7-B జానపద కళలు

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆అభ్యసన ఫలితాలు

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. విద్యార్థులు జానపదవిజ్ఞానం పట్ల ప్రాథమిక అవగాహన
2. జానపద సాహిత్యాన్ని, దాని ప్రాధాన్యాన్ని, విశిష్టతను తెలుసుకోవడం
3. జానపద భాషాసంస్కృతుల వైవిధ్యాన్ని గూర్చి అవగాహన చేసుకోవడం
4. జానపద ప్రదర్శనకళలైన యక్షగానం, బుర్రకథ మొదలైన ప్రక్రియలను గూర్చి అవగాహన
5. మన గ్రామాల జాతీయ సంపదగా జానపదగేయాలను గుర్తిస్తూ, వాటిని పాడే విధానాన్ని గమనించడం

◆ పాఠ్యప్రణాళిక మొత్తం పీరియడ్లు - 75; బోధన: 60; శిక్షణ/ఇతరాలు:15

యూనిట్-I జానపద విజ్ఞానం: పరిచయం 10 పీరియడ్లు

జానపదవిజ్ఞానం: పరిచయం, వర్గీకరణ (శాఖలు), ప్రయోజనాలు, ఆవశ్యకత

జానపద విజ్ఞానం పై ప్రాచ్య,పాశ్చాత్యుల కృషి

యూనిట్-II జానపద సాహిత్యం: పరిచయం 15 పీరియడ్లు

జానపద గేయం, కథాగేయాలు: లక్షణాలు-పరిచయం

జానపద గద్యం: కథలు, పురాణాలు, ఐతిహ్యాలు : పరిచయం

యూనిట్-III జానపదుల భాష, సంస్కృతి 10 పీరియడ్లు

జానపదుల భాష సంస్కృతి: ఆహారం, దుస్తులు, వేషభాషలు, నమ్మకాలు, పండుగలు, వైద్యం.

యూనిట్-IV జానపద కళలు 15 పీరియడ్లు

జానపద కళలు- పరిచయం

తెలుగు వారి కళారూపాలు: తోలుబొమ్మలాటలు, యక్షగానం, బుర్రకథ, హరికథ, ఒగ్గుకథ,

జానపదనాటకం (పద్యనాటకం-రంగస్థల పద్యాలు: పరిచయం)

జానపద నృత్యాలు : కోలాటం, భజనలు, థింసా-గొరవ నృత్యాలు, చిందుభాగవతం

యూనిట్-V జానపద గేయాలు 10 పీరియడ్లు

జానపద గేయం: నిర్వచనం, లక్షణాలు, వైశిష్ట్యం

గేయం-గీతం,పాట,పదం,జావళీలు; జానపద గేయాలు-విభజన; జానపద బాణీలు, పాడే విధానం

జానపద గాయకులు - రకాలు:

పిచ్చుకకుంట్లు, శారదకాండ్రు, బైండ్లవారు, వీరముష్టివారు, గొల్లసుద్దులు, జంగములు, దాసరివారు

◆ **ఆధార గ్రంథాలు/ వ్యాసాలు**

1. ఆంధ్రుల జానపద విజ్ఞానం – ఆచార్య ఆర్.వి.యస్. సుందరం
2. తెలుగు జానపద గేయసాహిత్యం – ఆచార్య బిరుదురాజు రామరాజు
3. జానపద విజ్ఞానాధ్యయనం – ఆచార్య జి.యస్.మోహన్
4. తెలుగు జానపద గేయగాధలు – ఆచార్య నాయని కృష్ణకుమారి
5. 'జానపదుల భాషా సారస్వతములు' వ్యాసం – డా॥ పాలెం వేణుగోపాల్ (భావవీణ ప్రచురణ,జూన్ 2020)
6. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్య కార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు, విద్యార్థులు కలిసి తప్పనిసరిగా చేయాల్సిన పనులు:

1. అధ్యాపకులు:– విద్యార్థులకు తరగతిగదిలో (అవసరమైతే క్షేత్రపర్యటన ద్వారా) 'జానపద సాహిత్యం, భాష, సంస్కృతి, జానపదకళలు, జానపదగేయాలు–అందులోని రకాలు, పరిణామ వికాసాలు, జానపద కళాకారులు–తదితర అంశాల్లో అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి.స్థానిక పల్లెపాటలను, పండుగ పాటలను విద్యార్థులచేత సేకరింపజేసి, పాడించవచ్చు.
2. విద్యార్థులు:– విద్యార్థులు పైన తెలిపిన 'జానపద సాహిత్యం, భాష, సంస్కృతి, జానపదకళలు, జానపదగేయాలు–అందులోని రకాలు, పరిణామ వికాసాలు, జానపద కళాకారులు–తదితర అంశాల్లో ఏదైనా ఒక విషయాన్ని క్షేత్ర పరిశీలనకు ఎంచుకోవాలి. తమ విశ్లేషణను క్రోడీకరిస్తూ, స్వీయదస్తూరీలో, పది పేజీలకు మించని ఒక నివేదికను తయారుచేసి, అధ్యాపకునికి సమర్పించాలి.
3. 'క్షేత్రపరిశీలనా నివేదిక (Fieldwork Report) విద్యార్థికి 5 అంతర్గత మార్కులు
4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు / తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు , విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

1. సంబంధిత కళారూపాల్లోని నిపుణులచేత ప్రదర్శనలు ఇప్పించడం.
2. అసైన్‌మెంట్లు, సెమినార్ల నిర్వహణ
3. బృందచర్చల ద్వారా విద్యార్థులను జానపద కళారంగాల వైపు ప్రోత్సహించడం
4. సంబంధిత అంశాలను అంతర్జాల వేదిక ద్వారా ప్రదర్శించడం.

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ మాదిరి ప్రశ్నాపత్రం

I. క్రింది వానిలో ఐదింటికి సంగ్రహ సమాధానాలు రాయండి **5×5=25** మా.

1. జానపదవిజ్ఞానం
2. జె.ఎ.బోయల్
3. కథా గేయాలు లక్షణాలు
4. ఐతిహ్యాలు
5. జానపదుల సంస్కృతి
6. జానపదుల వేషభాషలు
7. యక్షగానం
8. చిందుభాగవతం
9. జానపద గేయం నిర్వచనం
10. పిచ్చుకకుంట్లు

II. క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు **10** మార్కులు

11. జానపద విజ్ఞానాన్ని వర్గీకరించి, వివరించండి.

(లేదా)

జానపద విజ్ఞానంపై ప్రాచ్యపాశ్చాత్యుల కృషిని గురించి రాయండి.

12. జానపద సాహిత్యాన్ని పరిచయం చేస్తూ, కథాగేయాల ప్రాధాన్యాన్ని గురించి చర్చించండి.

(లేదా)

జానపద గద్యకథనాలపై విమర్శనాత్మక వ్యాసం రాయండి.

13. జానపదుల భాష పై విమర్శనాత్మక వ్యాసం రాయండి.

(లేదా)

జానపదసంస్కృతి పై ప్రత్యేక వ్యాసం రాయండి.

14. జానపద కళలను పరిచయం చేస్తూ, బుర్రకథ, ఒగ్గు కథలను గురించి రాయండి.

(లేదా)

జానపద నృత్యాలను వివరిస్తూ కోలాటం గురించి రాయండి.

15. జానపదగేయాల విశిష్టతను వివరించండి.

(లేదా)

జానపద గాయకులను గూర్చి ప్రత్యేక వ్యాసం రాయండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

6-C మాధ్యమాలకు రచన

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. మాధ్యమాల్లోని విస్తృతి, ప్రయోజనాలపై అవగాహన
2. పత్రికా సంపాదకులుగా వివిధ రకాల రచనాంశాల్లో రాణించగలగడం
3. ముద్రణ, ప్రసారమాధ్యమ రంగాల్లోని అవకాశాలను, ప్రాధాన్యాన్ని గమనించడం
4. ప్రసార మాధ్యమాల్లోని రచనల తీరుతెన్నులను గుర్తించడం
5. ప్రసారమాధ్యమాలకు రచనలు చేసే నైపుణ్యాన్ని సంపాదించగలగడం.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు:15)

యూనిట్-I: 'మాధ్యమాలు'-పరిచయం 10 పీరియడ్లు

'మాధ్యమాలు'-నిర్వచనం, రకాలు; మాధ్యమాల్లో భాషా ప్రయోగం

మాధ్యమాల విస్తృతి, ప్రాధాన్యత; మాధ్యమాలు-చట్టాలు; మాధ్యమాలు-ఉపాధి అవకాశాలు

యూనిట్-II: ముద్రణామాధ్యమం-పరిచయం 10 పీరియడ్లు

వివిధ రకాల పత్రికలు - పరిశీలన

పత్రికా భాష-శైలి, వైవిధ్యం; పత్రికారచన- భాషాపరమైన మెళకువలు

యూనిట్-III: ముద్రణా మాధ్యమం-నైపుణ్యాభివృద్ధి 15 పీరియడ్లు

పత్రికలు: వార్తా రచన; శీర్షికా రచన; వార్తల సంక్షిప్తీకరణ, విపులీకరణ; సంపాదకీయాలు;

పుస్తక సమీక్షలు, ఇంటర్వ్యూలు, నివేదికలు, ప్రకటనలు, కరపత్రాల రచన; విరామ చిహ్నాలు-అవగాహన,

యూనిట్-IV: ప్రసార మాధ్యమం -పరిచయం 10 పీరియడ్లు

ప్రసార మాధ్యమాలు-విస్తృతి, ప్రయోజనాలు

ప్రసారమాధ్యమాల్లో కార్యక్రమాల నిర్వహణ-తీరుతెన్నులు

ప్రసార మాధ్యమాల్లోని వివిధ రచనలు- పరిశీలన, అవగాహన

యూనిట్-V ప్రసార మాధ్యమం-నైపుణ్యాభివృద్ధి 15 పీరియడ్లు

స్క్రిప్ట్ రచన, కెమెరా రచన, డ్రాప్ట్ రచన, వార్తా రచనా విధానాలు

వాణిజ్య ప్రకటనలు, ఇంటర్వ్యూలు, ప్రత్యక్షప్రసారాలు, డాక్యుమెంటరీలు-రచనా విధానాలు

రేడియో రచన, టెలివిజన్ రచన, డిజిటల్ వేదికలు -రచనా విధానం

◆ **ఆధార గ్రంథాలు/ వ్యాసాలు**

1. తెలుగు జర్నలిజం – బూదరాజు రాధాకృష్ణ
2. తెలుగు జర్నలిజం – దుర్గం రవీందర్
3. తెలుగు–మౌలిక భావనలు – డా॥బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
4. మాధ్యమాలకు రచన – డా॥ బి.ఆర్ అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
5. కమ్యూనికేషన్ సిద్ధాంత పరిచయం, పత్రికల చరిత్ర–పొట్టిశ్రీరాములు తెలుగువిశ్వవిద్యాలయం ప్రచురణ
6. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్య కార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు, విద్యార్థులు కలసి తప్పనిసరిగా చేయాల్సిన పనులు:

1. అధ్యాపకులు:– విద్యార్థులకు తరగతిగదిలో (అవసరమైతే క్షేత్రపర్యటన ద్వారా) మాధ్యమాలకు సంబంధించిన అంశాల రచనావిధానాలపై అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి.
   ఉదా. పత్రికా రచన, రేడియో రచన, టెలివిజన్ రచన, డిజిటల్ వేదికలకు రచన–మొదలైనవి.
2. విద్యార్థులు:– విద్యార్థులు పైన తెలిపిన 'పత్రికా రచన, రేడియో రచన, టెలివిజన్ రచన, డిజిటల్ వేదికలకు రచన' మొదలైన అంశాల్లో ఒక అంశాన్ని ఎంచుకొని, పరిశీలించాలి. తమ పరిశీలనలను క్రోడీకరిస్తూ, స్వీయదస్తూరిలో, పదిపేజీలకు మించకుండా 'నివేదిక'ను తయారుచేసి, అధ్యాపకునికి సమర్పించాలి.
3. క్షేత్రపరిశీలనా నివేదికకు (Fieldwork Report) 5 అంతర్గత మార్కులు
4. క్షేత్రపరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు/ తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు, విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

1. సంబంధిత రంగంలో నిపుణలను రప్పించి, వారిచేత శిక్షణ ఇప్పించడం / అతిథి ఉపన్యాసాలు.
2. సెమినార్లు, అసైన్‌మెంట్లు నిర్వహణ
3. బృందచర్చల ద్వారా విద్యార్థుల్లో ఆసక్తి కలిగిన వారిని గుర్తించి వారిచేత కార్యక్రమాలను నిర్వహించడం.
4. సంబంధిత అంశాలను అంతర్జాల వేదికల ద్వారా ప్రదర్శింపజేయడం

◆ **ప్రశ్నాపత్ర నిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ **మాదిరి ప్రశ్నాపత్రం**

I. క్రింది వానిలో ఐదింటికి సంగ్రహ సమాధానాలు రాయండి ప్రతి ప్రశ్నకు 5 మార్కులు. 5×5= 25 మా.

1. మాధ్యమాలు–నిర్వచనం
2. మాధ్యమాలు–ఉపాధి అవకాశాలు
3. పత్రికాభాష
4. ప్రసిద్ధ తెలుగు పత్రికలు
5. వార్తా రచన
6. కరపత్ర రచన
7. ప్రసారమాధ్యమాలు
8. ప్రసారమాధ్యమాలు– ప్రయోజనాలు
9. డాక్యుమెంటరీ రచనా విధానం
10. డిజిటల్ వేదికలు–రచనా విధానం

II. ఈ క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. మాధ్యమాల విస్తృతిని వివరిస్తూ, వాటి ప్రాధాన్యతను గురించి రాయండి.

(లేదా)

మాధ్యమాల్లోని భాషా ప్రయోగాన్ని వివరిస్తూ, మాధ్యమాల చట్టాలను గురించి రాయండి.

12. పత్రికా భాష శైలి, వైవిధ్యాలను గురించి రాయండి.

(లేదా)

పత్రికా రచనను వివరిస్తూ, అందులోని భాషాపరమైన మెళకువలను వివరించండి.

13. వార్తారచనలోని మెళకువలను వివరిస్తూ, సంపాదకీయాలను గురించి వ్యాసం రాయండి.

(లేదా)

"ఇంటర్వ్యూలు, నివేదికలు, ప్రకటనలు"–రచనా విధానాన్ని వివరించండి.

14. ప్రసారమాధ్యమాల విస్తృతిని, ప్రయోజనాలను సమీక్షించండి.

(లేదా)

ప్రసారమాధ్యమాల్లోని ఏవేని రెండు కార్యక్రమాల నిర్వహణ తీరుతెన్నులను వివరించండి.

15. డిజిటల్ వేదికల రచనావిధానాన్ని గురించి ఒక వ్యాసం రాయండి.

(లేదా)

స్క్రిప్ట్ మరియు కెమెరా రచనను గురించి వివరించండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

7-C అనువాదం

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. భాషాతత్వాన్ని, ప్రాధాన్యాన్ని గుర్తిస్తూ, అనువాద అవసరాన్ని తెలుసుకోవడం
2. అనువాదకుని లక్షణాలను గూర్చి అవగాహన
3. అనువాదరంగంలో నైపుణ్యాన్ని సంపాదించగలగడం
4. భాషాసామర్థ్యాన్ని పెంపొందించుకునే మార్గాలను తెలుసుకోగలగడం
5. అనువాదవృత్తిలో స్థిరపడడానికి అవసరమయ్యే నైపుణ్యాలను, సృజన-ప్రసారమాధ్యమరంగాల్లో ఉపాధి అవకాశాలను గురించి తెలుసుకోగలగడం.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు:15)

యూనిట్-I అనువాదం 10 పీరియడ్లు

అనువాదం-నిర్వచనం, స్వరూప స్వభావాలు; అనువాదం-ఆవశ్యకత

అనువాద ప్రమాణాలు; అనువాదం శాస్త్రమా? కళా?

వివిధ రకాల అనువాదాలు (మూలవిధేయానువాదం,స్వేచ్ఛానువాదం, నుడికారపు అనువాదం, యాంత్రిక అనువాదం)

యూనిట్-II అనువాదకుడు 10 పీరియడ్లు

అనువాదకుడు-లక్షణాలు, రకాలు; అనువాద సమస్యలు, వాటి పరిష్కార మార్గాలు

తెలుగులో ప్రసిద్ధ అనువాద గ్రంథాలు, వాటి అనువాదకులు-సమీక్ష.

యూనిట్-III వ్యావహారిక భాషలో అనువాద ప్రాధాన్యం 15 పీరియడ్లు

గ్రాంథిక, వ్యావహారిక భాషోద్యమాలు-నేపథ్యం

వ్యావహారిక భాషోద్యమానికి గిడుగు, గురజాడల కృషి

అనువాదంలో వ్యావహారిక భాష-వ్యక్తీకరణ విధానాలు

యూనిట్-IV అధికారభాషగా తెలుగు-అనువాద ప్రాధాన్యం 15 పీరియడ్లు

మాతృభాష, పాలనాభాష, అధికారభాషగా తెలుగు-రాష్ట్ర పాలనా యంత్రాంగంలో జరిగిన, జరుగుతున్న కృషి

తెలుగు అనువాదం-"అధికారపత్రాలు, ఉత్తర్వులు, మార్గదర్శకాలు,ఉత్తరాలు"

యూనిట్-V అనువాద రచన-ఆవశ్యకత 10 పీరియడ్లు

ప్రపంచీకరణ నేపథ్యంలో అనువాదాల ప్రాధాన్యం

విద్యార్థులను వివిధ రంగాల్లో అనువాదకులుగా రాణించడానికి అవసరమయ్యే సూచనలు

భాషాసామర్థ్యాన్ని పెంపొందించుకునే మార్గాలు.

◆ **ఆధార గ్రంథాలు/వ్యాసాలు**

1. అనువాద సమస్యలు – రాచమల్లు రామచంద్రరెడ్డి
2. అనువాద పద్ధతులు, ఆచరణ సమస్యలు – చేకూరి రామారావు 'భాషాంతరంగం', పుటలు 130–146, తెలుగు విశ్వవిద్యాలయ ప్రచురణ
3. అనువాద సిద్ధాంతాలు – డా॥ ఎస్.అక్కిరెడ్డి
4. అనువాద పాఠాలు – బూదరాజు రాధాకృష్ణ
5. అధికార భాషగా తెలుగు – సి.ధర్మారావు
6. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్యకార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపక, విద్యార్థులు చేయవలసిన తప్పనిసరి పనులు

1. అధ్యాపకులు:– విద్యార్థులకు తరగతి గదిలో (అవసరమైతే సంస్థాగత సందర్శనల ద్వారా) అనువాదం చేయడంలో అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి. ఉదా. చిన్నవ్యాసాలు, ప్రకటనలు, ఉత్తర్వులు, వార్తలు, మార్గదర్శకాలు, ఉత్తరాలు మొదలైనవి.
2. విద్యార్థులు:–విద్యార్థులు ఏవైనా వార్తాపత్రికలు/అంతర్జాలం/అనువాద గ్రంథాలలోని అనువాదాలను పరిశీలించాలి. తమ పరిశీలనలను క్రోడీకరిస్తూ, పదిపేజీలకు మించని ఒక 'నివేదిక'ను స్వీయదస్తూరీలో తయారుచేసి, అధ్యాపకుడికి సమర్పించాలి.
3. 'క్షేత్ర పరిశీలనా నివేదిక' (Fieldwork Report) కు 5 అంతర్గత మార్కులు
4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు/తరగతి/క్రమసంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు, విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

1. సంబంధిత రంగంలో నిపుణులచేత శిక్షణ ఇప్పించడం
2. అసైన్‌మెంట్లు, సెమినార్ల నిర్వహణ
3. బృంద చర్చలు నిర్వహిస్తూ, విద్యార్థులను ప్రోత్సహించడం
4. సంబంధిత అంశాలను అంతర్జాల వేదిక ద్వారా ప్రదర్శించడం

◆ **ప్రశ్నాపత్ర నిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ మాదిరి ప్రశ్నాపత్రం

I. క్రింది వానిలో ఐదింటికి సంగ్రహ సమాధానాలు రాయండి.

పదవ ప్రశ్నకు తప్పనిసరిగా సమాధానం రాయాలి. ప్రతి ప్రశ్నకు 5 మార్కులు.

1. అనువాదం–అవశ్యకత
2. అనువాద ప్రమాణాలు
3. అనువాదం–భాషా సమస్యలు
4. అనువాదకుడు–లక్షణాలు
5. గ్రాంథిక భాషావాదం
6. వ్యావహారిక భాషావాదం
7. అధికార భాషగా తెలుగు
8. అనువాద పద్ధతులు
9. అనువాదాలు–ప్రాధాన్యం
10. క్రింది అంశాన్ని తెలుగులోకి అనువదించండి

Insccription of Chalukyas of Kalyana king Vikramaditya VI

This office received photograph of this inscritpion engrave on a slab found in the field of Kurnool District, Andhra Pradesh. It is written in Kannada Language and characters, dated in Chalukya Vikrama year 27.It seems to register the gift of some taxes and one oil crusher to the god Billesvara by Dandanayaka. Further it seem to record that a official named Raviya gifted a village to the deity.

II. ఈ క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. అనువాద స్వరూప స్వభావాలను వివరించండి

(లేదా)

అనువాదం శాస్త్రమా? కళా? విశ్లేషించండి

12. అనువాదకుడి లక్షణాలను రాయండి.

(లేదా)

అనువాద సమస్యలను ప్రస్తావిస్తూ పరిష్కార మార్గాలు సూచించండి.

13. వ్యావహరిక భాషోద్యమనేపథ్యాన్ని వివరించండి

(లేదా)

వ్యావహరిక భాషోద్యమానికి గిడుగు వారి కృషిని వివరించండి.

14. అధికారభాషగా తెలుగు అమలును గురించి చర్చించండి

(లేదా)

అధికారభాషను నిర్వచించి, అధికారభాష అవసరాన్ని తెలియజేయండి.

15. ప్రపంచీకరణ నేపథ్యంలో అనువాదాల ప్రాధాన్యాన్ని విశ్లేషించండి.

(లేదా)

అనువాదరంగంలో రాణించడంకోసం విద్యార్థులకవసరమయ్యే భాషానైపుణ్యాల గురించి రాయండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

6-D తెలుగు-బోధన పద్ధతులు

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు:-**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. భాషానైపుణ్యాలను గూర్చి తెలుసుకోవడం ద్వారా భాషాభివృద్ధి
2. మాతృభాషాబోధన ప్రాధాన్యాన్ని తెలుసుకోవడం
3. తెలుగు సాహిత్య బోధనాపద్ధతులైన పద్య-గద్య-వ్యాకరణాది బోధనల ద్వారా భాషోపాధ్యాయులుగా రాణించగలగడం.
4. పాఠశాల, కళాశాల స్థాయిల్లో ప్రథమభాషగా, ద్వితీయభాషగా తెలుగు బోధనాప్రాధాన్యాన్ని తెలుసుకోగలగడం.
5. సాహిత్య ప్రక్రియల బోధనాపద్ధతులను తెలుసుకోవడం ద్వారా భాషాసాహిత్యాల పట్ల అభిరుచిని పెంచుకోగలగడం,

◆ **పాఠ్య ప్రణాళిక** (మొత్తం పీరియడ్లు - 75; బోధన: 60; శిక్షణ/ఇతరాలు:15)

యూనిట్-I భాషానైపుణ్యాలు 10 పీరియడ్లు

భాష-నిర్వచనం, స్వరూప స్వభావాలు; భాషానైపుణ్యాలు-శ్రవణం, భాషణం, పఠనం, లేఖనం;
భాష నైపుణ్యాల ఆచరణలు లక్షణాలు - ప్రాథమిక, మాధ్యమికస్థాయి

యూనిట్-II మాతృభాషా బోధన 10 పీరియడ్లు

మాతృభాష భావన, నిర్వచనాలు; మాతృభాషగా తెలుగు బోధన-ఉద్దేశాలు
మాతృభాష బోధన-విలువలు; విషయ ప్రణాళికలు-మాతృభాషగా 'తెలుగు'స్థానం

యూనిట్-III మాతృభాషగా తెలుగు-బోధన పద్ధతులు 10 పీరియడ్లు

పద్య బోధనా పద్ధతులు; గద్య బోధనాపద్ధతులు; వ్యాకరణ బోధనాపద్ధతులు; నాటక బోధనా పద్ధతులు

యూనిట్-IV మాతృభాషా బోధన-ఆధునికధోరణులు 15 పీరియడ్లు

మాతృభాషాబోధన-ఆధునిక ధోరణులు
ద్వితీయభాషాబోధన-ద్వితీయభాష, భావనలు, అధ్యయనసామగ్రి, బోధనా లక్ష్యాలు, బోధనా పద్ధతులు

యూనిట్-V తెలుగులోని వివిధ సాహిత్యప్రక్రియలు-బోధనాలక్ష్యాలు 15 పీరియడ్లు

సాహిత్యం: నిర్వచనం, ప్రయోజనం
సృజనాత్మక సాహిత్యభాష-బోధనాలక్ష్యాలు:
ప్రాచీన కవిత్వ ప్రక్రియలు: పురాణం; ఇతిహాసం, ప్రబంధం, ద్విపద, ఉదాహరణ
ఆధునిక కవిత్వ ప్రక్రియలు: ఖండకావ్యం, వచనకవిత, దీర్ఘకవిత, గజల్, హైకూ-బోధనా లక్ష్యాలు.

◆ **ఆధారగ్రంథాలు/వ్యాసాలు**

1. తెలుగు–బోధన పద్ధతులు – తెలుగు అకాడమీ ప్రచురణ
2. తెలుగు బోధన పద్దతులు – బి.ఎడ్ పాఠ్యపుస్తకం, తెలుగు అకాడమీ ప్రచురణ
3. తెలుగు భాషా సాహిత్య బోధనాపద్ధతులు– డా॥ బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
4. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్యకార్యక్రమాలు** (మొత్తం పీరియడ్లు 75, బోధన:60, శిక్షణ/ఇతరాలు:15)

అధ్యాపకులు విద్యార్థులు తప్పనిసరిగా చేయాల్సిన పనులు 10 పీరియడ్లు

1. అధ్యాపకులు:– విద్యార్థులకు తరగతిగదిలో (అవసరమైతే పాఠశాలలను, విద్యాసంస్థలను సందర్శించడం ద్వారా) తెలుగు భాషాసాహిత్య బోధనాపద్ధతులలో అధ్యాపకులు నైపుణ్యశిక్షణ ఇవ్వాలి. ఉదా. పద్య బోధన, గద్య బోధన, వ్యాకరణ బోధన, నాటక బోధన, సాహిత్య ప్రక్రియల బోధన మొదలైనవి. విద్యార్థులచేత మాదిరిపాఠ్యాంశాలను బోధించే ప్రయత్నం చేయవచ్చు.
2. విద్యార్థులు:–విద్యార్థులు పైన తెలిపిన భాషాసాహిత్య బోధనాపద్ధతులలో ఏదో ఒక అంశాన్ని, లేదా ఏదైనా ఒక సాహిత్యప్రక్రియను ఎంచుకొని పరిశీలించాలి. ఆ అంశాన్ని బోధించే విధానాన్ని, పాఠ్యాంశబోధనగా తరగతిగదిలో బోధించే పద్ధతిని పేర్కొంటూ, తమ పరిశీలనలను పదిపేజీలకు మించకుండా, స్వీయ దస్తూరీలో, నివేదికను తయారుచేసి, అధ్యాపకుడికి సమర్పించాలి.
3. ఈ క్షేత్రపరిశీలనా నివేదిక (Fieldwork Report) కు 5 అంతర్గత మార్కులు
4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు / తరగతి / క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు, విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు**

(1) సంబంధిత రంగంలో నిపుణులచేత శిక్షణ ఇప్పించడం

(2) అసైన్‌మెంట్లు, సెమినార్ల నిర్వహణ

(3) బృందచర్చల ద్వారా వ్యాకరణరీతులపై ఆసక్తిని పెంపొందించడం

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

మాదిరిప్రశ్నాపత్రం

I. క్రింది వానిలో ఐదింటికి సంగ్రహసమాధానాలు రాయండి ప్రతి ప్రశ్నకు 5 మార్కులు. 5×5=25 మా.

1. భాషానైపుణ్యాలు
2. భాషణం
3. మాతృభాషా బోధన
4. మాతృభాష–ప్రాధాన్యం
5. వ్యాకరణ బోధన
6. నాటక బోధన
7. ద్వితీయభాషగా తెలుగు
8. మాతృభాషాబోధన–ఆధునిక దృష్టి
9. సాహిత్యం
10. అలంకారం

II. ఈ క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. భాషను నిర్వచించి, భాష స్వరూప స్వభావాలను వివరించండి

(లేదా)

భాషానైపుణ్యాలను గురించి వివరించండి.

12. మాతృభాషగా తెలుగు బోధన ఉద్దేశాలను వివరించండి.

(లేదా)

విషయ ప్రణాళిక ప్రాధాన్యాన్ని పేర్కొంటూ, అందులో మాతృభాష 'తెలుగు' స్థానాన్ని నిర్ణయించండి.

13. పద్యబోధన పద్ధతులను వివరించండి

(లేదా)

గద్యబోధనా పద్ధతులను వివరించండి

14. మాతృభాషాబోధనలోని ఆధునిక ధోరణులను గురించి రాయండి.

(లేదా)

ద్వితీయభాషగా తెలుగు బోధనా లక్ష్యాలను వివరించండి.

15. ప్రాచీన తెలుగు కవిత్వ ప్రక్రియల బోధనాలక్ష్యాలను వివరించండి.

(లేదా)

ఆధునిక తెలుగు కవిత్వ ప్రక్రియల బోధనాలక్ష్యాలను వివరించండి.

బి.ఏ., తదితర ప్రోగ్రాములు

అంశం: స్పెషల్ తెలుగు సెమిస్టర్-5

7-D వాచికాభివృద్ధి

పీరియడ్లు : 75 క్రెడిట్లు : 4 మొత్తం మార్కులు : 75

◆ **అభ్యసన ఫలితాలు:-**

ఈ నైపుణ్యాభివృద్ధి కోర్సును ముగించాక, విద్యార్థులు క్రింది సామర్థ్యాలను పొందగలరు.

1. భాషానైపుణ్యాల్లో భాషణానికి (వాచికానికి) ఉండే ప్రాధాన్యాన్ని తెలుసుకోవడం
2. భాషా వినియోగ నైపుణ్యరంగాలను గుర్తించడం ద్వారా వాచిక ప్రాధాన్యాన్ని తెలుసుకోగలగడం
3. వాచికాభివృద్ధి ప్రక్రియలను గుర్తించడం ద్వారా వాచికాభివృద్ధి నైపుణ్యాలు పొందడం
4. మాధ్యమాల్లో వాచికభివృద్ధి నైపుణ్యాన్ని మెరుగుపరచుకోగలగడం
5. ప్రాచీన,ఆధునిక కావ్యపఠనం ద్వారా సాహిత్యాభిరుచిని పొందుతూ, వాచికాభివృద్ధి నైపుణ్యాలను అందుకోగలగడం.

◆ **పాఠ్యప్రణాళిక** (మొత్తం పీరియడ్లు: 75 ; బోధన: 60; శిక్షణ/ ఇతరాలు:15)

యూనిట్ I భాషానైపుణ్యాలు-'వాచిక' ప్రాధాన్యత 15 పీరియడ్లు

వాచికం (భాషణం)-లక్షణాలు, స్వరూపం, ప్రయోజనాలు

భాషావినియోగ నైపుణ్యాలు: వాచికరంగం-దైనందిన వ్యవహారాలు; రేడియో, టీవీ, సినిమా, పరిపాలన-ఇతరరంగాలు

యూనిట్ II వాచికాభివృద్ధి ప్రక్రియలు 10 పీరియడ్లు

శిశుగేయాలు/అభినయగేయాలు, పద్య పఠనం, కథాకథనం, నాటకీకరణ, ఉక్తరచన (వక్తృత్వశిక్షణ), భాషాక్రీడలు, సారస్వత సమావేశాలు, భాషా విహారయాత్రలు

యూనిట్ III వాచికాభివృద్ధి చర్యలు 10 పీరియడ్లు

వాచికాభివృద్ధి: జాతీయాలు, సామెతలు, లోకోక్తుల వినియోగం

వాచికదోషాలు : భావదోషాలు, భాషాదోషాలు, ఉచ్చారణాదోషాలు-నివారణోపాయాలు

యూనిట్ IV మాధ్యమాలు-వాచికాభివృద్ధి చర్యలు 15 పీరియడ్లు

ప్రసారమాధ్యమరంగం : రేడియో, టెలివిజన్ సినిమా 'మాధ్యమాల్లో 'వాచికం'-ప్రయోగాలు

సామాజిక మాధ్యమరంగం: ప్రసంగాలు, వీడియోనేపథ్య కథనాలు, వ్యాఖ్యానం(యాంకరింగ్) లలో 'వాచికం'- ప్రయోగాలు

యూనిట్ V వాచికం-నైపుణ్యాభివృద్ధి 10 పీరియడ్లు

ఆధునిక కావ్యపఠనం: గుర్రం జాషువా కావ్యశైలి-పాపాయి పద్యాలు (4 పద్యాలు)

(నవమాసములు...., బొటవ్రేల ముల్లోకముల...., గానమాలింపక..., ఊయేల తొట్టి...,)

ఆధునిక గేయ పఠనం: శ్రీశ్రీ రచనాశైలి-ప్రతిజ్ఞ (మహాప్రస్థానం)

సరళ గ్రాంథిక పఠనం: పానుగంటి 'సాక్షి సంఘనిర్మాణము'

ఆధునికవచన పఠనం: అనువాదమంటే? (64వ పుట) రారా 'అనువాద సమస్యలు'- గ్రంథం నుండి

(అనువాదమంటే... సూపును వాళ్ళూ అంతే.)

◆ **ఆధారగ్రంథాలు/వ్యాసాలు**

1. తెలుగు–బోధన పద్ధతులు – తెలుగు ఆకాడమీ ప్రచురణ
2. తెలుగు భాషాసాహిత్య బోధనాపద్ధతులు – డా.బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
3. మాధ్యమాలకు రచన – డా.బి.ఆర్.అంబేద్కర్ సార్వత్రిక విశ్వవిద్యాలయ ప్రచురణ
4. వసుచరిత్ర (గిరిక బాల్యం) – రామరాజభూషణుడు
5. ఖండకావ్యములు – గుర్రం జాషువా
6. ప్రతిజ్ఞ – మహాప్రస్థానం – శ్రీరంగం శ్రీనివాసరావు
7. నీతిచంద్రిక (మిత్రలాభము) – చిన్నయసూరి
7. అంతర్జాలం లోని సంబంధిత ఆధారాలు

◆ **సహపాఠ్యకార్యక్రమాలు** 10 పీరియడ్లు

అధ్యాపకులు విద్యార్థులు తప్పనిసరిగా చేయాల్సిన పనులు:

1. అధ్యాపకులు:– విద్యార్థులకు తరగతిగదిలో (అవసరమైతే నిపుణలచేత శిక్షణ ద్వారా) అధ్యాపకులు వాచికాభివృద్ధికి సంబంధించిన నైపుణ్యశిక్షణ ఇవ్వాలి. ఉదా. అభినయగేయాలు, నాటకీకరణ, సారస్వత సమావేశాలు, ప్రసార–సామాజిక మాధ్యమాల్లో వాచికం–లక్షణాలు, వివిధ సాహిత్య ప్రక్రియల్లో వాచికం–లక్షణాలు మొదలైనవి.
2. విద్యార్థులు:– విద్యార్థులు పైన తెలిపిన 'అభినయగేయాలు, నాటకీకరణ, సారస్వత సమావేశాలు, ప్రసార–సామాజిక మాధ్యమాల్లో వాచికం–లక్షణాలు, వివిధ సాహిత్య ప్రక్రియల్లో వాచికం–లక్షణాలు' మొదలైన అంశాల్లో ఏదో ఒక అంశాన్ని అంతర్జాలం ద్వారా ఎన్నుకొని, అందులోని వాచికాన్ని పరిశీలించాలి. తమ పరిశీలనలను క్రోడీకరిస్తూ, వాచికాభివృద్ధి అంశంపై ఒక నివేదికను తయారుచేసి, అధ్యాపకుడికి సమర్పించాలి.
3. ఈ పరిశీలనా నివేదికకు (Fieldwork Report) 5 అంతర్గత మార్కులు ఇవ్వాలి.
4. క్షేత్ర పరిశీలనా నివేదిక (Fieldwork Report) నమూనా:– ఎంపిక చేసుకున్న అంశం శీర్షిక, విద్యార్థి పేరు/తరగతి/క్రమ సంఖ్య తదితర వివరాలు, క్షేత్రపరిశీలనా లక్ష్యాలు, విషయ ప్రణాళిక, విషయ వివరణ, పరిశీలనా ఫలితాలు.

◆ **సూచించబడిన కార్యక్రమాలు:**

(1) సంబంధిత రంగంలో నిపుణులచేత శిక్షణ ఇప్పించడం

(2) అసైన్‌మెంట్లు, సెమినార్ల నిర్వహణ

(3) బృందచర్చల ద్వారా వ్యాకరణరీతులపై ఆసక్తిని పెంపొందించడం

◆ **ప్రశ్నాపత్రనిర్మాణం**

I. మొదటివిభాగంలో ప్రతియూనిట్ నుండి రెండు ప్రశ్నలు తప్పనిసరిగా ఇస్తూ, మొత్తం పది ప్రశ్నలలో ఐదు ప్రశ్నలకు సంగ్రహ సమాధానాలు రాయమని అడగాలి. 5×5= 25 మా.

II. రెండో విభాగంలో ప్రతియూనిట్ నుండి రెండు వ్యాస ప్రశ్నలిచ్చి, ఒకదానికి సమాధానం రాయమనాలి. (అంతర్గత ఛాయిస్) 5×10=50 మా.

◆ **మాదిరి ప్రశ్నాపత్రం**

I. క్రింది వానిలో ఐదింటికి సంగ్రహసమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 5 మార్కులు. 5×5=25 మా

1. వాచికం–లక్షణాలు
2. వాచికరంగం–భాషావినియోగం
3. భాషాక్రీడలు
4. సారస్వత సమావేశాలు
5. జాతీయాలు–వాచికాభివృద్ధి
6. ఉచ్చారణా దోషాలు–నివారణ
7. టెలివిజన్‌లో వాచికం
8. వ్యాఖ్యానం (యాంకరింగ్) లో వాచికం
9. శ్రీశ్రీ
10. రామరాజభూషణుడు

II. ఈ క్రింది ప్రశ్నలకు వ్యాసరూప సమాధానాలు రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

11. వాచిక స్వరూపాన్ని వివరిస్తూ, వాచిక ప్రాధాన్యాన్ని గురించి రాయండి.

(లేదా)

వాచికం ఉపయోగించే రంగాలను పేర్కొని, వాటిలో భాషావినియోగ నైపుణ్యాలను ఎలా మెరుగుపరచుకోవాలో తెలపండి.

12. వాచికాభివృద్ధికి ఉపయోగపడే ప్రక్రియలను మూడింటిని వివరించండి.

(లేదా)

'భాషాక్రీడలు, సారస్వతసమావేశాలు, ఉక్తరచన'ల గురించి రాయండి.

13. జాతీయాలు లోలోక్తులు, సామెతల వినియోగంలో వాచికాభివృద్ధి చర్యలను వివరించండి.

(లేదా)

వాచికదోషాలను వివరిస్తూ, నివారణ మార్గాలను తెలపండి.

14. ప్రసారమాధ్యమ రంగాల్లో వాచికాభివృద్ధి క్రమాన్ని వివరించండి.

(లేదా)

సామాజిక మాధ్యమాల్లో వాచికాభివృద్ధి మార్గాలను పేర్కొనండి.

15. పానుగంటి వారి భాషా శైలిని వివరించండి.

(లేదా)

మహాప్రస్థానంలో శ్రీశ్రీ రచనాశైలిని గురించి రాయండి.

SUBJECT EXPERTS

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ANDHRAPRADESHSTATECOUNCILOFHIGHEREDUCATION
(A Statutory body of the Government of Andhra Pradesh)
REVISED UG SYLLABUS UNDER CBCS
(Implemented from Academic Year - 2020-21)
PROGRAMME: FOUR YEAR B.SC. (Hons)
Domain Subject**: ZOOLOGY**

Skill Enhancement Courses (SECs) for Semester V, from 2022-23

(Syllabus with Learning Outcomes, References, Co-curricular Activities & Model Q.P. Pattern)

Structure of SECs for Semester–V

(To choose one pair from the four alternate pairs of SECs)

Univ Code	**Course Number 6&7**	**Name of Course**	**Hours/Week Theory +Practical**	**Credits Theory+ Practical**	Marks	
					IA–20 FW- 05	Sem End T+P
	6A	SUSTAINABLE AQUACULTURE MANAGEMENT	3+3	3+2	25	75+50
	7A	POST HARVEST TECHNOLOGY OF FISH AND FISHERIES	3+3	3+2	25	75+50
		OR				
	6B	LIVE STOCK MANAGEMENT-I (BIOLOGY OF DAIRY ANIMALS	3+3	3+2	25	75+50
	7B	LIVE STOCK MANAGEMENT -II (DAIRY PRODUCTION AND MANAGEMENT)	3+3	3+2	25	75+50
		OR				
	6C	POULTRY MANAGEMENT- I (POULTRY FARMING)	3+3	3+2	25	75+50
	7C	POULTRY MANAGEMENT- II (POULTRY PRODUCTION AND MANGEMENT	3+3	3+2	25	75+50
		OR				
	6D	SERI CULTURE -I***	3+3	3+2	25	75+50
	7D	SERI CULTURE -II	3+3	3+2	25	75+50

*** To be taught by Zoology Teachers

Note: For Semester–V, for the domain subject Zoology, any one of the four pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: **ZOOLOGY**
IV Year B. Sc.(Hons)–Semester –V

Max. Marks: 100+50

Course6 A: **SUSTAINABLE AQUACULTURE MANAGEMENT**
(Skill Enhancement Course (Elective), -Credits: 05)

I. Learning Outcomes:

Students at the successful completion of this course will be able to

- Evaluate the present status of aquaculture at the Global level and National level
- Classify different types of ponds used in aquaculture
- Demonstrate induced breeding of carps
- Acquire critical knowledge on commercial importance of shrimps
- Identify fin and shell fish diseases

II**. Syllabus**: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit: 1

1.1 Present status of Aquaculture – Global and National scenario
1.2 Major cultivable species for aquaculture: freshwater, brackish water and marine.
1.3 Traditional, extensive, modified extensive, semi-intensive and intensive cultures of fish and shrimp.
1.4 Design and construction of fish and shrimp farms

Unit: 2

2.1 Functional classification of ponds – head pond, hatchery, nursery ponds
2.2 Functional classification of ponds -rearing, production, stocking and quarantine ponds
2.3 Need of fertilizer and manure application in culture ponds
2.4 Physio-chemical conditions of soil and water optimum for culture (Temperature, depth, turbidity, light, water, PH, BOD, CO_2 and nutrients)

Unit: 3

3.1. Induced breeding in fishes
3.2. Culture of Indian major carps: Pre-stocking management (Dewatering, drying, ploughing/desilting; Predators, weeds and algal blooms and their control, Liming and fertilization)
3.3. Culture of Indian major carps - Stocking management
3.4. Culture of Indian major carps - post-stocking management

Unit: 4

4.1 Commercial importance of shrimp & prawn
4.2 *Macrobrachium rosenbergii*- biology, seed production.
4.3 Culture of *L. vannamei* – hatchery technology and culture practices
4.4 Mixed culture of fish and prawns

Unit: 5

5.1 Viral diseases of Fin Fish & shell fish
5.2 Fungal diseases of Fin & Shell fish
5.3 Bacterial diseases of Finfish & Shell fish
5.4 Prophylaxis in aquaculture

III. References:

1. Pillay TVR & M.A.Dill, 1979. Advances in Aquaculture. Fishing News Books Ltd., London
2. Stickney RR 1979. Principles of Warm Water Aquaculture. John Wiley & Sons Inc.1981
3. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsivier Scientific Publishing Company.
4. Bose AN et.al. 1991. Costal Aquaculture Engineering. Oxford & IBH Publishing Company Pvt. Ltd.

Web Links:

1. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
2. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
3. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control-fishery/871

Course6 A: SUSTAINABLE AQUACULTURE MANAGEMENT PRACTICAL SYLLABUS

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Identify the characaters of Fresh water cultivable species
- Etimate physico chemical characateristics of water used for aquaculture
- Examine the diseases of fin and shell fish
- Suggest measures to prevent diseases in aquaculture

V. Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)

1. Fresh water Cultivable species any (Fin & Shell Fish Specimens – Observation of morphological characters by observation and drawings)-5
2. Brackish water cultivable species (Fin &Shell fish- Specimens- Observation of Morphological Character by observing drawing) -5
3. Hands on training on the use of kits for determination of water quality in aquaculture (DO, Salinity, pH, Turbidity- Testing kits to be used for the estimation of various parameters/ Standard procedure can be demonstrated for the same)
4. Demonstration of Hypophysation(Procedure of hypophysation to be demonstrated in the practical lab with any edible fish as model)
5. Viral diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of viral pathogens in fin/ shell fish – one edible specimen can be used for observation of same in the laboratory)
6. Bacterial diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)
7. Fungal diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

VI. Lab References

1. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsevier Scientific Publishing Company
2. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
3. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
4. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control-fishery/871

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) **Mandatory**:*(Student training by teacher in field skills: Total 15 hrs., Lab:10 + field 05)*

1. For Teacher: Training of students by the teacher in laboratory/field fornotlessthan15 hours on Breeding- Induced breeding in carps -hatchery technology of *L. Vennami*- Farming techniques- disease diagnostic techniques—concepts –Demonstration @ any aqua laboratory
2. For Student: Students shall (individually) visit a Hatchery/Farm/ Aqua diagnostic center and make careful observations of the process method and implements- protocols and report on the same in 10 pages hand written Fieldwork/Project work Report.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work**:** Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE).Unit tests.

b) Suggested Co-Curricular Activities

1. Preparation of Model/Charts of Cultivable species of fin fish shell fish
2. Preparation of Model/Chart of Ideal fish Pond- with the standards prescribed.
3. Observation of aquaculture activities in their area (Observation of any activity related to aquaculture in the vicinity of the college/village)
4. Preparation of Model – charts of Fin /Shell fish Diseases with eco-friendly material.
5. Assignments, Group discussion, Seminar, Quiz, Collection of Material, Video preparation etc., Invited lecture

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A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –V

Max Marks: 100+50

Course 7 A: **POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES**
(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes**:**

Students at the successful completion of this course will be able to

- Identify the types of preservation methods employed in aquaculture
- Choose the suitable Processing methods in aquaculture
- Maintain the standard quality control protocols laid down in aqua industry
- Identify the best Seafood quality assurance system

II. **Syllabus:** *Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit – I Handling and Principles of fish Preservation

1. 1 Handling of fresh fish, storage and transport of fresh fish, post mortem changes (rigor mortis and spoilage), spoilage in marine fish and freshwater fish.

1.2 Principles of preservation – cleaning, lowering of temperature, rising of temperature, denudation, use of salt, use of fish preservatives, exposure to low radiation of gamma rays.

Unit – II Methods of fish Preservation

2.1 Traditional methods - sun drying, salt curing, pickling and smoking.

2.2. Advanced methods – chilling or icing, refrigerated sea water, freezing, canning, irradiation and Accelerated Freeze drying (AFD).

Unit – III Processing and preservation of fish and fish by-products

3.1Fish products – fish minced meat, fish meal, fish oil, fish liquid (ensilage), fish protein concentrate, fish chowder, fish cake, fish sauce, fish salads, fish powder, pet food from trash fish, fish manure.

3.2 Fish by-products – fish glue, Using glass, chitosan, pearl essence, shark fins, fish Leather and fish maws.

Unit – IV Sanitation and Quality control

4.1 Sanitation in processing plants - Environmental hygiene and Personal hygiene in processing plants.

4.2 Quality Control of fish and fishery products – pre-processing control, control during processing and control after processing.

Unit – V Quality Assurance, Management and Certification

5.1. Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); Good Laboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept of Hazard Analysis and Critical Control Points (HACCP) in seafood safety.

5.2 National and International standards – ISO 9000: 2000 Series of Quality Assurance System, *Codex Aliment Arius*.

III. References:

1. Santharam R, N Sukumaran and P Natarajan 1987. A manual of aquaculture, Oxford- IBH, NewDelhi
2. Lakshmi Prasad's, Fish Processing Technology 2012, Arjun Publishing House
3. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
4. Safety and Quality Issues in Fish Processing (Woodhead Publishing Series in Food Science, Technology and Nutrition)by H A Bremner
5. K.A Mahanthy, Innovations in Fishing and Fish Processing Technologies, January 2021

Web Resources:

1. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=145743
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03

Course 7 A: POSTHARVEST TECHNOLOGY OF FISH AND FISHERIES

PRACICAL SYLLABUS

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

- Identify the quality of aqua processed products.
- Determine the quality of fishery by products by observation
- Analyze the protocols of aqua processing methods

V. **Practical(Laboratory) Syllabus**:

1. Evaluation of fish/ fishery products for organo leptic, chemical and microbial quality.
2. Preparation of dried, cured and fermented fish products
   For detailed procedure method visit sites:
3. Examination of salt, protein, moisture in dried / cured products
4. Examination of spoilage of dried / cured fish products, marinades, pickles, sauce.
5. Preparation of isinglass, collagen and chitosan from shrimp and crab shell.
6. Developing flow charts and exercises in identification of hazards – preparation of hazard analysis worksheet
7. Corrective action procedures in processing of fish- flow chart- work sheet preparation
   (** Refer the following web sites for complete procedure method and estimations of above listed practicals)

VI. References:

1. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03
3. https://vikaspedia.in/agriculture/fisheries/post-harvest-and-marketing/processing-in-fisheries/fermented-products
4. https://krishi.icar.gov.in/jspui/bitstream/123456789/20500/1/Fermentation%20technology%20for%20fish.pdf
5. http://jebas.org/00200620122014/Abujam%20et%20al%20JEBAS.pdf
6. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic%20drying%20and%20packing%20of%20fish.pdf
7. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic%20drying%20and%20packing%20of%20fish.pdf
8. https://agritech.tnau.ac.in/fishery/fish_byproducts.html
9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5352841/
10. http://www.fao.org/3/i1136e/i1136e.pdf
11. http://www.fao.org/3/x5989e/X5989e01.htm#What%20is%20sensory%20assessment)

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) Mandatory: *(Lab/field training of students by teacher (lab 10 + field 05):*

1. For Teacher: Training of students by the teacher in laboratory/fieldfornotlessthan15hourson various steps of post-harvest techniques of fishes, on the advanced techniques in post-harvest technology – Training of students on other employability skills in the Post-harvest sector of Aquaculture Industry- like Processing, Packing, marketing of processed aqua products.
2. For Student: Students shall (individually) visit - Any fish/shrimp Processing Plant/Packing industry and make observations on post harvesting techniques and submit a brief handwritten Fieldwork/Project work Report with pictures and data /survey in 10 pages.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*
5. (IE): Unit tests,

b) <u>Suggested Co-Curricular Activities</u>

1. Observation of fish/shrimp processing plants – visit web sites of processing companies and record the details of that Unit
2. Interaction with local fishermen to know the method of preservation and details with the available traditional technology
3. Collection of web resources on the Quality assurance, quality control measures in Aqua Industries- cross checking the standards during the visit to any processing units.
4. Assignments, Seminar, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc.,

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A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –V

Max Marks: 100+50

Course6 B: **LIVE STOCK MANAGEMENT-I**
(BIOLOGY OF DAIRY ANIMALS)
(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes:

- Students at the successful completion of the course will be able to
- Select the suitable breeds of livestock for rearing
- Relate the anatomy of udder with letdown of milk
- Identify and manipulate the reproductive behavior of cattle
- Inspect the economics of dairy farming
- Apprise the various breeding techniques employed in live stock

II. Syllabus: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit 1**:** Livestock census; Breeds of Dairy cattle, Buffaloes and Goats. Indigenous, Exotic and Crossbred Cattle breeds

Unit 2**:** Anatomy of Udder; Development of udder; Lacto genesis and Galactopoises; Letdown of milk.

Unit 3**:** Artificial insemination; Oestrous cycle; Symptoms of heat in cows and buffaloes. Conception, Pregnancy diagnosis in cattle. Multi ovulation and embryo transfer technique. Cloning.

Unit4**:** Economic traits of Dairy cattle. Methods of selection of dairy animals.

Unit5**:** Systems of Dairy cattle breeding. Inbreeding, out breeding, Cross breeding, Grading up. Breeding systems (Cross breeding of cattle and Grading up of buffaloes).

III. References:

1. Textbook of Animal Husbandry-GC Benarjee
2. Handbook of Animal Husbandry –ICAR Edition
3. Principles and practices of Dairy Farm–Jagdish Prasad

Web resources:

1. http://ecoursesonline.iasri.res.in/course/index.php?categoryid=42
2. https://vetsebooks.blogspot.com/p/e-books.html
3. https://www.basu.org.in/study-materials/veterinary-science/
4. https://vikaspedia.in/agriculture/livestock/cattle-buffalo/breeds-of-cattle-buffalo

Course 6 B: LIVE STOCK MANAGEMENT-I-PRACTICAL SYLLABUS
(BIOLOGY OF DAIRY ANIMALS)

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to

1. Examine the points of dairy cow
2. Understand the behavioral changes of cow during the reproductive period
3. Differentiate the merits and demerits of cross breeds in cattle

V. Practical(Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Points dairy cow. (Explanation with observation of charts- Model evaluation to be performed by the student in the laboratory)
2. Identification of different breeds of dairy cattle and buffaloes.(Observation of Charts of breeds in the laboratory- at least 3 breeds should be identified by the students in their locality with video, photo)
3. Male and female reproductive systems of cow – Model/ Chart (Student has to draw a labeled diagram of the male and female reproductive systems of cow – acquire skill to identify the parts).
4. Symptoms of heat in cow (Study and Understanding the physiological symptoms during heat).
5. Artificial in semi nation (Flow chart of implements – Procedure- precautions)
6. Pregnancy diagnosis in cattle.
7. Study comparative merits of cows and buffaloes; zebu and cross bred cows (Examination of merits

VI. Lab References:

1. Principles and practices of Dairy Farm–Jadish Prasad
2. Dairy cow points: https://www.icar.org/Guidelines/05-Conformation-Recording.pdf
3. Pregnancy test protocol: https://cgspace.cgiar.org/bitstream/handle/10568/109408/Milk%20testing%20lab%20protocol.pdf?sequence=1&isAllowed=y

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. Co-Curricular Activities

a) **Mandatory**:*(Lab/ field training of students by teacher :(lab:10 + filed: 05):*

1. For Teacher: Training of students by the teacher in laboratory/field fornotlessthan15hoursonprinciples and practices of dairy industry- breeds –artificial insemination- reproductive behavior of cows etc. as per the syllabus above.
2. For Student: Students shall individually visit to any of the nearby cattle rearing centers/ veterinary hospital/Raithu Bharosa Kendra and make observations of the procedure and quality enhancement activities and submit a handwritten Fieldwork/Project work Report in 10 pages.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*
5. (IE)Unit tests,

b) <u>Suggested Co-Curricular Activities</u>

1. Collection of various cattle breed images from the web to prepare a album
2. Visit the sites of Veterinary colleges in India and preparation of brief report on the videos and content/ employment details
3. Sketch a model dairy farm with details
4. Invited lecture and presentation on related topics by experts
5. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –VY

Max Marks: 100+50

Course 7B: **LIVE STOCK MANAGEMENT -II**
(DAIRY PRODUCTION AND MANAGEMENT)
(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to

- Identify and suggest the suitable housing system for the dairy farming
- Understand management practices for the dairy farming
- Learn the process of milk pasteurization
- Prepare cream from milk

II. Syllabus: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit1**:** Systems of Housing of Dairy cattle- Loose Housing and Conventional Dairy Barns. Drawing of layouts for dairy cattle dwellings; Criteria for selecting site for establishing Dairy farm buildings; Water requirement of dairy animals.

Unit2**:** Management of different classes of Dairy animals- Milk producing animals, pregnant animals dry animals, heifers and calves. Management practices for Dairy farm; Identification, Dehorning, Castration, Deworming, Vaccination, Disinfection, and Milking.

Unit 3**:** (a) Pasteurization of milk: Definition, objects of pasteurization, objections to pasteurization, Principles of heat exchange. Methods of pasteurization: LTLT, HTST and Uperization.
(b)Sterilization of milk. Homogenization: Factors influencing homogenization

Unit 4: Market milk: Toned milk, double toned milk, Reconstituted milk, Standardized milk and full cream milk–Standards and methods of manufacture.

Unit 5: Cream: Types of cream, composition, methods of cream separation, gravity and centrifugal methods, types of cream separators, factors affecting fat losses in skim milk and fat percentage in cream.

III. References:

1. Textbook of Animal Husbandry-G C Benarjee
2. Handbook of Animal Husbandry –ICAR Edition
3. Principles and practices of Dairy Farm–Jagdish Prasad
4. http://ecoursesonline.iasri.res.in/course/index.php?categoryid=42
5. https://vetsebooks.blogspot.com/p/e-books.html
6. https://www.basu.org.in/study-materials/veterinary-science/
7. https://vikaspedia.in/agriculture/livestock/cattle-buffalo/breeds-of-cattle-buffalo

Course 7 B: LIVE STOCK MANAGEMENT -II – **PRACTICAL SYLLABUS**
(DAIRY PRODUCTION AND MANAGEMENT**)**

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Design a model dairy farm layout
- Understand procedure of milk pasteurization at milk processing centers
- Identify various important management practices in dairy farming

V. **Practical (Laboratory) Syllabus**:(30hrs) (Max.50Marks)

1. Dairy Farm layout (In the laboratory student has to sketch a dairy farm with all its components)
2. Identification of cows (students have to identify the breeds of cows form the images/charts – have to identify any two breeds in the vicinity of the college/ their locality).
3. Dehorning of calves : (Method - protocol- precautions)
4. Castration of bulls (Method – Apparatus- Time-importance)
5. Deworming of dairy cattle : (Schedule – method- benefits)
6. Pasteurization of milk (Batch Method- procedure- Observation)
7. Sterilization of milk (In bottle sterilization- procedure – protocol)
8. Cream separation (By gravity method- procedure- hands on experiment)

VI. Lab References

1. Handbook of Animal Husbandry –ICAR Edition
2. Dairy farm layout : https://www.youtube.com/watch?v=dmukHUEUvKc
3. Dehorning procedure : http://www.omafra.gov.on.ca/english/livestock/dairy/facts/09-003.htm
4. Castration of bulls: https://vikaspedia.in/agriculture/livestock/general-management-practices-of-livestock/castration-of-ruminants
5. Deworming: https://kvk.icar.gov.in/API/Content/PPupload/k0347_10.pdf
6. Pasteurization of milk : http://www.jnkvv.org/PDF/08042020170652part%203.pdf
7. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=1690
8. Cream separation: http://ecoursesonline.iasri.res.in/mod/page/view.php?id=147910

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) **Mandatory:** *(Lab/field training of students by teacher; lab 10+ field :05)*

1. For Teacher: Training of students by the teacher in laboratory and filed fornotlessthan15 hours on skills of dairy management – housing-management of dairy animals of various stages- procedure of preparation of marketable milk with procedures like sterilization, pasteurization and other techniques)
2. For Student: Student shall (individually) visita nearby dairy farm- house hold cattle rearing – make observations on aspects like housing – management – feed- milk- revenue- breed selection- qualities of breed –etc. A handwritten Fieldwork/Project work Report to be submitted inn the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.*
5. (IE)Unit tests.

b) Suggested Co-Curricular Activities

1. Sketch model dairy house with details
2. Web resources on Protocols in the management of stages of cattle
3. Properties of varieties of milk from the market observation
4. Assignment, Seminar, Invited lecture, Group discussion. Quiz, Collection of Material, Video preparation etc.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –V

Max. Marks: 100

Course6 C: **POULTRY MANAGEMENT- I (POULTRY FARMING**)
(Skill Enhancement Course (Elective), - Credits: 05 (3+2))

I. Learning Outcomes:

Students at the successful completion of the course will be able to

- Evaluate the status of Indian Poultry Industry
- Explain the Scientific Poultry keeping
- Compare the diversified Poultry practices
- Inspect the different breeds of chicken

II. **Syllabus**: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit 1 Indian poultry Industry
1.1 Importance of poultry farming and poultry development in India.
1.2 Present status and future prospectus of poultry Industry
1.3 Classification of poultry based on genetics Utility
Unit -2Scientific Poultry Keeping
2.1 Modern breeds of Chicken
2.2 Present day egg production lines- meat production lines
2.3 Mini breeds- dwarfism in mini-Leghorns
Unit-3Diversified Poultry
3.1 Ducks and Geese-classification- rearing system-classification-advantages
3.2 Guinea fouls - guinea fowl farming in India-Production-varieties
3.3 Emu-rearing- Economical aspects-commercial products
Unit-4Desi Chickens:
4.1 Indigenous breeds and economical aspects of desi chicken
4.2 Indigenous breeds-Aseel-Chittagong-Kadaknath-Bursa
4.3 Improved varieties in India – Giriraja-Vanaraja-Girirani-Kalinga brown, Gramapriya, Swarnandhra
Unit -5 Breeds from Central Avian Research Institute – Izatnagar
5.1 CARI Nirbheek - CARI- Shyama-HITCARI (Naked Neck Cross)
5.2 CARI- Priya Layer, CARI- Sonali Layer,
5.3 CARIBRO-VISHAL, CARI-RAINBRO,
5.4 Nandanam chicken-I, Nandanam Chicken-II, Nandanm-Quail

III. References:

1. Text Book of Poultry Science, P V Sreenivasaiah, Write and Print Publications, ISBN No. 9788192970592, 8192970590
2. Poultry Science Practices, Nilothpal Ghosh, CBS Publication & Distributions, 2015
3. Principles of Poultry Science, 1996, CAB Publishers, ISBN 9780851991221
4. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN: 9788120412606

Web sources

1. https://www.drvet.in/p/e-books.html

2. https://byjus.com/biology/animal-husbandry-poultry-farming/
3. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

Course6 C: POULTRY MANAGEMENT- I (POULTRY FARMING)

PRACTICAL SYLLABUS

IV. Learning Outcomes: On successful completion of this practical course, student shall be able to:

- Identify different types of Poultry rearing practices
- Evaluate the efficacy of different types of poultry practices in maximizing yield
- Understand the importance of different hybrid breeds in poultry

V. Practical(Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Different types of Poultry rearing (Students has to observe and draw the different types of poultry rearing systems)
2. Different types of poultry Housing - Models / Images/charts
3. Different layer breeds images/charts/ Models (Observation of characters)
4. Types of broilers images/charts/ Models (Identification of important Characters)
5. CARI breeds characters –images/charts
6. Nandanam breeds- images/charts (Identification of characters)

*** (This practical is 70 % (Web based /virtual) 30% physical: student and teachers must browse the web for the specimens models – write down the important characters based on the web resources)

VI. Lab references

1. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN: 9788120412606

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**:

a) **Mandatory**:*(Student training by teacher in field skills: total15hours (lab:10, field 05))*

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15hours on the techniques of identification of layers, broilers and management practices in poultry.
2. For Student: Students shall Individually visit a Poultry farm, make observations and report on the Rearing, Housing, Brooding, Feeding and water management activities. The student shall submit a handwritten Fieldwork/Project work Report on the observations along with pictures in the given format not exceeding 10 pages to teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*.
5. Unit tests. (IE)

b) Suggested Co-Curricular Activities

1. Web resources – visiting the web sites of CARI-IZATNAGAR-https://cari.icar.gov.inprocuring additional information on the poultry breeds
2. Web resources- visiting the web site of NANADANAM http://www.tanuvas.ac.in/ippmmadhavaram_tech.html
3. Collection of additional data on different types of Poultry breeds
4. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited Lecture, Video preparation etc.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc–Semester –VY

Max. Marks: 100+50

Course 7 C: **POULTRY MANAGEMENT -II**
(POULTRY PRODUCTION AND MANGEMENT)
(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes:

Students at the successful completion of the course will be able to

- Suggest measure for Health care in Poultry
- Evaluate the economics of poultry production
- Elaborate the poultry Breeder flock management
- Differentiate the poultry hatchery practices

II. **Syllabus:** (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1 HEALTH CARE

1.1 Common poultry diseases: bacterial, viral, fungal, parasitic and nutritional deficiencies.

1.2 Vaccination schedule for commercial layers and broilers: factors that govern vaccination schedule; vaccination principles type, methods, pre and post vaccination care.

1.3 Disinfection: Types of disinfectants; mode of action; recommended procedure; precaution and handling.

Unit-2 ECONOMICS

2.1 Economics of layer and broiler production

2.2 Projects reports in different systems of rearing for layer & broilers.

2.3 Feasibility studies on poultry rearing- in context of small units and their profitability.

2.4 Export/import of poultry and poultry products.

Unit-3 BREEDER FLOCK MANAGEMENT

3.1 Layer and broiler breeder flock management housing & space requirements.

3.2 Different stage of management during life cycle; Light management during growing and laying period, Artificial insemination.

3.3 Feeding: Feed restriction, separate male feeding. Nutrient requirement of layer and broiler breeders of different age groups.

Unit-4 BREEDER HEALTHCARE

4.1 Vaccination of breeder flock; difference between vaccination schedule of broilers and commercial birds.

4.2 Common diseases of breeders (Infectious and metabolic disorders)-prevention.

4.3 Fertility disorder- etiology, diagnosis and corrective measures. Selection and culling of breeder flocks

Unit-5 HATCHERY PRACTICES

5.1 Management principles of incubation.

5.2Factors affecting fertility and hatchability. Selection, care and incubation of hatching eggs. Fumigation; sanitation and hatchery hygiene.

5.3 Importance of hatchery records, break even analysis of unhatched eggs.

5.4 Computer applications for hatchery management

III. References:

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age International

Publishers-2018
2. https://www.drvet.in/p/e-books.html
3. https://byjus.com/biology/animal-husbandry-poultry-farming/
4. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

Course 7C: POULTRY MANAGEMENT –II- **PRACTICAL SYLLLABUS**
(POULTRY PRODUCTION AND MANGEMENT)

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Identify Poultry diseases by observation
- Analyze Poultry establishment feasibility
- Understand the Poultry Records

V. Practical(Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Poultry Viral diseases – Observation of histopathological slides
2. Poultry Fungal Diseases- Observation of histopathological slides
3. Poultry Bacterial Diseases-Observation of histopathological slides
4. Feasibility study of Poultry establishment: (Preparation of feasibility study report with given parameters)
5. Rearing of Layers – (Preparation of Flow chart
6. Rearing of broiler- Flow chart
7. Hatchery records- Model study/analysis- Report with modified data

VI. Lab references :

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age International Publishers-2018
2. Flow chart hatchery : http://lms.tanuvas.ac.in/mod/resource/view.php?id=45106
3. Feasibility report: https://www.manage.gov.in/stry&fcac/content/19.%20Project%20Report%20on%20Layer%20Poultry.pdf

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities**

a) **Mandatory**:*(Lab/filed training of students by teacher: (lab10+ field 05)*

1. For Teacher: Training of students by the teacher laboratory and field fornotlessthan15hourson skills in different practices employed in poultry with regard to the disease management – analysis of poultry project- preparation of flow chart – Observation of Poultry records – computerization activities
2. For Student: students shall (individually) visit a Layer/ Broiler Poultry farming places (small scale/corporate), make observations on practices- resources – management and marketing - analysis and submit a handwritten Fieldwork/Project work Report of 10 pages with necessary images.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*.
6. (IE): Unit tests.

b) <u>Suggested Co-Curricular Activities</u>

1. Preparation of Poultry diseases charts
2. Preparation of feasibility report poultry establishment with different variables
3. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited Lecture, Video preparation etc.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc. (Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –VY

Max. Marks: 100+50

Course6 D: **SERI CULTURE -I***
(BIOLOGY AND CULTIVATION OF MULBERRY)
(Skill Enhancement Course (Elective), Credits: 05)

I. Learning Outcomes:

- Students at the successful completion of this course will be able to
- Evaluate the general status of Sericulture in India
- Understand the development of sericulture Botany
- Evaluate the use of Silk worm breeds
- Differentiate among various silkworm breeds
- Apprise the economics of silk rearing

II. Syllabus**:** (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1A general introduction to Sericulture
1.1 Sericulture map of India: Components of Sericulture.
1.2 Textile fibers: Types- natural and synthetic fibers- types of silk produced in India; Importance of mulberry silk:
1.3 Sericulture organization in India; role of state departments of Sericulture, Central Silk Board and NGOs in Sericulture development
Unit-2Sericultural Botany.
2.1Taxonomy of mulberry and food plants of silkworms: Study of salient features of the families- Marceau.
2.2 Morphology of mulberry: different varieties of mulberry.
2.3 Anatomy of mulberry: internal structure of stem, root and leaf; secondary growth in root and stem.
Unit 3Floral biology of mulberry
3.1 Floral biology of mulberry: Sexual behavior, different types of anthers and ovule in mulberry; micro- and megaspore genesis.
3.2 Development of male and female gametophytes; pollination, fertilization
3.3 Development of endosperm, embryo and seed; polyembryony and parthenocarpy in mulberry.
Unit-4 Silkworm Biology.
4.1 Characteristic features of the order Lepidoptera; detailed study of the families- Saturnidae and Bombycid. Classification of sericigenous insects.
4.2 Classification of silkworms based on moultinism, voltinism and geographical distribution; popular silkworm breeds and hybrids of Karnataka; their economic traits
Unit-5 Morphology and anatomy of reproductive systems of silk moth.
5.1 Life cycle of *Bombyx Mori;* morphology of egg, larva, pupa and adult.

**** This course shall be completely taught by Zoology faculty*.**

III. References**:**

1. Hortmann and Kesler (1993) Plant Propagation, principles and practices. Prentice Hall, Hemel Nemstead.
2. Krishna Murthy, N.(1981)Plant growth substances including application in Agriculture. Tata McGraw Hill Pub. Co. Ltd. New Delhi.
3. Shankar, M.A (1998) Handbook on mulberry Nutrition, Multiplex, Bangalore.
4. Subbarao, N.S (1998) Bio fertilizers in Agriculture. Oxford & IBH Pub. Co, Pvt. Ltd, New Delhi.
5. A text Book on Mulberry Crop Protection. Govindaiah, V.P Gupta, D.D Sharma, S. Rajadurai and V. Nishitha Naik, Published by Central Silk Board, Bangalore-68, India.2005.
6. Rajanna L,Das P.K, Ravindra S, Bhogesha K , Mishra R.K,Singhvi N.R, Katigar R.S and Jayaram H. Mulberry Cultivation and Physiology Central Silk Board, Bangalore,Dec.2005

Web resources:

1. http://www.fao.org/3/ad108e/ad108e0a.htm
2. https://onlinecourses.swayam2.ac.in/cec19_bt05/preview
3. https://www.skuastkashmir.ac.in/DisplaySInformation.aspx?id=16&pid=20592
4. http://www.fao.org/3/x9895E/x9895e04.htm
5. https://www.notesonzoology.com/sericulture/moriculture/common-indian-mulberry-plants-and- their-morphological-characteristics/347

Web resources suggested by the teacher concerned and the college librarian including reading material

Course6 D: SERI CULTURE -I – **PRACTICAL SYLLABUS**

IV. Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Develop sericulture map of India
- Develop charts on production of silk
- Examine the popular varieties of mulberry
- Display the silk glands of silk worm

V. Practical(Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Sericulture map of India and Karnataka.
2. Preparation of histograms and pie charts on:
3. Production of textile fibers in India.
4. Pie chart on mulberry and non-mulberry silk production in India.
5. Life cycle of *Bombyx mori*- Morphology of egg, larva, pupa and adult of *Bombyx mori.*
6. Sex separation in larva, pupa and adult of the silkworm *Bombyx mori*.
7. Dissection and display of: Digestive system of larva. Silk glands.

VI. Lab References :

1. Rajanna L,Das P.K, Ravindra S, Bhogesha K , Mishra R.K,Singhvi N.R, Katigar R.S and Jayaram H. Mulberry Cultivation and Physiology Central Silk Board, Bangalore,Dec.2005

Web sources suggested by the teacher concerned and the college librarian including reading material

VII. **Co-Curricular Activities** :

a) **Mandatory**: *(Student training by teacher in field skills: total15hrs, Lab: 10+ filed 05):*

1. For Teacher: Training of students by the teacher in the laboratory and field for notlessthan15hourson the skills of preparation of Sericulture Map of India – identification of Mulberry plants – plantation- observation of Silk worm reproductive biology- observation of silk glands

2. **For Student:** Students shall (individually) visit any local Mulberry Plantation area and Silk worm Rearing center – make observations on plants, procedures and yield. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*.
5. (IE)Unit tests.

6. **b) Suggested Co-Curricular Activities**

   1. Webbased **:** Collection of additional information of mulberry plants
   2. Charts /Models preparation of silkworm developmental stages

7. Seminar, Invited lecture, .Assignment, Group discussion. Quiz, Collection of Material, Video preparation etc.

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc.(Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –VY

Max Marks: 100+50

Course 7 -D: **SERICULTURE -II**
(BIOLOGY AND REARING OF SILKWORM)
(Skill Enhancement Course (Elective), - Credits: 05)

I. Learning Outcomes:

Students at the successful completion of this course will be able to

- Design low cost rearing house preparation for silk worm rearing
- Formulate procedure of sanitation of rearing house
- Make use of Chawki rearing practice
- Decide and suggest the correct time for harvest
- Develop and Maintain the records related to sericulture

II. Syllabus: (*Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1

1.1 Rearing house: Location, orientation, plan and utilities; model rearing house; low-cost rearing house.

1.2 Rearing appliances-shelf and shoot rearing; requirements of rearing appliances (per unit rearing of 100dfls).

Unit-2

2.1 Disinfection of rearing house and rearing appliances; (disinfectants formalin, bleaching powder, chlorine dioxide, slaked lime and iodine compounds);

2.2 Rearing and personal hygiene.

Unit-3

3.1 Incubation- definition, requirement of environmental conditions, incubation devices; identification of stages of development; black boxing and its importance.

3.2 Chawki rearing: Preparation; brushing and its methods; types of chawki rearing - traditional and improved method; optimum environmental conditions; methods and frequency of feeding; methods of bed cleaning; spacing; moulting and care during moult.

Unit -4

4.1 Late age silkworm rearing: Methods; optimum environmental conditions; feeding quantity and frequency; methods of bed cleaning; spacing; moulting and care during moult.

4.2. Identification of spinning larva; spinning; mounting and mounting density; types of mountages, their advantages and disadvantages; environmental requirements during spinning.

Unit -5

5.1 Harvesting: Time of harvesting; sorting, storage/ preservation

5.2 Packaging and transport of cocoons; leaf-cocoon ratio; Maintenance of rearing records.

III. References:

1. Charley, S.R. (1982). Culture and Sericulture. Academic Press Inc., New York, U.S.A
2. Chowdhury, S.N. (1998) Muga Culture. Central Silk Board, Bangalore, India
3. Dokuhon, Z.S. (1998). Illustrated Textbook on Sericulture. Oxford & IBH publishing Co., Pvt. Ltd.Calcutta.
4. Hamamura, Y. (2001). Silkworm rearing on Artificial Diet. Oxford & IBH publishing Co., Pvt. Ltd. New Delhi.
5. Hasao Aruga (1994). Principles of Sericulture (Translated from Japanese) Oxford & IBH publishing Co., Pvt. Ltd. New Delhi.

Web Resources:

1. http://www.fao.org/3/ad108e/ad108e0a.htm
2. https://onlinecourses.swayam2.ac.in/cec19_bt05/preview
3. https://www.skuastkashmir.ac.in/DisplaySInformation.aspx?id=16&pid=20592

Course 7 -D: SERICULTURE –II-**PRACTICAL SYLLABUS**
(BIOLOGY AND REARING OF SILKWORM)

IV. Learning Outcomes:

- On successful completion of this practical course, student shall be able to :
- Appreciate the morphology of silkworm
- Realize the importance of and initiate measures to disinfect the importance of disinfection of rearing houses and rearing appliances
- Differentiate the methods of incubation of silkworm eggs
- Prioritize the records in silkworm rearing

V. **Practical(Laboratory) Syllabus**:(30hrs)(Max.50Marks)

1. Morphology and structure of silkworm egg, fertilization, Diapause development
2. Rearing house: Location, orientation, plan and utilities; model rearing house; low-cost rearing house.
3. Disinfection of rearing house and rearing appliances;
4. Incubation of silkworm eggs- Methods; black boxing; maintenance of temperature and humidity; Brushing: Methods; chawki rearing; use of paraffin paper and blue polythene sheet.
5. Bed cleaning: use of bed cleaning net and disposal of bed refuses and silkworm litter.
6. Moulting: Identification of moulting larva, care during moulting; mounting and mounting density; harvesting of cocoons; assessment of cocoons; types of mountages;
7. Study the mulberry leaf by graph paper method : (for calculating the leaf area)

VI. Lab References

1. HasaoAruga (1994). Principles of Sericulture (Translated from Japanese) Oxford & IBH publishing Co., Pvt. Ltd. New Delhi.

Web resources suggested by the teacher concerned and the college librarian including reading material

VII. Co-Curricular Activities

a) **Mandatory**: *(Lab/field training of students by teacher (lab10+filed5))*

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15hourson the skills/techniques of Rearing of Silk moth
2. For Student: Students shall (individually) visit to Silk worm rearing center and observe all the procedures. He/she shall prepare a Fieldwork/Project work Report on the observations made in the given format not exceeding 10 pages and submit to teacher.

3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report**:** *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.*
5. (IE). Unit tests.

b) Suggested Co-Curricular Activities

1. Model Chart preparation of chawki rearing
2. Cocoon collection and observation of characteristics
3. Mountage images / charts preparation
4. Seminar, Invited Lecture, Assignment, Seminar, Group discussion. Quiz, Seminar, Quiz, Collection of Material, Video preparation etc.

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Suggested Question Paper Pattern

Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four – year B.Sc.(Hons)
Domain Subject: ZOOLOGY
IV Year B. Sc.(Hons)–Semester –V

Max.Marks:75 Time:3 hrs

SECTION - A(Total: 10 Marks)

Very Short Answer Questions (10 Marks: 5x2)

1. …….
2. …….
3. ……
4. ……
5. ……..

SECTION - B (Total: 5x5=25Marks)
(Answer any Five questions. Each answer carries 5 marks)
(At least1 question should be given from each Unit)

6. ……
7. ……..
8. ……
9. …….
10. ……..
11. ……..
12. ……
13. ……

SECTIONC

(Total: 4x10 = 40 Marks)(Answer any four questions. Eachanswercarries10 marks
(Atleast1questionshould be given from each Unit)

14. .…….
15. ……
16. …….
17. ……
18. …….
19. ……..

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Draft Syllabus Prepared by;

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