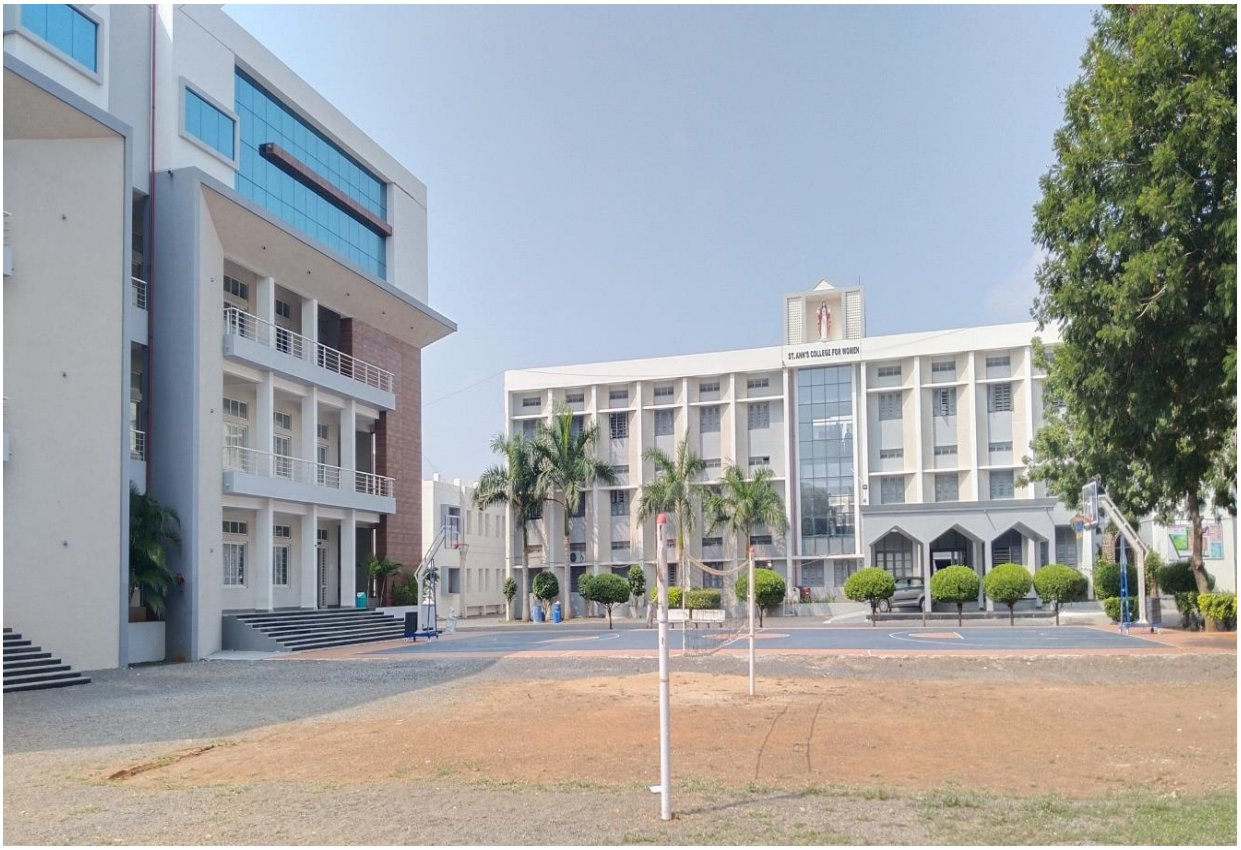


Criterion -I

1.3.1 Institution integrates Cross Cutting Issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainabilityinto the curriculum.

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the curriculum.

S.No	File Description	Document
1	Syllabus Including Cross-Cutting Issues	PDF
2	Human Values and Professional Ethics	PDF
3	Gender Sensitization	PDF
4	Environment and Sustainability	PDF
5	Guidelines - APSCHE	PDF
6	List of Courses with Professional Ethics, Gender, Human Values, Environment and Sustainability	PDF
7	Topics in Syllabus Related to Professional Ethics, Gender, Human Values, Environment and Sustainability	PDF
8	Events Related to Professional Ethics, Gender, Human Values, Environment and Sustainability	PDF
9	Certificates of Quality Audits on Environment and Sustainability	PDF

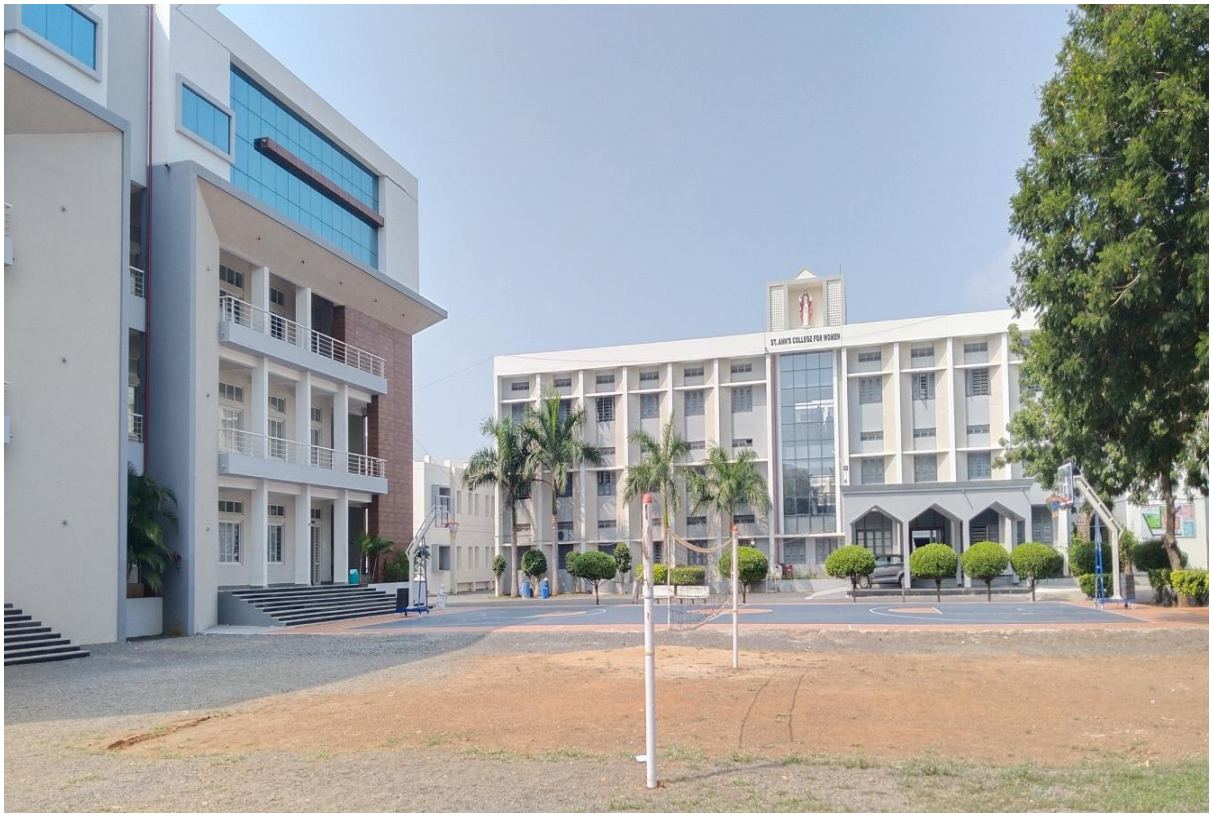
ST.ANN'S COLLEGE FOR WOMEN

(Affiliated to Acharya Nagarjuna University,
Recognised under 2(f) UGC Act 1956, New Delhi)
AMARAVATHI ROAD, GORANTLA, GUNTUR – 522034, A. P

Email: st_anns_coll@yahoo.co.in Website: www.stannscollegeforwomen.org

Criterion: I

Metric: 1.3.1



Criterion –I

1.3.1 SYLLABUS INCLUDING CROSS CUTTING ISSUES

W.E.F 2015-16 & 2020-21

Andhra Pradesh State Council of Higher Education : Hyderabad

Foundation Courses under CBCS; Revised Syllabi

For All Degree Programmes

w.e.f. 2015-16 (Revised in May 2016)

As a part of curriculum upgradation, Semester and CBCS systems were introduced in all affiliated colleges in Andhra Pradesh from 2015-16. As an effective part of the overall curriculum, Foundation Courses were introduced with an aim to prepare students in the required basic skills and values in diverse areas. Hence, courses covering a broad spectrum were introduced. The following are the revised syllabi of the ten Foundation Courses, each with 30 teaching hours per semester and worth 2 credits. They were spread in the first four semesters.

Sno	Foundation Course	Sem	Hrs/ Week	Total Hrs	Credits	Marks
1	Human Values and Professional Ethics	I	2	30	2	50
2	Environmental Studies	I	2	30	2	50
3	Information and Communication Technology (ICT) – 1	II	2	30	2	50
4	Communication and Soft Skills (CSS)-1	II	2	30	2	50
5	Information and Communication Technology (ICT) – 2	III	2	30	2	50
6	Communication and Soft Skills (CSS)-2	III	2	30	2	50
7	Communication and Soft Skills (CSS)-3	IV	2	30	2	50
8	Analytical Skills	IV	2	30	2	50
9	Entrepreneurship	IV	2	30	2	50
10	Leadership Education	IV	2	30	2	50

The objective of the foundation courses is to create awareness among students and train them in the skills of the course concerned. Hence, teaching learning may be focused, and limited to the hours prescribed.

Foundation Course - 1

I. HUMAN VALUES AND PROFESSIONAL ETHICS

Common for BA/BCom/BSc/BBA/BCA Programmes

I Semester (Total 30 Hrs)

Unit-I : Introduction to Value Education

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Self-Exploration as a means of Value Education
4. Happiness and Prosperity as parts of Value Education

Unit-II : Harmony in the Human Being

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body
3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body

Unit-III : Harmony in the Family and Society and Harmony in the Nature

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour

Unit-IV : Social Ethics

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct

Unit-V : Professional Ethics

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

Reference Books :

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009
7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

Foundation Course - 2

ENVIRONMENTAL STUDIES

Common for BA/BCom/BSc/BBA/BCA Programmes

Semester - I (Total 30 Hours)

Unit-I : Natural Resources — 6 Hrs

Definition, scope and importance. Need for public awareness.
Brief description of;

- Forest recourses: Use and over-exploitation. Deforestation; timber extraction, mining, dams. Effect of deforestation environment and tribal people
- Water resources: Use and over–utilization. Effects of over utilization of surface and ground water. Floods, drought.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- Food resources: World food problems, Effects of modern agriculture; fertilizer-pesticide, salinity problems.

Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.

- Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification

Unit-II : Ecosystems, Biodiversity and its conservation — 6 Hrs

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Food chains, food webs and ecological pyramids
- Characteristic features of the following ecosystems:-
  Forest ecosystem, Desert ecosystem, Aquatic ecosystem.
- Value of biodiversity: Consumptive use, productive use. Biodiversity in India.
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity

Unit-III : Environmental Pollution — 6 Hrs

- Definition
- Causes, effects and control measures of :-
  a. Air pollution
  b. Water pollution
  c. Soil pollution
  d. Noise pollution
- Solid waste management; Measures for safe urban and industrial waste disposal
- Role of individual in prevention of pollution
- Disaster management: Drought, floods and cyclones

Unit-IV : Social Issues and the Environment **6 Hrs**

- From Unsustainable to Sustainable development
- Water conservation, rain water harvesting, watershed management.
- Climate change, global warming, ozone layer depletion,
- Environment protection Act
- Wildlife Protection Act, Forest Conservation Act

Unit-V : Human Population and the Environment **6 Hrs**

- Population explosion, impact on environment.
- Family welfare Programme
- Environment and human health
- Women and Child Welfare
- Value Education
- Role of Information Technology in Environment and humanhealth.

Reference Books :

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G. Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
2. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
3. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.

Andhra Pradesh State Council of Higher Education

B.Sc. Chemistry Syllabus under CBCS

w.e.f. 2015-16 (revised in April 2016)

Structure of Chemistry Syllabus Under CBCS

YEAR	SEMESTER	PAPER	TITLE	MARKS	CREDITS
I	I	I	Inorganic and Organic	100	03
			Practical – I	50	02
	II	II	Physical and General Chemistry	100	03
			Practical – II	50	02
II	III	III	Inorganic and organic	100	03
			Practical – III	50	02
	IV	IV	Spectroscopy and Physical	100	03
			Practical – IV	50	02
III	V	V	Inorganic ,Organic and Physical Chemistry	100	03
			Practical – V	50	02
		VI	Inorganic ,Organic and Physical Chemistry	100	03
			Practical – VI	50	02
	* Any one Paper from VII A, B and C ** Any one cluster from VIII, A, B and C	VII (A)*	Elective	100	03
			Practical - VII A	50	02
		VII (B)*	Elective	100	03
			Practical - VII B	50	02
		VII (C)*	Elective	100	03
			Practical - VII C	50	02
		VIII (A)**	**Cluster Electives - I :** VIII-A-1	100 100	03 03
		VIII (B)**	**Cluster Electives - II ::** VIII-B-1	100 100	03 03
		VIII (C)**	**Cluster Electives - III ::** VIII-C-1	100 100	03 03

ELECTIVE PAPER – VII-(B) : ENVIRONMENTAL CHEMISTRY

45 hrs (3 h / w)

UNIT-I

Introduction **9h**

Concept of Environmental chemistry-Scope and importance of environment in now a days – Nomenclature of environmental chemistry – Segments of environment - Natural resources – Renewable Resources – Solar and biomass energy and Nonrenewable resources – Thermal power and atomic energy – Reactions of atmospheric oxygen and Hydrological cycle.

UNIT-II

Air Pollution **9h**

Definition – Sources of air pollution – Classification of air pollution – Acid rain – Photochemical smog – Green house effect – Formation and depletion of ozone – Bhopal gas disaster – Controlling methods of air pollution.

UNIT-III

Water pollution **9h**

Unique physical and chemical properties of water – water quality and criteria for finding of water quality – Dissolved oxygen – BOD, COD, Suspended solids, total dissolved solids, alkalinity – Hardness of water – Methods to convert temporary hard water into soft water – Methods to convert permanent hard water into soft water – eutrophication and its effects – principal wastage treatment – Industrial waste water treatment.

UNIT-IV

Chemical Toxicology **9h**

Toxic chemicals in the environment – effects of toxic chemicals – cyanide and its toxic effects – pesticides and its biochemical effects – toxicity of lead, mercury, arsenic and cadmium.

UNIT-V

Ecosystem and biodiversity

9h

Ecosystem

Concepts – structure – Functions and types of ecosystem – Abiotic and biotic components – Energy flow and Energy dynamics of ecosystem – Food chains – Food web – Tropic levels – Biogeochemical cycles (carbon, nitrogen and phosporus)

Biodiversity

Definition – level and types of biodiversity – concept - significance – magnitude and distribution of biodiversity – trends - biogeographical classification of india – biodiversity at national, global and regional level.

List of Reference books

1. Fundamentals of ecology by M.C.Dash
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir k. Banerji

SEMESTER-VI

ELECTIVE PAPER – VII-(C) GREEN CHEMISTRY

45 hrs (3 h / w)

UNIT-I **10h**

Green Chemistry: Introduction- Definition of green Chemistry, need of green chemistry, basic principles of green chemistry. Green synthesis- Evaluation of the type of the reaction i) Rearrangements (100% atom economic), ii) Addition reaction (100% atom economic). Organic reactions by Sonication method: apparatus required examples of Sono chemical reactions (Heck, Hundsdiecker and Wittig reactions).

UNIT-II **10h**

Selection of solvent: I) Aqueous phase reactions ii) Reactions in ionic liquids, Heckreaction, Suzuki reactions, epoxidation. iii) Solid supported synthesis

Super critical CO_2: Preparation, properties and applications, (decaffeination, dry cleaning)

UNIT-III **10h**

Microwave and Ultrasound assisted green synthesis: Apparatus required, examples of MAOS (synthesis of fused anthro quinones, Leukart reductive amination of ketones) - Advantages and disadvantages of MAOS. Aldol condensation-Cannizzaro reaction-Diels-Alder reactions-Strecker's synthesis

UNIT-IV **5h**

Green catalysis: Heterogeneous catalysis, use of zeolites, silica, alumina, supported

UNIT V **10h**

Examples of green synthesis / reactions and some real world cases: 1. Green synthesis of the following compounds: adipic acid , catechol , disodium imino di acetate (alternative Strecker's synthesis) 2. Microwave assisted reaction in water – Hoffmann elimination – methyl benzoate to benzoic acid – oxidation of toluene and alcohols – microwave assisted reactions in organic solvents. Diels-Alder reactions and decarboxylation reaction. 3. Ultrasound assisted reactions – sonochemical Simmons –Smith reaction(ultrasonic alternative to iodine)

Reference books:

1. Green Chemistry Theory and Practice. P.T.Anatas and J.C. Warner
2. Green Chemistry V.K. Ahluwalia Narosa, New Delhi.
3. Real world cases in Green Chemistry M.C. Cann and M.E. Connelly
4. Green Chemistry: Introductory Text M.Lancaster: Royal Society of Chemistry (London)
5. Green Chemistry: Introductory Text, M.Lancaster
6. Principles and practice of heterogeneous catalysis, Thomas J.M.,Thomas M.J., John Wile

6. Green Chemistry: Environmental friendly alternatives R S Sanghli and M.M.Srivastava, Narosa Publications

LABORATORY COURSE – VIIGREEN CHEMISTRY

Practical Paper – Elective VII C (at the end of semester VI) 30 hrs (2 h/W)

1. Determination of specific reaction rate of hydrolysis for methyl acetate catalysed by hydrogen ion at room temperature**.**

2. Determination of molecular status and partition coefficient of benzoicacidin Benzene and water.

3. Surface tension and viscosity of liquids.

4. Adsorption of acetic acid on animal charcoal, verification of Freundlisch isotherm.

Andhra Pradesh State Council of Higher Education

Curriculum of B.Sc Botany under CBCS

w.e.f. 2015-16 (Revised in April, 2016)

Year	*Semester*	*Paper*	*Title*	*Hours*	*Marks*	*Credits*
I	**I**	**I**	Microbial Diversity , Algae and Fungi	**4**	**100**	**03**
			Practical –I	**2**	**50**	**02**
	II	**II**	Diversity Of Archaegoniates & Anatomy	**4**	**100**	**03**
			Practical –II	**2**	**50**	**02**
II	**III**	**III**	Plant taxonomy &Embryology	**4**	**100**	**03**
			Practical –III	**2**	**50**	**02**
	IV	**IV**	Plant physiology & Metabolism	**4**	**100**	**03**
			Practical –IV	**2**	**50**	**02**
III	**V**	**V**	Cell Biology, Genetics &Plant breeding	**3**	**100**	**03**
			Practical –V	**2**	**50**	**02**
		VI	Plant Ecology & Phytogeography	**3**	**100**	**03**
			Practical –VI	**2**	**50**	**02**
	*Any one paper from (A), (B) and (C) can be selected **VI** **Any one cluster (Set of Three Papers) from VIII-A or VIII-B can be selected	**VII (A)***	Elective	**3**	**100**	**03**
			Lab	**2**	**50**	**02**
		VII (B)*	Elective			
			Lab			
		VII (C)*	Elective			
			Lab			
		** **VIII-A**	**Cluster Elective-A** **VIII-A-1** **VIII-A-2** **VIII-A-3** **Or**	**3** **3** **3** **2** **2** **2**	**100** **100** **100** **50** **50** **50**	**03** **03** **03** **02** **02** **02**
		** **VIII-B**	**Cluster Elective-B** **VIII-B-1** **VIII-B-2** **VIII-B-3**			

III B. Sc - SEMESTER- V: BOTANY SYLLABUS

PAPER-VI: PLANT ECOLOGY& PHYTOGEOGRAPHY

Total hours of teaching 60 hrs @ 3 hrs per week

UNIT – I. Elements of Ecology (12 hrs)

1. Ecology: definition, branches and significance of ecology.
2. Climatic Factors: Light, Temperature, precipitation.
3. Edaphic Factor: Origin, formation, composition and soil profile.
4. Biotic Factor: Interactions between plants and animals.

UNIT– II. Ecosystem Ecology (12 hrs)

1. Ecosystem: Concept and components, energy flow, Food chain, Food web, Ecological pyramids.
2. Productivity of ecosystem-Primary, Secondary and Net productivity.
3. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.

UNIT – II Population &Community Ecology (12 hrs)

1. Population -definition, characteristics and importance, outlines –ecotypes.
2. Plant communities- characters of a community, outlines – Frequency, density, cover,life forms, competition.
3. Interaction between plants growing in a community.

UNIT – IV Phytogeography (12 hrs)

1. Principles of Phytogeography, Distribution (wides, endemic, discontinuous species)
2. Phytogeographic regions of India.
3. Phytogeographic regions of World.
4. Endemism – types and causes

UNIT- V: Plant Biodiversity and its importance (12

1. Definition, levels of biodiversity-genetic, species and ecosystem.
2. Biodiversity hotspots- Criteria, Biodiversity hotspots of India.
3. Loss of biodiversity – causes and conservation (*In-situ* and *ex-situ* methods).
4. Seed banks - conservation of genetic resources and their importance

Suggested activity: Collection of different soils, studying their texture, observing polluted water bodies, student study projects, debates on man's activity on ecosystem and biodiversity conservation methods, visiting a nearest natural vegetation area. Visit to NGO, working in the field of biodiversity and report writing; to study Honey Bees and plants yielding honey.

Books for Reference:

1. Daubenmire, R.F. ( ): Plants & Environment (2nd Edn.,) John Wiley & Sons., New York
2. Puri, .G.S. (1960): Indian Forest Ecology (Vol.I & II) Oxford Book Co., New Delhi &Calcutta.
3. Billings, W.B. (1965): Plants and the Ecosystem Wadsworth Publishing Co., Inc., Belmont.
4. Misra, R. (1968): The Ecology work Book Oxford & INH Publishing Co., Calcutta
5. Odum E.P. (1971): Fundamentals of Ecology (2nd Edn.,) Saunders & Co., Philadelphia &Natraj Publishers, Dehradun.
6. Odum E.P. (1975): Ecology By Holt, Rinert & Winston.
7. Oosting, H.G. (1978): Plants and Ecosystem Wadworth Belmont.
8. Kochhar, P.L. (1975): Plant Ecology. (9th Edn.,) New Delhi, Bombay, Calcutta-226pp.,
9. Kumar, H.D. (1992): Modern Concepts of Ecology (7th Edn.,) Vikas Publishing Co., NewDelhi.
10. Kumar H.D. (2000): Biodiversity & Sustainable Conservation Oxford & IBH Publishing Co Ltd. New Delhi.
10. Newman, E.I. (2000): Applied Ecology Blackwell Scientific Publisher, U.K.
11. Chapman, J.L&M.J. Reiss (1992): ecology (Principles & Applications). CambridgeUniversity Press, U.K.
12. Cain, S.A . (1944): Foundations of Plant Geography Harper & Brothers, N.Y.
13. Mani, M.S (1974): Ecology & Biogeography of India Dr. W. Junk Publishers, The Haque
    Good, R. (1997): The Geography of flowering Plants (2nd Edn.) Longmans

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Andhra Pradesh State Council of Higher Education

B.Sc. PHYSICS SYLLUBUS UNDER CBCS

w.e.f. 2015-16 (Revised in April 2016)

First Semester
Paper I : Mechanics& Properties of Matter
Practical I (Lab-1)

Second Semester
Paper II: Waves & Oscillations
Practical 2 (Lab2)

Third Semester
Paper III: Wave Optics
Practical 3.(Lab 3)

Fourth Semester
Paper IV: Thermodynamics & Radiation Physics
Practical 4.(Lab 4)

Fifth Semester
Paper V: Electricity, Magnetism& Electronics
Paper VI: Modern Physics
Practical 5.(Lab 5)
Practical 6.(Lab 6)

Sixth Semester
PaperVII:Elective (One)
Paper VIII:Cluster Electives (Three)
Practical 7(Lab 7)
Practical 8.(Lab 8)

Proposed Electives in Semester - VI

Paper – VII (one elective is to be chosen from the following0
Paper VII-(A): Analog and Digital Electronics
Paper VII-(B): Materials Science
Paper VII-(C): Renewable Energy
Paper – VIII (one cluster of electives (A-1,2,3 or B-1,2,3 or C-1,2,3) to be chosen *preferably*relating to the elective chosen under paper – VII (A or B or C)

Cluster 1.

Paper VIII-A-1. Introduction to Microprocessors and Microcontrollers
Paper VIII-A-2.Computational Physics and Programming
Paper VIII-A-3.Electronic Instrumentation

Cluster 2

Paper VIII-B-1.Fundamentals of Nanoscience
Paper VIII-B-2.Synthesis and Characterization of Nanomaterials
Paper VIII-B-3.Applications of Nanomaterials and Devices

Cluster 3

Paper VIII-C-1.Solar Thermal and Photovoltaic Aspects
Paper VIII-C-2.Wind, Hydro and Ocean Energies
Paper VIII-C-3.Energy Storage Devices

B.Sc. (Physics) (Maths Combinations)

Scheme of instruction and examination to be followed w.e.f. 2015-2016

S. No	Semester	Title of the paper	Instruc-tion hrs/week	Duration of exam(hrs)	Max Marks (external)
		Thoery			
1	First	Paper I: Mechanics& Properties of Matter	4	3	75
2	Second	Paper II: Waves & Oscillations	4	3	75
3	Third	Paper III: Wave Optics	4	3	75
4	Fourth	Paper IV: Thermodynamics & Radiation Physics	4	3	75
5	Fifth	Paper V:Electricity, Magnetism& Electronics Paper VI: Modern Physics	4 4	3 3	75 75
6	Sixth	PaperVII :Elective (One) Paper VIII: Cluster Electives (Three)	4 4	3 3	75 75
		Practicals			
1	First	Practical 1	2	3	50
2	Second	Practical II	2	3	50
3	Third	Practical III	2	3	50
4	Fourth	Practical IV	2	3	50
5	Fifth	Practical V	2	3	50
6		Practical VI	2	3	50
7	Sixth	Practical VII	2	3	50
8		Practical VIII	2	3	50

Elective VII-(C) :(Renewable Energy)

Semester –VI
Elective Paper –VII-(C): Renewable Energy

No. of Hours per week: 04 **Total Lectures:60**

UNIT-I (12 hrs)

1. Introduction to Energy: Definition and units of energy, power, Forms of energy, Conservation of energy, second law of thermodynamics, Energy flow diagram to the earth. Origin and time scale of fossil fuels, Conventional energy sources, Role of energy in economic development and social transformation.

2. Environmental Effects: Environmental degradation due to energy production and utilization, air and water pollution, depletion of ozone layer, global warming, biological damage due to environmental degradation. Effect of pollution due to thermal power station, nuclear power generation, hydroelectric power stations on ecology and environment.

UNIT-II (12 hrs)

3. Global Energy Scenario: Energy consumption in various sectors, projected energy consumption for the next century, exponential increase in energy consumption, energy resources, coal, oil, natural gas, nuclear and hydroelectric power, impact of exponential rise in energy usage on global economy.

4. Indian Energy Scene: Energy resources available in India, urban and rural energy consumption, energy consumption pattern and its variation as a function of time, nuclear energy - promise and future, energy as a factor limiting growth, need for use of new and renewable energy sources.

UNIT-III (12 hrs)

5. Solar energy: Solar energy, Spectral distribution of radiation, Flat plate collector, solar water heating system, Applications, Solar cooker. Solar cell, Types of solar cells, Solar module and array, Components of PV system, Applications of solar PV systems.

6. Wind Energy: Introduction, Principle of wind energy conversion, Components of wind turbines, Operation and characteristics of a wind turbine, Advantages and disadvantages of wind mills, Applications of wind energy.

UNIT-IV (12 hrs)

7. Ocean Energy: Introduction, Principle of ocean thermal energy conversion, Tidal power generation, Tidal energy technologies, Energy from waves, Wave energy conversion, Wave energy technologies, advantages and disadvantages.

8. Hydrogen Energy: History of hydrogen energy - Hydrogen production methods - Electrolysis of water, Hydrogen storage options – Compressed and liquefied gas tanks, Metal hydrides; Hydrogen safety - Problems of hydrogen transport and distribution - Uses of hydrogen as fuel.

UNIT-V (12 hrs)

9. Bio-Energy:

Energy from biomass – Sources of biomass – Different species – Conversion of biomass into fuels – Energy through fermentation – Pyrolysis, gasification and combustion – Aerobic and anaerobic bio-conversion – Properties of biomass – Biogas plants – Types of plants – Design and operation – Properties and characteristics of biogas.

References:

1. Solar Energy Principles, Thermal Collection &Storage, S.P.Sukhatme: Tata McGraw Hill Pub., New Delhi.
2. Non-Conventional Energy Sources, G.D.Rai, New Delhi.
3. Renewable Energy, power for a sustainable future, Godfrey Boyle, 2004,
4. The Generation of electricity by wind, E.W. Golding.
5. Hydrogen and Fuel Cells: A comprehensive guide, Rebecca Busby, Pennwell Corporation
6.Hydrogen & Fuel Cells: Emerging Technologies & Applications, B.Sorensen, Acad Press
7. Non-Conventional Energy Resources by B.H. Khan, Tata McGraw Hill Pub., 2009.
8. Fundamentals of Renewable Energy Resources byG.N.Tiwari, M.K.Ghosal, Narosa Pub., 2007.

Elective Paper-VII-C: Practical: Renewable Energy
2hrs/Week

Minimum of 6 experiments to be done and recorded

1. Preparation of copper oxide selective surface by chemical conversion method.
2. Performance testing of solar cooker.
3. Determination of solar constant using pyrheliometer.
4. Measurement of I-V characteristics of solar cell.
5. Study the effect of input light intensity on the performance of solar cell.
6. Study the characteristics of wind.

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Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUSFOR B.A/B.Com/B.Sc COURSESunder CBCS
w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER – I

1. Every unit shall state the objectives and expected deliverables.
2. Every lesson shall have
   - i) Questions on subject comprehension, paragraph, short note, single sentence answer types
   - ii) Exercises on vocabulary, syntax, and pronunciation
   - iii) Language exercises shall include exercises in paraphrasing, note-making and report writing wherever possible
   - iv) Pre -reading and post- reading activities.

Unit – I PROSE

1. A.P. J. Abdul Kalam: The Knowledge Society (from *Ignited Minds*)
2. NgugiWaThiong'o: The Language of African Literature (from *Decolonizing the Mind*)

Unit – II POETRY

1. Robert Frost: The Road Not Taken
2. Nissim Ezekiel: Night of the Scorpion

Unit – III SHORT STORY

1. Mulk Raj Anand : The Lost Child
2. Henry Lawson: The Loaded Dog

Unit – IV ONE - ACT PLAY

William Shakespeare: The Merchant of Venice (Court Scene – Act IV Scene -1)

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. Single Sentence Answer Questions on Vocabulary (spelling), sound(pronunciation), sense (meaning), and syntax (usage)
2. Classroom Activity
   - i. Exercises in Articles and Prepositions
   - ii. Exercises in Tenses, Interrogatives and Question tags

Note: In classroom instruction it may be ensured that the theoretical and practical components of CSS-I complement the language activity in this semester.

Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUS FOR B.A/B.Com/B.Sc COURSESunder CBCS

w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER – II

Unit – I PROSE

1. J. B.S Haldane: The Scientific Point of View
2. A.G. Gardiner : On Shaking Hands

Unit – II POETRY

1. John Keats: Ode to Autumn
2. Kishwar Naheed : I am not that Woman (from *An Anthology of Commonwealth Poetry* edited by C.D. Narasimhaiah)

Unit –III SHORT STORY

1. Ruskin Bond : The Boy Who Broke the Bank
2. R. K. Narayan : Half a Rupee Worth

Unit – IV ONE ACT PLAY

Anton Chekhov: The Proposal

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. Transformation of Sentences (Voice, Speech and Degrees)
   - ii. Dialogue Practice (Oral)
   - iii. Listening Comprehension

2. Classroom Activity
   - i. Guided Composition
   - ii. Dialogue Writing
   - iii. Reading Comprehension

Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUSFOR B.A/B.Com/B.Sc COURSESunder CBCS

w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER –III

Unit – I PROSE

1. M.K. Gandhi: Shyness My Shield (from *The Story of My Experiments with Truth)*
2. Alexis C. Madrigal: Why People Really Love Technology: An Interview with Genevieve Bell

Unit – II POETRY

1. Gabriel Okara: Once upon a Time
2. Seamus Heaney: Digging

Unit – III SHORT STORY

1. JhumpaLahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved Charioteer

Unit – IV ONE ACT PLAY

GurajadaAppa Rao: *Kanyasulkam*, translated by C. Vijayasree& T. VijayaKumar(Acts I & II)

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. JAM Sessions
   - ii. Note Taking
   - iii. Reporting for the Media
   - iv. Expansion of an idea
2. Classroom Activity
   - i. Transformation of sentences (Simple-Complex-Compound Sentences)
   - ii. Note Making
   - iii. Report Writing
   - iv. Writing for the Media

Note: ***In classroom instruction it may be ensured that the theoretical and practical components of CSS-II complement the language activity in this semester.***

LIST OF LIFE SKILL COURSES

Semester	No. of Courses	Choices	Preferred Teaching Dept.
I	**01**	Computer Applications	Computers
		Entrepreneurship	Commerce
II	**01**	Information and Communication Technology	Computers
		Indian Culture and Science	History/Telugu
		Elementary Statistics	Statistics/Maths/Economics/ Commerce
III	**02**	Health and Hygiene	Zoology/Botany
		Personality Development and Leadership	English/ Any Dept
		Analytical Skills	Maths/Statistics
		Environmental Education	Botany/Zoology/Environmental Sciences/Any Dept.

List of Skill Development Courses along with their Semester-wise allotment with choices. Preferred Teaching Departments are given in the parenthesis.

Sem	No. of Courses	**Stream – A (Arts)**	**Stream – B (Commerce)**	**Stream – C (Science)**
I	**01**	Tourism Guidance (History) Public Relations (Pol Sci /English)	Secretaryship Insurance Promotion	Electrical Appliances (Physics) Plant Nursery (Botany)
II	**02**	Journalistic Reporting (English) Survey & Reporting (Economics/History) Social Work Methods (Pol Sci) Performing Arts (Telugu)	Agricultural Marketing Business Communication (English) Advertising Logistics & Supply Chain	Solar Energy (Physics) Fruit & Vegetable Preservation (Botany) Dairy Techniques (Zoology) Food Adulteration (Chemistry)
III	**01**	Financial Markets (Economics) Disaster Management (English /Telugu)	Online Business Retailing	Environment Audit (Chemistry) Poultry Farming (Zoology)

A.P. STATE COUNCIL OF HIGHER EDUCATION
B A, B Com & B Sc Programmes

Revised CBCS w.e.f. 2020-21
SKILL DEVELOPMENT COURSES

SCIENCE STREAM

Syllabus of
ENVIRONMENTAL AUDIT
Total 30 hrs (02h/wk), 02 Credits & Max 50 Marks

Learning Outcomes:
By successful completion of the course, students will be able to;

1. *Understand the basic concepts Environmental health*
2. *Learn and identify the industrial pollution*
3. *Explain the highlights in the regulatory aspects of Environmental law and policy*
4. *Understand the various phases of Environmental Audit*

UNIT – I

Industrial Pollution and its effects 06h

Climate – Weather and Air Pollution – Classification of water and water bodies – Water Quality Parameters – Water Pollution – Sources – Classification, nature and Toxicology of water pollutants. - Soil parameters –Soil pollution and impacts – Soil conservation

UNIT - II

Environmental Law & Policy: 09h

Highlights of the Acts, Institutional arrangements for: (1) The Water (Prevention & Control of Pollution) Act, 1974 amended in 1988; (2) The Air (Prevention and Control of Pollution) Act, 1981 amended in 1987; (3) The Water (Prevention and Control of Pollution) Cess Act, 1977 amended in 1991; (4) The Environment (Protection) Act, 1986; (5) The Public Liability Insurance Act, 1991; – Indian Policy Statement for abatement of Pollution, 1992.

UNIT - III

Environmental Audit - Scope & Requisites: 10h

Environmental Audit: Definition; Objectives; Scope, Coverage - GOI Notification on Environmental Audit - Benefits to Industry. Reporting Environmental Audit Findings - Importance of Environmental Audit Report to industry, public and the governments.

Co-curricular Activities Suggested: 05h

1. Visit to understand Institutional arrangements and functioning of Pollution Control Boards.
2. Visiting different Ecosystems
3. **Soil analysis**: Determination of soil type and texture, pH, Soil Moisture, Nitrogen, Potassium and Phosphorous.
4. **Water analysis:** Determination of pH, Dissolved solids and suspended solids, Dissolved Oxygen, COD, BOD.
5. Assignments, Group discussion, Quiz etc.

Reference books and websites:

1. Environmental Education in India by K.R. Gupta
2. Environmental Legislation in India by K.R. Gupta
3. https://parivesh.nic.in/
4. https://www.cpcb.nic.in/
5. https://www.free-ebooks.net/environmental-studies-academic

AP State Council of Higher Education

Revised Syllabus under CBCS Pattern
(w.e.f. 2020-'21 Academic Year)

A Mandatory Course for BA/BCom/BSc etc.

ENVIRONMENTAL EDUCATION

(Total hours of Teaching – 30 Hrs. @ 02 Hrs. per Week)

Course objective: A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.

Learning outcomes: On completion of this course the students will be able to …..

1. Understand the nature, components of an ecosystem and that humans are an integral part of nature.
2. Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
5. Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

Unit 1: Environment andNatural Resources **06 Hrs.**

1. Multidisciplinary nature of environmental education; scope and importance.
2. Man as an integral product and part of the Nature.
3. A brief account of land, forest and waterresources in India and their importance.

4. Biodiversity : Definition; importance of Biodiversity - ecological,consumptive, productive, social, ethical and moral, aesthetic, and option value.
5. Levels of Biodiversity: genetic, species and ecosystem diversity.

Unit-2: Environmental degradation and impacts **10Hrs**

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable energy resources, their utilization and influences.
5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks.
6. Green house effect - global warming; ocean acidification, ozone layer depletion, acid rains and impacts on human communities and agriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

Unit 3: Conservation of Environment **10 Hrs**

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; afforestation.
2. Control measures for various types of pollution; use of renewable and alternate sources of energy.
3. Solid waste management: Control measures of urban and industrial waste.
4. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
5. Environment Laws: Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act.
6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

Suggested activities to learner: (4 hours)

1. Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc
2. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
3. Study of common plants, insects, birds and basic principles of identification.
4. Study of simple ecosystems-forest, tank, pond, lake,mangroves etc.
5. Case study of a Forest ecosystem or a pond ecosystem.

Suggested text book :

- ErachBarucha (2004) *Text book of Environmental Studies for Undergraduate courses* (Prepared for University Grants Commmission) Universities Press.
- PurnimaSmarath (2018) *Environmental studies* Kalyani Publishers, Ludhiana

Reference books :

- Odum, E.P., Odum, H.T. & Andrews, J. (1971) *Fundamentals of Ecology*. Philadelphia: Saunders.
- Pepper, I.L., Gerba, C.P. &Brusseau, M.L. (2011). *Environmental and Pollution Science*. Academic Press.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) *Environment. 8th edition*. John Wiley & Sons.
- Singh, J.S., Singh, S.P. and Gupta, S.R. (2014) *Ecology, Environmental Science and Conservation.* S. Chand Publishing, New Delhi.
- Sengupta, R. (2003) Ecology and economics: An approach to sustainable development. OUP.
- Wilson, E. O. (2006) *The Creation: An appeal to save life on earth.* New York: Norton.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles of Conservation Biology.* Sunderland: Sinauer Associates,

A.P. STATE COUNCIL OF HIGHER EDUCATION
B.A, B.Com & B.Sc. PROGRAMMES

Revised CBCS w.e.f. 2020-21
SKILL DEVELOPMENT COURSES

Science Stream

Syllabus of

SOLAR ENERGY

Total 30 hrs (02h/wk), *02 Credits & Max Marks: 50*

Learning Outcomes:
After successful completion of the course, students will be able to:

1. *Acquire knowledge onsolarradiation principles with respect to solar energy estimation.*
2. *Get familiarized with various collecting techniques of solar energy and its storage*
3. *Learn the solar photovoltaic technology principles and different types of solar cells for energy conversion and different photovoltaic applications.*
4. *Understand the working principles of several solar appliances like Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses*

SYLLABUS:

UNIT-I – Solar Radiation: (6 hrs)

Sun as a source of energy, Solar radiation, Solar radiation at the Earth's surface, Measurement of Solar radiation-Pyroheliometer, Pyranometer, Sunshine recorder, Prediction of available solar radiation, Solar energy-Importance, Storage of solar energy, Solar pond

UNIT-II – Solar Thermal Systems: (10 hrs)

Principle of conversion of solar radiation into heat, Collectors used for solar thermal conversion: Flat plate collectors and Concentrating collectors, Solar Thermal Power Plant, Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses.

UNIT-III – Solar Photovoltaic Systems: (10 hrs)

Conversion of Solar energy into Electricity - Photovoltaic Effect, Solar photovoltaic cell and its working principle, Different types of Solar cells, Series and parallel connections, Photovoltaic applications: Battery chargers, domestic lighting, street lighting and water pumping

Co-curricular Activities (Hands on Exercises): (04 hrs)
[Any four of the following may be taken up]

1. *Plot sun chart and locate the sun at your location for a given time of the day.*
2. *Analyse shadow effect on incident solar radiation and find out contributors.*
3. *Connect solar panels in series & parallel and measure voltage and current.*
4. *Measure intensity of solar radiation using Pyranometer and radiometers.*
5. *Construct a solar lantern using Solar PV panel (15W)*
6. *Assemble solar cooker*
7. *Desigining and constructing photovoltaic system for a domestic house requiring 5kVA power*
8. Assignments/Model Exam.

Reference Books:

1. Solar Energy Utilization, G. D. Rai, Khanna Publishers
1. Solar Energy- Fundamentals, design, modeling & applications, G.N. Tiwari, Narosa Pub., 2005.
2. Solar Energy-Principles of thermal energy collection & storage, S.P. Sukhatme, Tata Mc-Graw Hill Publishers, 1999.
3. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
4. Science and Technology of Photovoltaics, P. Jayarama Reddy, BS Publications, 2004.

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

(SYLLABUS)

Learning Outcome:

On completion of this course, the UG students will be able to

- ✓ Understand the significance of value inputs in a classroom and start applying them in their life and profession
- ✓ Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
- ✓ Understand the value of harmonious relationship based on trust and respect in their life and profession
- ✓ Understand the role of a human being in ensuring harmony in society and nature.
- ✓ Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

UNIT: 1 Introduction – Definition, Importance, Process & Classifications of Value Education

- ❖ Understanding the need, basic guidelines, content and process for Value Education
- ❖ Understanding the thought-provoking issues; need for Values in our daily life
- ❖ Choices making – Choosing, Cherishing & Acting
- ❖ Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 Harmony in the Family – Understanding Values in Human Relationships

- ✓ Understanding harmony in the Family- the basic unit of human interaction
- ✓ Understanding the set of proposals to verify the Harmony in the Family;
- ✓ Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship
- ✓ Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.
- ✓ Understanding the Problems faced due to differentiation in Relationships
- ✓ Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals
- ✓ Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family.

UNIT: 3Professional Ethics in Education

- ✓ Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.
- ✓ Understanding the concepts; Positive co-operation, Respecting the competence of other professions.
- ✓ Understanding about Taking initiative and promoting the culture of openness.
- ✓ Depicting Loyalty towards Goals and objectives.

Text Books:

R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education.

References:

- Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, U
- E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
- Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
- A Nagraj, 1998, Jeevan Vidya EkParichay, Divya Path Sansthan, Amarkantak.
- P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
- A N Tripathy, 2003, Human Values, New Age International Publishers.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam.

Co-curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

BUS-3.3(R22): BUSINESS ETHICS & CORPORATE GOVERNANCE

COURSE OUTCOMES:
On successful completion of the course the learner will be able to:

- Describe the basic Ethical Theories
- Explain in detailEthics in functional areas such as finance, marketing, HR, IT, etc.
- It helps the students to understand the Corporate Social Responsibility
- It enables them to analyze and understand the corporate governance

Unit- I: Concept of Ethics: Meaning and definition of Ethics – Ethical Theories – Values – Need for Ethics and Values – Indian Value System – Various approaches to Ethics.

Unit-II: Business Ethics: Concept, meaning and definition of Business Ethics – Ethical corporate behavior – Ethical decision making – Conflicts in decision making from the legal and moral points of view. Work Ethics: Nature and scope. Ethical dilemma. Ethics in functional areas such as finance, marketing, HR, IT, etc.

Unit- III: Corporate Social Responsibility: Corporate Social Responsibility (CSR) & significance of CSR in business. CSR principles and strategies for business organizations. Best practices in CSR. Orienting management education towards ethical behavior.

UNIT- IV: Corporate Governance: Meaning and definition of corporate governance – Corporate management structure for corporate governance – Boards of Directors – Responsibilities of Boards of Directors – Legal requirements for Boards of Directors with regard to Corporate Governance – Morale responsibilities of Boards of Directors

UNIT- V: Corporate Governance in Global Scenario: Corporate governance requirements in the ever changing global scenario. Global practices: Cadbury report – OECD Committee recommendations. Desirable corporate governance in India – a Code. Summary of the SEBI Committee –report of the Consultative Group of Directors of Banks / Financial Institutions – Summary of Naresh Chandra Committee on Corporate Audit and Governance. Towards developing a best corporate governance system in an organization.

BUS 3.3.1(R22): CASE STUDY PRESENTATION OF CSR/ETHICAL PRACTICES OF COMPANIES

Suggested Books:

1. S. Singh, Corporate Governance: Global Concepts & Practices, Excel Books, New Delhi.
2. Sherlekar, Ethics in Management, Himalaya Publishing House, New Delhi.
3. Chakravarthy, S.K. Foundations of Management Work – Contribution from Indian Thought, Himalaya Publishing House, New Delhi.
4. Satheesh Kumar, Corporate Governance, Oxford University Press.
5. Prabakaran S, Business Ethics and Corporate Governance, Excel Books, New Delhi.
6. A.B Rao, Business Ethics and Professional Values, Excel Books, New Delhi.
7. Fernando, Business Ethics an Indian Perspective, Pearson

I SEMESTER

CONTENTS

विषयानुक्रमणिका

CBCS SEMESTER WISE SYLLABUS

Part I (B) Subject : SANSKRIT

SEMESTER – II

PAPER – II : POETRY, PROSE & GRAMMAR.

UNIT – I OLD POETRY:

1. "Indumateeswayamvaram", Raghuvamsam of kalidasa, 6thcanto, Chowkhamba krishadas academy, Varanasi 2012.
2. "Deekshaapradanam", Buddacharitam of Aswagosha, 16thcanto. Selected verses.

UNIT – II MODERN POETRY:

1. "Gangavataranam", Bhojas Champu Ramayanam, Balakanda.
2. "Mohapanodaha", 4th cant. Dharma Souhrudam by P.Pattabhi Ramarao, , Published by Author, Ramanth Nagar.
3. "VandeKasmeerabharatam", by Doolypala Ramakrishna from Samskrita pratibha, sahitya academy , New Delhi -2018.

UNIT – III PROSE:

1. "Avantisundarikatha", 5th Chapter. Dasakumara Charitam, Purva peetika
2. "Charudattacharitam", Bhasakathasaraha by Y.Mahalingasastry

UNIT - IV GRAMMAR:

1. DECLENSIONS Nouns ending in vowels
   Nadee, Janu, vadhoo, Matru, Phala, Vaari & Madhu.
2. CONJUGATIONS
   III Conjugation- Yudh, IV Conjugation- Ish, VIII Conjugation- Likh, Kru, IX Conjugation-Kreen X, Conjugation-Kath, Ram, Vand.

UNIT – V GRAMMAR:

1. SANDHI - Halsandhi - Latva, Jastva
   -Visarga sandhi- Utva, Visargalopa, Rephadesa, Ooshma.

2. SAMASA
   Avyayeebhava, Bahruvrihi

బి.ఎ.,బి.కాం.,బి.ఎస్సి. డిగ్రీ మొదటి సంవత్సరం

ప్రథమ భాష-తెలుగు-పాఠ్య ప్రణాళిక - 2015-2016 నుండి అమలులోకి వస్తుంది

సెమిస్టర్-I 2016-17

ప్రాచీన కవిత్వం

I నన్నయ - గంగాశంతనుల కథ

ఆంధ్రమహాభారతం-ఆదిపర్వం-నాల్గవ ఆశ్వాసం (120-165)

"నరవరుడగు శంతనునకు" నుండి "దివ్వ భూషణాలంకృత" వరకు

II తిక్కన- ద్రౌపది పరిదేవనం-ఆంధ్రమహాభారతం-ఉద్యోగపర్వం-తృతీయ ఆశ్వాసం (100-125)

"ధర్మనందను పలుకులు" నుండి "అని యూఅడిలగ బలికిన" వరకు

III ఆధునిక కవిత్వం

(అ) గురజాడ - కన్యక

(ఆ) శ్రీశ్రీ - దేశచరిత్రలు

IV కథానికలు

(అ) పాపినేని శివశంకర్ - చింతల తోపు

(ఆ) బండి నారాయణస్వామి - సావుకూడు

V వ్యాకరణం

(అ) సంధులు - సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, గుగాగమ, టుగాగమ, ఆమ్రేడిత, అత్వ, ఇత్వ సంధులు.

(ఆ) సమాసాలు- తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి మొదలైనవి

(ఇ) అక్షర దోషాలు- దోషాలు సరిదిద్ది సాధు రూపాలు రాయాలి

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Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి - సాయుజ్యము

శ్రీకాళహస్తి మహాత్మ్యము - ద్వితీయాశ్వాసం (109-139)

త్రేతాంబుననొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి- సుభద్రా పరిణయం

విజయ విలాసం - 3వ ఆశ్వాసం - (93-139)

"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి

"తేరెక్కి దంపతులరుగ" వరకు.

II ఆధునిక కవిత్వం

(అ) జాషువా - పిరదౌసి లేఖ

("ఆ సుల్తాను" ... నుండి "అనుచు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం - 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు

("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)

(కవితా వైజయంతి పద్య సంకలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి - నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ- అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని - బతుకాట

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు - ఈనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి నేపథ్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికల ఆధారంగా సేకరించండి.

పాఠ్య ప్రణాళిక

యూనిట్-I

రాజనీతి - సంస్కృతం

మహాభారతం-సభాపర్వం-ప్రథమాశ్వాసం-(26-57 పద్యాలు)

యూనిట్-II

దక్షయజ్ఞం - నన్నెచోడుడు

కుమారసంభవం-ద్వితీయాశ్వాసం-(49-86 పద్యాలు)

యూనిట్-III

ధౌమ్య ధర్మోపదేశము - తిక్కన

మహాభారతం-విరాటపర్వం-ప్రథమాశ్వాసం-(116-146) పద్యాలు

యూనిట్-IV

పలనాటి బెబ్బులి - శ్రీనాథుడు (పలనాటి వీరచరిత్ర-ద్విపద కావ్యం పుట 108-112
'బాలచంద్రుడు భీమంబగు సంగ్రామం బొనర్చుట.. (108)..
..... వెఱగంది కుంది' (112) సం. అక్కిరాజు ఉమాకాంతం
ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్-V

సీతారామ సంవాదం - మొల్ల

రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

✦వ్యాకరణం

సంధులు: ఉత్వ, త్రిక, ద్రుతప్రకృతిక, ప్రగాగమ, ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జశ్త్వ, అనునాసిక సంధులు

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలు:

అర్థాలంకారాలు : ఉపమ, ఉత్ప్రేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరన్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు : అనుప్రాస (వృత్యనుప్రాస, ఛేకానుప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

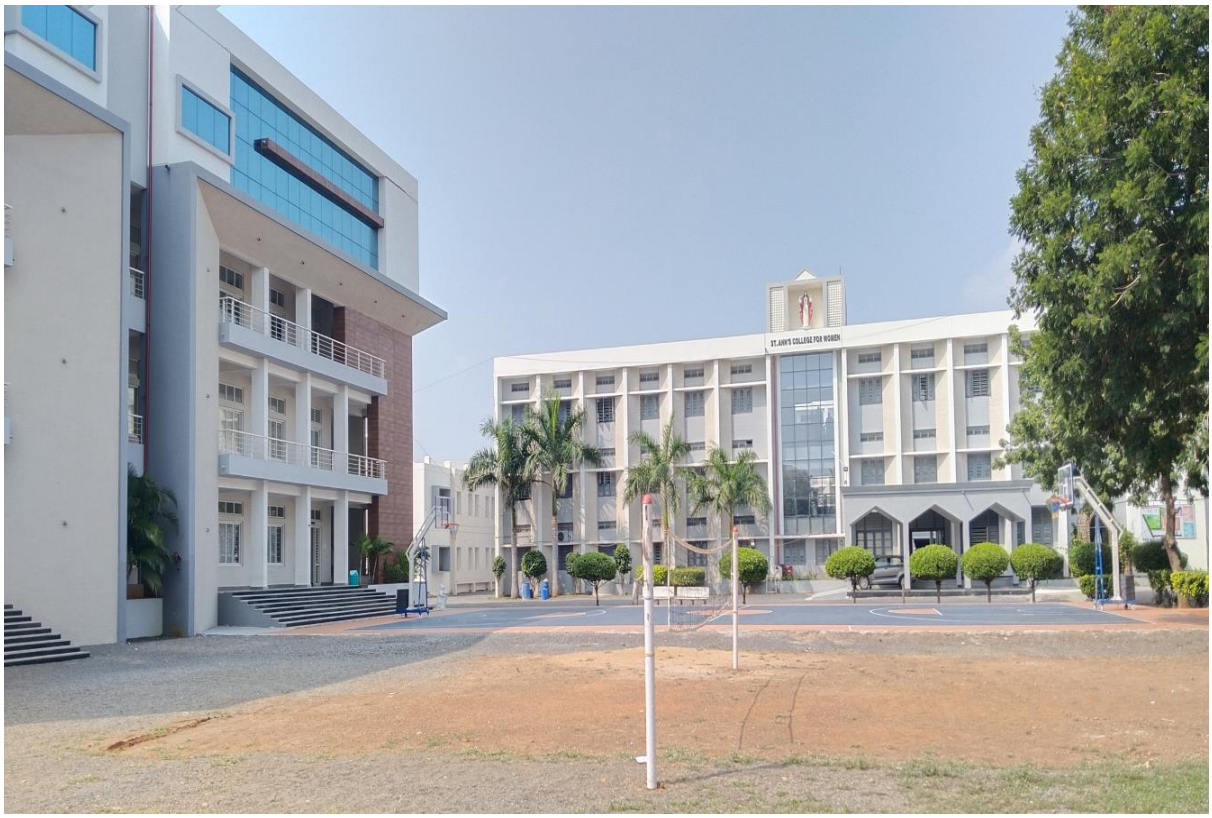
ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము:

జాతులు : కందం, ద్విపద, ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

ST. ANN'S COLLEGE FOR WOMEN ★ GORANTLA, GUNTUR ★ Affiliated to Acharya Nagarjuna University

PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034



Criterion –I

1.3.1 HUMAN VALUES & PROFESSIONAL ETHICS

w. e. f 2015-2016 & w. e. f 2020-2021

Foundation Course - 1

I. HUMAN VALUES AND PROFESSIONAL ETHICS

Common for BA/BCom/BSc/BBA/BCA Programmes

w. e f 2015-2016

I Semester (Total 30 Hrs)

Unit-I : Introduction to Value Education

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Self-Exploration as a means of Value Education
4. Happiness and Prosperity as parts of Value Education

Unit-II : Harmony in the Human Being

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body
3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body

Unit-III : Harmony in the Family and Society and Harmony in the Nature

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour

Unit-IV : Social Ethics

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct

Unit-V : Professional Ethics

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

Reference Books :

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009
7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A Statutory body of the Government of Andhra Pradesh)

3rd, 4th and 5thfloors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road,
Atmakur (V), Mangalagiri(M), Guntur-522 503, Andhra Pradesh
Web: www.apsche.org **Email**: acapsche@gmail.com

SYLLABUS OF HUMAN VALUES PROFESSIONAL ETHICS AS PART OF LIFE SKILLS COURSES UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

(SYLLABUS)

Learning Outcome:

On completion of this course, the UG students will be able to

- ✓ Understand the significance of value inputs in a classroom and start applying them in their life and profession
- ✓ Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
- ✓ Understand the value of harmonious relationship based on trust and respect in their life and profession
- ✓ Understand the role of a human being in ensuring harmony in society and nature.
- ✓ Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

UNIT: 1 Introduction – Definition, Importance, Process & Classifications of Value Education

- ❖ Understanding the need, basic guidelines, content and process for Value Education
- ❖ Understanding the thought provoking issues; need for Values in our daily life
- ❖ Choices making – Choosing, Cherishing & Acting
- ❖ Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 Harmony in the Family – Understanding Values in Human Relationships

- ✓ Understanding harmony in the Family- the basic unit of human interaction
- ✓ Understanding the set of proposals to verify the Harmony in the Family;
- ✓ Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship
- ✓ Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.
- ✓ Understanding the Problems faced due to differentiation in Relationships
- ✓ Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals
- ✓ Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family.

UNIT: 3 Professional Ethics in Education

- ✓ Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.
- ✓ Understanding the concepts; Positive co-operation, Respecting the competence of other professions.
- ✓ Understanding about Taking initiative and promoting the culture of openness.
- ✓ Depicting Loyalty towards Goals and objectives.

Text Books:

R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education.

References:

- Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, U
- E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
- Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
- A Nagraj, 1998, Jeevan Vidya EkParichay, Divya Path Sansthan, Amarkantak.
- P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
- A N Tripathy, 2003, Human Values, New Age International Publishers.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam.

Co curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

Subject Committee Members

Dr.A.S.Dayakar,

Head, Dept. of Political Science,
Andhra Loyola College, Vijayawada

Sri.R.John,

Dept. of Service Learning,
Andhra Loyola College, Vijayawada

BUS-3.3(R22): BUSINESS ETHICS & CORPORATE GOVERNANCE

COURSE OUTCOMES:

On successful completion of the course the learner will be able to:

- Describe the basic Ethical Theories
- Explain in detailEthics in functional areas such as finance, marketing, HR, IT, etc.
- It helps the students to understand the Corporate Social Responsibility
- It enables them to analyze and understand the corporate governance

Unit- I: Concept of Ethics: Meaning and definition of Ethics – Ethical Theories – Values – Need for Ethics and Values – Indian Value System – Various approaches to Ethics.

Unit-II: Business Ethics: Concept, meaning and definition of Business Ethics – Ethical corporate behavior – Ethical decision making – Conflicts in decision making from the legal and moral points of view. Work Ethics: Nature and scope. Ethical dilemma. Ethics in functional areas such as finance, marketing, HR, IT, etc.

Unit- III: Corporate Social Responsibility: Corporate Social Responsibility (CSR) & significance of CSR in business. CSR principles and strategies for business organizations. Best practices in CSR. Orienting management education towards ethical behavior.

UNIT- IV: Corporate Governance: Meaning and definition of corporate governance – Corporate management structure for corporate governance – Boards of Directors – Responsibilities of Boards of Directors – Legal requirements for Boards of Directors with regard to Corporate Governance – Morale responsibilities of Boards of Directors

UNIT- V: Corporate Governance in Global Scenario: Corporate governance requirements in the ever changing global scenario. Global practices: Cadbury report – OECD Committee recommendations. Desirable corporate governance in India – a Code. Summary of the SEBI Committee –report of the Consultative Group of Directors of Banks / Financial Institutions – Summary of Naresh Chandra Committee on Corporate Audit and Governance. Towards developing a best corporate governance system in an organization.

BUS 3.3.1(R22): CASE STUDY PRESENTATION OF CSR/ETHICAL PRACTICES OF COMPANIES

Suggested Books:

1. S. Singh, Corporate Governance: Global Concepts & Practices, Excel Books, New Delhi.
2. Sherlekar, Ethics in Management, Himalaya Publishing House, New Delhi.
3. Chakravarthy, S.K. Foundations of Management Work – Contribution from Indian Thought, Himalaya Publishing House, New Delhi.
4. Satheesh Kumar, Corporate Governance, Oxford University Press.
5. Prabakaran S, Business Ethics and Corporate Governance, Excel Books, New Delhi.
6. A.B Rao, Business Ethics and Professional Values, Excel Books, New Delhi.
7. Fernando, Business Ethics an Indian Perspective, Pearson

ST. ANN'S COLLEGE FOR WOMEN ★ Affiliated to Acharya Nagarjuna University ★ GORANTLA, GUNTUR

Dr. S. Fatima

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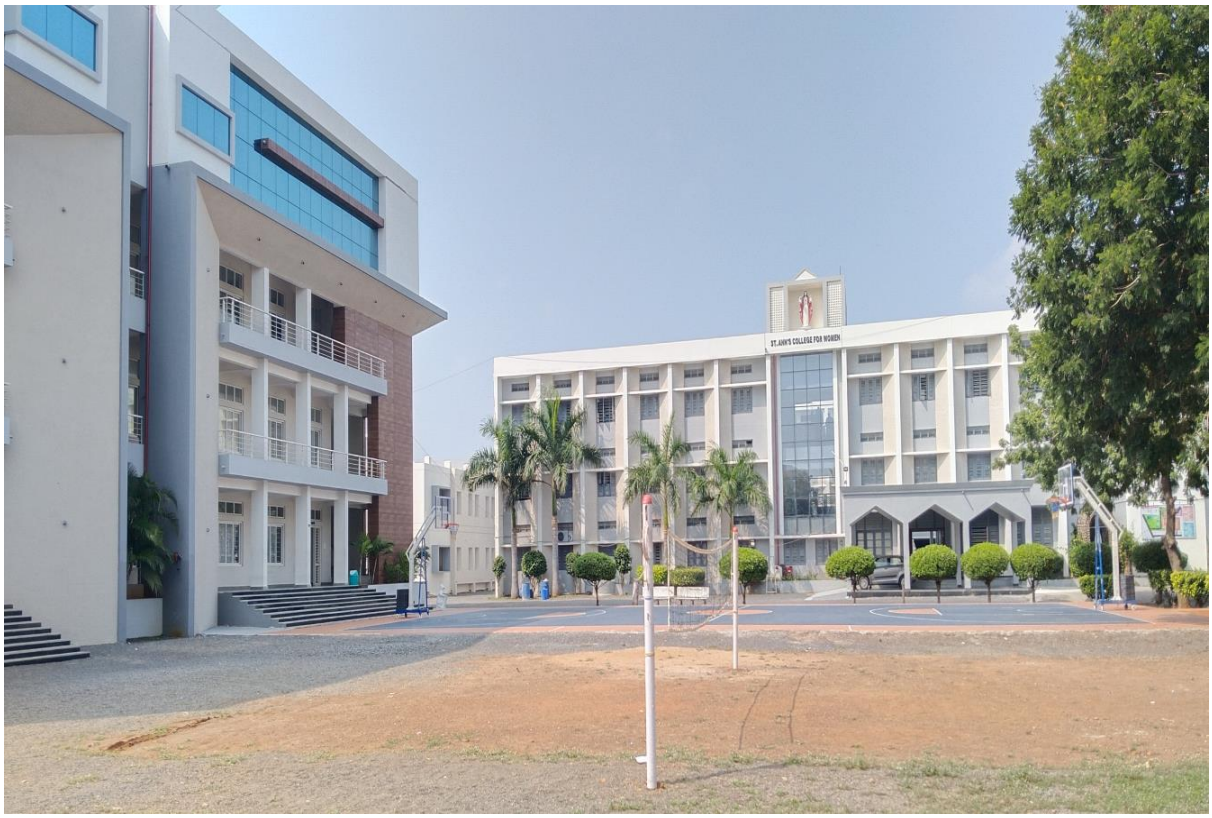
GORANTLA, GUNTUR-522 034



Criterion –I

1.3.1 Gender Sensitization

w. e. f 2015-2016 & 2020-2021

AndhraPradeshStateCouncilofHigherEducation

GENERALENGLISHSYLLABUSFORB.A/B.Com/B.ScCOURSESunderCBCS w.e.f.2015-16(RevisedinApril,2016)

SEMESTER–I

1. Everyunitshallstatetheobjectivesandexpecteddeliverables.
2. Everylessonshallhave
   i) Questionsonsubjectcomprehension,paragraph,shortnote,singlesentenceanswertypes
   ii) Exercisesonvocabulary,syntax,andpronunciation
   iii) Language exercises shall include exercises in paraphrasing, note-making andreportwritingwhereverpossible
   iv) Pre-reading andpost-readingactivities.

Unit–IPROSE

1. A.P.J.AbdulKalam:TheKnowledgeSociety(from*IgnitedMinds*)
2. NgugiWaThiong'o:TheLanguageofAfricanLiterature(from*DecolonizingtheMind*)

Unit–IIPOETRY

1. RobertFrost:TheRoadNotTaken
2. NissimEzekiel:NightoftheScorpion

Unit–IIISHORTSTORY

1. MulkRajAnand:TheLostChild
2. HenryLawson:The Loaded Dog

Unit–IVONE-ACTPLAY

WilliamShakespeare:TheMerchantofVenice(CourtScene–ActIVScene-1)

Unit –VLANGUAGEACTIVITY

1. ClassroomandLaboratoryActivities
   i. SingleSentenceAnswerQuestionsonVocabulary(spelling),sound(pronunciation),sense(meaning),andsyntax(usage)
2. ClassroomActivity
   i. ExercisesinArticlesandPrepositions
   ii. ExercisesinTenses,InterrogativesandQuestiontags

Note:Inclassroominstructionit maybeensuredthatthetheoreticalandpracticalcomponentsofCSS-Icomplementthe languageactivityinthissemester.

AndhraPradeshStateCouncilofHigherEducation

GENERALENGLISHSYLLABUSFORB.A/B.Com/B.ScCOURSESunderCBCS

w.e.f.2015-16(RevisedinApril,2016)

SEMESTER–II

Unit–IPROSE

1. J.B.SHaldane:The ScientificPointofView
2. A.G.Gardiner:OnShakingHands

Unit–IIPOETRY

1. John Keats:OdetoAutumn
2. KishwarNaheed:IamnotthatWoman(from*AnAnthologyofCommonwealthPoetry* editedbyC.D.Narasimhaiah)

Unit–IIISHORTSTORY

1. Ruskin Bond:TheBoyWhoBroketheBank
2. R.K.Narayan:HalfaRupeeWorth

Unit–IVONEACTPLAY

AntonChekhov:TheProposal

Unit –VLANGUAGEACTIVITY

1. ClassroomandLaboratoryActivities
   - i. TransformationofSentences(Voice,SpeechandDegrees)
   - ii. DialoguePractice(Oral)
   - iii. ListeningComprehension

2. ClassroomActivity
   - i. GuidedComposition
   - ii. DialogueWriting
   - iii. ReadingComprehension

AndhraPradeshStateCouncilofHigherEducation

GENERALENGLISHSYLLABUSFORB.A/B.Com/B.ScCOURSESunderCBCS

w.e.f.2015-16(RevisedinApril,2016)

SEMESTER–III

Unit–IPROSE

1. M.K.Gandhi:ShynessMyShield(from*TheStoryofMyExperimentswithTruth)*
2. Alexis C. Madrigal: Why People Really Love Technology: An Interview withGenevieve Bell

Unit–IIPOETRY

1. GabrielOkara:OnceuponaTime
2. SeamusHeaney:Digging

Unit–IIISHORTSTORY

1. JhumpaLahiri:TheInterpreterofMaladies
2. ShashiDeshpande:TheBelovedCharioteer

Unit–IVONEACTPLAY

GurajadaAppaRao:*Kanyasulkam*,translatedbyC. Vijayasree&T.VijayaKumar(ActsI&II)

Unit –VLANGUAGEACTIVITY

1. ClassroomandLaboratoryActivities
   i. JAMSessions
   ii. NoteTaking
   iii. ReportingfortheMedia
   iv. Expansionofanidea
2. ClassroomActivity
   i. Transformationofsentences(Simple-Complex-CompoundSentences)
   ii. NoteMaking
   iii. ReportWriting
   iv. WritingfortheMedia

Note: ***In classroom instruction it may be ensured that the theoretical and practicalcomponentsofCSS-IIcomplement thelanguageactivityinthissemester***

I SEMESTER

CONTENTS

विषयानुक्रमणिका

CBCS SEMESTER WISE SYLLABUS

Part I (B) Subject : **SANSKRIT**

SEMESTER – II

PAPER – II : POETRY, PROSE & GRAMMAR.

UNIT – I OLD POETRY:

1. "Indumateeswayamvaram", Raghuvamsam of kalidasa, 6thcanto, Chowkhamba krishadas academy, Varanasi-2012.
2. "Deekshaapradanam", Buddacharitam of Aswagosha, 16thcanto. Selected verses.

UNIT – II MODERN POETRY:

1. "Gangavataranam", Bhojas Champu Ramayanam, Balakanda.
2. "Mohapanodaha", 4th cant. Dharma Souhrudam by P.Pattabhi Ramarao, , Published by Author, Ramanth Nagar.
3. "VandeKasmeerabharatam", by Doolypala Ramakrishna from Samskrita pratibha, sahitya academy , New Delhi -2018.

UNIT – III PROSE:

1. "Avantisundarikatha", 5th Chapter. Dasakumara Charitam, Purva peetika.
2. "Charudattacharitam", Bhasakathasaraha by Y.Mahalingasastry.

UNIT – IV GRAMMAR:

1. DECLENSIONS. Nouns ending in vowels Nadee, Janu, vadhoo, Matru, Phala, Vaari & Madhu.
2. CONJUGATIONS III Conjugation- Yudh, IV Conjugation- Ish, VIII Conjugation- Likh, Kru, IX Conjugation-Kreen X, Conjugation-Kath, Ram, Vand.

UNIT – V GRAMMAR:

1. SANDHI - Halsandhi - Latva, Jastva -Visarga sandhi- Utva, Visargalopa, Rephadesa, Ooshma.

2.SAMASA

Avyayeebhava, Bahruvrihi

[illegible] డిగ్రీ మొదటి సంవత్సరం
తెలుగు భాష-సాహిత్యం-పాఠ్యప్రణాళిక - 2015-2016 నుండి అమలులోకి వచ్చింది
సెమిస్టర్-I 2016-17

ప్రాచీన కవిత్వం

I నన్నయ - గంగాశంతనుల కథ
ఆంధ్రమహాభారతం-ఆదిపర్వం-నాల్గవ ఆశ్వాసం (120-165)
"నరవరుడగు శంతనునకు" నుండి "దివ్య భూషణాలంకృత" వరకు

II తిక్కన- ద్రౌపది పరిదేవనం-ఆంధ్రమహాభారతం-ఉద్యోగపర్వం-తృతీయ ఆశ్వాసం (100-125)
"ధర్మనందను పలుకులు" నుండి "అని యూఱడిలగ బలికిన" వరకు

III ఆధునిక కవిత్వం
(అ) గురజాడ - కన్యక
(ఆ) శ్రీశ్రీ - దేశచరిత్రలు

IV కథానికలు
(అ) పాపినేని శివశంకర్ - చింతల తోపు
(ఆ) బండి నారాయణస్వామి - సావుకూడు

V వ్యాకరణం
(అ) సంధులు - సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, రుగాగమ, టుగాగమ, ఆమ్రేడిత, అత్వ, ఇత్వ సంధులు.

(ఆ) సమాసాలు- తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి మొదలైనవి

(ఇ) అక్షర దోషాలు- దోషాలు సరిదిద్ది సాధు రూపాలు రాయాలి

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Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి – సాయుజ్యము
శ్రీకాళహస్తి మహాత్మ్యము – ద్వితీయాశ్వాసం (109-139)
త్రేతాంబుననొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి– సుభద్రా పరిణయం
విజయ విలాసం – 3వ ఆశ్వాసం – (93-139)
"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి
"తేరెక్కి దంపతులరుగ" వరకు.

II ఆధునిక కవిత్వం

(అ) జాషువా – పిరదౌసి లేఖ
("ఆ సుల్తాను" ... నుండి "అనుచు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం – 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు
("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)
(కవితా వైజయంతి పద్య సంకలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి – నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ– అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని – బతుకాట

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు – ఈనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి సేపథ్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికల ఆధారంగా సేకరించండి.

పాఠ్య ప్రణాళిక

యూనిట్-I

రాజనీతి - సంస్కృతం

మహాభారతం-సభాపర్వం-ప్రథమాశ్వాసం-(26-57 పద్యాలు)

యూనిట్-II

దక్షయజ్ఞం - నన్నెచోడుడు

కుమారసంభవం-ద్వితీయాశ్వాసం-(49-86 పద్యాలు)

యూనిట్-III

ధౌమ్య ధర్మోపదేశము - తిక్కన

మహాభారతం-విరాటపర్వం-ప్రథమాశ్వాసం-(116-146) పద్యాలు

యూనిట్-IV

పలనాటి బెబ్బులి - శ్రీనాథుడు (పలనాటి వీరచరిత్ర-ద్విపద కావ్యం పుట 108-112
'బాలచంద్రుడు భీమంబగు సంగ్రామం బొనర్చుట.. (108)..
..... వెఱగంది కుంది' (112) సం. అక్కిరాజు ఉమాకాంతం
ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్-V

సీతారామ సంవాదం - మొల్ల

రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

✦వ్యాకరణం

సంధులు: ఉత్వ, త్రిక, ద్రుతప్రకృతిక, ప్రగాగమ, ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జశ్త్వ, అనునాసిక సంధులు

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలు:

అర్థాలంకారాలు : ఉపమ, ఉత్ప్రేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరన్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు : అనుప్రాస (వృత్యనుప్రాస, ఛేకానుప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

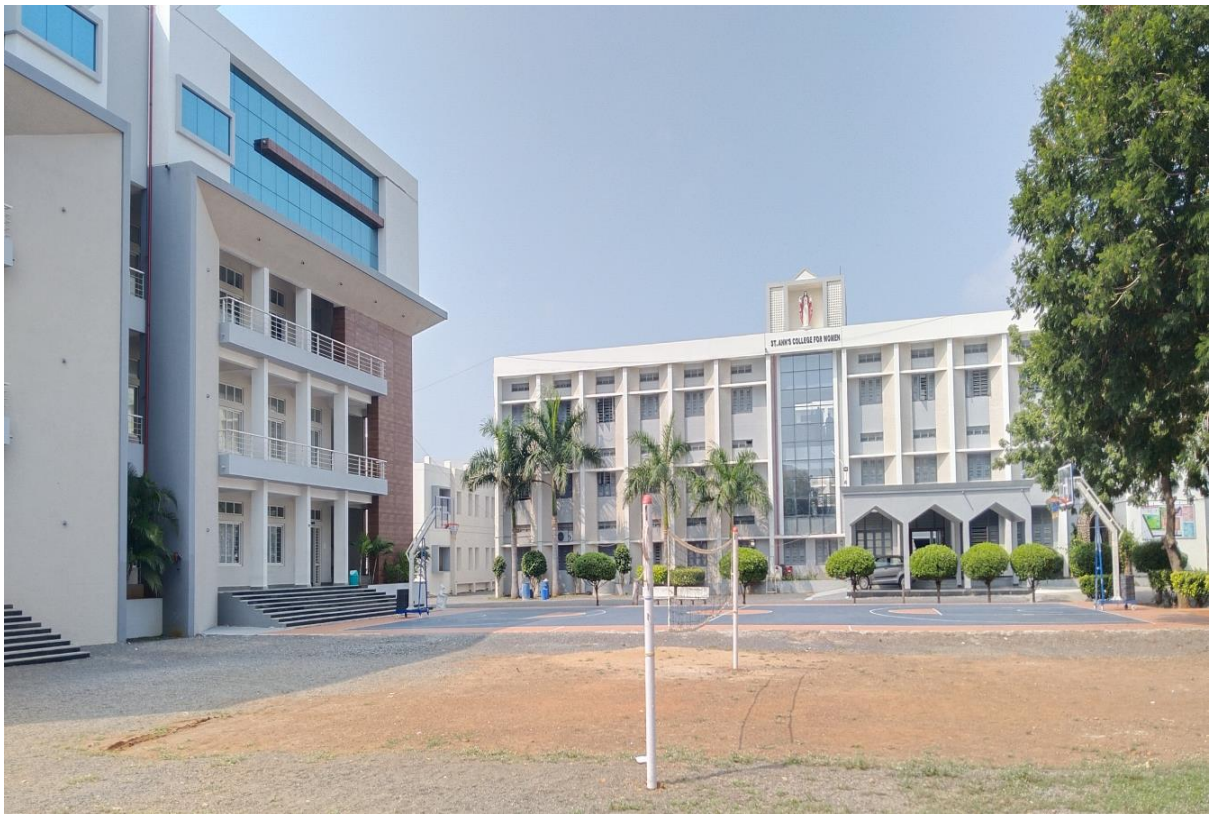
ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము:

జాతులు : కందం, ద్విపద, ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

ST. ANN'S COLLEGE FOR WOMEN ★ GORANTLA, GUNTUR ★ Affiliated to Acharya Nagarjuna University

PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034



Criterion –I

1.3.1 Environment and Sustainability

w. e. f 2015-2016 & 2020-2021

FoundationCourse-2

ENVIRONMENTALSTUDIES

Common for BA/BCom/BSc/BBA/BCA
Programmesw.e.f2015-16

Semester-I (Total30Hours)

Unit-I:NaturalResources 6Hrs

Definition, scopeandimportance.Needforpublicawareness.Briefdescriptionof
;

- Forest recourses:Use and over-exploitation. Deforestation;timber extraction,mining,dams.Effectofdeforestationenvironmentand tribalpeople
- Waterresources:Useandover–utilization.Effectsofoverutilizationofsurfaceandgroundwater.Floods,drought.
- Mineralresources:Use andexploitation,environmentaleffectsof extractingand usingmineralresources.
- Foodresources:Worldfoodproblems,Effectsofmodernagriculture;fertilizer-pesticide,salinityproblems.
- Energyresources:Growingenergyneeds, renewableandnon-renewable energy sources,useofalternateenergysources.
- Landresources:Landasresources,landdegradation,maninduced landslides,soil erosionanddesertification

Unit-II:Ecosystems,Biodiversityanditsconservation 6Hrs

- Conceptofanecosystem
- Structure and function of an
- ecosystemProducers,consumersanddec
- omposers
- Food chains, food webs and ecological pyramidsCharacteristic features of the following ecosystems:- Forestecosystem,Desertecosystem,Aquaticecosystem.
- Value of biodiversity: Consumptive use, productive use. Biodiversity in
- India.Threatstobiodiversity: habitatloss,poachingofwildlife,manwildlife
- conflicts.
- EndangeredandendemicspeciesofIndia Conservationofbiodiversity

Unit-III:EnvironmentalPollution 6Hrs

- Definition
- Causes,effectsandcontrol measuresof:-
  a. Airpollution

b. Waterpollution
c. Soilpollution
d. Noisepollution

- Solidwastemanagement;Measuresforsafeurbanandindustrialwastedisposal Roleofin
- dividualinpreventionofpollution
- Disastermanagement:Drought,floodsandcyclones

Unit-IV:SocialIssues andtheEnvironment **6Hrs**

- FromUnsustainabletoSustainabledevelopment
- Waterconservation,
- rainwaterharvesting,watershedmanagement.Climate
- change,globalwarming,ozonelayerdepletion,Environmentprotectio
- nAct
  WildlifeProtectionAct,ForestConservationAct

Unit-V:HumanPopulationandtheEnvironment **6Hrs**

- Populationexplosion,impactonenvironment.
- Family welfare
- ProgrammeEnvironment and
- human healthWomenand
- ChildWelfareValueEducation
- RoleofInformationTechnologyinEnvironmentand humanhealth.

ReferenceBooks:

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G.RambabuandDr.V.VivekaVardhani,Published byTeluguAcademy,Hyderabad.
2. EnvironmentalStudiesbyR.C.Sharma,GurbirSangha,publishedbyKalyaniPublishers.
3. EnvironmentalStudiesbyPurnimaSmarath,publishedbyKalyaniPublishers.

ELECTIVEPAPER–VII-(B):ENVIRONMENTALCHEMISTRY

45 hrs(3h/w)

UNIT-I

Introduction **9h**

ConceptofEnvironmentalchemistry-Scopeandimportanceofenvironmentinnowadays–Nomenclature of environmental chemistry – Segments of environment - Natural resources – RenewableResources– SolarandbiomassenergyandNonrenewableresources–Thermalpowerandatomicenergy –ReactionsofatmosphericoxygenandHydrologicalcycle.

UNIT-II

AirPollution **9h**

Definition – Sources of air pollution – Classification of air pollution – Acid rain – Photochemical smog – Green house effect – Formation and depletion of ozone – Bhopal gas disaster – Controlling methods of airpollution.

UNIT-III

Waterpollution **9h**

Uniquephysicalandchemicalpropertiesofwater–waterqualityandcriteriaforfindingofwaterquality – Dissolvedoxygen–BOD,COD,Suspendedsolids,totaldissolvedsolids,alkalinity –Hardnessofwater – Methods to convert temporary hard water into soft water – Methods to convert permanent hard waterinto soft water – eutrophication and its effects – principal wastage treatment – Industrial waste watertreatment.

UNIT-IV

ChemicalToxicology **9h**

Toxicchemicals intheenvironment – effectsoftoxicchemicals – cyanideand itstoxiceffects – pesticidesanditsbiochemicaleffects–toxicityoflead,mercury,arsenicandcadmium.

UNIT-V

Ecosystemandbiodiversity

9h

Ecosystem

Concepts – structure – Functions and types of ecosystem – Abiotic and biotic components – Energy flowand Energy dynamics of ecosystem – Food chains – Food web – Tropic levels – Biogeochemical cycles(carbon,nitrogenandphosporus)

Biodiversity

Definition – level and types of biodiversity – concept - significance – magnitude and distribution ofbiodiversity –trends -biogeographical classification of india–biodiversity atnational,global andregionallevel.

ListofReferencebooks

1. FundamentalsofecologybyM.C.Dash

2. ATextbookofEnvironmentalchemistrybyW.MooreandF.A.Moore

3. EnvironmentalChemistrybySamirk.Banerji

SEMESTER-VI

ELECTIVEPAPER–VII-(C)GREENCHEMISTRY

45 hrs(3 h/w)

UNIT-I **10h**

Green Chemistry: Introduction- Definition of green Chemistry, need of green chemistry, basic principles ofgreen chemistry. Green synthesis- Evaluation of the type of the reaction i) Rearrangements (100% atomeconomic), ii) Addition reaction (100% atom economic). Organic reactions by Sonication method: apparatusrequiredexamplesofSonochemicalreactions(Heck,HundsdieckerandWittigreactions).

UNIT-II **10h**

Selection ofsolvent:I)Aqueousphase reactionsii)Reactionsinionicliquids,Heckreaction,Suzukireactions,epoxidation.iii) Solidsupportedsynthesis

SupercriticalCO_2:Preparation,propertiesandapplications,(decaffeination,drycleaning)

UNIT-III **10h**

Microwave and Ultrasoundassisted green synthesis: Apparatus required, examples of MAOS (synthesisoffused anthroquinones,Leukartreductive amination of ketones)-AdvantagesanddisadvantagesofMAOS.Aldolcondensation-Cannizzaroreaction-Diels-Alderreactions-Strecker'ssynthesis

UNIT-IV **5h**

Green catalysis: Heterogeneouscatalysis,useofzeolites,silica,alumina,supported

UNITV **10h**

Examples of green synthesis / reactions and some real world cases: 1. Green synthesis of the followingcompounds:adipicacid,catechol,disodiumiminodiacetate(alternativeStrecker'ssynthesis)2.Microwave assisted reaction in water – Hoffmann elimination – methyl benzoate to benzoic acid – oxidationoftolueneandalcohols– microwaveassistedreactionsinorganicsolvents.Diels-Alderreactionsanddecarboxylationreaction.3.Ultrasoundassistedreactions–sonochemicalSimmons–Smithreaction(ultrasonicalternativetoiodine)

Referencebooks:

1. GreenChemistryTheoryandPractice.P.T.AnatasandJ.C.Warner
2. GreenChemistryV.K.AhluwaliaNarosa, NewDelhi.
3. RealworldcasesinGreenChemistryM.C.CannandM.E. Connelly
4. GreenChemistry:IntroductoryTextM.Lancaster:RoyalSocietyofChemistry(London)
5. GreenChemistry:IntroductoryText,M.Lancaster
6. GreenChemistry:EnvironmentalfriendlyalternativesRSSanghliandM.M.Srivastava,Narosa Publications

LABORATORYCOURSE– VIIGREENCHEMISTRY

PracticalPaper– ElectiveVIIC(atthe end ofsemesterVI) 30hrs(2h/W)

1. Determinationofspecificreactionrateofhydrolysisformethylacetatecatalysedbyhydrogenionatroomtemperature.
2. Determinationofmolecularstatusandpartitioncoefficientofbenzoicacidin Benzeneandwater.
3. Surfacetensionandviscosityofliquids.
4. Adsorptionofaceticacidonanimalcharcoal,verificationof Freundlischisotherm.

IIIB. Sc- SEMESTER-

V:BOTANYSYLLABUSPAPER-

VI:PLANTECOLOGY&PHYTOGEOGRAPHY

Totalhoursofteaching60hrs@3hrsperweek

UNIT–I.ElementsofEcology (12hrs)

1. Ecology:definition,branchesandsignificanceofecology.
2. ClimaticFactors:Light,Temperature,precipitation.
3. EdaphicFactor:Origin,formation,compositionandsoilprofile.
4. BioticFactor:Interactionsbetweenplantsandanimals.

UNIT–II.EcosystemEcology (12 hrs)

1. Ecosystem: Conceptandcomponents,energyflow,Foodchain,Foodweb,Ecologicalpyramids.
2. Productivityofecosystem-Primary,SecondaryandNet productivity.
3. Biogeochemicalcycles-Carbon,NitrogenandPhosphorous.

UNIT–IIPopulation&CommunityEcology (12hrs)

1. Population -definition,characteristicsandimportance,outlines–ecotypes.
2. Plant communities- characters of a community, outlines – Frequency,density,cover,lifeforms,competition.
3. Interactionbetweenplantsgrowinginacommunity.

UNIT–IVPhytogeography (12hrs)

1. PrinciplesofPhytogeography,Distribution(wides,endemic,discontinuousspecies)
2. PhytogeographicregionsofIndia.
3. PhytogeographicregionsofWorld.
4. Endemism–typesandcauses

UNIT-V:PlantBiodiversityanditsimportance (12

1. Definition,levelsofbiodiversity-genetic,speciesandecosystem.
2. Biodiversityhotspots-Criteria,Biodiversityhotspots ofIndia.
3. Lossofbiodiversity–causesandconservation(*In-situ*and*ex-situ*methods).
4. Seedbanks-conservationofgeneticresourcesandtheirimportance

Suggestedactivity:Collectionofdifferentsoils,studyingtheirtexture,observingpolluted water bodies, student study projects, debates on man's activity on ecosystem andbiodiversity conservation methods,visiting anearestnatural vegetationarea.VisittoNGO, working in the field of biodiversity and report writing; to study Honey Bees andplantsyieldinghoney.

BooksforReference:

1. Daubenmire,R.F.():Plants&Environment(2ndEdn.,)JohnWiley&Sons.,NewYork
2. Puri,.G.S.(1960):IndianForestEcology(Vol.I&II)OxfordBookCo.,NewDelhi &Calcutta.
3. Billings,W.B.(1965):PlantsandtheEcosystemWadsworthPublishingCo.,Inc.,Belmont.
4. Misra,R.(1968): TheEcologyworkBookOxford&INHPublishingCo.,Calcutta
5. OdumE.P.(1971): FundamentalsofEcology(2ndEdn.,)Saunders&Co.,Philadelphia&NatrajPu blishers,Dehradun.
6. OdumE.P.(1975):EcologyByHolt,Rinert&Winston.
7. Oosting,H.G.(1978):PlantsandEcosystemWadworthBelmont.
8. Kochhar,P.L.(1975):PlantEcology.(9thEdn.,)NewDelhi,Bombay,Calcutta-226pp.,
9. Kumar,H.D.(1992): ModernConceptsofEcology(7thEdn.,)VikasPublishingCo.,NewDelhi.
10. Kumar H.D. (2000): Biodiversity & Sustainable Conservation Oxford & IBH PublishingCoLtd.NewDelhi.
10. Newman,E.I.(2000):AppliedEcologyBlackwellScientificPublisher,U.K.
11. Chapman, J.L&M.J. Reiss (1992): ecology (Principles & Applications).CambridgeUniversityPress,U.K.
12. Cain,S.A.(1944):FoundationsofPlantGeography Harper&Brothers,N.Y.
13. Mani, M.S (1974): Ecology & Biogeography of IndiaDr.W. Junk Publishers, The HaqueGood,R.(1997):TheGeographyofFloweringPlants(2ndEdn.)Longmans

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ElectiveVII-(C):(RenewableEnergy)

Semester–VI
ElectivePaper–VII-(C):RenewableEnergy

No.ofHoursperweek:04 **Total**

Lectures:60UNIT-I(12hrs)

1. **IntroductiontoEnergy:**Definitionandunitsofenergy,power,Formsofenergy, Conservation of energy, second law of thermodynamics, Energy flow diagram to the earth.Originandtimescaleoffossilfuels,Conventionalenergysources,Roleofenergyineconomic developmentandsocialtransformation.
2. **EnvironmentalEffects:**Environmentaldegradationduetoenergyproductionandutilization, air and water pollution, depletion ofozone layer, global warming,biologicaldamage due to environmental degradation. Effect of pollution due to thermal power station,nuclearpowergeneration,hydroelectricpowerstationsonecologyandenvironment.

UNIT-II(12hrs)

3. **GlobalEnergyScenario:**Energyconsumptioninvarioussectors,projectedenergyconsumptio nforthenextcentury,exponentialincreaseinenergyconsumption,energyresources, coal, oil, natural gas, nuclearand hydroelectric power, impact of exponential riseinenergyusageonglobaleconomy.
4. **IndianEnergyScene:**EnergyresourcesavailableinIndia,urbanandruralenergyconsumption, energy consumption pattern and its variation as a function of time, nuclearenergy - promise and future, energy as a factor limiting growth, need for use of new andrenewable energysources.

UNIT-III(12hrs)

5. **Solar energy:** Solar energy, Spectral distribution of radiation, Flat plate collector, solarwater heating system,Applications, Solar cooker. Solar cell, Types of solar cells, Solarmoduleandarray,ComponentsofPVsystem,ApplicationsofsolarPVsystems.
6. **Wind Energy:** Introduction, Principle of wind energy conversion, Components of windturbines, Operation and characteristics of a wind turbine, Advantages and disadvantages ofwindmills,Applicationsofwindenergy.

UNIT-IV(12hrs)

7. **Ocean Energy:** Introduction, Principle of ocean thermal energy conversion, Tidal powergeneration, Tidal energy technologies, Energy from waves, Wave energy conversion, Waveenergytechnologies,advantagesanddisadvantages.
8. **HydrogenEnergy:**Historyofhydrogenenergy-Hydrogenproductionmethods-Electrolysis of water, Hydrogen storage options – Compressed and liquefied gas tanks, Metalhydrides;Hydrogensafety -Problemsof hydrogentransportanddistribution-Usesofhydrogenasfuel.

UNIT-V(12hrs)

9. **Bio-Energy:**

Energy from biomass – Sources of biomass – Different species – Conversion of biomass intofuels – Energy through fermentation – Pyrolysis, gasification and combustion – Aerobic andanaerobic bio-conversion – Properties of biomass – Biogas plants – Types of plants – Designandoperation–Properties andcharacteristics ofbiogas.

References:

1. SolarEnergyPrinciples,ThermalCollection&Storage,S.P.Sukhatme:TataMcGrawHillPub.,NewDelhi.
2. Non-ConventionalEnergySources,G.D.Rai,NewDelhi.
3. RenewableEnergy,powerfor asustainablefuture, GodfreyBoyle,2004,
4. TheGenerationofelectricity bywind,E.W.Golding.
5. Hydrogenand FuelCells:Acomprehensiveguide,RebeccaBusby,PennwellCorporation6.Hydrogen&FuelCells:EmergingTechnologies&Applications,B.Sorensen,AcadPress
7. Non-ConventionalEnergyResourcesbyB.H.Khan,TataMcGraw HillPub.,2009.
8. FundamentalsofRenewableEnergyResourcesbyG.N.Tiwari,M.K.Ghosal, NarosaPub.,2007.

ElectivePaper-VII-
C:Practical:RenewableEnergy2hrs/Week

Minimumof6 experimentstobedoneandrecorded

1. Preparationofcopperoxideselectivesurfacebychemicalconversionmethod.
2. Performancetestingofsolarcooker.
3. Determinationofsolar constantusingpyrheliometer.
4. MeasurementofI-Vcharacteristicsofsolarcell.
5. Studytheeffectofinputlightintensityontheperformanceofsolarcell.
6. Studythecharacteristicsofwind.

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A.P. STATECOUNCILOFHIGHEREDUCATION
BA,BCom&BSc Programmes

RevisedCBCSw.e.f.2020-21
SKILLDEVELOPMENTCOURSES

SCIENCESTREAM

Syllabusof
ENVIRONMENTALAUDIT
Total30hrs(02h/wk),02Credits&Max50 Marks

LearningOutcomes:
Bysuccessfulcompletionofthecourse,studentswillbeable to;

1. *Understandthebasicconcepts Environmentalhealth*
2. *Learnand identifytheindustrialpollution*
3. *Explainthehighlightsintheregulatoryaspects ofEnvironmentallawandpolicy*
4. *Understandthevariousphases ofEnvironmentalAudit*

UNIT–I

IndustrialPollutionanditseffects 06h

Climate – Weather and Air Pollution – Classification of water and water bodies – Water QualityParameters–WaterPollution–Sources– Classification,natureandToxicologyofwaterpollutants.-Soilparameters–Soilpollutionandimpacts– Soilconservation

UNIT-II

EnvironmentalLaw&Policy: 09h

Highlights of the Acts, Institutional arrangements for: (1) The Water (Prevention & Control ofPollution) Act, 1974 amended in 1988; (2) The Air (Prevention and Control of Pollution) Act,1981 amended in 1987; (3) The Water (Prevention and Control of Pollution) Cess Act, 1977amendedin1991;(4)TheEnvironment(Protection)Act,1986;(5)ThePublicLiabilityInsurance Act,1991;–IndianPolicyStatementforabatementofPollution,1992.

UNIT-III

EnvironmentalAudit-Scope&Requisites: 10h

EnvironmentalAudit:Definition;Objectives;Scope,Coverage-GOINotificationonEnvironmentalAudit-BenefitstoIndustry.ReportingEnvironmentalAuditFindings-Importance ofEnvironmentalAuditReportto industry,publicand thegovernments.

Co-curricularActivitiesSuggested: 05h

1. VisittounderstandInstitutionalarrangementsandfunctioningofPollutionControlBoards.
2. VisitingdifferentEcosystems
3. **Soilanalysis**:Determinationofsoiltypeandtexture,pH,SoilMoisture,Nitrogen,PotassiumandPhosphorous.
4. **Wateranalysis:** DeterminationofpH,Dissolvedsolidsandsuspendedsolids,DissolvedOxygen,COD,BOD.
5. Assignments,Groupdiscussion,Quizetc.

Referencebooksandwebsites:

1. EnvironmentalEducationinIndiabyK.R.Gupta
2. EnvironmentalLegislationinIndiabyK.R.Gupta
3. https://parivesh.nic.in/
4. https://www.cpcb.nic.in/
5. https://www.free-ebooks.net/environmental-studies-academic

APStateCouncilofHigherEducation

RevisedSyllabusunderCBCSPattern
(w.e.f.2020-'21AcademicYear)

AMandatoryCourseforBA/BCom/BScetc.

ENVIRONMENTALEDUCATION

(TotalhoursofTeaching–30Hrs.@02Hrs.perWeek)

Course objective: A Generic Course intended to create awareness that the life of human beingsisanintegralpartofenvironmentandtoinculcatetheskillsrequiredtoprotectenvironmentfromall sides.

Learning outcomes: Oncompletionofthiscoursethestudentswillbeableto …..

1. Understand thenature,componentsofanecosystemandthat humansareanintegralpartofnature.
2. Realizetheimportanceofenvironment,thegoodsandservicesofahealthybiodiversity,depend enceofhumans onenvironment.
3. Evaluatethewaysandilleffectsofdestructionofenvironment,populationexplosiononecosyst emsandglobalproblemsconsequenttoanthropogenic activities.
4. Discussthe laws/actsmade bygovernmenttopreventpollution,toprotectbiodiversityandenvironmentasa whole.
5. Acquaintwithinternationalagreementsandnationalmovements,andrealizecitizen'srole inprotectingenvironmentandnature.

Unit1:EnvironmentandNaturalResources 06 Hrs.1.Multidisciplinary nature of environmental education; scope and importance.2.Manas anintegralproductandpart oftheNature.

3. Abriefaccountofland,forestandwaterresourcesinIndiaandtheirimportance.

4. Biodiversity:Definition;importanceofBiodiversity-ecological,consumptive,productive,social,ethicalandmoral,aesthetic,andoption value.
5. LevelsofBiodiversity:genetic,speciesandecosystemdiversity.

Unit-2:Environmentaldegradationandimpacts 10Hrs

1. Humanpopulationgrowthanditsimpactsonenvironment;landusechange,landdegradation,soilerosionanddesertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods,conflictsoverwater(withinIndia).
3. Deforestation:Causesandeffectsduetoexpansionofagriculture, firewood, mining,forestfires andbuildingofnewhabitats.
4. Non-renewableenergyresources,theirutilizationandinfluences.
5. Abriefaccountofair,water,soilandnoisepollutions;Biological,industrialandsolidwastesinurbanareas.Humanhealthandeconomicrisks.
6. Greenhouseeffect-globalwarming;oceanacidification,ozonelayerdepletion,acidrainsandimpactsonhumancommunitiesandagriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, overexploitation,huntingandpoaching,introductionofexoticspecies,pollution,predatorandpestcontrol.

Unit 3:ConservationofEnvironment 10Hrs

1. Conceptofsustainabilityandsustainabledevelopmentwithjudicioususeofland,waterandforestresources;afforestation.
2. Controlmeasuresforvarious typesofpollution;useofrenewableandalternatesourcesofenergy.
3. Solidwastemanagement: Controlmeasuresofurbanandindustrialwaste.
4. Conservationofbiodiversity:In-situandex-situconservationofbiodiversity.
5. EnvironmentLaws:EnvironmentProtectionAct;Act;WildlifeProtectionAct;ForestConservationAct.
6. Internationalagreements:MontrealandKyotoprotocols;Environmentalmovements:Bishnois ofRajasthan,Chipko,Silentvalley.

Suggestedactivitiestolearner:(4hours)

1. Visittoanareatodocumentenvironmentalassets:river/forest/flora/fauna,etc
2. Visittoalocalpollutedsite-Urban/Rural/Industrial/Agriculturalsite.
3. Studyofcommonplants,insects,birdsandbasicprinciples of identification.
4. Studyofsimpleecosystems-forest,tank,pond,lake,mangrovesetc.
5. CasestudyofaForest ecosystemora pond ecosystem.

Suggested textbook:

- ErachBarucha(2004)*TextbookofEnvironmentalStudiesforUndergraduatecourses* (PreparedforUniversityGrantsCommmission)UniversitiesPress.
- PurnimaSmarath(2018)*Environmentalstudies*KalyaniPublishers, Ludhiana

Referencebooks:

- Odum,E.P.,Odum,H.T.&Andrews,J. (1971)*FundamentalsofEcology*.Philadelphia:Saunders.
- Pepper, I.L., Gerba, C.P. &Brusseau, M.L. (2011). *Environmental and Pollution Science*.AcademicPress.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) *Environment. 8th edition*. JohnWiley&Sons.
- Singh, J.S.,Singh,S.P.andGupta,S.R.(2014)*Ecology,EnvironmentalScienceandConservation.*S.ChandPublishing,New Delhi.
- Sengupta,R.(2003)Ecologyandeconomics:Anapproachtosustainabledevelopment.OUP.
- Wilson,E.O.(2006)*TheCreation:Anappealtosavelifeonearth.*NewYork:Norton.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles ofConservationBiology.*Sunderland:SinauerAssociates,

A.P.STATECOUNCILOFHIGHEREDUCATIONB.
A,B.Com&B.Sc.PROGRAMMES

RevisedCBCSw.e.f. 2020-21
SKILLDEVELOPMENTCOURSES

ScienceStream

Syllabus of
SOLARENERGY

Total30hrs(02h/wk), *02 Credits&MaxMarks:50*

LearningOutcomes:
Aftersuccessfulcompletionofthe course,studentswillbe ableto:

1. *Acquireknowledgeonsolarradiationprincipleswithrespect tosolar energyestimation.*
2. *Get familiarizedwith variouscollectingtechniquesofsolarenergyanditsstorage*
3. *Learn the solar photovoltaic technology principles and different types of solar cells forenergy conversionanddifferent photovoltaicapplications.*
4. *Understandtheworkingprinciplesofseveralsolarappliancesli keSolarcookers,Solarhotwatersyst ems,Solardryers,Solar Distillation, Solargreenhouses*

SYLLABUS:

UNIT-I–SolarRadiation: **(6hrs)**

Sunasasourceofenergy,Solarradiation,SolarradiationattheEarth'ssurface,Measurement of Solar radiation-Pyro heliometer, Pyranometer, Sunshine recorder, Predictionofavailablesolarradiation,Solarenergy-Importance,Storageofsolar energy,Solarpond

UNIT-II–SolarThermalSystems: **(10hrs)**

Principleofconversionofsolarradiationintoheat,Collectorsusedforsolarthermalconversion: Flat plate collectors and Concentrating collectors, Solar Thermal Power Plant,Solarcookers,Solarhotwatersystems, Solardryers, SolarDistillation,Solargreenhouses.

UNIT-III–SolarPhotovoltaicSystems:

(10hrs) Conversionof SolarenergyintoElectricity -PhotovoltaicEffect, Solar photovoltaiccellanditsworkingprinciple,Differenttypesof Solarcells,Seriesandparallel connections,Photovoltaicapplications:Batterychargers,domesticlighting,streetlightingandwaterpumping

Co-curricularActivities (Hands onExercises):(04hrs)
[Anyfourofthefollowingmaybetakenup]

1. *Plotsunchartandlocatethesun atyourlocationforagiventime oftheday.*
2. *Analyseshadoweffectonincidentsolarradiationandfind outcontributors.*
3. *Connect solarpanelsinseries&parallelandmeasurevoltageandcurrent.*
4. *MeasureintensityofsolarradiationusingPyranometerandradiometers.*
5. *ConstructasolarlanternusingSolarPVpanel(15W)*
6. *Assemblesolarcooker*
7. *Desiginingandconstructingphotovoltaicsystemforadomestichouserequiring5kVApower*
8. Assignments/ModelExam.

ReferenceBooks:

1.SolarEnergyUtilization,G.D.Rai,KhannaPublishers

1. SolarEnergy-Fundamentals,design,modeling&applications,G.N.Tiwari,NarosaPub.,2005.
2. SolarEnergy-Principlesofthermalenergycollection&storage,S.P.Sukhatme,TataMc-GrawHillPublishers,1999.
3. SolarPhotovoltaics-Fundamentals,technologiesandapplications, ChetanSinghSolanki,PHILearningPvt.Ltd.,
4. ScienceandTechnologyofPhotovoltaics,P.JayaramaReddy,BSPublications,2004.

B.Sc.,Biotechnology:ChoicebasedcreditsystemB.
Sc.,-IVSemesterW.E.F.2020-21
BT-401(i)PlantandAnimalBiotechnology

CourseObjectives

The objectives of this course are to introduce students to the principles, practices and application ofanimalbiotechnology,planttissueculture,plantandanimalgenomics,genetictransformation.

Unit.I

Planttissueculturetechniques&secondarymetabolitesproduction

Plant tissue culture: tot potency, media preparation . nutrients and plant hormones; sterilizationtechniques; establishment of cultures . callus culture, cell suspension culture ,applications of tissueculture-micropropagation;Somaticembryogenesis;syntheticseedproduction;protoplast cultureandsomatic hybridization – applications .Cryopreservation ,Plant secondary metabolites- concept andtheirimportance

Unit.II

TransgenesisandMolecularmarkers

Plant transformation technology—Agro bacterium mediated Gene transfer (Ti plasmid),hairy rootfeatures ofRi plasmid ,Transgenic plants as bioreactors. Herbicide resistance . glyphosphate , Insectresistance- Bt cotton, Molecular markers - RAPD, RFLP and DNA fingerprinting-principles andapplications**.**

Unit.III

Animaltissueculturetechniques

Animal cell culture: cell culture media and reagents; culture of mammalian cells, tissues and organs;primary culture, secondary culture, cell lines,stem cell cultures; Tests: cell viability and cytotoxicity,Cryopreservation.Transfectionmethods(calciumphosphateprecipitation,electroporation, Microinjection)andapplications.

Unit.IV

Transgenicanimals&GeneTherapy

Production of vaccines, diagnostics, hormones and other recombinant DNA products in medicine(insulin,somatostatin,vaccines),IVF,ConceptofGenetherapy,Conceptoftransgenicanimals.M eritsanddemerits-Ethicalissuesinanimalbiotechnology

UnitV

Bioethics,BiosafetyandIPR

Bioethicsin cloning andstem cell research,Human andanimal experimentation,animalrights/welfare. Bio safety-introduction to biological safety cabinets; primarycontainmentfor biohazards; biosafety levels; GLP,GMP, Introduction to IPR-Types ofIPR:patents,trademarks&copyright.

B.Sc.,Biotechnology:ChoicebasedcreditsystemB. Sc.,-IVSemester W.E.F.2020-21

BT-401(ii)Environmental&IndustrialBiotechnologyLearning Objective

This course aims to introduce fundamentals of Environmental Biotechnology. Thecourse will also give an insight in introducing major groups of microorganisms and theirindustrialapplications

Unit.I

PollutionTypesandControl

EnvironmentalBiotechnology-EnvironmentalPollution:Typesofpollution,airpollution& its control through Biotechnology, Bio filters, Bio scrubbers, Bio tricklingfilter. Water pollution and its management: Measurement of water, pollution, sourcesofwaterpollution.Microbiologyofwastewatertreatment,aerobicprocesses,activated sludge ,oxidation ponds, trickling filters ,and rotating biological contactors. Anaerobicprocesses :Anaerobicdigesters, upwardflowanaerobicsludgeblanketreactors.

UNIT-II

Bioremediation

BiodegradationandBioremediation.Concepts&principlesofBioremediation ,Bioremediation of Hydrocarbonsandits applicationsDegradation of pesticidesandothertoxicchemicalsbymicroorganism.RoleofgeneticallyEngineeredmicrobes ,ConceptofPhytoremediation, ,environmentalsafetyguidelines.

UNIT III

Biofuels

Biofuels-biogas,microbialgroupsinvolvedinbiogasproduction&interactions,factorsaffectingbiogasproduction,Biofertilizers,Vermiculture.

UnitIV

BasicprinciplesofMicrobialtechnology

Industrially important microbes, its screening, selection and identification. Maintenanceand preservation of industrially important microbial cultures. Strain Improvement,Basicconceptsoffermentation;Designoffermenter andapplications

UnitV

CommercialProductionofMicrobialproducts

Microbial technology productsandapplications;Microbial production of Organicacids(Lactic acid, citric acid), Amino acids (Glutamic acid, Aspartic acid and Lysine).Fermentationbymicrobesforfoodadditives:dairyproducts(Cheese,Yogurt),beverages (Beer,Wine) and antibiotics (Streptomycin, Pencillin)in animal and plantbiotechnologyandtheirapplications.

V^th SEMESTER PAPERS

THERE WILL BE THREE PAIRS OF EACH DOMAIN OF CORECOURSE.STUDENT HAS TO CHOOSE ONE PAIR FROM EACHDOMAIN.

A–PAIR

B.Sc MICROBIOLOGY(CBCS)REVISEDSYLLABUS-2020

MBTA1–FOOD,AGRICULTUREANDENVIRONMENTALMICROBIOLOGY

UNIT–1 No.ofHours:8

Intrinsic and extrinsic parameters that affect microbial growth in foodMicrobialspoilageoffood-fruits,vegetables,milk,meat,egg,breadandcannedfoodsFoodintoxication(botulism).Food-bornediseases(salmonellosis)andtheirdetection.

UNIT– II No.ofHours:8

Principles of food preservation - Physical andchemical methods.Fermented Dairy foods ñ cheeseandyogurt.Microorganisms as food ñ SCP, edible mushrooms (white button, oyster andpaddystraw).Probioticsandtheirbenefits.

UNIT–III No.ofHours:8

Soil Microbiology: Microbial groups in soil, microbial transformations of carbon,nitrogen, phosphorus and Sulphur, Biological nitrogen fixation. Microflora ofRhizosphereandPhyllo spheremicroflora,microbesincomposting.Importanceofmycorrhizalinoculums,typesofmycorrhizaeas sociatedplants,massinoculums.ProductionofVAM,fieldapplicationsofEctomycorrhiza.

UNIT-IV No.ofHours:8

Beneficialmicroorganisms inAgriculture:Biofertilizer(BacterialCyanobacterialandFungal), microbialinsecticides,MicrobialagentsforcontrolofPlantdiseases,Biodegradation,Biogas production,Biodegradableplastics,PlantMicrobeinteractions. Diseasescausedbybacteria andfungitovariouscommercialandfoodcrops(2exampleseach)Managementofsoilbiota formaintainingsoilfertility.Convertionofwastelandsintofertilelands.Managementofsoil nutrients.

UNIT–V No. ofHours:12

Terrestrial Environment: Soil profile and soil microflora. Aquatic Environment:Microflora of

fresh water and marine habitats. Atmosphere: Aeromicroflora anddispersalofmicrobes.Extremophiles.Nutrientcycling-Carbon,nitrogen,phosphorus. Methods to detect portability of water samples. Outlines of SolidWaste management: Sources and types of solid waste, Methods of solid wastedisposal(compostingandsanitarylandfill).Liquidwastemanagement:Composition and strength of sewage (BOD and COD), Primary, secondary andtertiarysewagetreatment.

B.Sc.,Biotechnology:ChoicebasedcreditsystemB.
Sc.,-IVSemesterW.E.F.2020-21
BT-401(i)PlantandAnimalBiotechnology

CourseObjectives

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Unit.I

Planttissueculturetechniques&secondarymetabolitesproduction

Plant tissue culture: tot potency, media preparation . nutrients and plant hormones; sterilizationtechniques; establishment of cultures . callus culture, cell suspension culture ,applications of tissueculture-micropropagation;Somaticembryogenesis;syntheticseedproduction;protoplast cultureandsomatic hybridization – applications .Cryopreservation ,Plant secondary metabolites- concept andtheirimportance

Unit.II

TransgenesisandMolecularmarkers

Plant transformation technology—Agro bacterium mediated Gene transfer (Ti plasmid),hairy rootfeatures ofRi plasmid ,Transgenic plants as bioreactors. Herbicide resistance . glyphosphate , Insectresistance- Bt cotton, Molecular markers - RAPD, RFLP and DNA fingerprinting-principles andapplications**.**

Unit.III

Animaltissueculturetechniques

Animal cell culture: cell culture media and reagents; culture of mammalian cells, tissues and organs;primary culture, secondary culture, cell lines,stem cell cultures; Tests: cell viability and cytotoxicity,Cryopreservation.Transfectionmethods(calciumphosphateprecipitation,electroporation, Microinjection)andapplications.

Unit.IV

Transgenicanimals&GeneTherapy

Production of vaccines, diagnostics, hormones and other recombinant DNA products in medicine(insulin,somatostatin,vaccines),IVF,ConceptofGenetherapy,Conceptoftransgenicanimals.M eritsanddemerits-Ethicalissuesinanimalbiotechnology

UnitV

Bioethics,BiosafetyandIPR

Bioethicsin cloning andstem cell research,Human andanimal experimentation,animalrights/welfare. Bio safety-introduction to biological safety cabinets; primarycontainmentfor biohazards; biosafety levels; GLP,GMP, Introduction to IPR-Types ofIPR:patents,trademarks&copyright.

B.Sc.,Biotechnology:ChoicebasedcreditsystemB. Sc.,-IVSemester W.E.F.2020-21

BT-401(ii)Environmental&IndustrialBiotechnologyLearning Objective

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UNIT III

Biofuels

Biofuels-biogas,microbialgroupsinvolvedinbiogasproduction&interactions,factorsaffectingbiogasproduction,Biofertilizers,Vermiculture.

UnitIV

BasicprinciplesofMicrobialtechnology

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VthSEMEISTERPAPERS

THERE WILL BE THREE PAIRS OF EACH DOMAIN OF CORECOURSE.STUDENT HAS TO CHOOSE ONE PAIR FROM EACHDOMAIN.

A–PAIR

B.ScMICROBIOLOGY(CBCS)REVISEDSYLLABUS-2020

MBTA1–

FOOD,AGRICULTUREANDENVIRONMENTALMICROBIOLOGY

UNIT–1 **No.ofHours:8**

Intrinsic and extrinsic parameters that affect microbial growth in foodMicrobialspoilageoffood-fruits,vegetables,milk,meat,egg,breadandcanned foodsFood intoxication (botulism).Food-borne diseases(salmonellosis)andtheirdetection.

UNIT– II **No.ofHours:8**

Principles of food preservation - Physical andchemical methods.Fermented Dairy foods ñ cheeseandyogurt.

Microorganisms as food ñ SCP, edible mushrooms (white button, oyster andpaddystraw).Probioticsandtheirbenefits.

UNIT–III **No.ofHours:8**

Soil Microbiology: Microbial groups in soil, microbial transformations of carbon,nitrogen, phosphorus and sulphur, Biological nitrogen fixation. Microflora ofRhizosphereandPhyllospheremicroflora,microbesincomposting.Importanceof

mycorrhizalinoculums,typesofmycorrhizaeassociatedplants,massinoculums.Productio nofVAM,fieldapplicationsofEctomycorrhizaeandVAM.

UNIT-IV **No.ofHours:8**

Beneficialmicroorganisms inAgriculture:Biofertilizer(BacterialCyanobacterial andFungal),microbialinsecticides,Microbialagentsforcontrolofplantdiseases, Biodegradation,Biogasproduction,Biodegradableplastics,PlantñMicrobe interactions.Diseasescausedbybacteriaandfungitovariouscommercialandfood crops(2exampleseach)Managementofsoilbiotaformaintainingsoilfertility. Convertionofwastelandsintofertilelands.Managementofsoilnutrients.

UNIT–V **No. ofHours:12**

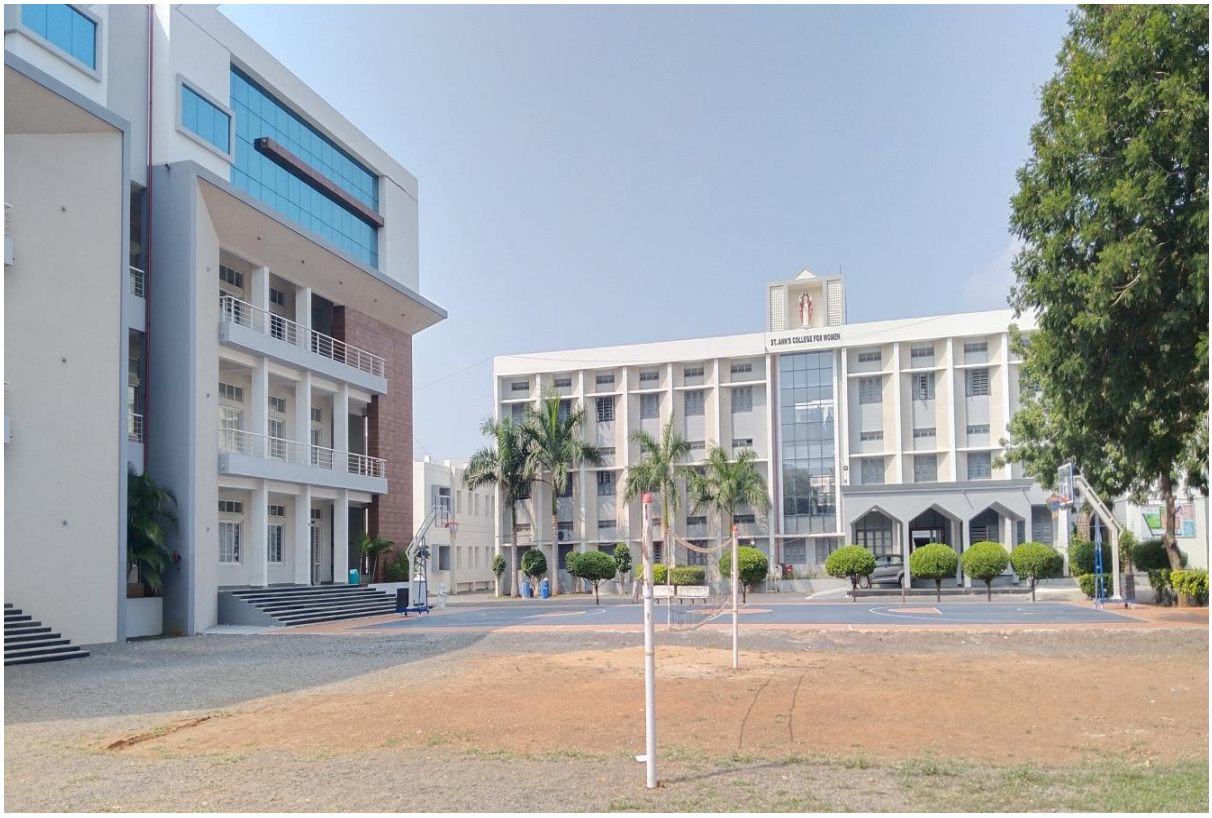
Terrestrial Environment: Soil profile and soil microflora. Aquatic Environment:Microflora of fresh water and marine habitats. Atmosphere: Aeromicroflora anddispersalofmicrobes.Extremophiles.Nutrientcycling-Carbon,nitrogen,phosphorus. Methods to detect portability of water samples. Outlines of SolidWaste management: Sources and types of solid waste, Methods of solid wastedisposal(compostingandsanitarylandfill).Liquidwastemanagement:Composit ion and strength of sewage (BOD and COD), Primary, secondary andtertiarysewagetreatment.

ST. ANN'S COLLEGE FOR WOMEN ★ Affiliated to Acharya Nagarjuna University ★ GORANTLA, GUNTUR

Dr. Sr. Fatima

PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034

	ST.ANN'S COLLEGE FOR WOMEN **(Affiliated to Acharya Nagarjuna University,** **Recognised under 2(f) UGC Act 1956, New Delhi)** **AMARAVATHI ROAD, GORANTLA, GUNTUR – 522034, A. P** **Email: st_anns_coll@yahoo.co.in Website: www.stannscollegeforwomen.org**	**Criterion: I** Metric: 1.3.1



Criterion –I

1.3.1 APSCHE GUIDELINES

A.P.STATECOUNCILOFHIGHEREDUCATION

GUIDELINES FOR THE REVISED CHOICE BASED CREDIT SYSTEM CBCS(W.E.F2020-21)

I. Preamble:

ChoiceBasedCreditSystem(CBCS)wasintroduced,undertheaegisofAndhraPradeshState CouncilofHigherEducation(APSCHE),attheinsistenceoftheUniversity Grants Commission, for the general undergraduate programmes, i.e., BA,BCom,BSc,BCA,BBA,UGHonoursetc.,bytheaffiliatinguniversitiesinallgovernment, aided and private degree colleges in the state of Andhra Pradesh in 2015 -2016.

The system of CBCS has been in vogue for the undergraduate programmes in all the advanced countries for several decades and proved to be advantageous to the studentsof higher education because of its features like courses in place of papers, availability ofdiverse courses, scope for choice, weightages with credits, space for multiple kinds ofteaching, learning and assessing methods which can effectively cater to the diverseneedsof students.

As the existing CBCS would be completing five years by 2019-20, the APSCHE decidedto reviseandstrengthenthescheme whileaddressingthefollowingissues.

a. Overcomingtheshortagesintheexistingsystem.
b. Consolidatingthesysteminitstruespiritbyprovidingmultiplechoicesindomainas wellas general courses.
c. Revisingthe curricularframeworkwhereverneeded.
d. Orientingsyllabustothecourseoutcomesasadvised byUGC
e. Updatingofsyllabustomatchtothepresentneeds
f. Replacingpaperswithcourses
g. Introducingbetterskill-orientedcoursestoalignwiththeemergingandemploymentareas.

For carrying out the above task, the APSCHE constituted a Committee forrecommendingrevisedcurricularframeworkandupdatedsyllabusofUGProgrammes,

i.e., B.A., B.Com., B.Sc., BCA, BBA, UG Honouss etc., under CBCS pattern from theyear2020-21.

BasedontherecommendationsoftheCommittee,thefollowingGuidelinesareformulated.These Guidelines ofCurricular Framework with revised Choice BasedCredit System comes into effect from the academic year 2020 – 2021, to be strictlyadheredforallUndergraduateProgrammesofferedinAffiliatedCollegesandAutonomousColleges.

1. The Curricular Framework for UG – Arts; UG – Science and UG – Commerce areappendedasAnnexures – I, II&IIIrespectively.
2. **LifeSkillCourses:**Therewillbe4LifeSkillCoursesinplaceofearlier10foundation courses with the same hours, credits and maximum marks. The objectiveis to inculcate the required simple life-long skills. While the course in 'EnvironmentalEducation' continued to be mandatory, in case of others, students can opt one out ofthree courses, unlike in the existing system, where no choice is being given tostudents.
3. **Skill Development Courses:** A new set of 4 Skill Development Courses will beoffered with 2 hours of teaching per week, two credits, 50 maximum marks and onlyexternal assessment. These courses are intended to train students in broad-basedmultiple career oriented general skills, in Arts, Commerce and Science streams butopen to all students. A wider choice is given to students as they can choose onecoursefroma total ofsixcourses (twofromeach stream).
4. ThepreferreddepartmentsforteachingLSCsandSDCsareappended.
5. To ensure accountability among the teachers teaching LSCs and SDCs courses, theworkloadoftheseistobe reckonedforthecalculationofworkloadofteachers.
6. **Core Courses:** Three core courses of Domain subjects will be in the first threesemesters, and the fourth and fifth courses will be in the fourth semester. Twodomain SECs will be in the fifth semester.There will be uniformly five Core Coursesineach DomainSubjectin BAand BSc,and15 inBCom.

7. **Skill Enhancement Courses:**Two Skill Enhancement Courses will be offered foreach domain subject, in Semester V. The two Skill Enhancement Courses of eachdomainsubjectwillbelinkedforawiderbasicandpracticalexperiencetostudents.
8. Programmes like BCA, BBA, UG Honours etc. will broadly have a similar frame work as prescribed for B.Com considering the mass ingle major subject programme.
9. Table-1:MainFeaturesoftheCoursesintheRevised CurricularFramework.

Subject/Course	Hours / WeekTheory	Hours /Week Practicals	Total Hours	Credits	Max MarksInternalAssessment	MaxMarksUniversityExam	Total
LifeSkills Course	02	-	02	02	-0-	50	50
SkillDevelopment Course	02	-	02	02	-0-	50	50
Language Subject	04	-	04	03	25	75	100
DomainArts/CommerceSubject	05	-	05	04	25	75	100
Domain ScienceSubject	04	02	05	05 (4+1)	25	75	100
Mathematics	06	-	06	05	25	75	100

10. The four courses of LSCs, SDCs and three courses of Languages (as they existnow) will be offered in the first three semesters as shown in the table below. Thedetailedstructureis shown inTabel-2below.

Coursesof	***Sem-I***	***Sem-II***	***Sem-III***	***Sem-IV***	***Sem-V***
LifeSkills	1(02)	1(02)	2(04)		
SkillDevelopment	1(02)	2(04)	1(02)		
Language– 1	C-1(04)	C-2(04)	C-3(04)		
Language– 2	C-1(04)	C-2(04)	C-3(04)		
DomainSub-1	C-1(06)	C-2(06)	C-3(06)	C-4(06)	SEC-1(06)

				C-5(06)	SEC-2(06)
DomainSub -2	C-1(06)	C-2(06)	C-3(06)	C-4(06) C-5(06)	SEC-1(06) SEC-2(06)
DomainSub-3	C-1(06)	C-2(06)	C-3(06)	C-4(06) C-5(06)	SEC-1(06) SEC-2(06)
TotalHours/Week	30	32	32	36	36

*Figuresinparenthesisarehoursperweekof CoreCoursesofScience.InrespectofArtsand CommerceCourses, thehours perweek forCoreCourseswill be5.
**SEC1andSEC-2inSem-VareC-6andC-7respectively.

11. TeachingoftwoappropriateLSCs/SDCsaretobeassignedtothelanguagedepartments to mitigate the workload shortage for the language subjects, as beingdone in respect of Foundation Courses in the previous system. The workload forteaching LSCs and SDCs by the respective language department shall be reckonedwhilecalculatingtheirworkload.
12. The syllabus was revised and updated keeping the Leaning Outcomes in view forensuring higher order learning and skills, a requirement in higher education. TheUniversities and colleges shall make certain that teaching, learning and assessmentareoutcomeoriented.
13. In the affiliation system which imposes limitations in assessing students, the internalassessment is crucial in ensuring the right learning. Universities and colleges maystrengthenthe internalassessmentwithout disturbingitsflexibility.
14. Co-curricular activities play an important role in promoting experiential self-learningand field-based learning in students, especially in learning higher order skills. Themeasurablepedagogicalactivitiescanbe asmallpartofinternal assessment.
15. The respective Boards of Studies of the affiliating universities/autonomous collegesmay modify the syllabus prepared by the subject committees as mentioned above toalimitedextent,without disturbingtheFramework recommendedabove.
16. In view of the advantages of using ICT in teaching and learning, the universities andcollegesmayoffer‘onlinecourses’onextracredits.Theymaytakeintoconsideration the standardized online courses offered by various government/publicagenciesandalsomaydesigntheirownnewonlinecoursesfollowingdueprocedures.

17. Similarly,onlineprogrammessuchasWebinars,withgreaterparticipationofstudents,may beencouraged in colleges.
18. The system of credit transfer facilitates students getting better training at appropriateplaces.Theuniversitiesmaydiscussanddevelopauniformsystemandguidelinesin this regard across the state. The number of credits earned under credit transfershall,however,belimitedtoasmallnumber.APSCHEwillissueseparateguidelines.
19. To ensure inculcating social responsibility and compassionate commitment amongthe students, the summer vacation in the intervening 1st and 2nd years of study shallbe for Community Service.Detailed guidelines on the Community Service will becirculatedshortly.
20. To makethestudentsemployable,anApprenticeship/Internship/On thejobtraining shall be undertaken by the students in the intervening summer vacationbetweenthe2nd and3rd years.
21. Duringtheentire6th Semester, the students hall undergo Apprenticeship/Internship /OntheJobTraining.Thisistoensurethatthestudentsdevelophandsontechnicalskillswhichwillbe ofgreathelpinfacingthe worldofwork.
22. APSCHEshallissueguidelinesfortheimplementationandassessmentoftheApprenticeship/ Internship /On the jobTraining.

LISTOF LIFESKILLCOURSES

Semester	No. ofCourses	Choices	PreferredTeachingDept.
I	01	ComputerApplications	Computers
		Human Values andProfessionalEthics	English/Telugu/AnyDept
		Entrepreneurship	Commerce
II	01	InformationandCommunicationTechnology	Computers
		Indian Culture andScience	History/Telugu
		ElementaryStatistics	Statistics/Maths/Economics /Commerce
III	02	HealthandHygiene	Zoology/Botany
		Personality DevelopmentandLeadership	English/AnyDept
		AnalyticalSkills	Maths/Statistics
		EnvironmentalEducation	Botany/Zoology/Environmental Sciences/AnyDept.

List of Skill Development Courses along with their Semester-wise allotment withchoices.PreferredTeachingDepartmentsare giveninthepar enthesis.

Sem	No. ofCourses	**Stream–A(Arts)**	**Stream–B(Commerce)**	**Stream–C (Science)**
I	**01**	Tourism Guidance(History) Public Relations(PolSci/ English)	Secretaryship Insurance Promotion	Electrical Appliances(Physics) PlantNursery(Botany)
II	**02**	Journalistic Reporting (English) Survey & Reporting(Economics /History) Social WorkMethods(PolSci) Performing Arts(Telugu)	Agricultural Marketing BusinessCommunication(English) Advertising Logistics & SupplyChain	SolarEnergy(Physics) Fruit & VegetablePreservation(Botany) Dairy Techniques(Zoology) Food Adulteration(Chemistry)
III	**01**	Financial Markets(Economics) DisasterManagement(English/Telugu)	OnlineBusiness Retailing	Environment Audit(Chemistry) Poultry Farming(Zoology)

ANNEXURE-ICBCSCURRICULARFRAMEWORK(2020-21ONWARDS)-BACHELOROFARTS

Subjects		SEMI		SEMII		SEMIII		SEMIV		SEMV		SEMVI			
		Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits		
Languages															
English		4	3	4	3	4	3								
Language(H/T/S)		4	3	4	3	4	3								
LifeSkillCourses		2	2	2	2	2+2	2+2								
SkillDevelopmentCourses		2	2	2+2	2+2	2	2								
CorePapers															
Major 1	Core1,2,3,&4	5	4	5	4	5	4	5	4			THIRDPHASEofAPPRENTICESHIP Entire 5th / 6thSemester		FIRSTandSECOND PHASES (2 spells) ofAPPRENTICESHIP between1stand2ndyear and between 2ndand3rdyear(twosummervacations).	
Major 2	Core1,2,3,&4	5	4	5	4	5	4	5	4						
Major 3	Core1,2,3,&4	5	4	5	4	5	4	5	4						
Major 1	Core-5							5	4						
Major 2	Core-5							5	4						
Major 1	SkillEnhancement CoreCourses6&7									5	4				
										5	4				
Major 2	Skill EnhancementCore Courses6&7									5	4				
										5	4				
Major 2	Skill EnhancementCore Courses6&7									5	4				
										5	4				
Hrs/W (AcademicCredits)		27	22	29	24	29	24	30	24	30	24	0	12	4	4
ProjectWork															
ExtensionActivities(NonAcademicCredits)															
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (TotalCredits)		27	22	29	24	29	25	30	27	30	24	0	12	4	4

ANNEXURE-IICBCSCURRICULARFRAMEWORK(2020-21ONWARDS)-BACHELOROFSCIENCES

Subjects		SEMI		SEMII		SEMIII		SEMIV		SEMV		SEMVI			
		Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits		
Languages															
English		4	3	4	3	4	3								
Language(H/T/S)		4	3	4	3	4	3								
LifeSkillCourses		2	2	2	2	2+2	2+2								
SkillDevelopmentCourses		2	2	2+2	2+2	2	2								
Major 1	Core1,2,3,&4	4+2	4+1	4+2	4+1	4+2	4+1	4+2	4+1						
Major 2	Core1,2,3,&4	4+2	4+1	4+2	4+1	4+2	4+1	4+2	4+1						
Major 3	Core1,2,3,&4	4+2	4+1	4+2	4+1	4+2	4+1	4+2	4+1						
Major 1	Core-5							4+2	4+1						
Major 2	Core-5							4+2	4+1						
Major 3	Core-5							4+2	4+1						
Major 1	SkillEnhancement Courses(6&7)									4+2	4+1				
										4+2	4+1				
Major 2	SkillEnhancement Courses(6&7)									4+2	4+1				
										4+2	4+1				
Major 3	SkillEnhancement Courses(6&7)									4+2	4+1				
										4+2	4+1				
Hrs/W (AcademicCredits)		30	25	32	27	32	27	36	30	36	30		12	4	4
ProjectWork															
Extension Activities	(Non														
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (TotalCredits)		30	25	32	27	32	28	36	33	36	30		12	4	4

THIRDPHASEofAPPRENTICESHIP Entire 5th / 6thSemester

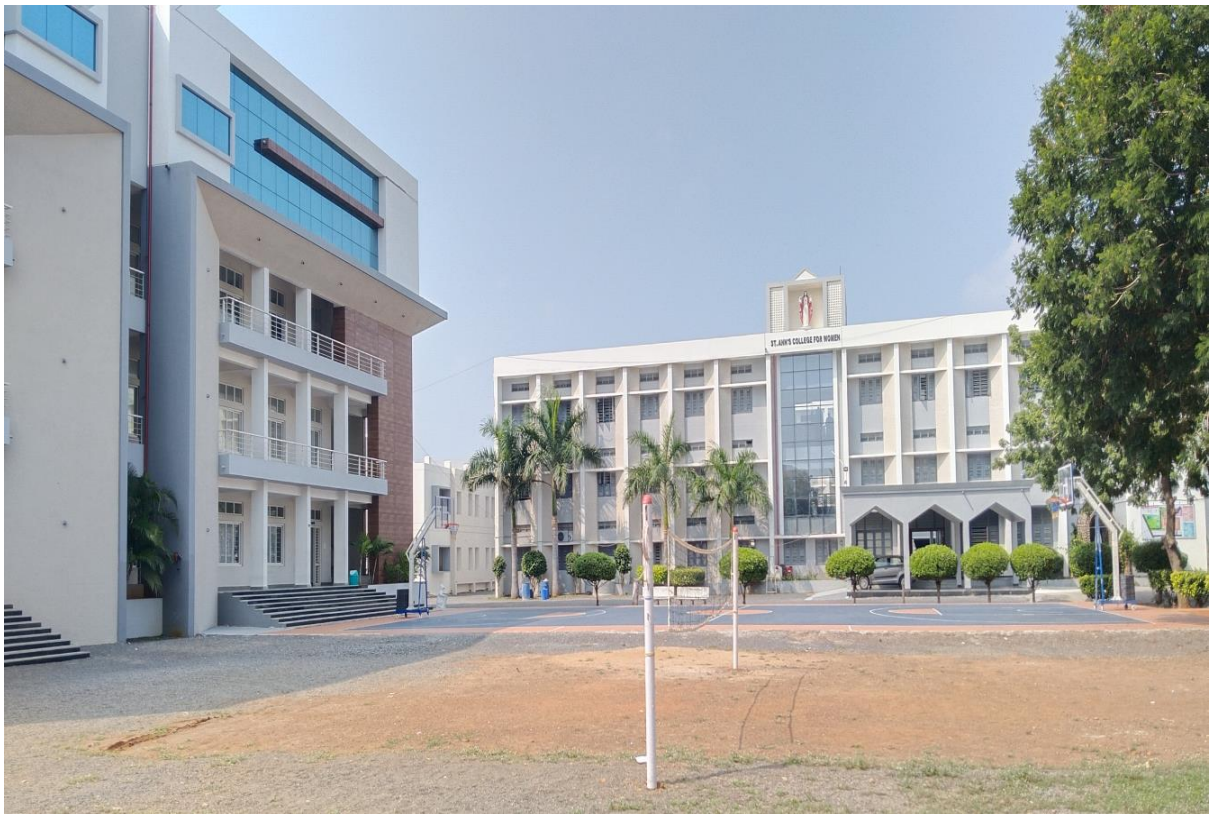
FIRSTandSECOND PHASES (2 spells) ofAPPRENTICESHIP between1stand2ndyear and between 2ndand3rdyear(twosummervacations).

ANNEXURE - III CBCS CURRICULAR FRAMEWORK (2020 - 21 ONWARDS) - B.Com., BBA, BCA etc.

Subjects	SEM I		SEM II		SEM III		SEM IV		SEM V		SEM VI		
	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	Hrs/W	Credits	
Languages													
English	4	3	4	3	4	3							
Language (H/T/S)	4	3	4	3	4	3							
Life Skill Courses	2	2	2	2	2+2	2+2							
Skill Development Courses	2	2	2+2	2+2	2	2							
Core Courses* **													
Core	5	4	5	4	5	4	5	4			THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).
Core	5	4	5	4	5	4	5	4					
Core	5	4	5	4	5	4	5	4					
Core							5	4					
Core							5	4					
Core							5	4					
(Domain Related) Skill Enhancement Courses** (SECs)**									5	4			
									5	4			
									5	4			
									5	4			
									5	4			
									5	4			
Hrs/W (Academic Credits)	27	22	29	24	29	24	30	24	30	24	0	12	4 4
Project Work													
Extension Activities													
NCC/NSS/Sports/Extra Curricular								2					
Yoga						1		1					
Extra Credits													
Hrs/W (Total Credits)	27	22	29	24	29	25	30	27	30	24	0	12	4 4

ST. ANN'S COLLEGE FOR WOMEN ★ GORANTLA, GUNTUR ★ Affiliated to Acharya Nagarjuna University

PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034



Criterion –I

1.3.1 List of Courses with Professional Ethics, Gender, Human Values, Environment and Sustainability

1.3.1 Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the curriculum.

LIST OF COURSES RELAVANT TO PROFESSIONAL ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY

S.NO	Programme	Course Code	Course	Nature of the Course
			Professional Ethics	
1.	UG	HVPE	Human Values &Professional Ethics	Compulsory Foundation Course
2.	UG	FC	Business Leadership	Compulsory Foundation Course
3.	UG	Second Language	Telugu	Compulsory Second Language
4.	UG	Second Language	Hindi	Compulsory Second Language
5.	UG	Second Language	Sanskrit	Compulsory Second Language
6.	UG	Core	Business Organization	Core Course
7.	UG	Core	Banking Theory & Practice	Core Course
8.	UG	Core	Accounting for Service Organizations	Core Course
9.	UG	Core	Business Laws	Core Course
10.	UG	Core	Income Tax	Core Course
11.	UG	Core	Tally ERP	Core Course
12.	UG	Core	Auditing	Core Course
13.	UG	Core	E-Commerce	Core Course

14.	UG	Core	Marketing	Core Course
15.	UG	Core	Business Environment	Core Course
16	PG	Core	Business Ethics &Corporate Governance	Core Course
Gender				
17.	UG	FC	Communication & Soft Skills	Compulsory Foundation Course
18.	UG	Second Language	Telugu	Compulsory Second Language
19.	UG	Second Language	Hindi	Compulsory Second Language
20	UG	Second Language	Sanskrit	Compulsory Second Language
Human Values				
21.	UG	FC	Leadership Education	Compulsory Foundation Course
22	UG	FC	Human Values & Professional Ethics	Compulsory Foundation Course
23	UG	Second Language	Telugu	Compulsory Second Language
24.	UG	Second Language	Hindi	Compulsory Second Language
25.	UG	Second Language	Sanskrit	Compulsory Second Language
Environment Sustainability				
26.	UG	FC	Environmental Studies	Compulsory Foundation Course
27.	UG	Core	Microbial Diversity, Algae & Fungi	Core Course in Botany
28.	UG	Core	Microbiology & Cell Biology	Core Course in Biotechnology
29.	UG	Core	Diversity of Archegoniate & Plant Anatomy	Core Course in Botany
30.	UG	Core	Biomolecules, Enzymology & Bioenergetics	Core Course in Biotechnology
31.	UG	Core	Plant Taxonomy & Embryology	Core Course in Botany
32	UG	Core	Plant Physiology	Core Course in Botany
33.	UG	Core	Cell Biology, Genetics & Plant Breeding	Core Course in Botany

34.	UG	Core	Plant Ecology & Phytogeography	Core Course in Botany
35.	UG	Core	RDNA Technology	Core Course in Botany
36.	UG	Core	Green Chemistry	Core Course in Chemistry
37.	UG	Core	Pharmaceutical & Medicinal Chemistry	Core Course in Chemistry
38.	UG	Core	Plant Tissue Culture and its Biotechnological Applications	Core Course in Botany
39.	UG	Core	Plant Diversity & Human Welfare	Core Course in Botany
40.	UG	SDC	Plant Nursery	Skill Development Course
41.	UG	SDC	Fruits & Vegetables Preservation	Skill Development Course
42.	UG	SDC	Food Adulteration	Skill Development Course
43.	UG	SDC	Solar Energy	Skill Development Course

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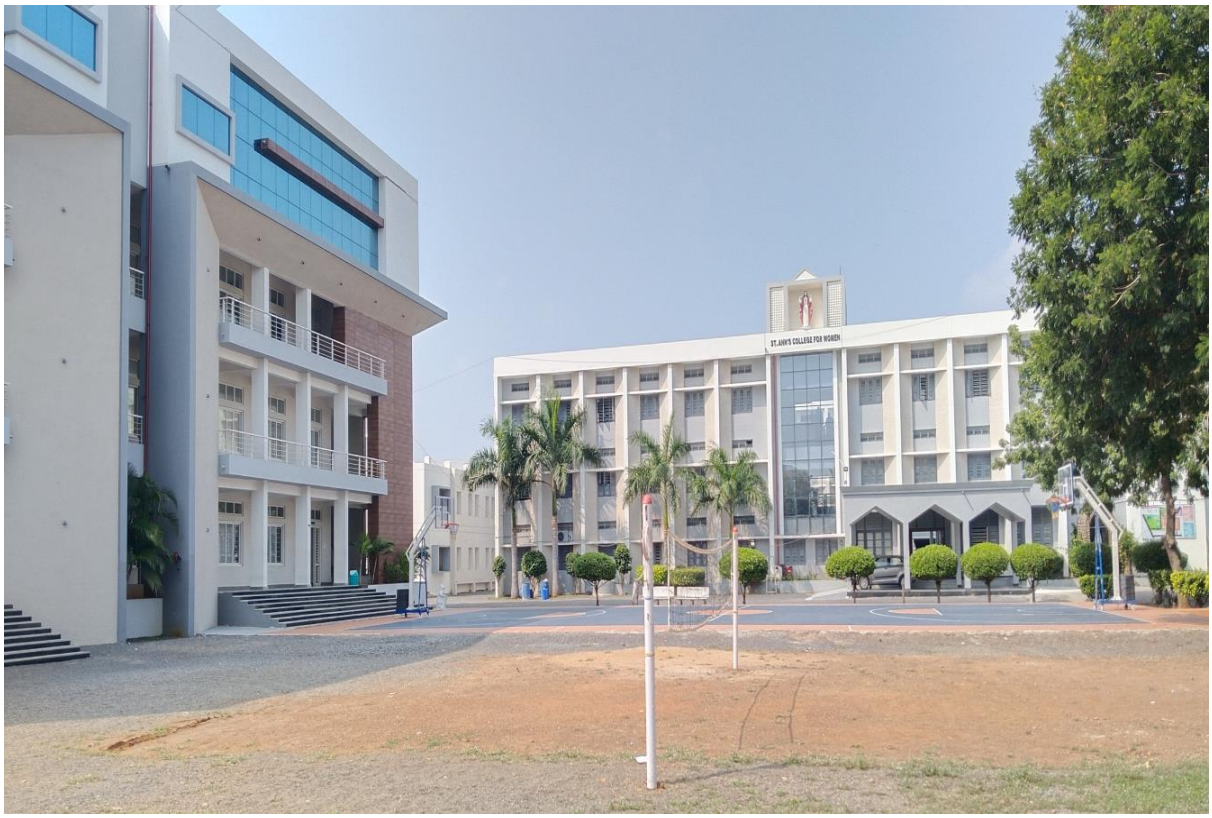

Criterion –I

1.3.1 Topics in Syllabus Related to Professional Ethics, Gender, Human Values, Environment and Sustainability w. e. f 2015-2016 & 2020-2021

Andhra Pradesh State Council of Higher Education : Hyderabad

Foundation Courses under CBCS; Revised Syllabi

For All Degree Programmes

w.e.f. 2015-16 (Revised in May 2016)

As a part of curriculum upgradation, Semester and CBCS systems were introduced in all affiliated colleges in Andhra Pradesh from 2015-16. As an effective part of the overall curriculum, Foundation Courses were introduced with an aim to prepare students in the required basic skills and values in diverse areas. Hence, courses covering a broad spectrum were introduced. The following are the revised syllabi of the ten Foundation Courses, each with 30 teaching hours per semester and worth 2 credits. They were spread in the first four semesters.

Sno	Foundation Course	Sem	Hrs/ Week	Total Hrs	Credits	Marks
1	Human Values and Professional Ethics	I	2	30	2	50
2	Environmental Studies	I	2	30	2	50
3	Information and Communication Technology (ICT) – 1	II	2	30	2	50
4	Communication and Soft Skills (CSS)-1	II	2	30	2	50
5	Information and Communication Technology (ICT) – 2	III	2	30	2	50
6	Communication and Soft Skills (CSS)-2	III	2	30	2	50
7	Communication and Soft Skills (CSS)-3	IV	2	30	2	50
8	Analytical Skills	IV	2	30	2	50
9	Entrepreneurship	IV	2	30	2	50
10	Leadership Education	IV	2	30	2	50

The objective of the foundation courses is to create awareness among students and train them in the skills of the course concerned. Hence, teaching learning may be focused, and limited to the hours prescribed.

Foundation Course - 1

I. HUMAN VALUES AND PROFESSIONAL ETHICS

Common for BA/BCom/BSc/BBA/BCA Programmes

I Semester (Total 30 Hrs)

Unit-I : Introduction to Value Education

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Self-Exploration as a means of Value Education
4. Happiness and Prosperity as parts of Value Education

Unit-II : Harmony in the Human Being

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body
3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body

Unit-III : Harmony in the Family and Society and Harmony in the Nature

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour

Unit-IV : Social Ethics

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct

Unit-V : Professional Ethics

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

Reference Books :

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009
7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

Foundation Course - 2

ENVIRONMENTAL STUDIES

Common for BA/BCom/BSc/BBA/BCA Programmes

Semester - I (Total 30 Hours)

Unit-I : Natural Resources — 6 Hrs

Definition, scope and importance. Need for public awareness.
Brief description of;

- Forest recourses: Use and over-exploitation. Deforestation; timber extraction, mining, dams. Effect of deforestation environment and tribal people
- Water resources: Use and over–utilization. Effects of over utilization of surface and ground water. Floods, drought.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- Food resources: World food problems, Effects of modern agriculture; fertilizer-pesticide, salinity problems.
- Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
- Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification

Unit-II : Ecosystems, Biodiversity and its conservation — 6 Hrs

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Food chains, food webs and ecological pyramids
- Characteristic features of the following ecosystems:-
  Forest ecosystem, Desert ecosystem, Aquatic ecosystem.
- Value of biodiversity: Consumptive use, productive use. Biodiversity in India.
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity

Unit-III : Environmental Pollution — 6 Hrs

- Definition
- Causes, effects and control measures of :-
  a. Air pollution
  b. Water pollution
  c. Soil pollution
  d. Noise pollution
- Solid waste management; Measures for safe urban and industrial waste disposal
- Role of individual in prevention of pollution
- Disaster management: Drought, floods and cyclones

Unit-IV : Social Issues and the Environment **6 Hrs**

- From Unsustainable to Sustainable development
- Water conservation, rain water harvesting, watershed management.
- Climate change, global warming, ozone layer depletion,
- Environment protection Act
- Wildlife Protection Act, Forest Conservation Act

Unit-V : Human Population and the Environment **6 Hrs**

- Population explosion, impact on environment.
- Family welfare Programme
- Environment and human health
- Women and Child Welfare
- Value Education
- Role of Information Technology in Environment and humanhealth.

Reference Books :

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G. Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
2. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
3. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.

Andhra Pradesh State Council of Higher Education

B.Sc. Chemistry Syllabus under CBCS

w.e.f. 2015-16 (revised in April 2016)

Structure of Chemistry Syllabus Under CBCS

YEAR	SEMESTER	PAPER	TITLE	MARKS	CREDITS
I	I	I	Inorganic and Organic	100	03
			Practical – I	50	02
	II	II	Physical and General Chemistry	100	03
			Practical – II	50	02
II	III	III	Inorganic and organic	100	03
			Practical – III	50	02
	IV	IV	Spectroscopy and Physical	100	03
			Practical – IV	50	02
III	V	V	Inorganic ,Organic and Physical Chemistry	100	03
			Practical – V	50	02
		VI	Inorganic ,Organic and Physical Chemistry	100	03
			Practical – VI	50	02
	* Any one Paper from VII A, B and C ** Any one cluster from VIII, A, B and C	VII (A)*	Elective	100	03
			Practical - VII A	50	02
		VII (B)*	Elective	100	03
			Practical - VII B	50	02
		VII (C)*	Elective	100	03
			Practical - VII C	50	02
		VIII (A)**	**Cluster Electives - I :** VIII-A-1	100 100	03 03
		VIII (B)**	**Cluster Electives - II ::** VIII-B-1	100 100	03 03
		VIII (C)**	**Cluster Electives - III ::** VIII-C-1	100 100	03 03

ELECTIVE PAPER – VII-(B) : ENVIRONMENTAL CHEMISTRY

45 hrs (3 h / w)

UNIT-I

Introduction **9h**

Concept of Environmental chemistry-Scope and importance of environment in now a days – Nomenclature of environmental chemistry – Segments of environment - Natural resources – Renewable Resources – Solar and biomass energy and Nonrenewable resources – Thermal power and atomic energy – Reactions of atmospheric oxygen and Hydrological cycle.

UNIT-II

Air Pollution **9h**

Definition – Sources of air pollution – Classification of air pollution – Acid rain – Photochemical smog – Green house effect – Formation and depletion of ozone – Bhopal gas disaster – Controlling methods of air pollution.

UNIT-III

Water pollution **9h**

Unique physical and chemical properties of water – water quality and criteria for finding of water quality – Dissolved oxygen – BOD, COD, Suspended solids, total dissolved solids, alkalinity – Hardness of water – Methods to convert temporary hard water into soft water – Methods to convert permanent hard water into soft water – eutrophication and its effects – principal wastage treatment – Industrial waste water treatment.

UNIT-IV

Chemical Toxicology **9h**

Toxic chemicals in the environment – effects of toxic chemicals – cyanide and its toxic effects – pesticides and its biochemical effects – toxicity of lead, mercury, arsenic and cadmium.

UNIT-V

Ecosystem and biodiversity

9h

Ecosystem

Concepts – structure – Functions and types of ecosystem – Abiotic and biotic components – Energy flow and Energy dynamics of ecosystem – Food chains – Food web – Tropic levels – Biogeochemical cycles (carbon, nitrogen and phosporus)

Biodiversity

Definition – level and types of biodiversity – concept - significance – magnitude and distribution of biodiversity – trends - biogeographical classification of india – biodiversity at national, global and regional level.

List of Reference books

1. Fundamentals of ecology by M.C.Dash
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir k. Banerji

SEMESTER-VI

ELECTIVE PAPER – VII-(C) GREEN CHEMISTRY

45 hrs (3 h / w)

UNIT-I **10h**

Green Chemistry: Introduction- Definition of green Chemistry, need of green chemistry, basic principles of green chemistry. Green synthesis- Evaluation of the type of the reaction i) Rearrangements (100% atom economic), ii) Addition reaction (100% atom economic). Organic reactions by Sonication method: apparatus required examples of Sono chemical reactions (Heck, Hundsdiecker and Wittig reactions).

UNIT-II **10h**

Selection of solvent: I) Aqueous phase reactions ii) Reactions in ionic liquids, Heckreaction, Suzuki reactions, epoxidation. iii) Solid supported synthesis

Super critical CO_2: Preparation, properties and applications, (decaffeination, dry cleaning)

UNIT-III **10h**

Microwave and Ultrasound assisted green synthesis: Apparatus required, examples of MAOS (synthesis of fused anthro quinones, Leukart reductive amination of ketones) - Advantages and disadvantages of MAOS. Aldol condensation-Cannizzaro reaction-Diels-Alder reactions-Strecker's synthesis

UNIT-IV **5h**

Green catalysis: Heterogeneous catalysis, use of zeolites, silica, alumina, supported

UNIT V **10h**

Examples of green synthesis / reactions and some real world cases: 1. Green synthesis of the following compounds: adipic acid , catechol , disodium imino di acetate (alternative Strecker's synthesis) 2. Microwave assisted reaction in water – Hoffmann elimination – methyl benzoate to benzoic acid – oxidation of toluene and alcohols – microwave assisted reactions in organic solvents. Diels-Alder reactions and decarboxylation reaction. 3. Ultrasound assisted reactions – sonochemical Simmons –Smith reaction(ultrasonic alternative to iodine)

Reference books:

1. Green Chemistry Theory and Practice. P.T.Anatas and J.C. Warner
2. Green Chemistry V.K. Ahluwalia Narosa, New Delhi.
3. Real world cases in Green Chemistry M.C. Cann and M.E. Connelly
4. Green Chemistry: Introductory Text M.Lancaster: Royal Society of Chemistry (London)
5. Green Chemistry: Introductory Text, M.Lancaster
6. Principles and practice of heterogeneous catalysis, Thomas J.M.,Thomas M.J., John Wile

6. Green Chemistry: Environmental friendly alternatives R S Sanghli and M.M.Srivastava, Narosa Publications

LABORATORY COURSE – VIIGREEN CHEMISTRY

Practical Paper – Elective VII C (at the end of semester VI) 30 hrs (2 h/W)

1. Determination of specific reaction rate of hydrolysis for methyl acetate catalysed by hydrogen ion at room temperature**.**

2. Determination of molecular status and partition coefficient of benzoicacidin Benzene and water.

3. Surface tension and viscosity of liquids.

4. Adsorption of acetic acid on animal charcoal, verification of Freundlisch isotherm.

Andhra Pradesh State Council of Higher Education

Curriculum of B.Sc Botany under CBCS

w.e.f. 2015-16 (Revised in April, 2016)

Year	*Semester*	*Paper*	*Title*	*Hours*	*Marks*	*Credits*
I	**I**	**I**	Microbial Diversity , Algae and Fungi	**4**	**100**	**03**
			Practical –I	**2**	**50**	**02**
	II	**II**	Diversity Of Archaegoniates & Anatomy	**4**	**100**	**03**
			Practical –II	**2**	**50**	**02**
II	**III**	**III**	Plant taxonomy &Embryology	**4**	**100**	**03**
			Practical –III	**2**	**50**	**02**
	IV	**IV**	Plant physiology & Metabolism	**4**	**100**	**03**
			Practical –IV	**2**	**50**	**02**
III	**V**	**V**	Cell Biology, Genetics &Plant breeding	**3**	**100**	**03**
			Practical –V	**2**	**50**	**02**
		VI	Plant Ecology & Phytogeography	**3**	**100**	**03**
			Practical –VI	**2**	**50**	**02**
	*Any one paper from (A), (B) and (C) can be selected **VI** **Any one cluster (Set of Three Papers) from VIII-A or VIII-B can be selected	**VII (A)***	Elective	**3**	**100**	**03**
			Lab	**2**	**50**	**02**
		VII (B)*	Elective			
			Lab			
		VII (C)*	Elective			
			Lab			
		** **VIII-A**	**Cluster Elective-A** **VIII-A-1** **VIII-A-2** **VIII-A-3** **Or**	**3** **3** **3** **2** **2** **2**	**100** **100** **100** **50** **50** **50**	**03** **03** **03** **02** **02** **02**
		** **VIII-B**	**Cluster Elective-B** **VIII-B-1** **VIII-B-2** **VIII-B-3**			

III B. Sc - SEMESTER- V: BOTANY SYLLABUS

PAPER-VI: PLANT ECOLOGY& PHYTOGEOGRAPHY

Total hours of teaching 60 hrs @ 3 hrs per week

UNIT – I. Elements of Ecology (12 hrs)

1. Ecology: definition, branches and significance of ecology.
2. Climatic Factors: Light, Temperature, precipitation.
3. Edaphic Factor: Origin, formation, composition and soil profile.
4. Biotic Factor: Interactions between plants and animals.

UNIT– II. Ecosystem Ecology (12 hrs)

1. Ecosystem: Concept and components, energy flow, Food chain, Food web, Ecological pyramids.
2. Productivity of ecosystem-Primary, Secondary and Net productivity.
3. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.

UNIT – II Population &Community Ecology (12 hrs)

1. Population -definition, characteristics and importance, outlines –ecotypes.
2. Plant communities- characters of a community, outlines – Frequency, density, cover,life forms, competition.
3. Interaction between plants growing in a community.

UNIT – IV Phytogeography (12 hrs)

1. Principles of Phytogeography, Distribution (wides, endemic, discontinuous species)
2. Phytogeographic regions of India.
3. Phytogeographic regions of World.
4. Endemism – types and causes

UNIT- V: Plant Biodiversity and its importance (12

1. Definition, levels of biodiversity-genetic, species and ecosystem.
2. Biodiversity hotspots- Criteria, Biodiversity hotspots of India.
3. Loss of biodiversity – causes and conservation (*In-situ* and *ex-situ* methods).
4. Seed banks - conservation of genetic resources and their importance

Suggested activity: Collection of different soils, studying their texture, observing polluted water bodies, student study projects, debates on man's activity on ecosystem and biodiversity conservation methods, visiting a nearest natural vegetation area. Visit to NGO, working in the field of biodiversity and report writing; to study Honey Bees and plants yielding honey.

Books for Reference:

1. Daubenmire, R.F. ( ): Plants & Environment (2nd Edn.,) John Wiley & Sons., New York
2. Puri, .G.S. (1960): Indian Forest Ecology (Vol.I & II) Oxford Book Co., New Delhi &Calcutta.
3. Billings, W.B. (1965): Plants and the Ecosystem Wadsworth Publishing Co., Inc., Belmont.
4. Misra, R. (1968): The Ecology work Book Oxford & INH Publishing Co., Calcutta
5. Odum E.P. (1971): Fundamentals of Ecology (2nd Edn.,) Saunders & Co., Philadelphia &Natraj Publishers, Dehradun.
6. Odum E.P. (1975): Ecology By Holt, Rinert & Winston.
7. Oosting, H.G. (1978): Plants and Ecosystem Wadworth Belmont.
8. Kochhar, P.L. (1975): Plant Ecology. (9th Edn.,) New Delhi, Bombay, Calcutta-226pp.,
9. Kumar, H.D. (1992): Modern Concepts of Ecology (7th Edn.,) Vikas Publishing Co., NewDelhi.
10. Kumar H.D. (2000): Biodiversity & Sustainable Conservation Oxford & IBH Publishing Co Ltd. New Delhi.
10. Newman, E.I. (2000): Applied Ecology Blackwell Scientific Publisher, U.K.
11. Chapman, J.L&M.J. Reiss (1992): ecology (Principles & Applications). CambridgeUniversity Press, U.K.
12. Cain, S.A . (1944): Foundations of Plant Geography Harper & Brothers, N.Y.
13. Mani, M.S (1974): Ecology & Biogeography of India Dr. W. Junk Publishers, The Haque
    Good, R. (1997): The Geography of flowering Plants (2nd Edn.) Longmans

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Andhra Pradesh State Council of Higher Education

B.Sc. PHYSICS SYLLUBUS UNDER CBCS

w.e.f. 2015-16 (Revised in April 2016)

First Semester
Paper I : Mechanics& Properties of Matter
Practical I (Lab-1)

Second Semester
Paper II: Waves & Oscillations
Practical 2 (Lab2)

Third Semester
Paper III: Wave Optics
Practical 3.(Lab 3)

Fourth Semester
Paper IV: Thermodynamics & Radiation Physics
Practical 4.(Lab 4)

Fifth Semester
Paper V: Electricity, Magnetism& Electronics
Paper VI: Modern Physics
Practical 5.(Lab 5)
Practical 6.(Lab 6)

Sixth Semester
PaperVII:Elective (One)
Paper VIII:Cluster Electives (Three)
Practical 7(Lab 7)
Practical 8.(Lab 8)

Proposed Electives in Semester - VI

Paper – VII (one elective is to be chosen from the following0
Paper VII-(A): Analog and Digital Electronics
Paper VII-(B): Materials Science
Paper VII-(C): Renewable Energy
Paper – VIII (one cluster of electives (A-1,2,3 or B-1,2,3 or C-1,2,3) to be chosen *preferably*relating to the elective chosen under paper – VII (A or B or C)

Cluster 1.

Paper VIII-A-1. Introduction to Microprocessors and Microcontrollers
Paper VIII-A-2.Computational Physics and Programming
Paper VIII-A-3.Electronic Instrumentation

Cluster 2

Paper VIII-B-1.Fundamentals of Nanoscience
Paper VIII-B-2.Synthesis and Characterization of Nanomaterials
Paper VIII-B-3.Applications of Nanomaterials and Devices

Cluster 3

Paper VIII-C-1.Solar Thermal and Photovoltaic Aspects
Paper VIII-C-2.Wind, Hydro and Ocean Energies
Paper VIII-C-3.Energy Storage Devices

B.Sc. (Physics) (Maths Combinations)

Scheme of instruction and examination to be followed w.e.f. 2015-2016

S. No	Semester	Title of the paper	Instruc-tion hrs/week	Duration of exam(hrs)	Max Marks (external)
		Thoery			
1	First	Paper I: Mechanics& Properties of Matter	4	3	75
2	Second	Paper II: Waves & Oscillations	4	3	75
3	Third	Paper III: Wave Optics	4	3	75
4	Fourth	Paper IV: Thermodynamics & Radiation Physics	4	3	75
5	Fifth	Paper V:Electricity, Magnetism& Electronics Paper VI: Modern Physics	4 4	3 3	75 75
6	Sixth	PaperVII :Elective (One) Paper VIII: Cluster Electives (Three)	4 4	3 3	75 75
		Practicals			
1	First	Practical 1	2	3	50
2	Second	Practical II	2	3	50
3	Third	Practical III	2	3	50
4	Fourth	Practical IV	2	3	50
5	Fifth	Practical V	2	3	50
6		Practical VI	2	3	50
7	Sixth	Practical VII	2	3	50
8		Practical VIII	2	3	50

Elective VII-(C) :(Renewable Energy)

Semester –VI
Elective Paper –VII-(C): Renewable Energy

No. of Hours per week: 04 **Total Lectures:60**

UNIT-I (12 hrs)

1. Introduction to Energy: Definition and units of energy, power, Forms of energy, Conservation of energy, second law of thermodynamics, Energy flow diagram to the earth. Origin and time scale of fossil fuels, Conventional energy sources, Role of energy in economic development and social transformation.

2. Environmental Effects: Environmental degradation due to energy production and utilization, air and water pollution, depletion of ozone layer, global warming, biological damage due to environmental degradation. Effect of pollution due to thermal power station, nuclear power generation, hydroelectric power stations on ecology and environment.

UNIT-II (12 hrs)

3. Global Energy Scenario: Energy consumption in various sectors, projected energy consumption for the next century, exponential increase in energy consumption, energy resources, coal, oil, natural gas, nuclear and hydroelectric power, impact of exponential rise in energy usage on global economy.

4. Indian Energy Scene: Energy resources available in India, urban and rural energy consumption, energy consumption pattern and its variation as a function of time, nuclear energy - promise and future, energy as a factor limiting growth, need for use of new and renewable energy sources.

UNIT-III (12 hrs)

5. Solar energy: Solar energy, Spectral distribution of radiation, Flat plate collector, solar water heating system, Applications, Solar cooker. Solar cell, Types of solar cells, Solar module and array, Components of PV system, Applications of solar PV systems.

6. Wind Energy: Introduction, Principle of wind energy conversion, Components of wind turbines, Operation and characteristics of a wind turbine, Advantages and disadvantages of wind mills, Applications of wind energy.

UNIT-IV (12 hrs)

7. Ocean Energy: Introduction, Principle of ocean thermal energy conversion, Tidal power generation, Tidal energy technologies, Energy from waves, Wave energy conversion, Wave energy technologies, advantages and disadvantages.

8. Hydrogen Energy: History of hydrogen energy - Hydrogen production methods - Electrolysis of water, Hydrogen storage options – Compressed and liquefied gas tanks, Metal hydrides; Hydrogen safety - Problems of hydrogen transport and distribution - Uses of hydrogen as fuel.

UNIT-V (12 hrs)

9. Bio-Energy:

Energy from biomass – Sources of biomass – Different species – Conversion of biomass into fuels – Energy through fermentation – Pyrolysis, gasification and combustion – Aerobic and anaerobic bio-conversion – Properties of biomass – Biogas plants – Types of plants – Design and operation – Properties and characteristics of biogas.

References:

1. Solar Energy Principles, Thermal Collection &Storage, S.P.Sukhatme: Tata McGraw Hill Pub., New Delhi.
2. Non-Conventional Energy Sources, G.D.Rai, New Delhi.
3. Renewable Energy, power for a sustainable future, Godfrey Boyle, 2004,
4. The Generation of electricity by wind, E.W. Golding.
5. Hydrogen and Fuel Cells: A comprehensive guide, Rebecca Busby, Pennwell Corporation
6.Hydrogen & Fuel Cells: Emerging Technologies & Applications, B.Sorensen, Acad Press
7. Non-Conventional Energy Resources by B.H. Khan, Tata McGraw Hill Pub., 2009.
8. Fundamentals of Renewable Energy Resources byG.N.Tiwari, M.K.Ghosal, Narosa Pub., 2007.

Elective Paper-VII-C: Practical: Renewable Energy
2hrs/Week

Minimum of 6 experiments to be done and recorded

1. Preparation of copper oxide selective surface by chemical conversion method.
2. Performance testing of solar cooker.
3. Determination of solar constant using pyrheliometer.
4. Measurement of I-V characteristics of solar cell.
5. Study the effect of input light intensity on the performance of solar cell.
6. Study the characteristics of wind.

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Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUSFOR B.A/B.Com/B.Sc COURSESunder CBCS
w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER – I

1. Every unit shall state the objectives and expected deliverables.
2. Every lesson shall have
   - i) Questions on subject comprehension, paragraph, short note, single sentence answer types
   - ii) Exercises on vocabulary, syntax, and pronunciation
   - iii) Language exercises shall include exercises in paraphrasing, note-making and report writing wherever possible
   - iv) Pre -reading and post- reading activities.

Unit – I PROSE

1. A.P. J. Abdul Kalam: The Knowledge Society (from *Ignited Minds*)
2. NgugiWaThiong'o: The Language of African Literature (from *Decolonizing the Mind*)

Unit – II POETRY

1. Robert Frost: The Road Not Taken
2. Nissim Ezekiel: Night of the Scorpion

Unit – III SHORT STORY

1. Mulk Raj Anand : The Lost Child
2. Henry Lawson: The Loaded Dog

Unit – IV ONE - ACT PLAY

William Shakespeare: The Merchant of Venice (Court Scene – Act IV Scene -1)

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. Single Sentence Answer Questions on Vocabulary (spelling), sound(pronunciation), sense (meaning), and syntax (usage)
2. Classroom Activity
   - i. Exercises in Articles and Prepositions
   - ii. Exercises in Tenses, Interrogatives and Question tags

Note: In classroom instruction it may be ensured that the theoretical and practical components of CSS-I complement the language activity in this semester.

Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUS FOR B.A/B.Com/B.Sc COURSESunder CBCS

w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER – II

Unit – I PROSE

1. J. B.S Haldane: The Scientific Point of View
2. A.G. Gardiner : On Shaking Hands

Unit – II POETRY

1. John Keats: Ode to Autumn
2. Kishwar Naheed : I am not that Woman (from *An Anthology of Commonwealth Poetry* edited by C.D. Narasimhaiah)

Unit –III SHORT STORY

1. Ruskin Bond : The Boy Who Broke the Bank
2. R. K. Narayan : Half a Rupee Worth

Unit – IV ONE ACT PLAY

Anton Chekhov: The Proposal

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. Transformation of Sentences (Voice, Speech and Degrees)
   - ii. Dialogue Practice (Oral)
   - iii. Listening Comprehension

2. Classroom Activity
   - i. Guided Composition
   - ii. Dialogue Writing
   - iii. Reading Comprehension

Andhra Pradesh State Council of Higher Education

GENERAL ENGLISH SYLLABUSFOR B.A/B.Com/B.Sc COURSESunder CBCS

w.e.f. 2015-16 (Revised in April, 2016)

SEMESTER –III

Unit – I PROSE

1. M.K. Gandhi: Shyness My Shield (from *The Story of My Experiments with Truth)*
2. Alexis C. Madrigal: Why People Really Love Technology: An Interview with Genevieve Bell

Unit – II POETRY

1. Gabriel Okara: Once upon a Time
2. Seamus Heaney: Digging

Unit – III SHORT STORY

1. JhumpaLahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved Charioteer

Unit – IV ONE ACT PLAY

GurajadaAppa Rao: *Kanyasulkam*, translated by C. Vijayasree& T. VijayaKumar(Acts I & II)

Unit – V LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   - i. JAM Sessions
   - ii. Note Taking
   - iii. Reporting for the Media
   - iv. Expansion of an idea
2. Classroom Activity
   - i. Transformation of sentences (Simple-Complex-Compound Sentences)
   - ii. Note Making
   - iii. Report Writing
   - iv. Writing for the Media

Note: ***In classroom instruction it may be ensured that the theoretical and practical components of CSS-II complement the language activity in this semester.***

LIST OF LIFE SKILL COURSES

Semester	No. of Courses	Choices	Preferred Teaching Dept.
I	**01**	Computer Applications	Computers
		Entrepreneurship	Commerce
II	**01**	Information and Communication Technology	Computers
		Indian Culture and Science	History/Telugu
		Elementary Statistics	Statistics/Maths/Economics/ Commerce
III	**02**	Health and Hygiene	Zoology/Botany
		Personality Development and Leadership	English/ Any Dept
		Analytical Skills	Maths/Statistics
		Environmental Education	Botany/Zoology/Environmental Sciences/Any Dept.

List of Skill Development Courses along with their Semester-wise allotment with choices. Preferred Teaching Departments are given in the parenthesis.

Sem	No. of Courses	**Stream – A (Arts)**	**Stream – B (Commerce)**	**Stream – C (Science)**
I	**01**	Tourism Guidance (History) Public Relations (Pol Sci /English)	Secretaryship Insurance Promotion	Electrical Appliances (Physics) Plant Nursery (Botany)
II	**02**	Journalistic Reporting (English) Survey & Reporting (Economics/History) Social Work Methods (Pol Sci) Performing Arts (Telugu)	Agricultural Marketing Business Communication (English) Advertising Logistics & Supply Chain	Solar Energy (Physics) Fruit & Vegetable Preservation (Botany) Dairy Techniques (Zoology) Food Adulteration (Chemistry)
III	**01**	Financial Markets (Economics) Disaster Management (English /Telugu)	Online Business Retailing	Environment Audit (Chemistry) Poultry Farming (Zoology)

A.P. STATE COUNCIL OF HIGHER EDUCATION
B A, B Com & B Sc Programmes

Revised CBCS w.e.f. 2020-21
SKILL DEVELOPMENT COURSES

SCIENCE STREAM

Syllabus of
ENVIRONMENTAL AUDIT
Total 30 hrs (02h/wk), 02 Credits & Max 50 Marks

Learning Outcomes:
By successful completion of the course, students will be able to;

1. *Understand the basic concepts Environmental health*
2. *Learn and identify the industrial pollution*
3. *Explain the highlights in the regulatory aspects of Environmental law and policy*
4. *Understand the various phases of Environmental Audit*

UNIT – I
Industrial Pollution and its effects 06h
Climate – Weather and Air Pollution – Classification of water and water bodies – Water Quality Parameters – Water Pollution – Sources – Classification, nature and Toxicology of water pollutants. - Soil parameters –Soil pollution and impacts – Soil conservation

UNIT - II
Environmental Law & Policy: 09h
Highlights of the Acts, Institutional arrangements for: (1) The Water (Prevention & Control of Pollution) Act, 1974 amended in 1988; (2) The Air (Prevention and Control of Pollution) Act, 1981 amended in 1987; (3) The Water (Prevention and Control of Pollution) Cess Act, 1977 amended in 1991; (4) The Environment (Protection) Act, 1986; (5) The Public Liability Insurance Act, 1991; – Indian Policy Statement for abatement of Pollution, 1992.

UNIT - III
Environmental Audit - Scope & Requisites: 10h
Environmental Audit: Definition; Objectives; Scope, Coverage - GOI Notification on Environmental Audit - Benefits to Industry. Reporting Environmental Audit Findings - Importance of Environmental Audit Report to industry, public and the governments.

Co-curricular Activities Suggested: 05h

1. Visit to understand Institutional arrangements and functioning of Pollution Control Boards.
2. Visiting different Ecosystems
3. **Soil analysis**: Determination of soil type and texture, pH, Soil Moisture, Nitrogen, Potassium and Phosphorous.
4. **Water analysis:** Determination of pH, Dissolved solids and suspended solids, Dissolved Oxygen, COD, BOD.
5. Assignments, Group discussion, Quiz etc.

Reference books and websites:

1. Environmental Education in India by K.R. Gupta
2. Environmental Legislation in India by K.R. Gupta
3. https://parivesh.nic.in/
4. https://www.cpcb.nic.in/
5. https://www.free-ebooks.net/environmental-studies-academic

AP State Council of Higher Education

Revised Syllabus under CBCS Pattern
(w.e.f. 2020-'21 Academic Year)

A Mandatory Course for BA/BCom/BSc etc.

ENVIRONMENTAL EDUCATION

(Total hours of Teaching – 30 Hrs. @ 02 Hrs. per Week)

Course objective: A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.

Learning outcomes: On completion of this course the students will be able to …..

1. Understand the nature, components of an ecosystem and that humans are an integral part of nature.
2. Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
3. Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
4. Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
5. Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

Unit 1: Environment andNatural Resources **06 Hrs.**

1. Multidisciplinary nature of environmental education; scope and importance.
2. Man as an integral product and part of the Nature.
3. A brief account of land, forest and waterresources in India and their importance.

4. Biodiversity : Definition; importance of Biodiversity - ecological,consumptive, productive, social, ethical and moral, aesthetic, and option value.
5. Levels of Biodiversity: genetic, species and ecosystem diversity.

Unit-2: Environmental degradation and impacts **10Hrs**

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable energy resources, their utilization and influences.
5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks.
6. Green house effect - global warming; ocean acidification, ozone layer depletion, acid rains and impacts on human communities and agriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

Unit 3: Conservation of Environment **10 Hrs**

1. Concept of sustainability and sustainable development with judicious use of land, water and forest resources; afforestation.
2. Control measures for various types of pollution; use of renewable and alternate sources of energy.
3. Solid waste management: Control measures of urban and industrial waste.
4. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
5. Environment Laws: Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act.
6. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

Suggested activities to learner: (4 hours)

1. Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc
2. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
3. Study of common plants, insects, birds and basic principles of identification.
4. Study of simple ecosystems-forest, tank, pond, lake,mangroves etc.
5. Case study of a Forest ecosystem or a pond ecosystem.

Suggested text book :

- ErachBarucha (2004) *Text book of Environmental Studies for Undergraduate courses* (Prepared for University Grants Commmission) Universities Press.
- PurnimaSmarath (2018) *Environmental studies* Kalyani Publishers, Ludhiana

Reference books :

- Odum, E.P., Odum, H.T. & Andrews, J. (1971) *Fundamentals of Ecology*. Philadelphia: Saunders.
- Pepper, I.L., Gerba, C.P. &Brusseau, M.L. (2011). *Environmental and Pollution Science*. Academic Press.
- Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) *Environment. 8th edition*. John Wiley & Sons.
- Singh, J.S., Singh, S.P. and Gupta, S.R. (2014) *Ecology, Environmental Science and Conservation.* S. Chand Publishing, New Delhi.
- Sengupta, R. (2003) Ecology and economics: An approach to sustainable development. OUP.
- Wilson, E. O. (2006) *The Creation: An appeal to save life on earth.* New York: Norton.
- Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles of Conservation Biology.* Sunderland: Sinauer Associates,

A.P. STATE COUNCIL OF HIGHER EDUCATION
B.A, B.Com & B.Sc. PROGRAMMES

Revised CBCS w.e.f. 2020-21
SKILL DEVELOPMENT COURSES

Science Stream

Syllabus of

SOLAR ENERGY

Total 30 hrs (02h/wk), *02 Credits & Max Marks: 50*

Learning Outcomes:
After successful completion of the course, students will be able to:

1. *Acquire knowledge onsolarradiation principles with respect to solar energy estimation.*
2. *Get familiarized with various collecting techniques of solar energy and its storage*
3. *Learn the solar photovoltaic technology principles and different types of solar cells for energy conversion and different photovoltaic applications.*
4. *Understand the working principles of several solar appliances like Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses*

SYLLABUS:

UNIT-I – Solar Radiation: (6 hrs)

Sun as a source of energy, Solar radiation, Solar radiation at the Earth's surface, Measurement of Solar radiation-Pyroheliometer, Pyranometer, Sunshine recorder, Prediction of available solar radiation, Solar energy-Importance, Storage of solar energy, Solar pond

UNIT-II – Solar Thermal Systems: (10 hrs)

Principle of conversion of solar radiation into heat, Collectors used for solar thermal conversion: Flat plate collectors and Concentrating collectors, Solar Thermal Power Plant, Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses.

UNIT-III – Solar Photovoltaic Systems: (10 hrs)

Conversion of Solar energy into Electricity - Photovoltaic Effect, Solar photovoltaic cell and its working principle, Different types of Solar cells, Series and parallel connections, Photovoltaic applications: Battery chargers, domestic lighting, street lighting and water pumping

Co-curricular Activities (Hands on Exercises): (04 hrs)
[Any four of the following may be taken up]

1. *Plot sun chart and locate the sun at your location for a given time of the day.*
2. *Analyse shadow effect on incident solar radiation and find out contributors.*
3. *Connect solar panels in series &parallel and measure voltage and current.*
4. *Measure intensity of solar radiation using Pyranometer and radiometers.*
5. *Construct a solar lantern using Solar PV panel (15W)*
6. *Assemble solar cooker*
7. *Desigining and constructing photovoltaic system for a domestic house requiring 5kVA power*
8. Assignments/Model Exam.

Reference Books:

1. Solar Energy Utilization, G. D. Rai, Khanna Publishers
1. Solar Energy- Fundamentals, design, modeling & applications, G.N. Tiwari, Narosa Pub., 2005.
2. Solar Energy-Principles of thermal energy collection & storage, S.P. Sukhatme, Tata Mc-Graw Hill Publishers, 1999.
3. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
4. Science and Technology of Photovoltaics, P. Jayarama Reddy, BS Publications, 2004.

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

(SYLLABUS)

Learning Outcome:

On completion of this course, the UG students will be able to

- ✓ Understand the significance of value inputs in a classroom and start applying them in their life and profession
- ✓ Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
- ✓ Understand the value of harmonious relationship based on trust and respect in their life and profession
- ✓ Understand the role of a human being in ensuring harmony in society and nature.
- ✓ Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

UNIT: 1 Introduction – Definition, Importance, Process & Classifications of Value Education

- ❖ Understanding the need, basic guidelines, content and process for Value Education
- ❖ Understanding the thought-provoking issues; need for Values in our daily life
- ❖ Choices making – Choosing, Cherishing & Acting
- ❖ Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 Harmony in the Family – Understanding Values in Human Relationships

- ✓ Understanding harmony in the Family- the basic unit of human interaction
- ✓ Understanding the set of proposals to verify the Harmony in the Family;
- ✓ Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship
- ✓ Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.
- ✓ Understanding the Problems faced due to differentiation in Relationships
- ✓ Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals
- ✓ Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family.

UNIT: 3Professional Ethics in Education

- ✓ Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.
- ✓ Understanding the concepts; Positive co-operation, Respecting the competence of other professions.
- ✓ Understanding about Taking initiative and promoting the culture of openness.
- ✓ Depicting Loyalty towards Goals and objectives.

Text Books:

R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education.

References:

- Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, U
- E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
- Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
- A Nagraj, 1998, Jeevan Vidya EkParichay, Divya Path Sansthan, Amarkantak.
- P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
- A N Tripathy, 2003, Human Values, New Age International Publishers.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam.

Co-curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

BUS-3.3(R22): BUSINESS ETHICS & CORPORATE GOVERNANCE

COURSE OUTCOMES:
On successful completion of the course the learner will be able to:

- Describe the basic Ethical Theories
- Explain in detailEthics in functional areas such as finance, marketing, HR, IT, etc.
- It helps the students to understand the Corporate Social Responsibility
- It enables them to analyze and understand the corporate governance

Unit- I: Concept of Ethics: Meaning and definition of Ethics – Ethical Theories – Values – Need for Ethics and Values – Indian Value System – Various approaches to Ethics.
Unit-II: Business Ethics: Concept, meaning and definition of Business Ethics – Ethical corporate behavior – Ethical decision making – Conflicts in decision making from the legal and moral points of view. Work Ethics: Nature and scope. Ethical dilemma. Ethics in functional areas such as finance, marketing, HR, IT, etc.
Unit- III: Corporate Social Responsibility: Corporate Social Responsibility (CSR) & significance of CSR in business. CSR principles and strategies for business organizations. Best practices in CSR. Orienting management education towards ethical behavior.
UNIT- IV: Corporate Governance: Meaning and definition of corporate governance – Corporate management structure for corporate governance – Boards of Directors – Responsibilities of Boards of Directors – Legal requirements for Boards of Directors with regard to Corporate Governance – Morale responsibilities of Boards of Directors
UNIT- V: Corporate Governance in Global Scenario: Corporate governance requirements in the ever changing global scenario. Global practices: Cadbury report – OECD Committee recommendations. Desirable corporate governance in India – a Code. Summary of the SEBI Committee –report of the Consultative Group of Directors of Banks / Financial Institutions – Summary of Naresh Chandra Committee on Corporate Audit and Governance. Towards developing a best corporate governance system in an organization.
BUS 3.3.1(R22): CASE STUDY PRESENTATION OF CSR/ETHICAL PRACTICES OF COMPANIES

Suggested Books:

1. S. Singh, Corporate Governance: Global Concepts & Practices, Excel Books, New Delhi.
2. Sherlekar, Ethics in Management, Himalaya Publishing House, New Delhi.
3. Chakravarthy, S.K. Foundations of Management Work – Contribution from Indian Thought, Himalaya Publishing House, New Delhi.
4. Satheesh Kumar, Corporate Governance, Oxford University Press.
5. Prabakaran S, Business Ethics and Corporate Governance, Excel Books, New Delhi.
6. A.B Rao, Business Ethics and Professional Values, Excel Books, New Delhi.
7. Fernando, Business Ethics an Indian Perspective, Pearson

I SEMESTER

CONTENTS

विषयानुक्रमणिका

पाठ्यक्रम:

प्रथमविभाग: (UNIT- I)

प्राचीनसाहित्यम्

द्वितीयविभाग: (UNIT- II)

आधुनिकसाहित्यम्

CBCS SEMESTER WISE SYLLABUS

Part I (B) Subject : SANSKRIT

SEMESTER – II

PAPER – II : POETRY, PROSE & GRAMMAR.

UNIT – I OLD POETRY:

1. "Indumateeswayamvaram", Raghuvamsam of kalidasa, 6thcanto, Chowkhamba krishadas academy, Varanasi 2012.
2. "Deekshaapradanam", Buddacharitam of Aswagosha, 16thcanto. Selected verses.

UNIT – II MODERN POETRY:

1. "Gangavataranam", Bhojas Champu Ramayanam, Balakanda.
2. "Mohapanodaha", 4th cant. Dharma Souhrudam by P.Pattabhi Ramarao, , Published by Author, Ramanth Nagar.
3. "VandeKasmeerabharatam", by Doolypala Ramakrishna from Samskrita pratibha, sahitya academy , New Delhi -2018.

UNIT – III PROSE:

1. "Avantisundarikatha", 5th Chapter. Dasakumara Charitam, Purva peetika
2. "Charudattacharitam", Bhasakathasaraha by Y.Mahalingasastry

UNIT - IV GRAMMAR:

1. DECLENSIONS Nouns ending in vowels
   Nadee, Janu, vadhoo, Matru, Phala, Vaari & Madhu.
2. CONJUGATIONS
   III Conjugation- Yudh, IV Conjugation- Ish, VIII Conjugation- Likh, Kru, IX Conjugation-Kreen X, Conjugation-Kath, Ram, Vand.

UNIT – V GRAMMAR:

1. SANDHI - Halsandhi - Latva, Jastva
   -Visarga sandhi- Utva, Visargalopa, Rephadesa, Ooshma.

2. SAMASA
   Avyayeebhava, Bahruvrihi

బి.ఎ./బి.కాం./బి.ఎస్సి. డిగ్రీ మొదటి సంవత్సరం

ప్రథమ భాష-తెలుగు-పాఠ్య ప్రణాళిక - 2015-2016 నుండి అమలులోకి వస్తుంది

సెమిస్టర్-I 2018-19

ప్రాచీన కవిత్వం

I నన్నయ - గంగాశంతనుల కథ

ఆంధ్రమహాభారతం-ఆదిపర్వం-నాల్గవ ఆశ్వాసం (120-165)

"నరవరుడగు శంతనునకు" నుండి "దివ్య భూషణాలంకృత" వరకు

II తిక్కన- ద్రౌపది పరిదేవనం-ఆంధ్రమహాభారతం-ఉద్యోగపర్వం-తృతీయ

ఆశ్వాసం (100-125)

"ధర్మనందను పలుకులు" నుండి "అని యూఅడిలగ బలికిన" వరకు

III ఆధునిక కవిత్వం

(అ) గురజాడ - కన్యక

(ఆ) శ్రీశ్రీ - దేశచరిత్రలు

IV కథానికలు

(అ) పాపినేని శివశంకర్ - చింతల తోపు

(ఆ) బండి నారాయణస్వామి - సావుకూడు

V వ్యాకరణం

(అ) సంధులు - సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, గుగాగమ, టుగాగమ, ఆమ్రేడిత, అత్వ, ఇత్వ సంధులు.

(ఆ) సమాసాలు- తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి మొదలైనవి

(ఇ) అక్షర దోషాలు- దోషాలు సరిదిద్ది సాధు రూపాలు రాయాలి

....

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి - సాయుజ్యము

శ్రీకాళహస్తి మహాత్మ్యము - ద్వితీయాశ్వాసం (109-139)

త్రేతాంబుననొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి- సుభద్రా పరిణయం

విజయ విలాసం - 3వ ఆశ్వాసం - (93-139)

"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి

"తేరెక్కి దంపతులరుగ" వరకు.

II ఆధునిక కవిత్వం

(అ) జాషువా - పిరదౌసి లేఖ

("ఆ సుల్తాను" ... నుండి "అనుచు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం - 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు

("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)

(కవితా వైజయంతి పద్య సంకలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి - నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ- అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని - బతుకాట

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు - ఈనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి నేపథ్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికల ఆధారంగా సేకరించండి.

పాఠ్య ప్రణాళిక

యూనిట్-I

రాజనీతి - సంస్కృతం

మహాభారతం-సభాపర్వం-ప్రథమాశ్వాసం-(26-57 పద్యాలు)

యూనిట్-II

దక్షయజ్ఞం - నన్నెచోడుడు

కుమారసంభవం-ద్వితీయాశ్వాసం-(49-86 పద్యాలు)

యూనిట్-III

ధౌమ్య ధర్మోపదేశము - తిక్కన

మహాభారతం-విరాటపర్వం-ప్రథమాశ్వాసం-(116-146) పద్యాలు

యూనిట్-IV

పలనాటి బెబ్బులి - శ్రీనాథుడు (పలనాటి వీరచరిత్ర-ద్విపద కావ్యం పుట 108-112
'బాలచంద్రుడు భీమంబగు సంగ్రామం బొనర్చుట.. (108)..
..... వెఱగంది కుంది' (112) సం. అక్కిరాజు ఉమాకాంతం
ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్-V

సీతారామ సంవాదం - మొల్ల

రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

✦వ్యాకరణం

సంధులు: ఉత్వ, త్రిక, ద్రుతప్రకృతిక, ప్రగాగమ, ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జశ్త్వ, అనునాసిక సంధులు

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలు:

అర్థాలంకారాలు : ఉపమ, ఉత్ప్రేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరన్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు : అనుప్రాస (వృత్యనుప్రాస, ఛేకానుప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

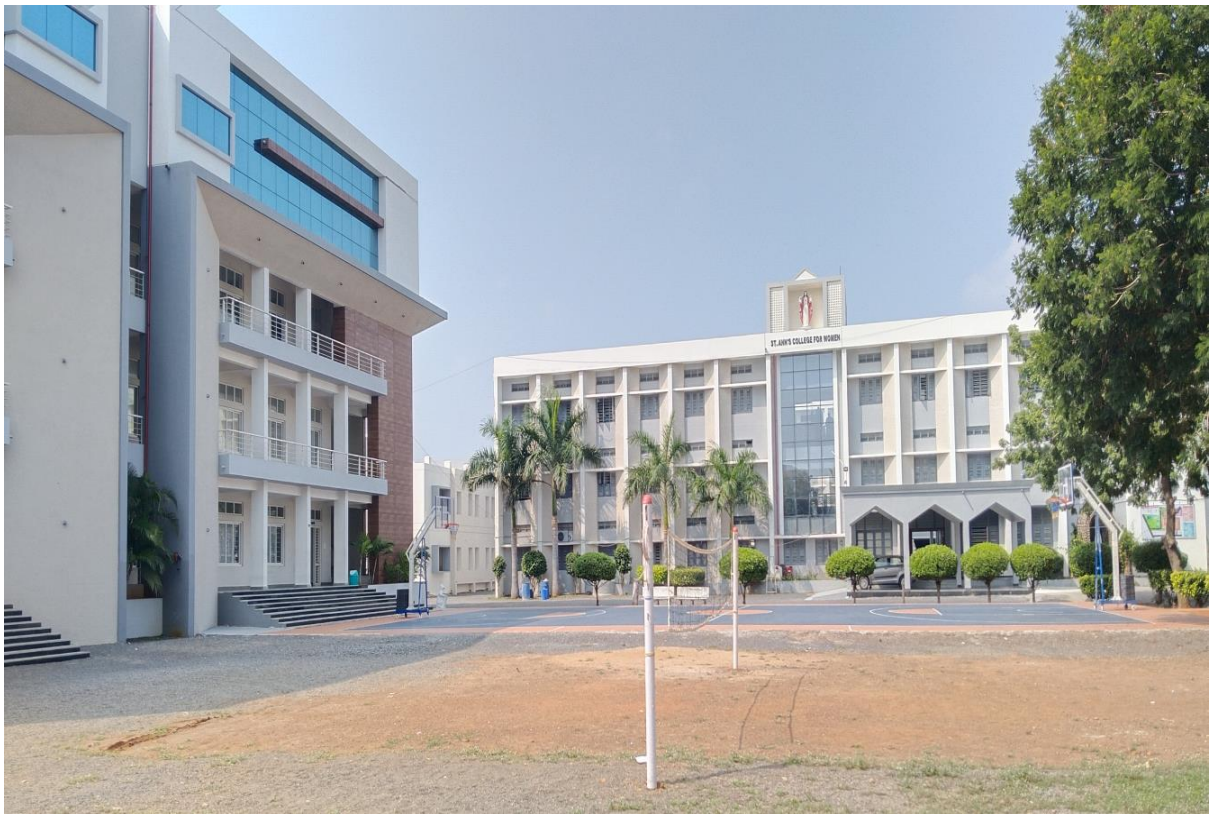
ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము:

జాతులు : కందం, ద్విపద, ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

ST. ANN'S COLLEGE FOR WOMEN ★ GORANTLA, GUNTUR ★ Affiliated to Acharya Nagarjuna University

PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034

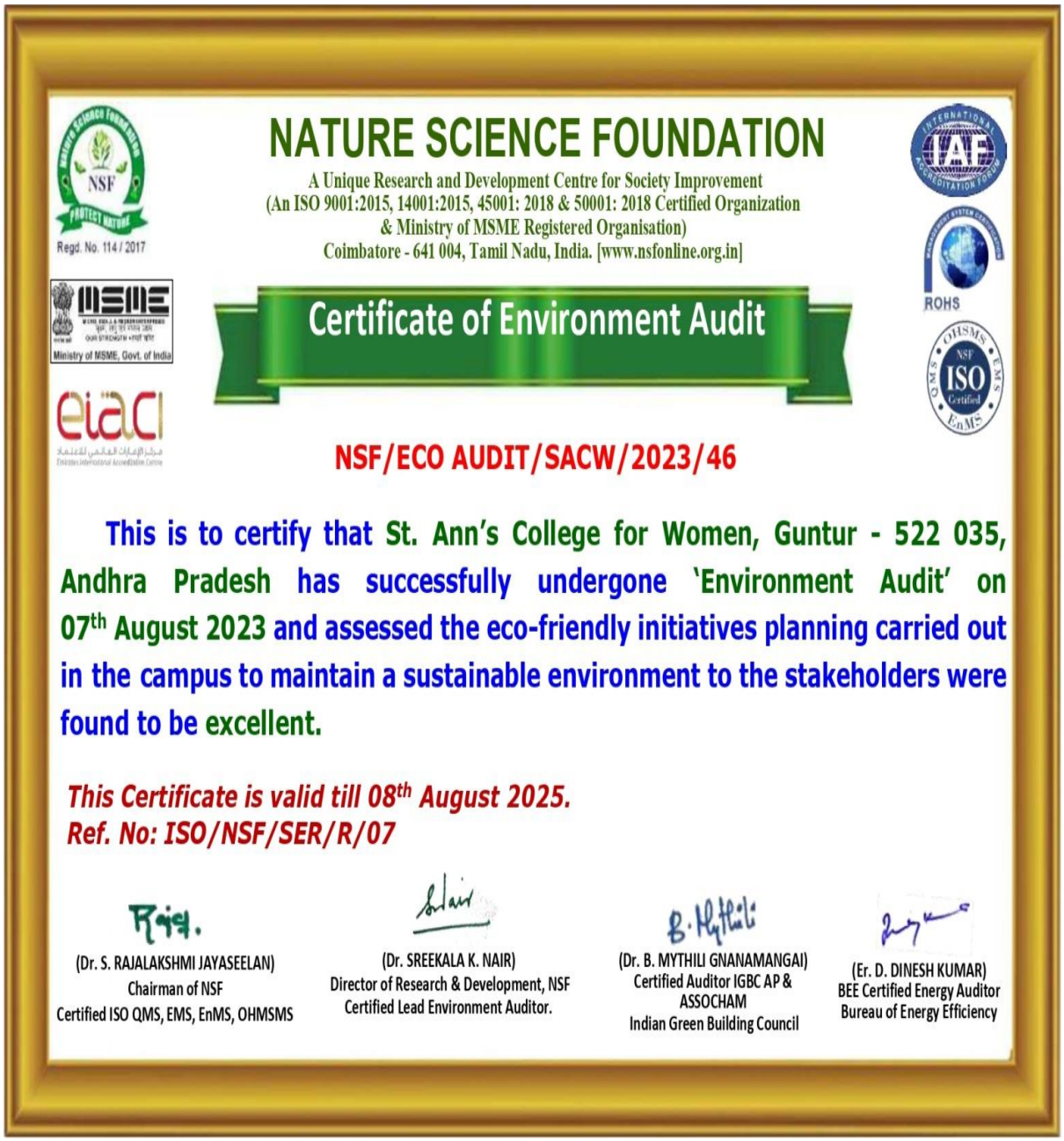


Criterion –I

1.3.1 Certificates of Quality Audits
on
Environment and Sustainability

1.3.1 Certificates of Quality Audits on Environment and Sustainability

ENVIRONMENT AUDIT



NATURE SCIENCE FOUNDATION

A Unique Research and Development Centre for Society Improvement
(An ISO 9001:2015, 14001:2015, 45001: 2018 & 50001: 2018 Certified Organization
& Ministry of MSME Registered Organisation)
Coimbatore - 641 004, Tamil Nadu, India. [www.nsfonline.org.in]

Regd. No. 114 / 2017

Ministry of MSME, Govt. of India

ROHS

Certificate of Environment Audit

NSF/ECO AUDIT/SACW/2023/46

This is to certify that St. Ann's College for Women, Guntur - 522 035, Andhra Pradesh has successfully undergone 'Environment Audit' on 07th August 2023 and assessed the eco-friendly initiatives planning carried out in the campus to maintain a sustainable environment to the stakeholders were found to be excellent.

This Certificate is valid till 08th August 2025.
Ref. No: ISO/NSF/SER/R/07

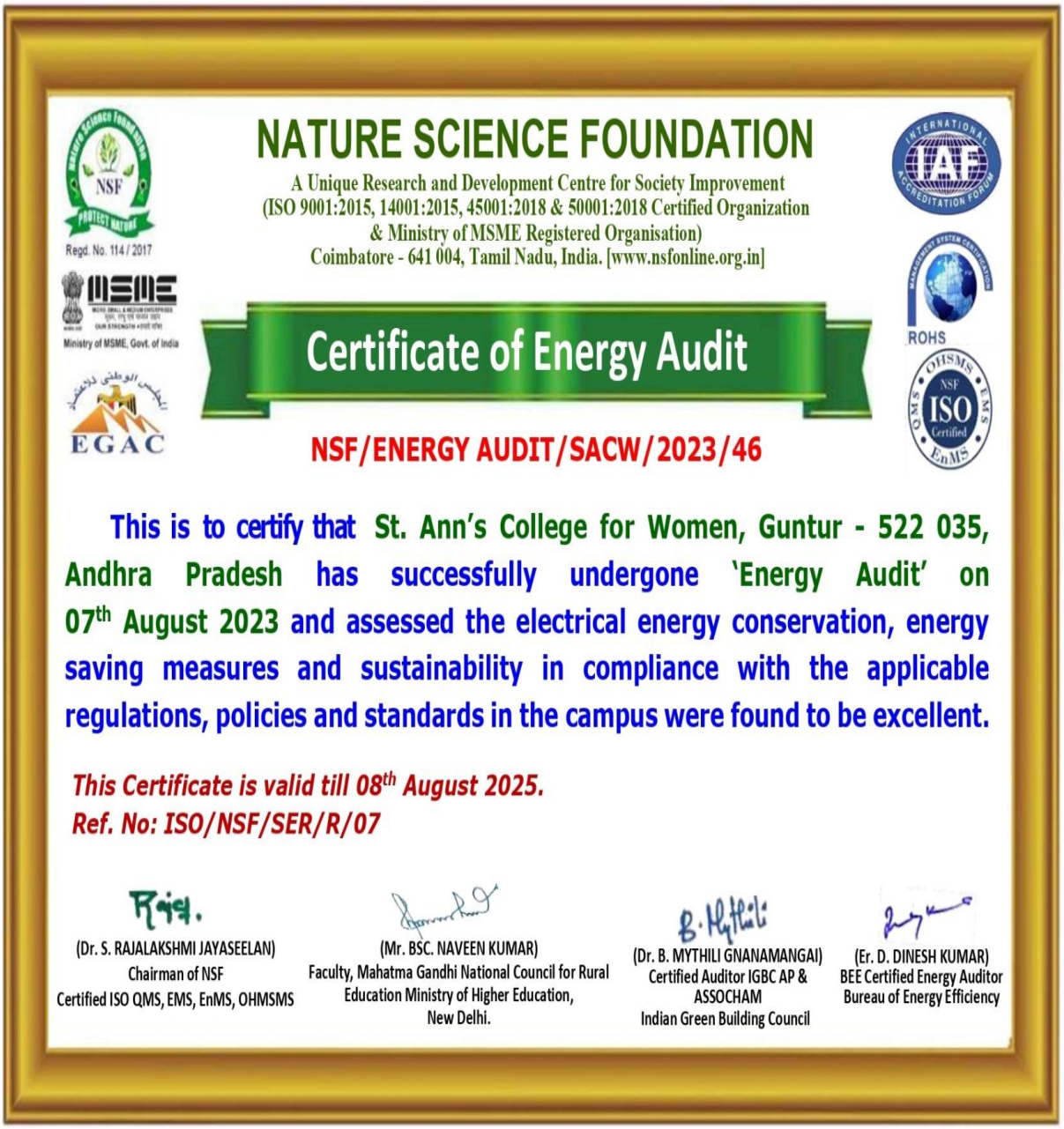
(Dr. S. RAJALAKSHMI JAYASEELAN)
Chairman of NSF
Certified ISO QMS, EMS, EnMS, OHMSMS

(Dr. SREEKALA K. NAIR)
Director of Research & Development, NSF
Certified Lead Environment Auditor.

(Dr. B. MYTHILI GNANAMANGAI)
Certified Auditor IGBC AP &
ASSOCHAM
Indian Green Building Council

(Er. D. DINESH KUMAR)
BEE Certified Energy Auditor
Bureau of Energy Efficiency

ENERGY AUDIT



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ROHS

Certificate of Energy Audit

NSF/ENERGY AUDIT/SACW/2023/46

This is to certify that St. Ann's College for Women, Guntur - 522 035, Andhra Pradesh has successfully undergone 'Energy Audit' on 07th August 2023 and assessed the electrical energy conservation, energy saving measures and sustainability in compliance with the applicable regulations, policies and standards in the campus were found to be excellent.

This Certificate is valid till 08th August 2025.
Ref. No: ISO/NSF/SER/R/07

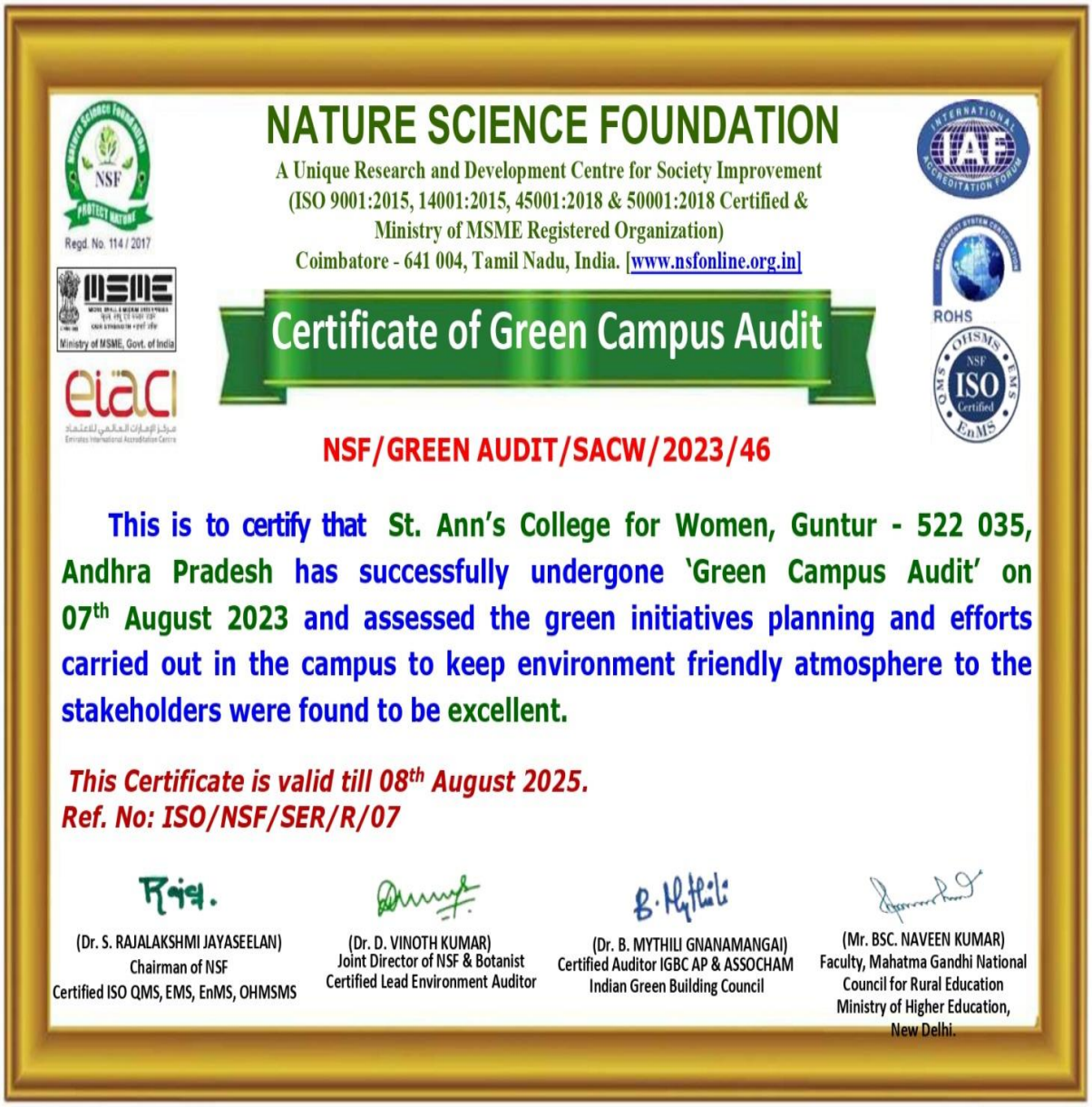
(Dr. S. RAJALAKSHMI JAYASEELAN)
Chairman of NSF
Certified ISO QMS, EMS, EnMS, OHMSMS

(Mr. BSC. NAVEEN KUMAR)
Faculty, Mahatma Gandhi National Council for Rural Education Ministry of Higher Education, New Delhi.

(Dr. B. MYTHILI GNANAMANGAI)
Certified Auditor IGBC AP & ASSOCHAM
Indian Green Building Council

(Er. D. DINESH KUMAR)
BEE Certified Energy Auditor
Bureau of Energy Efficiency

GREEN CAMPUS AUDIT



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Ministry of MSME, Govt. of India

ROHS

Certificate of Green Campus Audit

NSF/GREEN AUDIT/SACW/2023/46

This is to certify that St. Ann's College for Women, Guntur - 522 035, Andhra Pradesh has successfully undergone 'Green Campus Audit' on 07th August 2023 and assessed the green initiatives planning and efforts carried out in the campus to keep environment friendly atmosphere to the stakeholders were found to be excellent.

This Certificate is valid till 08th August 2025.
Ref. No: ISO/NSF/SER/R/07

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