

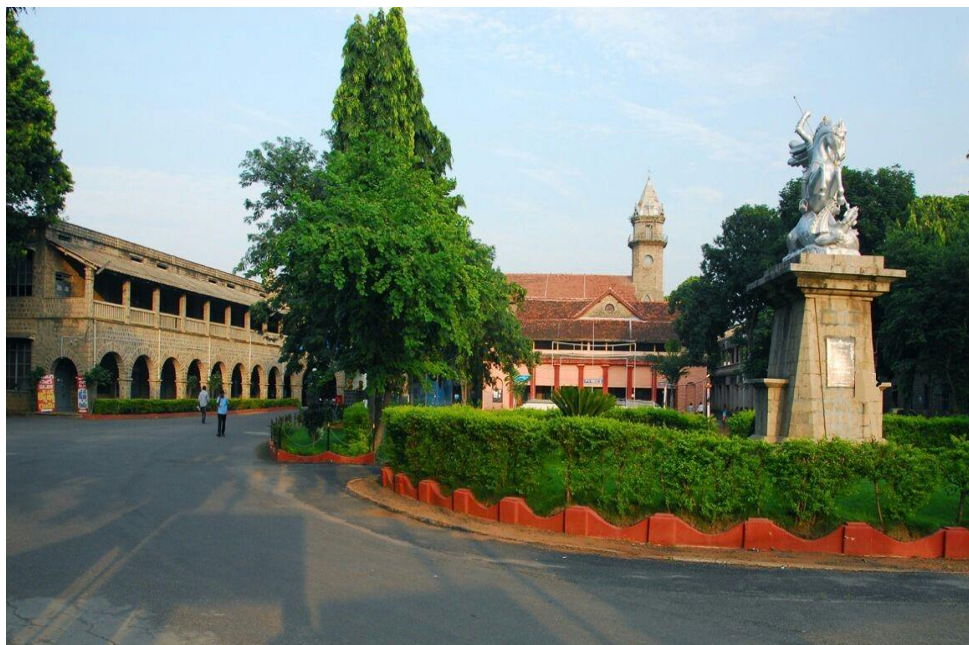


## **Andhra Christian College, Guntur**

Affiliated to Acharya Nagarjuna University  
Sambasivapet main road, Guntur -522001, A. P. India  
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Criterion: I

Metric: 1.3.1



### **Criterion –I Curricular Aspects**

#### **1.3 Curriculum Enrichment**

**SYLLABUS INCLUDING CROSS-CUTTING ISSUES**

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/<br>Week | Total<br>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.Tripathy, 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
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## 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 resources: 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 human health.

#### 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.
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# 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  |
|------------|---------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------|------------|----------|
| <b>I</b>   | <b>I</b>                                                                                          | <b>I</b>          | Inorganic and Organic                         | 100        | 03       |
|            |                                                                                                   |                   | Practical – I                                 | 50         | 02       |
|            | <b>II</b>                                                                                         | <b>II</b>         | Physical and General Chemistry                | 100        | 03       |
|            |                                                                                                   |                   | Practical – II                                | 50         | 02       |
| <b>II</b>  | <b>III</b>                                                                                        | <b>III</b>        | Inorganic and organic                         | 100        | 03       |
|            |                                                                                                   |                   | Practical – III                               | 50         | 02       |
|            | <b>IV</b>                                                                                         | <b>IV</b>         | Spectroscopy and Physical                     | 100        | 03       |
|            |                                                                                                   |                   | Practical – IV                                | 50         | 02       |
| <b>III</b> | <b>V</b>                                                                                          | <b>V</b>          | Inorganic ,Organic and Physical Chemistry     | 100        | 03       |
|            |                                                                                                   |                   | Practical – V                                 | 50         | 02       |
|            |                                                                                                   | <b>VI</b>         | Inorganic ,Organic and Physical Chemistry     | 100        | 03       |
|            |                                                                                                   |                   | Practical – VI                                | 50         | 02       |
|            |                                                                                                   | <b>VII (A)*</b>   | Elective                                      | 100        | 03       |
|            |                                                                                                   |                   | Practical - VII A                             | 50         | 02       |
|            |                                                                                                   | <b>VII (B)*</b>   | Elective                                      | 100        | 03       |
|            |                                                                                                   |                   | Practical - VII B                             | 50         | 02       |
|            |                                                                                                   | <b>VII (C)*</b>   | Elective                                      | 100        | 03       |
|            |                                                                                                   |                   | Practical - VII C                             | 50         | 02       |
|            | <b>* Any one Paper from VII A, B and C</b><br><br><b>** Any one cluster from VIII, A, B and C</b> | <b>VIII (A)**</b> | <b>Cluster Electives - I :</b><br>VIII-A-1    | 100<br>100 | 03<br>03 |
|            |                                                                                                   |                   |                                               |            |          |
|            |                                                                                                   | <b>VIII (B)**</b> | <b>Cluster Electives - II ::</b><br>VIII-B-1  | 100<br>100 | 03<br>03 |
|            |                                                                                                   |                   |                                               |            |          |
|            |                                                                                                   | <b>VIII (C)**</b> | <b>Cluster Electives - III ::</b><br>VIII-C-1 | 100<br>100 | 03<br>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 phosphorus)

##### **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

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## 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, Hunsdiecker and Wittig reactions).

#### UNIT-II

10h

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

**Super critical CO<sub>2</sub>:** 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, Leuckart 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 diacetate (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. Connolly
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 benzoic acid in Benzene and water.
  3. Surface tension and viscosity of liquids.
  4. Adsorption of acetic acid on animal charcoal, verification of Freundlich isotherm.
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# 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 Archaeogoniates & 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      |
|      | VI       | VII (A)*  | Elective                               | 3     | 100   | 03      |
|      |          |           | Lab                                    | 2     | 50    | 02      |
|      |          | VII (B)*  | Elective                               |       |       |         |
|      |          |           | Lab                                    |       |       |         |
|      |          | VII (C)*  | Elective                               |       |       |         |
|      |          |           | Lab                                    |       |       |         |
|      |          | ** VIII-A | Cluster Elective-A                     | 3     | 100   | 03      |
|      |          |           | VIII-A-1                               | 3     | 100   | 03      |
|      |          |           | VIII-A-2                               | 3     | 100   | 03      |
|      |          |           | VIII-A-3                               | 2     | 50    | 02      |
|      |          |           | Or                                     | 2     | 50    | 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

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Total hours of teaching 60 hrs @ 3 hrs per week

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#### **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., New Delhi.
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). Cambridge University 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 Hague
- 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**

Paper VII: 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 following)

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                            | Instruction hrs/week | Duration of exam(hrs) | Max Marks (external) |
|-------------------|----------|-----------------------------------------------|----------------------|-----------------------|----------------------|
| <b>Theory</b>     |          |                                               |                      |                       |                      |
| 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 | 4                    | 3                     | 75                   |
|                   |          | Paper VI: Modern Physics                      | 4                    | 3                     | 75                   |
| 6                 | Sixth    | Paper VII: Elective (One)                     | 4                    | 3                     | 75                   |
|                   |          | Paper VIII: Cluster Electives (Three)         | 4                    | 3                     | 75                   |
| <b>Practicals</b> |          |                                               |                      |                       |                      |
| 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 by G.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 SYLLABUS FOR B.A/B.Com/B.Sc COURSES under 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. Ngugi Wa Thiong'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 COURSES under 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 SYLLABUS FOR B.A/B.Com/B.Sc COURSES under 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. Jhumpa Lahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved Charioteer

**Unit – IV ONE ACT PLAY**

Gurajada Appa Rao: *Kanyasulkam*, translated by C. Vijayasree & T. Vijaya Kumar (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)                                                                                                                         |
|------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>I</b>   | <b>01</b>      | Tourism Guidance (History)<br><br>Public Relations (Pol Sci /English)                                                                               | Secretaryship<br><br>Insurance Promotion                                                                          | Electrical Appliances (Physics)<br><br>Plant Nursery (Botany)                                                                                |
| <b>II</b>  | <b>02</b>      | Journalistic Reporting (English)<br><br>Survey & Reporting (Economics/History)<br><br>Social Work Methods (Pol Sci)<br><br>Performing Arts (Telugu) | Agricultural Marketing<br><br>Business Communication (English)<br><br>Advertising<br><br>Logistics & Supply Chain | Solar Energy (Physics)<br><br>Fruit & Vegetable Preservation (Botany)<br><br>Dairy Techniques (Zoology)<br><br>Food Adulteration (Chemistry) |
| <b>III</b> | <b>01</b>      | Financial Markets (Economics)<br><br>Disaster Management (English /Telugu)                                                                          | Online Business<br><br>Retailing                                                                                  | Environment Audit (Chemistry)<br><br>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)

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**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.

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**Unit 1: Environment and Natural 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 water resources 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.

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**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 :**

- Erach Barucha (2004) *Text book of Environmental Studies for Undergraduate courses* (Prepared for University Grants Commission) Universities Press.
- Purnima Smarath (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 on solar radiation 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. *Designing 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 McGraw 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: 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.

## **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 detail Ethics 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

पाठ्यक्रमः

प्रथमविभागः (UNIT-I)

प्राचीनसाहित्यम्

१. अभिज्ञानम् - श्रीमद्रामायणम्  
- वाल्मीकिः
२. अतिथ्यम् - श्रीमद्भागवतम्  
- वेदव्यासः

द्वितीयविभागः (UNIT-II)

आधुनिकसाहित्यम्

३. उन्नतिः - भारतीभूषणम्  
डा. दीवि नरसिंहदीक्षितः
४. विविक्तपुष्पकरण्डः - विविक्तपुष्पकरण्डः  
डा. राणि सदाशिवमूर्तिः

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, 6<sup>th</sup>canto, Chowkhamba krishadas academy, Varanasi 2012.
2. "Deekshaapradanam", Buddacharitam of Aswagosha, 16<sup>th</sup>canto. Selected verses.

UNIT – II MODERN POETRY:

1. "Gangavataranam", Bhojas Champu Ramayanam, Balakanda.
2. "Mohapanodaha", 4<sup>th</sup> 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", 5<sup>th</sup> 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

ప్రాచీన కవితలు

I సన్నయ -

గంగాశంతనుల కవి

ఆంధ్రమహాభారతం-ఆదిపర్వం-నాల్గవ అశ్వాసం (120-165)  
 “నరవరుడగు శంతనునకు” నుండి “దివ్య భూషణాలంకృత” వరకు

II తిక్కన-

ద్రౌపది పరిదేవనం-ఆంధ్రమహాభారతం-ఉద్యోగపర్వం-తృతీయ  
 అశ్వాసం (100-125)  
 “ధర్మనందను పలుకులు” నుండి “అని యూఱడిలగ బలికిన” వరకు

III ఆధునిక కవితలు

- (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, ఆప్రేడిత, 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 - పిరదాసి 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 - నమ్మకున్న 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 అమ్మకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్మకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికల ఆధారంగా సేకరించండి.

— సస్పెన్సు

యూనిట్-II

- 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

సీతారావణ సంవాదం

- ಮೊಲ್ಲ

రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

♦ వ్యాకరణం

◆ వ్యాకరణం  
సంధులు: ఉత్పత్తి, త్రిక, ద్రుతప్రకృతిక, ముగాగమ, సవర్ణ, సుఖ, ద్వైరుక్తలకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జన్య, అనునాసిక సంధులు

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

**అలంకారాలు:**

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

శబ్దాలంకారాలు : అనుప్రాస (వృత్త్యనుప్రాస, ఛేకామప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

చందస్సు

పృథ్వాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము;

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

Notes I, II, IV carefully read & signed.

(C. E. 2036) is good. 6/1/58

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*[Handwritten signature]*