GOVERNMENT DEGREE COLLEGE RAYACHOTI

(Accredited by NAAC with C Grade)

Criteria-1

1.3.1. (Additional information)

Institution integrates cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability, into the Curriculum

2018- 2019 to 2020-2021

List of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.

Human values professional ethics

Environmental education

Entrepreneurship and

Leadership education

PRINCIPAL
Govt. Degree College
Rayachoty.

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2018- 2019 to 2020-2021

Yogi vemana university, kadapa

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 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

Yogi vemana university, kadapa

ENVIRONMENTAL STUDIES

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

Foundation Course - 2

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 utilisation 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.

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Foundation Course - 3

ENTREPRENEURSHIP

Syllabus, Forall Degree Programmes.

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

Semester – IV (Total 30 Hrs)

Unit-I: Entrepreneurship: Entrepreneur characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations –Role of Entrepreneurship in economic development – Start-ups.

Unit-II: Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

Unit-III: Project Formulation and Appraisal : Preparation of Project Report – Content; Guidelines for Report preparation – Project Appraisal techniques – economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

Unit-iv: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions –DICs- SFC- SSIDC- Other financial assistance.

Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions –Rehabilitation and Investment Allowances.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.
2. Poornima M.CH., Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi,2009
3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011
4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi, 2011
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi.
7. Peter F. Drucker,Innovation and Entrepreneurship.
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges &Opportunities.

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Foundation Course - 4

LEADERSHIP EDUCATION

Syllabus, For all Degree Programmes.

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

Semester – IV (Total 30 Hrs)

1. Organisation – Management – Leadership –Meaning and Significance – Different theories – Trait Theory, Blake &Mountan Theory – Other functions of Management.
2. Behavioral Concepts – Individual Behaviour – Perception – Learning – Attitude Formation and Change – Motivation – Theories of Motivation – Personality Development.
3. Interpersonal Behaviour – Communication – Leadership – Influencing Relations – Transactional Analysis.
4. Group Dynamics – Roles – Morale – Conflict – Groups – Inter-Group Behaviour – Inter-Group Collaboration and Conflict Management.
5. Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

Reference Books:

1. Fred Luthans, "Organizational Behaviour", Tata McGraw Hill Publishing Co., New Delhi.
2. Robins, Stephen P, "OrganisationalBehaviour", 9th Edition, Prentice Hall of India, New Delhi.
3. Koontz and O "Donnell", Essentials of Management,Tata McGraw Hill Publishing Co., New Delhi, 2000.
4. Keith Davis, "Human Behaviour at Work", Tata McGraw Hill Publishing Co., New Delhi.
5. Aswathappa,"OrgnizationalBehaviour", Himalaya Publishing House, Mumbai
6. Stoner Freeman, "Management", Prentice Hall of India, New Delhi.

GOVERNMENT COLLEGE, RAYACHOTY

Affiliated to Yogi Vemana University

Rayachoty - 516269

(Accredited by NAAC with C Grade)

2020- 2021 to 2022-2023

Sl.No	Semester	Name of the foundation Course
1	I	Human Values and Professional Ethics
2		Entrepreneurship Development
3		Public Relations
4		Insurance Promotion
5		Electrical Appliances
6		Plant Nursery
7	II	Information and Communication Technology
8		Journalistic Reporting
9		Survey Reporting
10		Advertising
11		Business Communication
12		Diary Technology
13		Food Adulteration
14		Solar Energy
15	III	Communication Skills and Soft Skills
16	IV	Leadership Education
17		Analytical Skills
18		Internet Fundamentals and Web tools

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ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

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Web: www.apsche.org **Email**: acapsche@gmail.com

SYLLABUS OF

ENTREPRENEURSHIP DEVELOPMENT

AS PART OF

LIFE SKILLS COURSES

UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

PROGRAMME: THREE-YEAR B.A./B. Sc./B. Com.

LIFE SKILL COURSE

ENTREPRENEURSHIP DEVELOPMENT

(With Learning Outcomes, Unit-wise Syllabus, References, Co-curricular Activities & Model Question Paper

(To be Implemented from 2020-21 Academic Year)

Sl. No	Code	Sem	Course	Name of Life Skill Course (Course consists 3 Units)	Hours/ Week	Credits	Marks (Sem-End)
1		**I**		Entrepreneurship Development	**2**	**2**	**50**

Syllabus

ENTREPRENEURSHIP DEVELOPMENT

(**Total 30Hrs**)

Course Objective: A Generic Course that is intended to inculcate an integrated personal Life Skill to the student.

Learning Outcomes:

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

- Understand the concept of Entrepreneurship, its applications and scope.
- Know various types of financial institutions that help the business at Central, State and Local Level
- Understand Central and State Government policies, Aware of various tax incentives, concessions
- Applies the knowledge for generating a broad idea for a starting an enterprise/start up
- Understand the content for preparing a Project Report for a start up anddifferentiate between financial, technical analysis and business feasibility.

Syllabus:

Unit-I: Entrepreneurship: Definition and Concept of entrepreneurship - Entrepreneur Characteristics – Classification of Entrepreneurs –Role of Entrepreneurship in Economic Development –Start-ups.

Unit-II: Idea Generationand Project Formulation: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for Generating Ideas – Preparation of Project Report –Contents; Guidelines for

Report preparation – Project Appraisal Techniques –Economic Analysis-Financial Analysis-Market Analysis.

Unit-III: Institutions Supporting and Taxation Benefits: Central level Institutions: NABARD; SIDBI, – State Level Institutions –DICs – SFC - Government Policy for MSMEs - Tax Incentives and Concessions.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi
2. Poornima MCH, Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi
3. Sangeetha Sharma, Entrepreneurship Development, PHI Learning
4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi
7. Peter F. Drucker,Innovation and Entrepreneurship
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges &Opportunities
9. Dr B E V L Naidu, Entrepreneurship. Seven Hills Publishers

Suggested Co-Curricular Activities(As far as possible)

1. Group Discussion
2. Debate
3. Seminar
4. Visit to an SSI and preparing of an outline Report
5. Invited Lecture by a Bank Employee on the Bank Support to a Start Up.
6. Chart showing tax concessions to SSI, MSME both direct and indirect.

Model Question Paper Format

Time: 1 1/2 hrs (90 Minutes)

Max. Marks: 50Time: 1 1/2 hrs (90 Minutes

Section -A(Total: 4x5=20 Marks)

(Answer any **four questions**. Each rewsna carries **5 marks**

(Total 8 questions. At least 1 question should be given from each Unit)

1.
2.
3.
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Section- B(Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each rewsna carries **10 marks**

(Total five questions. At least 1 question should be given from each Unit)

1.
2.
3.
4.
5.

Subject Committee Members

Prof M.Venkateswarlu

Dept. of Commerce, S V University, Tirupathi

Dr D Jayarama Reddy

Dept of Commerce, Govt College (A), Anantapur

Dr K Sreenivasa Rao

Dept. of Commerce, Govt. Degree College, Ravulapalem

Vetted by:

Prof. M Rajasekhar

Dept. of Commerce, S V University, Tirupathi

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

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SYLLABUS OF

ENVIRONMENTAL EDUCATION

AS PART OF LIFE SKILLS COURSES
UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

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,

Model question paper for theory examination at the end of IV Semester
Life Skill Course / ENVIRONMENTAL SCIENCE

Max. Time : 2 Hrs. **Max. Marks: 50**

Max. Marks: 50 Time: 1 1/2 hrs (90 Minutes

Section -A (Total: 4x5=20 Marks)

(Answer any **four questions**. Each answer carries **5 marks**

(Total 8 questions. At least 1 question should be given from each Unit)

1.
2.
3.
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7.
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Section- B (Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each answer carries **10 marks**

(Total five questions. At least 1 question should be given from each Unit)

1.
2.
3.
4.
5.

Note: Questions may be set in such a way to test the outcomes instead of recalling of information.

- - - - - -

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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: 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.

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

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SYLLABUS OF

INFORMATION AND COMMUNICATION TECHNOLOGY

AS PART OF LIFE SKILLS COURSES
UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-21

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

B.Sc./B.Com/B.A

Syllabus under CBCS w.e.f.2020-21

INFORMATION & COMMUNICATION TECHNOLOGY

Semester	Course Code	Course Title	Hours	Credits
I	**Life skill Course**	**INFORMATION & COMMUNICATION TECHNOLOGY**	**30**	**2**

Objectives:

This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

Course outcomes: After completion of the course, student will be able to;

1. Understand the literature of social networks and their properties.
2. Explain which network is suitable for whom.
3. Develop skills to use various social networking sites like twitter, flickr, etc.
4. Learn few GOI digital initiatives in higher education.
5. Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
6. Get acquainted with internet threats and security mechanisms.

SYLLABUS:

UNIT-I: (08 hrs)

Fundamentals of Internet: What is Internet?, Internet applications,Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser –Types of Browsers,Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp .

UNIT-II:(08 hrs)

E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, MessageComposition, Mail Management.

G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-III:(10 hrs)

Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues.

What are GOI digital initiatives in higher education? (SWAYAM, SwayamPrabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES: (04 hrs)

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

1. Assignments(in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
1. Quiz andGroup Discussion
3. Slip Test
4. Try to solve MCQ's available online.
5. Suggested student hands on activities :
    a. Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
    b. Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
    c. Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registration form for your college campus placement through Google forms.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e – byRaymond Greenlaw and Ellen Hepp, Publishers : TMH
2. Internet technology and Web design, ISRD group, TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

Model Question Paper Format

Time: 1 1/2 hrs (90 Minutes)

Max. Marks: 50 Time: 1 1/2 hrs (90 Minutes

Section -A (Total: 4x5=20 Marks)

(Answer any **four questions**. Each answer carries **5 marks**

(Total 8 questions. At least 1 question should be given from each Unit)

1.
2.
3.
4.
5.
6.
7.
8.

Section- B (Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each answer carries **10 marks**

(Total five questions. At least 1 question should be given from each Unit)

1.
2.
3.
4.
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SYLLABUS OF

INDIAN CULTURE AND SCIENCE

AS PART OF
LIFE SKILLS COURSES
UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-2021

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

A.P. State Council of Higher Education

B.A., B. Com & B. Sc Programmes

Revised CBCS w.e.f 2020-21

LIFE SKILL COURSE

Indian Culture & Science

Total 30 hrs (02 h/wk, 02 Cr & Max 50 Marks)

Learning Outcomes:

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

1. Understand the evolution of India's culture
2. Analyze the process of modernization of Indian society and culture from past to future
3. Comprehend objective education and evaluate scientific development of India in various spheres
4. Inculcate nationalist and moral fervor and scientific temper

Syllabus:

Unit – I: Unity in Diversity in India: (09 hrs)

Coexistence of various religions since ancient times - Hinduism, Buddhism, Jainism and Atheism, and later Sikhism, Islam and Christianity

The Bhakti (Vishnavite and Saivaite) and Sufi Movements

The concepts of seela, karuna, kshama, maitri, vinaya, santhi and ahimsa Achievements in Literature, Music, Dance, Sculpture and Painting - Craftsmanship in cloth, wood, clay, metal and ornaments

Cultural diversity, Monogamy, Family system, Important seasonal festivals

Unit – II: Social Reforms and Modern Society: (09 hrs)

Reforms by Basaveswara - Raja Rama Mohan Roy – Dayananda Saraswathi –Swamy Vivekananda –Mahatma Gandhi - B. R. Ambedkar - Reforms in Andhra by Vemana,Veerabrahmam, Gurajada, Veeresalingam and GurramJashua (only reforms in brief, biographies not needed)

Modern Society: Family unity, Community service, Social Harmony, Civic Sense, Gender Sensitivity, Equality, National Fervor

Unit – III: Science and Technology: ((09 hrs)

Objectivity and Scientific Temper – Education on Scientific lines (Bloom's Taxonomy) - Online Education

Developments in Industry, Agriculture, Medicine, Space, Alternate Energy, Communications, Media through ages

Co-curricular Activities Suggested: (03 hrs)

1. Assignments, Group discussions, Quiz etc
2. Invited Lecture by a local expert
3. Visit to a scientific institutions, local heritage sites, museums, industries etc

Reference Books:

1. History of India and Culture (Upto 1526 A.D), Telugu Academy
2. History of India and Culture (1526 A.D to 1964), Telugu Academy
3. Basham, A.L (ed), A Cultural History of India
4. Hana S. Noor Al-Deen&J.A.Hendricks, Social Media : Usage and Impact
5. Bipan Chandra, Aditya Mukherjee, Mridula Mukherjee, India After Independence
6. S.K.Thakur, ISRO: History and Acheivements
7. V. Ramakrishna, Social Reform Movement Andhra, Vikas Publications

MODEL QUESTION PAPER & PATTERN

Max Marks: 50 **Time: 1 ½ hr (90 Min)**

SECTION A (Total: 4x5=20 Marks)

(Answer any **four questions**. Each rewsna carries **5 marks**
(At least 1 question should be given from each Unit)

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SECTION B (Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each rewsna carries **10 marks**
(At least 1 question should be given from each Unit)

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Subject Experts:

Prof. S. Murali Mohan,
Dept. of History,
Acharya Nagarjuna University,
Guntur

Dr. J. Krishna Prasad Babu,
Associate Professor,
Dept. of History,
Jawahar Bharathi U.G &P.G College,
Kavali

Vetted by:

Prof. G. Sambasiva Reddy,
Dept. of History,
Y. V. University,
Kadapa

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

PERSONALITY ENHANCEMENT AND LEADERSHIP

AS PART OF
LIFE SKILL COURSES
UNDER CBCS FRAMEWORK WITH EFFECT FROM 2020-2021

PROGRAMME: FOUR-YEAR UG HONOURS PROGRAMME

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

Revised CBCS w.e.f 2020-21
LIFE SKILL COURSE

Personality Enhancement & Leadership
Total 30 hrs (02 h/wk, 02 Cr & Max 50 Marks)

Learning Outcomes:

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

1. Develop comprehensive understanding of personality
2. Know how to assess and enhance one's own personality
3. Comprehend leadership qualities and their importance
4. Understand how to develop leadership qualities

Syllabus:

Unit – I:(7 hrs)

Meaning of Personality – Explanations of Human Personality – Psychodynamic Explanations – Social Cognitive Explanation – Big Five traits of Personality

Unit – II: (8 hrs)

Assessment of Personality - Projective& Self Report Techniques - Building Self-Confidence – Enhancing Personality Skills

Unit – III:(10 hrs)

Leadership Characteristics – Types of Leaders – Importance of Leadership – Leadership Skills – Building and Leading Efficient Teams – Leadership Qualities of Abraham Lincoln, mahatma Gandhi, Prakasam Pantulu, Dr. B. R. Ambedkar & J.R.D.Tata

Co-curricular Activities Suggested: (05 hrs)

1. Assignments, Group discussions, Quiz etc
2. Invited Lecture by a local expert
3. Case Studies (ex., on students behavior, local leaders etc.)

Reference Books:

- Girish Batra, Experiments in Leadership, Chennai: Notion Press, 2018
- Mitesh Khatri, Awaken the Leader in You, Mumbai: Jaico Publishing House, 2013
- Carnegie Dale, Become an Effective Leader, New Delhi: Amaryllis, 2012
- Hall, C.S., Lindzey. G. & Campbell, J.B Theories of Personality. John Wiley & Sons, 1998

MODEL QUESTION PAPER & PATTERN

Max Marks: 50 **Time: 1 ½ hr (90 Min)**

SECTION A (Total: 4x5=20 Marks)

(Answer any **four questions**. Each rewsna carries **5 marks**
(At least 1 question should be given from each Unit)

1.	
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SECTION B (Total: 3x10 = 30 Marks)

(Answer any **three questions**. Each rewsna carries **10 marks**
(At least 1 question should be given from each Unit)

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SUBJECT COMMITTEE MEMBERS

Dr. G. Koteshwaraiah,
Associate Professor,
Dept. of Psychology,
Govt. College (Men), Autonomous,
Kadapa

Dr. B. R. Prasad Reddy, Associate Professor, Dept. of History,
K.H. Govt. Degree College,
Dharmavaram

Vetted by:

Prof. S. Samiullah, Dept. of Psychology,
S. V. University,
Tirupati

PRINCIPAL
Govt. Degree College
Rayachoty.

YOGIVEMANA UNIVERSITY::KADAPA
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **CHEMISTRY**
IV Year B. Sc.(Hons) Semester –V (from 2022-23)

Course7- D: Green Chemistry and Nanotechnology
(Skill Enhancement Course (Elective), Credits – 05)

Max Marks: 100+50

1. Learning Outcomes:

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

1. Understand the importance of Green chemistry and Green synthesis.
2. Engage in Microwave assisted organic synthesis.
3. Demonstrate skills using the alternative green solvents in synthesis.
4. Demonstrate and explain enzymatic catalysis.
5. Analyse alternative sources of energy and carry out green synthesis.
6. Carry out the chemical method of nanomaterial synthesis.

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

UNIT-I Green Chemistry: Part- I 10 hrs

Introduction-Definition of green Chemistry, Need for green chemistry, Goals 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 and examples of sonochemical reactions (Heck, Hunds dicker and Wittig reactions).

UNIT- II Green Chemistry: Part- II 10 hrs

A) Selection of solvent:

i) Aqueous phase reactions
ii) Reactions in ionic liquids, Heck reaction, Suzuki reactions, epoxidation.
iii)Solid supported synthesis

B) Green energy and sustainability.

UNIT-III Microwave and Ultrasound assisted green synthesis: 10 hrs

Apparatus required, examples of MAOS (synthesis of fused anthroquinones, Leukart reductive amination of ketones) - Advantages and disadvantages of MAOS. Aldolcondensation –Cannizzaro reaction- Diels-Alder reactions-Strecker's synthesis

UNIT-IV Green catalysis and Green synthesis 10 hrs.

Heterogeneous catalysis, use of zeolites, silica, alumina, supported catalysis - bio catalysis:Enzymes, microbes Phase transfer catalysis (micellar /surfactant)
1. Green synthesis of the following compounds: adipic acid, catechol, disodium menudo 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.

UNIT – V Nanotechnology in Green chemistry 10 hrs

Basic concepts of Nano science and Nanotechnology – Bottom-up approach and Top down approaches with examples – Synthesis of Nano materials – Classification of Nanomaterial – Properties and Application of Nanomaterial. Chemical and Physical properties of Nanoparticles – Physical synthesis of nanoparticles – Inert gas condensation - aerosol method - Chemical Synthesis of nanoparticles – precipitation and co-precipitation method, sol-gel method.

III. Lab work - Skills Outcomes:

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

1. List out, identify and handle various equipment in the laboratory.
2. Learn the procedures of green synthesis.
3. Demonstrate skills in the preparation of Nanomaterials.
4. Acquire skills in Microwave assisted organic synthesis.
5. Perform some applications of Nanomaterials.

IV. Practical (Laboratory) Syllabus: (30 hrs.) (Max.50 Marks).

1. Identification of various equipment in the laboratory.
2. Acetylation of 1^0 amine by green method: Preparation of acetanilide
3. Rearrangement reaction in green conditions: Benzil - Benzilic acid rearrangement
4. Radical coupling reaction: Preparation of 1,1-bis -2-naphthol
5. Green oxidation reaction: Synthesis of adipicacid
6. Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil
7. Preparation and characterization of Nanoparticles of gold using tea leaves.
8. Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide.
9. Photo reduction of Benzophenone to Benzopinacol in the presence of sunlight.

V. Reference books:

1. Green Chemistry Theory and Practical. 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. Principles and practice of heterogeneous catalysis, Thomas J.M.,Thomas M.J., John Wiley
6. Green Chemistry: Environmental friendly alternatives R S Sanghli and M.M Srivastava, Narosa Publications
7. Nanotechnology: Health and Environmental Risks, Jo Anne Shatkin, CRC Press (2008).
8. Green Processes for Nanotechnology: From Inorganic to Bioinspired Nanomaterials, Vladimir A. Basiuk, Elena V. Basiuk Springer (2015)
9. Web related references suggested by teacher.

VI. Co-Curricular Activities:

a) Mandatory: (*Training of students by teacher on field related skills: 15 hours*)

1. **For Teacher:** Training of students by the teacher in the classroom or in the laboratory for not less than 15 hours on field related quantitative techniques for Enzymatic catalysis, Microwave assisted organic synthesis, Biodiesel preparation etc.

2. **For Student:** Individual visit to any one of the local field agencies, research laboratories in universities/research organizations/private sector culminating writing and submission of a hand-written fieldwork/project work Report not exceeding 10 pages in the given format.

3. Max marks for fieldwork/project work Report: 05.

4. Suggested Format for fieldwork/project work: *Title page, student details, index page, details of places visited, observations, findings and acknowledgements.*

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Visits to research organizations and laboratories.
3. Invited lectures and presentations on related topics by field / industrial experts.
4. Assignments.
5. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
6. Preparation of videos on tools, techniques and applications of Green chemistry and Nano synthesis.

VII. Suggested Question Paper Pattern/ Model (Theory):

Max. Marks: 75 Time: 3 hrs

SECTION -A (Total: 10 Marks)

Very Short Answer Questions

(Answer any five of the following questions.

Each answer carries 2 marks) (5 x2=10 Marks)

1. What are the goals of Green chemistry
2. Explain green synthesis.
3. Discuss epoxidation.
4. Write a brief note on decaffeination
5. Describe the advantages of MAOS.
6. Explain Cannizaro reaction.
7. What are the uses of zeolites?
8. Define bio catalysis.
9. Discuss in brief aerosol method.
10. What is chemical vapour synthesis?

SECTION - B

(Total: 25 Marks)
(Answer any five of the following questions. Each answer carries 5marks) (5x5=25 Marks)
(At least 1 question should be given from each Unit

1. What is the need of green chemistry?
2. Discuss atom economy reactions.
3. Write short notes on Heck reaction.
4. Explain solid supported synthesis.
5. Describe the green synthetic procedure for the Diels-alder reaction
6. Brief about Bio catalysis.
7. How do you perform Strecker's synthesis by green synthesis method?
8. Discuss about Diels-Alder reactions.

SECTION – C

(Total: 40 Marks)
(Answer any four of the following questions.
Each answer carries 10 marks) (4x10 = 40 Marks) (At least 1 question should be given from each Unit)

1. Explain the basic principles of green chemistry
2. Illustrate the sonication method with any two reactions
3. Discuss the Green chemistry and sustainabilityin detailed.
4. Explain the synthesis of fused anthro quinines by microwave assisted organic synthesis
5. How are adipic acid and catechol prepared by Green synthesis?
6. Discuss the classification and applications of Nanomaterials.
7. Discuss the chemical synthesis of nanoparticles.
8. Discuss detailed in Haffmann elimination and decarboxylation reaction.

YOGIVEMANA UNIVERSITY::KADAPA
Semester-wise Revised Syllabus under CBCS, 2020-21

Course Code:

Four-year B.Sc. (Hons)
Domain Subject: **CHEMISTRY**
IV Year B.Sc.(Hons)–Semester –V (from 2022-23)

Course6-D: Environmental Chemistry
(Skill Enhancement Course (Elective), Credits -05 Max Marks: 100+50

I. Learning Outcomes:

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

1. Understand the environment functions and how it is affected by human activities.
2. Acquire chemical knowledge to ensure sustainable use of the world's resources and ecosystems services.
1. Engage in simple and advanced analytical tools used to measure the different types of pollution.
4. Explain the energy crisis and different aspects of sustainability.
5. Analyze key ethical challenges concerning biodiversity and understand the moral principles, goals and virtues important for guiding decisions that affect Earth's plant and animal life.

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

UNIT-I Introduction 10h

Environment Definition – Concept of Environmental chemistry- Scope and importance of environment in nowadays – Nomenclature of environmental chemistry – Segments of environment– Effects of human activities on environment – Natural resources–Renewable Resources–Solar and biomass energy and Nonrenewable resources

UNIT-II

Air Pollution 10h

Definition – Sources of air pollution – Classification of air pollution – Ambient air quality standards- Climate change – Global warming – Pollution from combustion systems- Acid rain – Photochemical smog – Greenhouse effect – Formation and depletion of ozone – Bhopal gas disaster– Controlling methods of air pollution.

UNIT-III

Water pollution 10h

Unique physical and chemical properties of water – Water quality standards and parameters – Turbidity- pH Dissolved oxygen – BOD, COD, Suspended solids, total dissolved solids, alkalinity– Hardness of water–Methods to convert temporary hard water in to soft water – Methods to convert permanent hard water into soft water – eutrophication and its effects.

UNIT-IV

Chemical Toxicology 10h

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- Solid waste management.

UNIT-V

Ecosystem and biodiversity 10h

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).

Biodiversity

Definition – level and types of biodiversity – trends-bio geographical classification of India– biodiversity at national, global and regional level.

III. 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
4. Water pollution, Lalude, MC Graw Hill
5. Environmental Chemistry, Anil Kumar De, Wiley Eastern ltd.
6. Environmental analysis, SM Khopkar (IIT Bombay)
7. Environmental Chemistry by BK Sharma & H Kaur, Goel publishing house.
8. Fundamentals of Environmental Chemistry, Manahan, Stanley. E
9. Applications of Environmental Chemistry, Eugene R. Wiener
10. Web related references suggested by teacher.

Course6-D: Environmental Chemistry – Practical syllabus

IV. Lab work-Skills Outcomes:

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

1. List out, identify and handle various equipment in Chemistry lab.
2. Learn the procedures of preparation of standard solutions.
3. Demonstrate skills in operating instruments.
4. Acquire skills in handling spectrophotometer.
5. Analyse water and soil samples.

V. Practical (Laboratory) Syllabus: (**30hrs**) (Max.50Marks).

1. Identification of various equipment in the laboratory.
2. Determination of carbonate and bicarbonate in water samples by double titration method.
3. Determination of hardness of water using EDTA
   a) Permanent hardness b) Temporary hardness
4. Determination of Chlorides in water samples by Mohr's method.
5. Determination of p^H, turbidity and total solids in water sample.
6. Determination of Ca^{+2} and Mg^{+2} in soil sample by flame photometry.
7. Determination of PH in soil samples using pH metry.

VI. List of Reference books:

1. A Text Book of Quantitative Inorganic Analysis (3rd Edition)–A.I.Vogel
2. Water pollution, Lalude, MC Graw Hill
3. Environmental analysis, SM Khopkar (IIT Bombay)
4. Web related references suggested by teacher.

VII. Co-Curricular Activities:

a) Mandatory: (Training of students by teacher on field related skills: 15hrs)

1. For Teacher: Skills training of students by the teacher in classroom, lab and field for not less than15 hours on field related quantitative techniques for the water quality parameters, soil pollution and air pollution.

2. For Student: Individual visit to any one of the local field agencies/research laboratories in universities/research organizations/private sector culminating writing and submission of ahand- written fieldwork/project work Report not exceeding 10 pages in the given format.

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

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

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Visits to research organizations and laboratories.
3. Invited lectures and presentations on related topics by field / industrial experts.
4. Assignments.
5. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
6. Preparation of videos on tools, techniques and applications of spectrophotometry.

VIII. Suggested Question Paper Pattern and Model (Theory):

YOGI VEMANA UNIVERSITY::KADAPA

Course6-D: Environmental Chemistry

Suggested Question Paper Pattern/ Model (Theory):

Max. Marks: 75 Time: 3 hrs

SECTION -A(Total: 10 Marks)

Very Short Answer Questions

(Answer any five of the following questions.

Each answer carries 2 marks) (5 x2=10 Marks)

1. Explain the terms with examples a) Pollutant b)Contaminant
2. Explain non-renewable resources
3. Explain Greenhouse effect.
4. Write a note on Bhopal Gas Disaster.
5. Discuss what is Eutrophication and the effects of Eutrophication
6. Write the toxic effect of Lead and Mercury.
7. What are the biochemical effects of pesticides?

8. Explain food chain.

9. Define BOD & COD?

10. Define Abiotic and Biotic components.

SECTION - B(Total: 25 Marks)
(Answer any five of the following questions.
Each answer carries 5marks) (5x5=25 Marks)
(At least 1 question should be given from each Unit)

1. What is Environmental Chemistry? Discuss its scope.
2. Explain the segments of Environment?
3. Write short notes on Acid Rains?
4. Write a brief note on Global warming.
5. Explain the reasons for the Hardness of water.
6. Brief about Solid waste management.
7. Biodiversity-In-Situ Conservation.
8. Discuss briefly about Carbon cycle.

SECTION – C (Total: 40 Marks)
(Answer any four of the following questions.
Each answer carries 10 marks) (4x10 = 40 Marks)
(At least 1 question should be given from each Unit)

1. Write the importance of solar energy over the other non-renewable resources of energy.

2. Explain the formation, depletion and importance of Ozone layer.

3. What is permanent hardness of water? Discuss the methods to convert permanent hard water to soft water.

4. Explain the toxicity of cyanide and its effects.

5. Outline the functions and types of ecosystem

6. Give a detailed account on biodiversity

7. Explain the terms Dissolved oxygen, Total Dissoloved Solids.

8. Explain detailed in controlling methods of air pollution?

SYLLABUS

B.A. POLITICAL SCIENCE

FIRST YEAR

FIRST SEMESTER

(Under CBCS w.e.f. 2020-21)

Course-1: INTRODUCTION TO POLITICAL SCIENCE

Learning Outcomes:

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

- Recall the previous knowledge about Political Science and understand the nature and scope, traditional and modern approaches of Political Science.
- Understand concepts intrinsic to the study of Political Science.
- Have solid theoretical understanding of Rights and its theories along with the basic aspects of certain political ideologies.
- Apply the knowledge to observe the field level phenomena

UNIT-I :	INTRODUCTION
	1. Definition, Nature, Scope and Importance of Political Science – Relations with allied disciplines (History, Economics, Philosophy and Sociology)
	2. Approaches to the study of Political Science: Traditional Approaches-Philosophical, Historical. Modern Approaches-Behavioral and System Approach.

UNIT-II :	STATE
	1. Definition of the State, Elements of the State, Theories of Origin of the State-(Divine Origin, Force, Evolutionary and Social Contract).
	2. Concepts of Modern State and Welfare State.

UNIT-III :	CONCEPTS OF POLITICAL SCIENCE
	1. Law, Liberty, Equality.
	2. Power, Authority and Legitimacy.

UNIT-IV :	THEORIES OF RIGHTS
	1. Meaning, Nature and Classification of Rights
	2. Theories of Rights.

UNIT-V :	POLITICAL IDEOLOGIES
	1. Liberalism, Individualism, Anarchism.
	2. Socialism, Marxism and Multiculturalism.

III **Semester /Botany Core Course - 3**

Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity

(Total hours of teaching – 60 @ 04 Hrs./Week)

Theory:

Learning outcomes:

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

- Understand on the organization of tissues and tissue systems in plants.
- Illustrate and interpret various aspects of embryology.
- Discuss the basic concepts of plant ecology, and evaluate the effects ofenvironmental and biotic factors on plant communities.
- Appraise various qualitative and quantitative parameters to study the population and community ecology.
- Correlate the importance of biodiversity and consequences due to its loss.
- Enlist the endemic/endangered flora and fauna from two biodiversity hot spots inIndia and assess strategies for their conservation.

Unit – 1: Anatomy of Angiosperms **12 Hrs.**

1. Organization of apical meristems: Tunica-carpus theory and Histogen theory.
2. Tissue systems–Epidermal, ground and vascular.
3. Anomalous secondary growth in *Boerhaavia* and *Dracaena.*
4. Study of timbers of economic importance - Teak, Red sanders and Rosewood.

Unit – 2: Embryology of Angiosperms **12 Hrs.**

1. Structure of anther, anther wall, types of tapetum. Microsporogenesis and development of male gametophyte.
2. Structure of ovule, megasporogenesis; monosporic (*Polygonum*), bisporic (*Allium*) and tetrasporic (*Peperomia*) types of embryo sacs.
3. Outlines of pollination, pollen – pistil interaction and fertilization.
4. Endosperm - Types and biological importance - Free nuclear, cellular,helobialand ruminate.
5. Development of Dicot (*Capsella bursa-pastoris*) embryo.

Unit – 3: Basics of Ecology **12 Hrs.**

1. Ecology: definition, branches and significance of ecology.
2. Ecosystem: Concept and components, energy flow, food chain, food web, ecologicalpyramids.
4. Plants and environment: Climatic (light and temperature), edaphic and biotic factors.
5. Ecological succession:Hydrosere and Xerosere.

Unit – 4:Population, Community and Production Ecology **12 Hrs.**

1. Population ecology: Natality, mortality, growth curves, ecotypes, ecads
2. Community ecology: Frequency, density, cover, life forms, biological spectrum
3. Concepts of productivity: GPP, NPP and Community Respiration
4. Secondary production, P/R ratio and Ecosystems.

Unit – 5:Basics of Biodiversity **12 Hrs.**

1. Biodiversity: Basic concepts, Convention on Biodiversity - Earth Summit.
2. Value of Biodiversity; types and levels of biodiversity and Threats to biodiversity
3. Biodiversity Hot spots in India. Biodiversity in North Eastern Himalayas andWestern Ghats.
4. Principles of conservation: IUCN threat-categories, RED data book
5. Role of NBPGR and NBA in the conservation of Biodiversity.

SEMESTER – 3:: COURSE – 3

DEVELOPMENT ECONOMICS

NO. OF CREDITS: 4

LEARNING OUTCOMES FOR THE COURSE

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

1. Remembers and states in a systematic way (Knowledge)

Various concepts and definitions and indicators relating to economic growth and Development including recent developments

2. Explains (understanding)

a. Distinction between growth and development with examples

c. Characteristics of developing and developing economies and distinction between the two

d. factors contributing to development, Choice of Techniques and a few important models and strategies of growth

3. Critically examines using data and figures (analysis and evaluation)

a. the theoretical aspects of a few models and strategies of economic growth

b. role and importance of various financial and other institutions in the context of India's economic development

4. Draws critical diagrams and graphs.

a. to explain the models and strategies

b. to highlight empirical evidences to support the strategies

Module - 1: Economic Growth and Development

Economic Development as a Branch of Study of Economics – Scope and Importance - Distinction between Economic Growth and Economic Development -Measures of Economic Development and their limitations - Relevance of Herd (Group) Immunity in the context of COVID 19 - three core values of economic development : Sustainability, Self-esteem and Freedom – Economy and Environment : Concepts of sustainable development and inclusive growth

Module -2: Modern Economic Growth

Characteristics of Underdeveloped Countries - World Bank and IMF Classification of countries - Modern economic growth – Kuznets' Six Characteristics -Obstacles to economic development - Vicious Circle of Poverty and cumulative causation -Factors of economic growth: Economic and Non-economic - Capital Formation – Foreign and Domestic capital, Debt and Disinvestment.

Module-3: Theories of Development and Underdevelopment

Classical Theory: Adam Smith, Ricardo and Malthus -Marxian Theory - Schumpeter Theory -Rostow's Stages of Economic Growth -Harrod-Domar two sector model -Solow's Model and Robinson's Golden Age

Module – 4: Strategies of Economic Development

Strategies of Economic Development – Big Push -Balanced Growth -Unbalanced Growth - Mahalanobis Model - Agriculture vs Industry -Capital Intensive Technology vs Labour Intensive Technology -Role of Infrastructure in Economic Development

Module - 5: Institutions and Economic Development

Role of State in Economic Development -Role of Markets - Market Failure and Regulation by State -Public sector vs Private sector -Economic Planning – concept, objectives and types -NITIAyog - Economic Federalism -Financial Institutions and Economic Development -Role of International Institutions-IDBI, ADB, IMF -Foreign Trade - FIIs and FDIs

PRINCIPAL
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Rayachoty.