

Core course 8 **Code: BO5CRT08**
ENVIRONMENTAL SCIENCE AND HUMAN RIGHTS
(Theory 54 hrs; Practical 36 hrs; Credits 3 + 1)

Objectives:

- Acquaint the student with the significance of Environmental Science and Human rights.
- Make the students aware about the extent of the total biodiversity and the importance of their conservation.
- Help the student to design novel mechanisms for the sustainable utilization of natural resources.
- Enable the students to understand the structure and function of the ecosystems.
- Enable the students to understand various kinds of pollution in the environment, their impacts on the ecosystem and their control measures
- Make the students aware about various environmental laws in India and the role of various movements in the protection of nature and natural resources

ENVIRONMENTAL SCIENCE (36 hours)

Module 1: (10 hrs)

Unit:1 Introduction to ecology- introduction, definition, scope and relevance; sub-divisions of ecology - autecology, synecology and ecosystem ecology.

Population: population size, density, natality, mortality, age, rate of natural increase, growth form and carrying capacity, population interactions between species - competition, parasitism, predation, commensalism, mutualism, neutralism.

Community: community concept, biotic community, species diversity, species richness, dominance; growth forms and structure, trophic structure, ecotone, edge effect, habitat, ecological niche, micro-climate, ecological indicators, keystone species.

Unit 2: Ecosystems -Structure and function of ecosystems, ecosystem components: abiotic and biotic - producers, consumers, decomposers. Productivity - primary and secondary - gross and net productivity - homeostasis in the ecosystem.

Unit 3:Concept of energy in ecosystems - energy flow, food chain, food web, trophic levels, trophic structure and ecological pyramids - pyramid of numbers, biomass, energy. Nutrient cycles - biogeochemical cycles of C and N₂. Ecosystem development: ecological succession, process, climax community, hydrosere, xerosere.

Module 2: (8hrs)

Unit 1:Biodiversity: definition, types, examples – endemism - hot spots; hot spots in India - Western Ghats as hot spot. Wetlands and their importance. Biodiversity loss - IUCN threat categories, Red data book; causes and rate of biodiversity loss - extinction, causes of extinction.

Conservation: methods - in-situ, ex-situ. Joint Forest management - people's participation in biodiversity conservation: community reserve, eg. Kadalundi-vallikkunnu.

Unit:2 Remote sensing and GIS: introduction, principle, application of remote sensing and GIS in environmental studies and biodiversity conservation (brief account).

Unit 3:Ecotourism: ecotourism centers in Kerala - Thenmala and Thattekkad WLS.

Module 3: (8 hrs)

Unit 1: Environmental pollution - introduction, definition; Air pollution - air pollutants, types, sources, effect of air pollution on plants and humans, control measures; Water pollution – common pollutants, sources, impact, control measures; water quality standards - DO and BOD; eutrophication. Soil Pollution - causes, sources, solid waste, biodegradable, non-biodegradable, management of solid waste, composting, e – waste.

Unit 2: Environmental issues - global warming, greenhouse effect, climate change - causes and impact, ozone layer depletion. Carbon sequestration.

Module 4: (10 hrs)

Unit 1: Conservation of nature- Global conservation efforts - Rio Earth summit - Agenda 21, Kyoto protocol, COP15 (15 The Conference of the parties under the UN framework convention on climate change) and Paris protocol - major contributions. Conservation strategies and efforts in India and Kerala. Organizations, movements and contributors of environmental studies and conservation: organizations - WWF, Chipko, NEERI; contributors - Salim Ali, Sunder Lal Bahuguna, Madhav Gadgil, Anil Agarwal, Medha Patkar, Vandana Siva (brief account only).

Unit 2: Environmental Legislation and Laws: Environment (protection) Act 1986, Air (protection and control of pollution) act, 1981 Water (protection and control of pollution) Act, 1974, Wildlife (protection) Act, 1972, Forest (conservation) Act, 1980, Biological Diversity Act (2002) [brief account only].

Module - 5 (18 Hours)

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Unit 3- Human Rights National Perspective

Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights-directive Principles of State Policy and Human Rights- Human Rights of Women-children –minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

PRACTICAL (36 hrs)

1. Estimation of CO, Cl, and alkalinity of water samples (Titrimetry)
2. Determination of pH of soil and water.
3. Assessment of diversity, abundance, and frequency of plant species by quadrat method (Grasslands, forests).
4. Study of the most probable number (MPN) of Coliform bacteria in water samples.

5. EIA studies in degraded areas (Sampling, Line transect, Quadrate).
6. Ecological adaptations in xerophytes, hydrophytes, epiphytes, halophytes and mangroves.

REFERENCES

1. Ahmedullah M, Nayar M P, 1987. Endemic plants of the Indian region. Botanical survey of India, Calcutta.
2. A K Bhattacharya, 2005. Ecotourism and Livelihoods. Concept Publishing Co. New Delhi.
3. Amal Raj S. Introduction to environmental science and technology. Laxmi Publications Pvt. Ltd., New Delhi.
4. Asthana D K, Meera Asthana, 2006. A text book of environmental studies. S Chand.
5. Basha S C, 1991. Indian forester. 117: 439-448. The distribution of mangroves in Kerala.
6. Bharucha, Erach, 2003. The Biodiversity of India. Mapin Publishing Co., New Delhi.
7. Ceballos-Lascurian, Hector, 1996. Tourism, Ecotourism and Protected areas. IUCN, Cambridge UK.
8. Champion H G, 1986. A preliminary survey of forests of India and Burma. Ind. For. Rec. 1: 1-236.
9. Champion H G, Seth S K, 1968. A revised survey of the forest types of India. Govt. of India press, Delhi.
10. Chandrasekharan C, 1962. A General note on the vegetation of Kerala state; Ind. For.88: 440-441.
11. Chandrasekharan C, 1962. Ecological Study of the Forests of Kerala State; Ind. For.88: 473-480.
12. Chandrasekharan C, 1962. Forest Types of Kerala State. Ind. For. 88: 660-847.
13. Garg M R, Bansal V K, Tiwana N S, 2007. Environmental Pollution and Protection. Deep and Deep Publishers, New Delhi.
14. H D Kumar, 2000. Modern Concepts of Ecology. Vikas Publishing House, New Delhi.
15. H Kaur. Environmental studies. Pragathi Prakashan, Meerut.
16. IUCN, 2000. The IUCN Red list categorie. IUCN. Gland.
17. IUCN, 2007. The 2000 IUCN Red list of Threatened Species. IUCN. Gland.
18. Jain S K, Sastry A R K, 1984. The Indian plant red data book. Botanical survey of India, Calcutta.
19. Khopkar S M, 1995. Environmental Pollution Analysis. New Age International (P) Ltd.
20. Kreg Lindberg, Deonal E Hawkins, 1999. Ecotourism: A guide for planners and managers. Natraj Publishers, Dehradun.
21. Kumar D, 2006. Ecology for Humanity Eco Tourism. Intellectual Book Bureau, Bhopal.
22. Kumar U, M Asija, 2006. Biodiversity: Principles and conservation. Agrobios India.
23. Mani M S, 1974. Ecology and Biogeography in India. W Junk B V Publishers, Netherlands.
24. Misra D D, 2008. Fundamental concepts in Environmental Studies. S. Chand & Co. Ltd., New Delhi.
25. Myers N, 1988. The Environmentalist 8: 187-208.
26. Nayar M P, Giri G S, 1988. Keywords to the Floristics of India. Vol. 1. Botanic Survey of India. Calcutta.
27. Nayar M P, Sastry A R K, 1987, 1988, 1990. Red Data Book of Indian Plants, Vols. I - III. Botanical Survey of India, Calcutta.
28. Nayar M P, 1996. Hot Spots of Endemic Plants of India, Nepal and Bhutan. Tropical Botanic

- Garden and Research Institute, Trivandrum²⁹. Nayar M P, 1997. Biodiversity challenges in Kerala and science of conservation biology. In: P. Pushpangadan, K S S Nair (Eds), Biodiversity of tropical forests the Kerala scenario. STEC, Kerala.
30. Odum E P, 1971. Fundamentals of Ecology. WB Saunders.
 31. Oza G M, 1992. The Earth Summit. Ind. For. 5: 338.
 32. Panday S N, S P Misra, 2011. Environment and Ecology. Ane Books Pvt.Ltd. New Delhi
 33. Ravindranath N H, Sudha P, 2004. Joint Forest Management: Spread performance and Impact. Universities Press.
 34. Richard Wright, 2009. Environmental Science towards a Sustainable Future. Pearson Education.
 35. Santhra S C, 2004. Environmental Science. New Central Book Agency.
 36. Sulekha, Chendel. Plant Ecology and Soil. S Chand & Co. Ltd. New Delhi.
 37. Waxena H M, 2006. Environmental Studies. Rawat Publications, New Delhi.
 38. Wood, Ronald, 1974. The Geography of the Flowering Plants. Longman Group Ltd., London.
 39. Amartya Sen, 2009. The Idea Justice. Penguin Books, New Delhi.
 40. Chatrath, K J S (ed.), 1998. Education for human rights and democracy (Shimla: Indian Institute of Advanced Studies)
 41. Law Relating to Human Rights, Asia Law House, 2001.
 42. Shireesh Pal Singh, Human Rights Education in 21st Century. Discovery Publishing House Pvt. Ltd. New Delhi.
 43. S K Khanna, 1998, 2011. Children and the human rights. Commonwealth publishers.
 44. Sudhir Kapoor, 2001. Human Rights in 21 st Century. Mangal Deep Publications, Jaipur.
 45. United Nations Development Programme, Human Development Report 2004. Cultural liberty in today"s diverse world. Oxford University Press, New Delhi.
 46. Basic documents in Human rights, Ian Brownlie
 47. Universal Human Rights in Theory and practice, Jack Donell Future of Human rights, Upenda Baxi.
 48. Understanding Human Rights An over view O P Dhiman
 49. Reforming Human Rights, D P Khanna
 47. Human Rights in Historical and Political Perspective
 48. Human Rights in Post colonial India edited by Om Prakash Dwivedi and V G Julie Rajan.

Core Course 15: ENVIRONMENT MANAGEMENT AND HUMAN RIGHTS

(CO5CRT15)

Applicable for B Com Model I, II and III

Instructional Hours: 90

Credit: 4

Objectives- To create an awareness regarding natural resources, environmental aspects and management, legislations involved and also provide an awareness on Human Rights

Module I - 20 Hours

Unit 1: Environmental Studies- Environmental Studies-Introduction-Definition-scope and Importance.

Unit 2: Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems.

Forest resources: Use and over-exploitation, deforestation-General Conservation strategies

Water resources: Use and over-utilization of surface and ground water, water conservation, watershed management, rainwater harvesting , dams-benefits and problems.

Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources,

Food resources : World food problems, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

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

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

Unit 3: Ecosystems- Concept -Structure and function - Energy -Food chains, food webs Ecological pyramids-Introduction, types, features, structure and function

Module II - 25 hours

Unit 1: Biodiversity - Introduction –types and importance- India as a mega-diversity nation- Bio diversity Hot-spots -Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts- concept of threatened fauna , IUCN categorisation and red list - Endangered and endemic species of India,

Conservation - *In situ* and *ex situ* conservation, protected area concept-National Park, wildlife sanctuary, biosphere reserves and community reserves, botanical gardens and zoos

Global environmental issues- ozone depletion, global warming, greenhouse effect, climate change, acid rain, nuclear accidents

Local environmental issues- landscape alteration, quarrying, sand mining, coastal erosion, degrading of mangroves and wetlands, Ramsar sites

Disaster and Disaster management- floods, earth quakes, cyclone and landslides- Need for disaster management – Disaster Management in India

Unit 2: Pollution- air, water, soil, noise, thermal and nuclear- control measures, role of individuals in prevention of pollution -Issues relating to solid and electronic waste disposal.

Unit 3: Environmental laws in India (*brief overview only- the objectives and key provisions only*) Environment Protection Act, Air (Prevention and control of Pollution) Act, Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, issues involved in enforcement of environmental legislation. –

Sustainable development- Concept, , UN and sustainable development goals

Module – III (15 Hours)

Recent developments in the filed of Commerce and Management relating to environment

-**Green Accounting**- Meaning- History- Scope and Importance- Importance- Advantages and limitations-

Green Banking- Meaning- benefits- coverage- steps in green banking- environmental risks for banks- Green banking initiatives- International initiatives- Initiatives in India-

Green Marketing- Meaning- Need and benefits- Challenges- Green marketing in India- Green washing and consequences-

Eco tourism- significance- eco tourism activities in India- Opportunities and challenges –

Environmental audit- concept- need and scope

Carbon credit and carbon exchanges (over view only) -

Module – IV (12 Hours)

Right to Information Act 2005- Basic terms- Public authority- Competent authority- Appropriate Government- Third Part- Information – record- Right to information- Objectives of the Act-Features of the Act- Obligation of Public authority- Procedure for request of information- time limit- fee- ground of rejection- appeal- exemption from disclosure- Right to access information on specific issues- Banking transactions, insurance transactions, government dealing and related services

Module - V (18 Hours)

Unit 1 - Human Rights

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Unit 2 - Human Rights and United Nations

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Unit 3- Human Rights National Perspective

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Assignment may include Field study involving

- Visit to a local area to document environmental grassland/ hill /mountain
- Visit a local polluted site – Urban/Rural/Industrial/Agricultural Study of common plants, insects, birds etc
- Study of simple ecosystem-pond, river, hill slopes, etc

Suggested Readings and references

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)
3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
4. Dc A.K.Environmental Chemistry, Wiley Eastern Ltd.(Ref)
5. Down to Earth, Centre for Science and Environment (Ref)
6. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge University Press 1140pb (Ref)
7. Jadhav.H & Bhosale.V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p (Ref)
8. Mekinney, M.L & Schock.R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p (Ref)
9. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB)
10. Odum.E.P 1971. Fundamentals of Ecology. W.B. Saunders Co. USA 574p (Ref)
11. Rao.M.N & Datta.A.K. 1987 Waste Water treatment Oxford & IBII Publication Co.Pvt.Ltd.345p (Ref)
12. Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016 (TB)
13. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
14. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (Ref)
15. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (Ref)
16. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
17. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref)
18. (M) Magazine (R) Reference (TB) Textbook
19. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.
20. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)

21. Law Relating to Human Rights, Asia Law House,2001.
22. Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
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24. Sudhir Kapoor, Human Rights in 21st Century,Mangal Deep Publications, Jaipur,2001.
25. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.
26. Monica Loss,,Green Marketing Strategies and Consumer Behaviour, Global Vision Publishing House
27. Robert Dahlstrom- Green Marketing:Theory, Practice and Strategies, Cengage Learning India Private Limited
28. A N Sarkar , Green Banking , Atlantic Publishers
29. Thomas Aronsson and Karl Gustaf Lofgren, Edgar Handbook of Environmental Accounting, Elgar Publishing.
30. M. Sarngadharan and G. Raju , Tourism and Sustainable Economic Developments: Indian and Global Perspectives – New Century Publishers
31. ICAI Study Material of Auditing
32. Right to Information Act, 2005
33. Basic Documents in Human Rights –Ian Brownlie
34. Universal Human Rights in Theory & Practice –Jack Donnelly
35. Future of Human Rights –Upendra Baxi
36. Understanding Human Rights –An overview –O.P.Dhiman
37. Referring Human Rights –D.P.Khanna.
38. Human Rights in India Historical and Political Perspectives-Chiranjivi .J.Nirmal.
39. Human Rights in post colonial India –Edited by Om Prakash Dwivedi and V.G.Julie Rajan

MAHATHMA GANDHI UNIVERSITY, KOTTAYAM

Revised syllabi of UG Programme in Economics w.e.f. 2017 admission

Semester 5				
Core course No.	Course code	Course Title	No. of Credit	No. of teaching Hours
09	EC5CRT09	Environmental Economics	4	90

Learning Objectives

The importance of environmental studies cannot be disputed. The need for sustainable development is key to the future of mankind. The various Earth summits and World summits on sustainable development have drawn attention of people around the globe to the deteriorating condition of environment and environmental threats and damages. In spite of the deteriorating status of the environment, study of environment has so far not received adequate attention in academic programs. This course aims at imparting knowledge of the conceptual and theoretical foundations of environmental economics as well as equipping students with economic methods and tools to analyse basic environmental issues. It will help the students develop tools to estimate cost and benefits of environmental regulations and to evaluate some current environmental policies.

Module I: Environment, Resources and Energy. (20hrs)

Classification of resources - renewable and non-renewable resources - conservation of resources - material substitution - product life extension - recycling. Energy - sources of energy - renewable and non-renewable source of energy - conventional and nonconventional source of energy - direct and indirect energy - atomic energy - energy crisis and energy scenario in India - environmental issues.

Module II: Economics and Environment .(25 hrs)

Environmental Economics - Definition - Scope - Meaning - importance - Environment- Economy interaction (linkages) - material balance model - ecosystem - structure and functions - relation between environment and development - Environment as a necessity and luxury - Biodiversity - meaning and importance - Hot-spots of biodiversity - Threats to biodiversity: habitat loss - poaching of wildlife - man wildlife conflicts - conservation of

biodiversity – in-situ and ex-situ conservation of biodiversity - endangered and endemic species in India – sustainable development – policy approach to sustainable development

Module III: Social Issues and the Environment. (23 hrs)

Climatic change – global warming – ozone depletion – acid rain – nuclear accidents and

holocaust. Pollution – causes, effects and control measures of: air pollution – water pollution

– soil pollution – marine pollution – noise pollution – thermal pollution – nuclear hazards.

Solid waste management – control measure of urban and industrial waste.

Pollution control – socially optimum level of pollution – environmental policies and legislations in India. Deforestation –Stockholm Conference – Helsinki Convention – Montreal Protocol – Kyoto Protocol – Rio Summit – Paris Convention. Population growth and Environment – market failure – tragedy of commons.

Module IV: Human Rights. (22 hrs)

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Unit 3- Human Rights National Perspective

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References

1. Rabindra N Bhattacharya. (2007). Environmental Economics an Indian Perspective. Oxford University Press.
2. Charls D. Kolstad.(2007). Environmental Economics. New Delhi:OUP.
3. Ramaprasad Senguptha. (2009). Ecology and Economics. New Delhi: OUP.
4. Janet Thomas.(2009). Environmental Economics. New Delhi: Cenage Learning.
5. S.P. Mirsa, S.N. Pandey (2008). Essential Environmental Studies. New Delhi: Ane Books.
6. Katar Singh and Shishodia. (2007) Environmental Economics- Theory and application. New Delhi: Sage publication.
7. Tom Tietenberg. (2004). Environmental and Natural Resource Economics. Pearson Education.
8. Karpagam . M. (2008). Environmental Economics. New Delhi: Sterling Publishers.

9. R.K. Lekhi et al. (2008). Developmental and Environmental Economics. Ludhiana: Kalyani publishers.
10. Ulaganathan Sankar. (2009) Environmental Economics. New Delhi: OUP.
11. N. Das Gupha (1997). Environmental Accounting. Wheeler and Co New Delhi.
12. Thomas and Callan (2007). Environmental Economics. Thomas South-Western.
13. Paul Ackin .(2000) Economic Growth and Environmental sustainability, Routledge, London.
14. Nick Hanley. (2009) Environmental Economics in Theory and Practice. Palgrave Macmillian, New York.
15. Fisher A.C. (1981). Resource and Environmental Economics. Cambridge University Press, Cambridge.
16. Baumol. (1988). Theory of Environmental Policy (second edition). Cambridge University Press, Cambridge.
17. Agarwal K.C. (2001). Environmental Biology. Nidi Publ. Ltd. Bikaner.
18. Bharucha Erach. The Biodiversity of India. Mapin Publishing Pvt. Ltd. Ahmedabad - 380 013. India, Email: mapin@icenet.net (R).
19. Brunner R.C. (1989). Hazardous Waste Incineration. McGraw Hill Inc.480.p
20. Down to Earth. Centre for Science and Environment (R)
21. Heywood, V.H AND Watson, R.T. (1995) Global Biodiversity Assessment. Cambridge University Press, Cambridge.
22. Jadhav H and Bhosale V.M. (1995) Environmental Protection and Laws. Himalaya PUB. House, Delhi 284p.
23. Mckinney, M.L. and Schoch R.M. (1996). Environmental Science System and Solutions. Web enhanced edition. 639p.
24. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co.(TB)
25. Odum E.P. (1971). Fundamentals of Ecology. W.B. Saunders Co. USA. 574p.
26. Prasanna Chandra . Projects - Planning, Analysis, Financing, Implementation and Review. Fifth Edition. Tata McGraw Hill.
27. P.R. Trivedi. (2014) Environmental Impact Assessment. APH Publishing Corporation

Fifth Semester - UG English Language and literature

Syllabus for Core Course - Environmental Studies and Human Rights (2017 admission onwards)

Module 1: Regional

18 Hours

1. O N V Kuruppu - A Requiem for Earth
2. Vaikom Muhammed Basheer - The Inheritors of the Earth
3. Swarnalatha Rangarajan and Sreejith Varma- The Plachimada Struggle: A David-and-Goliath Story (extract from 'Introduction' to *Mayilamma*)

Module 2: National

18 Hours

1. Ruskin Bond - An Island of Trees
2. Indra Munshi - Loss of Land and Livelihood (extract from 'Introduction' to *The Adivasi Question*)
3. Toru Dutt - Our Casuarina Tree
4. Ashish Kaul - Load Shedding

Module 3: Global

18 Hours

1. Walt Whitman - Give me the Splendid Silent Sun
2. K R Srinivasa Iyengar - An Unfinished Continent
3. Swarnalatha Rangarajan - Swampspeak

Module 4: Environmental Science

18 Hours

1. Erach Bharucha - Global Warming
2. Erach Bharucha - Environmental Values
3. Aloka Debi - Ecology: Types of Ecosystems
4. Aloka Debi - Waste Management

Module 5: Human Rights

18 Hours

Unit 1 - Human Rights: An Introduction to Human Rights

Meaning, concept and development -History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

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Unit. 3- Human Rights National Perspective

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Core Text: Module 1 to 4- **Nature Anthem: A Textbook on Environmental Studies**

Reference texts for Module 5:

1. Basic Documents in Human Rights: Ian Brownlie
2. Universal Human Rights in Theory and Practice: Jack Donnelly
3. Future of Human Rights: Upendra Baxi
4. Understanding Human Rights : An Overview: O P Dhiman
5. Reforming Human Rights: D.P.Khanna
6. Human Rights in India Historical, Social and Political Perspectives:
Chiranjivi J Nirmal
7. Human Rights in Post colonial India: Edited by Om Prakash Dwivedi and V G Julie Rajan

**SYLLABUS OF
ENVIRONMENTAL BIOLOGY AND HUMAN RIGHTS
FOR ZOOLOGY
UNDER GRADUATE PROGRAMME
SEMESTER V. ZY5CRT05**

Credit - 3

Total Time allotted - 54 Hrs

OBJECTIVES

To instil the basic concepts of Environmental Sciences, Ecosystems, Natural Resources, Population, Environment and Society

To make the students aware of natural resources, their protection, conservation, the factors polluting the environment, their impacts and control measures.

To teach the basic concepts of toxicology, their impact on human health and remedial measures

To create a consciousness regarding Biodiversity, environmental issues & conservation strategies

To develop the real sense of Human rights – its concepts & manifestations

MODULE- 1:- ECOSYSTEM - 8 hrs

Basic concepts and Components of ecosystem: Abiotic (Sunlight, temperature, soil, water, atmosphere) and Biotic components (Producers, consumers, decomposers), Ecological pyramid- number, biomass, energy,

Functions of ecosystem: Productivity-Food chain-Food web-Energy flow-Laws of Thermodynamics. Types of Ecosystem: Terrestrial-Forest-Grassland-Desert, Aquatic-Marine-Fresh water, Wetland & Biome

Concept of limiting factors: Liebig's and Shelford's laws of limiting factors.

Biogeochemical cycles: Concept, gaseous and sedimentary cycles, Carbon cycle, Nitrogen cycle.

Renewable resources (solar, wind, hydroelectric, biomass and geothermal) **and Non renewable resources** (mineral and metal ore, fossil fuels)

MODULE-2:-CONCEPTS OF POPULATION AND COMMUNITY -7 hrs

Concept of population: Population attributes- Population growth forms, Basic concepts of growth rates, density, natality, mortality, growth curves

Animal interactions: Positive- Commensalism- Mutualism- Proto co-operation, Negative- Predation-Parasitism-Competition-Antibiosis

Characteristics of a community: Species diversity- richness, evenness, stratification, dominance, ecological indicators, Ecotone and Edge effect, Keystone species, Concepts of Ecological Niche and Guild, Ecological succession, community evolution- climax.

MODULE-3:-BIODIVERSITY AND ENVIRONMENTAL ISSUES- 16.hrs

Introduction to Biodiversity: Types of biodiversity- Alpha, Beta and Gamma diversity.

Concept and importance of Biodiversity: Levels of Biodiversity-Species diversity, Genetic diversity, Microbial, Ecosystem diversity, India as a mega-diversity nation, Biodiversity hotspots

Global Environmental Issues: Ozone depletion, Greenhouse effect, Global warming, Climate change, Carbon trading, carbon credit; Carbon sequestration, Acid rain, Oil spills, Nuclear accidents, IPCC/UNFCCC.

National Environmental issues: Deforestation, forest fire, pollution(air, water, soil, noise thermal, nuclear- brief account only) , solid waste management, sewage, drinking water crisis and water logging,

Toxic products and disaster: Types of toxic substances – degradable, non degradable, Impact on human – case studies: Endosulphan tragedy, Bhopal disaster

Flood, drought, cyclone, earthquake and landslide (Management and mitigation)

Local Environmental issues: Landscape alteration, sand mining, quarrying, changing crop pattern, conversion of paddy lands,

Threats to water resources of Kerala: Degrading Mangrove and wetland ecosystems of Kerala,

RAMSAR sites, Marine ecosystem crisis- pollution, overfishing etc. Impact of tourism on Environment.

MODULE- 4:- CONSERVATION OF BIODIVERSITY- 5 .hrs

Protected area concept – Sanctuary, National Park, Biosphere reserve, Core Zone, Buffer Zone, Corridor concept. Conservation reserves

Concept of threatened fauna – IUCN categories - extinct, extinct in the wild, critically endangered, endangered, vulnerable, near threatened, least concern and data deficient. Red and Green Data Books.

Man–animal conflict (Tiger, Elephant,) – causes and concern

Water conservation- rainwater harvesting, watershed management

Environmental laws (Brief account only): The Wildlife Protection Act, 1972, Biodiversity Act, 2002.

MODULE- 5:- HUMAN RIGHTS- 18. Hrs

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights-The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Unit 3- Human Rights National Perspective

Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights-directive Principles of State Policy and Human Rights- Human Rights of Women-children –minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

References

1. ErachBharucha 2008 (UGC). Text Book of Environmental Studies of Undergraduate course. University Press.
2. J.B Sharma (2009), Environmental studies' - 3rdEd. University science Press
3. Misra S.P., Pandey S.N. 2009Essential Environmental Students, Ane books Pvt. Ltd.
4. P.D Sharma (2012), Ecology and Environment' - 11th Ed. Rastogi Publications
5. R.B Singh & Suresh Mishra PaulamiMaiti (1996), Biodiversity – Perception, Peril and Preservation' — PHI Learning , Environmental Law in India: Issues and Responses
6. Rajagopalan,R. 2005.*Environmental Studies from Crisis to Cure*. Oxford University Press, New Delhi.
7. Paul R.C., 2000.Situations of Human Rights in India. Efficient offset printers.
8. ArunkumarPalai(1999) National Human Rights Commission of India, Atlantic publishers
9. Sharma P.D. (2005)Environmental biology and Toxicology, Rastogi publication
10. MeeraAsthana and Asthana D.K.1990 Environmental pollution and Toxicology Alka

printers.

11. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders College Publishing, Philadelphia

12. Alan Beeby, 2006 Anne – Maria Brennan First Ecology, Ecological principles and Environmental issues . International students edition Sec. edition Oxford University

Press.

13. Robert Ricklefs (2001). The Ecology of Nature. Fifth Edition. W.H. Freeman and Company.

14. Stiling Peter (2002). Ecology: Theories and applications. Prentice Hall of India pvt.Ltd. New Delhi.

15. Landis, Wayne and Hing-ho Yu, Boca Raton, 1995. Introduction to Environmental Toxicology: Impacts of chemicals upon Ecological systems: Lewis Publishers.

Course Title

HY5CRT 10 – ENVIRONMENTAL STUDIES & HUMAN RIGHTS IN HISTORICAL OUTLINE

Module 1

Environmental Studies: An Introduction

What is Environmental Studies? – Nature of Environmental Studies – Definition, Scope and Importance – Natural Resources: Renewable and Non-renewable – Forest Resources, Water Resources, Mineral Resources, Food Resources, Energy Resources and Land Resources – Concept, Structure and Functions of Ecosystems

Module 2

Bio-Diversity, Social Issues and the Environment

Introduction to Bio-diversity – Value of Bio-diversity – Threats to Bio-diversity: Habitat Loss, Poaching of Wildlife and Man-Wildlife Conflicts – Define Environmental Pollution – Causes, Effects and Control Measures of Air Pollution, Water Pollution, Soil Pollution, Marine Pollution, Noise Pollution, Thermal Pollution and Nuclear Hazards – Solid Waste Management: Causes, Effects and Control Measures of Urban and Industrial Waste

Module 3

Introduction to Environmental History

Unit 1 – Historical Outline – Environmental History and its Relations with Environmental Studies – Scope of Environmental Studies in History- Interdisciplinary Nature.

Unit 2 – Roots of Environmental Crisis – Four Modes of Resource Use: Hunting-Gathering, Nomadic Pastoralism, Settled Agriculture and Industrial Phase

Unit 3 – Forest Resources: Colonial Phase – Use and Over-Exploitation, Forest Laws in British India- Concept of Scientific Forestry- Alienation of Adivasis from Forests – Hunting and Impact on Wildlife.

Module 4

The Post-Colonial Developments on Environment

Unit 1 – Post Colonial Scenario – The Developmental Drive: Industrialization, Dams and Mines – Tribal Struggles.

Unit 2 – The Struggles from the Margins – Land alienation and Tribal Protest Movements- its Strategies and Ideology.

Unit 3 – Environmental Movements: Chipko, Narmada Bachao Andolan, the Silent Valley and Plachimada Issues – Women and Environmental Struggles

Module 5

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR, ICCPR, ICESCR.-Value dimensions of Human Rights

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REFERENCES

Module 1 and 2

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)
3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
4. Dc A.K.Environmental Chemistry, Wiley Eastern Ltd.(Ref)
5. Down to Earth, Centre for Science and Environment (Ref)
6. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge University Press 1140pb (Ref)
7. Jadhav.H & Bhosale.V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p (Ref)
8. Mekinney, M.L & Schock.R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p (Ref)
9. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB)
10. Odum.E.P 1971. Fundamentals of Ecology. W.B. Saunders Co. USA 574p (Ref)
11. Rao.M.N & Datta.A.K. 1987 Waste Water treatment Oxford & IBII Publication Co.Pvt.Ltd.345p (Ref)
12. Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016 (TB)
13. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
14. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (Ref)

BA HISTORY – SEMESTER 5

15. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (Ref)
16. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
17. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref)

(M) Magazine (R) Reference (TB) Textbook

Modules 3&4

1. Gadgil, M. and R.Guha, 1992, *This Fissured Land: An Ecological History of India*. Delhi: Oxford University Press.
2. Worster, D, ed, 1988, *The Ends of the Earth: Perspectives on Modern Environmental History*. New York: Cambridge University Press.
3. Habib, Irfan, 2010, *Man and Environment: The Ecological History of India*, Aligarh: Tulika
4. Rangarajan, Mahesh and K.Sivaramakrishnan, eds, 2011, *India's Environmental History: Volumes 1 and 2*. Delhi: Permanent Black.
5. Rangarajan, Mahesh, 2001, *India's Wildlife History: An Introduction*. Delhi: Permanent Black.
6. Gadgil, Madhav, 1995, *Ecology and Equity: The Use and Abuse of Nature in Contemporary India*, Delhi.
7. Baviskar, Amita, 1995, *In the Belly of the River: Tribal Conflicts over Development in Narmada Valley*. Delhi: Oxford University Press.
8. Baviskar, Amita, ed. 2008, *Contested Waterscapes*: Delhi, Oxford University Press.
9. Guha, Ramachandra, 1989, *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya*. Delhi: Oxford University Press.

Human Rights (Module 5)

1. Amartya Sen, *The Idea Justice*, New Delhi: Penguin Books, 2009.
2. Chatrath, K. J.S., (ed.), *Education for Human Rights and Democracy* (Shimla: Indian Institute of Advanced Studies, 1998)
3. *Law Relating to Human Rights*, Asia Law House, 2001.
4. Shireesh Pal Singh, *Human Rights Education in 21st Century*, Discovery Publishing House Pvt.Ltd, New Delhi,
5. S.K.Khanna, *Children And The Human Rights*, Common Wealth Publishers, 1998. 2011.
6. Sudhir Kapoor, *Human Rights in 21st Century*, Mangal Deep Publications, Jaipur, 2001.
7. United Nations Development Programme, *Human Development Report 2004: Cultural Liberty in Today's Diverse World*, New Delhi: Oxford University Press, 2004.

Core Course 16: MB5CRT16 -Environmental Microbiology and Human Rights

Total hours of instruction: 72

Hours/week: 4

Credit: 4

Module 1 (15 hours)

Unit 1: Multidisciplinary nature of environmental studies: Definition, scope and importance, Need for public awareness.

Unit 2& 3: Natural Resources: Renewable and non-renewable resources, Natural resources and associated problems.

- a. Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.
- b. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- c. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- d. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- e. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies.
- f. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification
Role of individual in conservation of natural resources.
Equitable use of resources for sustainable life styles.

Unit 4 & 5: Ecosystems: Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids.

Unit 6: Forest ecosystem- Introduction, types, characteristic features, structure and function of the given ecosystem

Module II (23hours)

Unit 1 &2: Biodiversity and its conservation: Introduction, Biogeographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. India as a mega-diversity nation, Hot-spots of biodiversity.

Unit 3: Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, Endangered and endemic species of India

Unit 4&5: Environmental Pollution- Definition, Causes, effects and control measures of: - Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, Nuclear hazards.

Unit 6: Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

Unit 7: Role of an individual in prevention of pollution, Pollution case studies Disaster management: floods, earthquake, cyclone and landslides.

Unit 8 & 9: Social Issues and the Environment

- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people: its problems and concerns, Case studies
- Environmental ethics: Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion , nuclear accidents and holocaust, Case studies
- Consumerism and waste products
- Environment Protection Act
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness

References

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)
3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
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Module III (8 hours)

Unit 1: Waste water management and sewage treatment.

Unit 2 & 3: Bioremediation and strategies for bioremediation. Phytoremediation Microbial degradation of petroleum and petroleum products, Pesticide degradation.

Unit: 4 Biostimulation and bioaugmentation.

Module IV (8 hours)

Unit 1 & 2: Bioremediation of contaminated soils and wastelands - solid waste - sources and management (composting, vermiculture and methane production)

Unit 3 & 4: Environmental mutagenesis and toxicity testing.

Module - V (18 Hours)

Unit 1 - Human Rights

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References

1. AmartyaSen, The Idea Justice, New Delhi: Penguin Books, 2009.
2. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)
3. Law Relating to Human Rights, Asia Law House, 2001.
4. Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt. Ltd, New Delhi,
5. S.K.Khanna, Children And The Human Rights, Common Wealth Publishers, 1998. 2011.
6. Sudhir Kapoor, Human Rights in 21st Century, Mangal Deep Publications, Jaipur,2001.
7. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

PH5CRT08: ENVIRONMENTAL PHYSICS AND HUMAN RIGHTS

Vision

The importance of environmental science and environmental studies cannot be disputed. The need for sustainable development is a key to the future of mankind. Continuing problems of pollution, solid waste disposal, degradation of environment, issues like economic productivity and national security, Global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues. The United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and World Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment. It is clear that no citizen of the earth can afford to be ignorant of environment issues.

India is rich in biodiversity which provides various resources for people. Only about 1.7 million living organisms have been described and named globally. Still many more remain to be identified and described. Attempts are made to conserve them in ex-situ and in-situ situations. Intellectual property rights (IPRs) have become important in a biodiversity-rich country like India to protect microbes, plants and animals that have useful genetic properties. Destruction of habitats, over-use of energy resource and environmental pollution has been found to be responsible for the loss of a large number of life-forms. It is feared that a large proportion of life on earth may get wiped out in the near future.

In spite of the deteriorating status of the environment, study of environment has so far not received adequate attention in our academic programme. Recognizing this, the Hon'ble Supreme Court directed the UGC to introduce a basic course on environment at every level in college education. Accordingly, the matter was considered by UGC and it was decided that a six months compulsory core module course in environmental studies may be prepared and compulsorily implemented in all the University/Colleges of India.

The syllabus of environmental studies includes five modules including human rights. The first two modules are purely environmental studies according to the UGC directions. The second two modules are strictly related with the core subject and fifth module is for human rights.

Objectives

- Environmental Education encourages students to research, investigate how and why things happen, and make their own decisions about complex environmental issues by developing and enhancing critical and creative thinking skills. It helps to foster a new generation of informed consumers, workers, as well as policy or decision makers.
- Environmental Education helps students to understand how their decisions and actions affect the environment, builds knowledge and skills necessary to address complex environmental issues, as well as ways we can take action to keep our environment healthy and sustainable for the future. It encourages character building, and develops positive attitudes and values.
- To develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter-relationship between man and environment and helps to protect the nature and natural resources.

- To help the students in acquiring the basic knowledge about environment and the social norms that provides unity with environmental characteristics and create positive attitude about the environment.

Module I (15 Hours)

Water Resources and Its Management (3 Hours)

Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems. Water harvesting-Importance of rain water harvesting in Kerala.

Remote sensing (3 Hours)

Remote sensing-principles, spectral reflectance of earth's surface features, Remote sensing satellites and sensors, aerial photography, Applications of Remote Sensing in environmental monitoring and assessment.

Environmental Pollution (9 Hours)

Environment and human health; Environmental pollution- Primary and secondary pollutants; Air pollution- Sources, Effects and Control/Treatment methods; Acid Rain; Ozone layer depletion; Green house gases; Global warming - Climatic effects; Water pollution- Sources, Effects and Control/Treatment methods; Groundwater pollution; Marine pollution; Soil pollution; Noise pollution- Sources and measurement indices of noise pollution, Noise exposure level and standards, Noise control measures, Impact of noise on human health, ; Environmental pollution due to environmental disasters; Consumerism and waste products; E-waste-an emerging environmental threat. Disaster management: floods, earthquake, cyclone and landslides.

Module II (12 Hours)

Waste Management (8Hours)

Waste minimization and resource conservation:- Source reduction, Recycling, Value-added products; Waste minimization promotional methods- awareness generation, control methods and economic benefits; Benefits of waste minimization; Management of solid wastes- Municipal solid wastes, Hazardous solid waste-characteristics and management of HSW, Waste treatment and disposal methods- physical, biological and chemical process.

Environment Impact Assessment and Control (4 Hours)

Basic ideas of environment impact assessment; Environment ethics; Environmental laws and constitutional provisions to control pollutions in India-The general acts; Air (prevention and control of pollution) act; Water (prevention and control of pollution) act; Wild life protection act; Forest conservation act; Environment protection acts.

Module III (13 Hours)

Non-renewable and Renewable Energy Sources (13 Hours)

Non-renewable energy sources:-Coal, Oil, Natural gas; Nuclear fission energy; Merits and demerits of non-renewable energy.

Renewable energy sources: Biomass energy- Biofuels, Biogas plant - Fixed dome type and moving drum type; Wind energy; Wave energy; Tidal energy; Hydroelectricity; Geothermal

energy conversion; Ocean thermal energy conversion; Fusion energy; Hydrogen energy- Production and storage; Merits and demerits of each renewable energy sources; Storage of intermittently generated renewable energy.

Module IV (14 Hours)

Solar energy (14 Hours)

Sun as a source of energy- Solar radiation, Solar Constant, Spectral distribution; Solar pond - Convective and salt gradient types; Flat plate collector; Solar water heater - Direct and indirect systems- Passive and active systems; Optical concentrator - Parabolic trough reflector - Mirror strip reflector - Fresnel lens collector; Solar desalination; Solar dryer - Direct and indirect type; Solar cooker; Solar heating of buildings; Solar green houses; Need and characteristics of photovoltaic (PV) systems; Solar cells - Principle, Equivalent circuits, V-I characteristics, fill factor, conversion efficiency; PV Sun tracking systems; Merits and demerits of solar energy.

Module - V (18 Hours)

Unit 1 - Human Rights

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Reference Books:

1. Non-conventional energy sources - G.D Rai- Khanna Publishers, New Delhi
2. A textbook of Environmental Studies- E Bharucha - University Grants Commission, 2004
3. Environmental Science: Principles and Practice- R.C. Das and D.K. Behera - PHI Learning Pvt. Ltd
4. Renewable Energy Sources and Emerging Technologies: Edition 2, D.P. Kothari K. C. Singal, Rakesh Ranjan - PHI Learning Pvt. Ltd, 2011.

5. Solar energy - M P Agarwal - S Chand and Co. Ltd.
6. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
7. Renewable Energy, Power for a sustainable future, Edited by Godfrey Boyle, Oxford University Press, 2012.
8. Solar Energy: Resource Assesment Handbook- Dr. P Jayakumar APCTT 2009
9. A textbook of Environmental Studies- S.Satyanarayan, S.Zade, S.Sitre and P.Meshram - Allied Publishers, New Delhi, 2009
10. Remote Sensing: Principles and Interpretation, Floyd F. Sabins, Waveland Pr Inc; 3 edition (2007)

Human Rights

1. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.
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B. Sc DEGREE PROGRAMME MATHEMATICS (UGCBCS 2017)

FIFTH SEMESTER

MM5CRT04 : ENVIORNMENTAL MATHEMATICS & HUMAN RIGHTS

Vision

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- Environmental Education helps students to understand how their decisions and actions affect the environment, builds knowledge and skills necessary to address complex environmental issues, as well as ways we can take action to keep our environment healthy and sustainable for the future, encourage character building, and develop positive attitudes and values.
- To develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter-relationship between man and environment for protecting the nature and natural resources.

- To help the students in acquiring the basic knowledge about environment and to inform the students about the social norms that provide unity with environmental characteristics and create positive attitude about the environment.

4 hours/week (Total Hrs: 72)

4 credits

SYLLABUS

Text Books :

1. Bharucha Erach – Text book of Environmental studies for UG Courses, University Press, II Edition
2. Thomas Koshy : Fibonacci and Lucas numbers with applications, John Wiley & Sons, Inc (2001).

Module I: Environment and its resources

(10 hours)

Multidisciplinary nature of environmental studies:

Definition, scope and importance
Need for public awareness.

Natural Resources :

Renewable and non-renewable resources : Natural resources and associated problems.

- a) Forest resources : Use and over-exploitation, deforestation, case studies.
Timber extraction, mining, dams and their effects on forest and tribal people.
- b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, Case studies.
- f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification

Role of individual in conservation of natural resources.

Equitable use of resources for sustainable lifestyles.

(Text 1- unit 1- sections 1.1,1.2,unit 2-sections 2.1,2.2,2.3,2.4)

ModuleII: Environmental Pollution and Social Issues

(14 hours)

Pollution- Definition, Causes, effects and control measures of:

- a. Air pollution
- b. Water pollution
- c. Soil pollution
- d. Marine pollution
- e. Noise pollution
- f. Thermal pollution

g. Nuclear hazards

Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

Role of an individual in prevention of pollution

Disaster management: floods, earthquake, cyclone and landslides.

(Text 1. -unit 5-sections 5.1, 5.2, 5.3, 5.4, 5.6)

Social Issues and the Environment:

Urban problems related to energy

Water conservation, rain water harvesting, watershed management

Resettlement and rehabilitation of people: its problems and concerns, Case studies

Environmental ethics: Issues and possible solutions

Climate change, global warming, acid rain, ozone layer depletion , nuclear accidents and

Holocaust, Case studies

Consumerism and waste products

Public awareness

(Text1. unit6--sections 6.1, 6.2, 6 .4, 6.5,6.6,6.15)

Module III : Fibonacci Numbers in nature

(15 hours)

The rabbit problem:

The rabbit problem, Fibonacci numbers, recursive definition, Lucas numbers, Different types of Fibonacci and Lucas numbers.

Fibonacci numbers in nature :

Fibonacci and the earth, Fibonacci and flowers, Fibonacci and sunflower, Fibonacci, pinecones, artichokes and pineapples, Fibonacci and bees, Fibonacci and subsets, Fibonacci and sewage treatment, Fibonacci and atoms, Fibonacci and reflections, Fibonacci, paraffins and cycloparaffins, Fibonacci and music, Fibonacci and compositions with 1's and 2's

The Euclidean Algorithm:

The Euclidean Algorithm and Lucas Formula

Solving Recurring relations:

Linear homogeneous recurrence relations with constant coefficients

Text 2 : Chapters 2 & 3 (excluding Fibonacci and poetry, Fibonacci and electrical networks), Chapters 9 & 10.

Module IV : Golden Ratio

(15 hours)

The golden ratio:

The golden ratio, mean proportional, a geometric interpretation, ruler and compass construction, Euler construction, generation by Newton's method.

The golden ratio revisited:

The golden ratio revisited, the golden ratio and human body, golden ratio by origami, Differential equations, Gattei's discovery of goldenratio, centroids of circles,

Text 2 : Chapters 20, 21

Module V : Human rights

(18 hours)

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

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References

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clanderson Press Oxford (Ref)
3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
4. Dc A.K.Environmental Chemistry, Wiley Eastern Ltd.(Ref)
5. Down to Earth, Centre for Science and Environment (Ref)
6. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge University Press 1140pb (Ref)
7. Jadhav.H & Bhosale.V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p (Ref)
8. Mekinney, M.L & Schock.R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p (Ref)
9. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co. (TB)
10. Odum.E.P 1971. Fundamentals of Ecology. W.B. Saunders Co. USA 574p (Ref)
11. Rao.M.N & Datta.A.K. 1987 Waste Water treatment Oxford & IBII Publication Co.Pvt.Ltd.345p (Ref)

12. Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016 (TB)
13. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
14. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (Ref)
15. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (Ref)
16. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
17. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref)

(M) Magazine (R) Reference (TB) Textbook

Human Rights

1. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.
2. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)
3. Law Relating to Human Rights, Asia Law House, 2001.
4. Shireesh Pal Singh, Human Rights Education in 21 st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
5. S.K.Khanna, Children and the Human Rights, Common Wealth Publishers, 1998.2011.
6. Sudhir Kapoor, Human Rights in 21 st Century, Mangal Deep Publications, Jaipur,2001.
7. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

QUESTION PAPER PATTERN

Module	Part A 2marks	Part B 5 marks	Part C 15 marks	Total
I	3	2		5
II	3	2	1	6
III	2	2	1	5
IV	2	2	1	5
V	2	1	1	4
Total No. of questions	12	9	4	25
No.of questions to be answered	10	6	2	18
Total marks	20	30	30	80

CBCS
BA PROGRAMME COURSE
SANSKRIT LANGUAGE AND LITERATURE- GENERAL
SEMESTER -V

CORE VIII- SAMSKRTABHASHAYAM PARYAVARANAVIJNANAM

Credit: 4

Contact hours: 72

Aim of the Course:

This course aims to impart environmental aspects in Sanskrit.

Objective of the course

1.To make students aware of nature.

2. To familiarize students with works in Sanskrit depicted environmental features.

Course Outline

Module I

Unit 1 :Multidisciplinary nature of environmental studies

Definition, scope and importance

(2 hrs)

Need for public awareness.

Unit 2 : Natural Resources :

Renewable and non-renewable resources : Natural resources and associated problems.

a) **Forest resources** : Use and over-exploitation, deforestation, case studies.

Timber extraction, mining, dams and their effects on forest and tribal people.

b) **Water resources** : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) **Mineral resources** : Use and exploitation, environmental effects of extracting

and using mineral resources, case studies.

d) **Food resources** : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) **Energy resources**: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources, Case studies.

f) **Land resources:** Land as a resource, land degradation, man induced landslides, soil erosion and desertification

- Role of individual in conservation of natural resources.
- Equitable use of resources for sustainable life styles.
(10 hrs)

Unit 3: Ecosystems

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the given ecosystem:- Forest ecosystem. (6 hrs)

Module II

Unit 1: Biodiversity and its conservation

- Introduction
- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- India as a mega-diversity nation
- Hot-spots of biodiversity

- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts
- Endangered and endemic species of India

(8 hrs)

Unit 2: Environmental Pollution

Definition

Causes, effects and control measures of: -

- a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
 - Role of an individual in prevention of pollution
 - Pollution case studies
 - Disaster management: floods, earthquake, cyclone and landslides. (8 hrs)

Unit 3: Social Issues and the Environment

- Urban problems related to energy

- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people: its problems and concerns, Case studies
- Environmental ethics: Issues and possible solutions
- Climate change, global warming, acid rain, ozone layer depletion , nuclear accidents and holocaust, Case studies
- Consumerism and waste products
- Environment Protection Act
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness (10 hrs)

Module III –Environmental awareness through Sanskrit Literature-

Vrkshayurveda....Verses 1 to 31 (10 hrs)

Module IV- Ecological awareness in the work of Kalidasa- Raghuvamsa II

Canto ,Verses 1 to 40. (10 hrs)

Module – V (18 Hours)

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

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Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

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Internal: Field study

- Visit to a local area to document environmental grassland/ hill /mountain
- Visit a local polluted site – Urban/Rural/Industrial/Agricultural
Study of common
 plants, insects, birds etc
- Study of simple ecosystem-pond, river, hill slopes, etc

(Field work Equal to 5 lecture hours)

REFERENCES

1. Bharucha Erach, Text Book of Environmental Studies for undergraduate Courses. University Press, IInd Edition 2013 (TB)
2. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)

3. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)
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- 12.Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016 (TB)
- 13.Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut (Ref)
- 14.Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell

Science (Ref)

- 15.Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Stadards, Vol I and II, Enviro Media (Ref)
- 16.Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication (Ref)
17. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co. Philadelphia, USA 499p (Ref)
- 18.(M) Magazine (R) Reference (TB) Textbook

Human Rights

1. Basic Documents In Human rights – Ian Brwnlie
2. Universal Human Rights in Teory And Practice - Jack Donelly
3. Future of Human Rightsd – Upendra Baxi
4. Understanding Human Rights An Overview – OPDhiman
5. Reforming Human Rights – D. P. Khanna
6. Human Rights In India Histotical Social And Political Perspectives – Chiranjivi J Nirmal
7. Human Rights In Postcolonial India – Edited by Om Prakash Dwivedi and V. G. Julie Rajan
8. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.
9. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)
10. Law Relating to Human Rights, Asia Law House, 2001.
11. Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
12. S.K.Khanna, Children And The Human Rights, Common Wealth Publishers, 1998. 2011.
13. Sudhir Kapoor, Human Rights in 21st Century, Mangal Deep Publications, Jaipur, 2001.
14. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

BA DEGREE (UGCBCSS) PROGRAMME
SANSKRIT (SPECIAL) NYAYA
SEMESTER V
CORE - V
ENVIRONMENTAL SCIENCE HUMAN RIGHTS
AND SANSKRIT

Credit 4

Contact hours 90

Aim of the Course

It aims to sensitize the young generation on the importance of Nature. To sensitize them with the importance of the protection of the Nature. To make them know the contribution of our forefathers and at large of our country towards the protection of the Natural circumstance prevalent on the Earth. To impart knowledge of the human rights in the modern scenario.

Objectives of the Course

- To create an awareness on the basics of Environmental science and allied subjects.
- To impart general awareness on Nature, Natural resources and their Preservation
- To make the understand the effects of the ruin of the natural resources and How to avoid the ruin
- To make them aware of the nature, our fore fathers and their relation to the nature who they maintained this throughout their life.
- To make them aware of what is human right? what are they? where are they required? etc.

Module I - Introduction, Environment – Spatial and Time Scale of Environment, Weather and Climate, Habitat, Components of Environment, Types of Environment, Human Interference with the Environment.

Module II - Slokas 1 – 23 of Vrukshayurveda of Surapala (Ch. 1)

Module III - Slokas 24 – 34 of Vrukshayurveda of Surapala (Ch. 2)
 Human Rights - An Introduction to Human Rights, Meaning, Concept and development –History of Human Rights-Different Generations of Human Rights-Universality of Human Rights- Basic International Human Rights Documents - UDHR, ICCPR, ICESCR.- Value dimensions of Human Rights

Module IV - Human Rights and United Nations - Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Module V - Human Rights National Perspective - Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights-directive Principles of State Policy and Human Rights- Human Rights of Women-children – minorities – Prisoners - Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

Essential Reading

1. Environmental Studies

(for Undergraduate classes)

Dr. J.P. Sarma.

University Science Press, New Delhi.

2. **Vrukshayurveda** of Surapala Chapter 1 & 2

3. **Children And The Human Rights**

S.K.Khanna,

Common Wealth Publishers,1998.

Additional Reading

1. Clark.R.S., Marine Pollution, Clarendon Press Oxford (Ref)

2. Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .(Ref)

3. De A.K.Environmental Chemistry, Wiley Eastern Ltd.(Ref)

4. Jadhav.H&Bhosale.V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p (Ref)

5. Mekinney, M.L &Schock.R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p (Ref)

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7. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication.

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12. Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
13. SudhirKapoor, Human Rights in 21stCentury,Mangal Deep Publications, Jaipur,2001.
14. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

Sanskrit Special Vedanta
Semester V- Core VIII
Environmental Awareness and Human Rights

Module - I (18 Hours)

PrithviSukta ofAtharvaveda

(1stSukta of the 12th Kanda of Atharvaveda. 63 mantras)

Module - II (18 Hours)

Mind and Environment (3rd Chapter of ERT 2)

Module - III (18 Hours)

Health and Environment (4th Chapter of ERT 2)

Module - IV (18 Hours)

Conservation of Bio-Diversity (7th Chapter of ERT 2)

Module - V (18 Hours)

Unit 1 - Human Rights

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Essential Reading Texts

1. VaidikSuktaSangrah. Gita Press, Gorakhpur.
2. Environment and ancient Sanskrit Literature. ArunaGoel, Published by Deep & Deep Publications Pvt.Ltd, New Delhi.

Sanskrit Special Sahitya

Vth SEMESTER CORE VIII

ENVIRONMENTAL STUDIES IN SANSKRIT LITERATURE AND HUMAN RIGHTS

Answers may be written in either Sanskrit or in English.

In Sanskrit Devanagari script should be used.

VISION

The importance of environmental science cannot be disputed. The need for the sustainable development is a key to the future of mankind. Continuing problems of pollution, solid waste disposal, degradation of forest, Depletion of ozone layers etc. have made every one aware of environmental issues. But the study of environment has so far not received adequate attention in our academic programme. Recognising this the Honourable Supreme Court directed the UGC to introduce the basic course on environment at every level in college education.

The syllabus of environmental studies includes five modules including Human Rights. The first module is the introduction of environmental studies according to the UGC directions. The second module is explaining the environmental awareness in Vedas . The third and fourth modules expound the emotional bond between the man and nature in classic literature. The fifth module is for Human rights.

OBJECTIVES

1. Environmental education encourages students to research investigate how and why things happen and make their own decisions about complex environmental issues by developing and enhancing critical and creative skill.
2. To develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter relationship between man and environment.
3. To help the students in acquiring the basic knowledge about environment and social norms that provide unity with the environmental characteristics and create positive attitude towards the environment.

COURSE OUTLINE

- **Module I** Nature Scope and importance of environmental studies and Solid waste management ,Environment activism in India
- **Module II** Environmental Awareness in Vedas
- **Module III** The attitude towards the environment in KautilyasArthashastra and Manusmriti

- **Module IV** Relationship of Man and Nature in the works of Kalidasa
- **Module V** Human Rights

Essential Reading

1. Environmental Studies , J P Sharma, Lakshmi Publications New Delhi Pages-4-10 (including both pages) *Environmental activism* an article by Dr. P V Raman Kutty in Indian Scientific Traditions Ed. By NVP Unithiri Calicut University pages 330-337(including both pages){**Module I**}
2. *Man and nature relationship reflected in the Suklayajurveda*, and *Environmental awareness in Atharvaveda* articles by Nirmala Kulkarni and Mande K V respectively. Proceedings on the National seminar on Environmental Awareness Reflected in Sanskrit Literature. Ed. By V N Jha .pages 1-11(including both pages) {**Module II**}
3. *The attitude towards environment reflected in Kautilyas.Arthasastra and Ecological Awareness reflected in Manusmrithy* articles by Ganesh Prasad panda and Sanjay D Deodikar respectively in Proceedings on the National seminar on Environmental Awareness Reflected in Sanskrit Literature. Ed. By V N Jha .pages 47-49 and 93-100 {**Module III**}
4. *Environmental Awareness in Kalidasa's works* article by M Sivakumara Swamyin Proceedings on the National seminar on Environmental Awareness Reflected in Sanskrit Literature. Ed. By V N Jha pages 143-147 {**Module IV**}

5 *Human Rights* Module - V (18 Hours)

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights- Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

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minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission-
State Human Rights Commission- Human Rights Awareness in Education.

SYLLABUS
V Semester B.A.PROGRAMME
SANSKRIT (SPECIAL) JYOTISHA
Core VIII
ENVIRONMENTAL STUDIES AND HUMAN RIGHTS

ज्योतिषे पर्यावरणविज्ञानीयम्

Credit 4

Contact Hours 90

Aim of the Course

This course is aims to make aware the students about the importance of environment and Human Rights.

Objectives of the Course

1. To impart the knowledge of scope and significance of environmental studies.
2. To impart the knowledge about the importance of environmental protection.
3. To impart awareness on importance of environmental protection according to Sanskrit literature with special reference to Jyotisha.
4. To make awareness on environmental pollution.
5. To make aware the students the Human rights provided in the constitution of India.

Course Outline

Module I

पर्यावरणशास्त्रं किम् तस्य प्रयोजनं किम्।

ModuleII

गृहं गृहपरिसरञ्च कथं भवेदिति बृहत्संहितायाः वास्तुविद्याध्याये

Module III –

वृक्षपरिपालनं कथमिति बृहत्संहितायाः वृक्षायुर्वेदाध्याये

Module IV –

कीटनाशादीनां निर्माणप्रकारः

ERT –

Environmental studies – J P Sharma – Chapter 1
Brihatsamhita – Vastuvidyadhyaya (from Sloka no 84 to 125)
Brihatsamhita – Vrikshayurvedadhyaya - Complete

Human Rights

Module - V (18 Hours)

Unit 1 - Human Rights

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MAHATMAGANDHI UNIVERSITY

Restructured Syllabus -CBCSS

B.A. Programme in Sanskrit (Special) Vyakarana

(2017 Admission onwards)

SEMESTER-V- CORE VIII

Environmental Science&Human Rights

Core VIII

Credits – 4

Contact Hours-90

Aim of the Course-

To Impart a knowledge of Human Rights

Objectives of the course

- 1.To make the students aware of the nature and its potential to influence the organism
2. To create an understanding of the environmental consideration in sanskrit poetry and sastraic works.

Module-1 Environmental vision of Kalidasa- Raghuvamsa canto-2 Slokas 1to 20

Module-2 Environmental vision of Kalidasa- Raghuvamsa canto-2 Slokas 21to 40

Module-3 Environmental vision of Kalidasa- Raghuvamsa canto-2 Slokas 41to 60

Module- 1V Environmental vision of Kalidasa- Raghuvamsa canto-2 Slokas 61to 75

Module - V (18 Hours)

Unit 1 - Human Rights

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Essential reading-

1 .Environmental Studies-by Dr J.P.sarma.Lakshmy publications New Delhi

2..Module -4Raghuvamsa canto2 of kalidasa

Additional reading

1.Keralathinte paristhitiprasnangal by Dr.R.V.G.Menon

2.Environmental awareness reflected in Centre for advanced study of Sanskrit
University of Pune1991

SEMESTER V

Core Course Paper V

पर्यावरण और मानव अधिकार

Environmental Studies and Human Rights

Course Code HN5CRT05

Module 1

पर्यावरण का अर्थ -परिभाषा -महत्व -उद्देश्य- जन जागरूकता की आवश्यकता -प्राकृतिक संसाधन - प्रकार- वन, जल, खनिज, खाद्य, ऊर्जा, भूमि संसाधन - अर्थ, परिभाषा- प्राकृतिक संसाधन और उससे जुड़ी समस्याएं - (1) वन संसाधन - प्रकार- वन विनाश के कारण- परिणाम -नियंत्रण के उपाय (2) जल संसाधन -प्रकार- जल का अभाव - कारण- संरक्षण - जल संघर्ष- बाढ़- सूखा- नियंत्रण के उपाय (3) खनिज संसाधन प्रयोग- शोषण- पर्यावरणीय प्रभाव -संरक्षण (4) खाद्य संसाधन -विश्व खाद्य समस्या- प्राकृतिक संकट- रासायनिक उर्वरकों का प्रयोग - कृषि की आधुनिक विधियों का प्रभाव - रासायनिक कीटनाशकों का प्रयोग -जल क्रांति - लवणता (5) ऊर्जा संसाधन- नवीकरणीय और अनवीकरणीय ऊर्जा संसाधन - ऊर्जा की बढ़ती मांग- बचाव के उपाय - वैकल्पिक स्रोत (6) भूमि संसाधन- भूमि के प्रकार - भूमि क्षरण - प्रकार - कारण - मृदा अपरदन- मरुस्थलीकरण -कारण - नियंत्रण - अन्य प्राकृतिक संसाधनों का संरक्षण - पारिस्थितिकी तंत्र - परिभाषा -संरचना और क्रियाएँ- जैविक और अजैविक घटक - उत्पादक, उपभोक्ता, अपघटक - पारिस्थितिक तंत्र में उर्जा प्रवाह - सौर ऊर्जा - आहार श्रृंखला - आहार जाल - पारिस्थितिकीय पिरामिड - जैववैविध्यता- परिभाषा- महत्व - आवश्यकता - आनुवंशिक और परितंत्र विविधता - संरक्षण- राष्ट्रीय जैव विविधता - वैश्विक जैव विविधता - लुप्तप्राय प्रजातियां- जैव विविधता के तप्त स्थल - जैव विविधता को खतरा - कारण - लुप्त प्राय प्रजातियां- जैव विविधता संरक्षण ।

Module 2

प्रदूषण - अर्थ , परिभाषा - वायु, जल, मृदा, ध्वनि ,समुद्री, नाभिकीय ,ई कचरा - ठोस अपशिष्ट - प्रबंधन- प्रदूषण नियंत्रण - आपदा प्रबंधन - सतत और अनवरत विकास - जल संरक्षण - वर्षा जल संचयन- जल विभाजक प्रबंधन- विकास की योजनाओं के कारण विस्थापितों का पुनर्वास - पर्यावरण नैतिकता में मानव की भूमिका - जलवायु परिवर्तन- हरित गृह प्रभाव - सार्वत्रिक उष्णता - अम्ल वर्षा, ओजोन परत अपक्षय - नाभिकीय दुर्घटनाएं और महा विस्फोट - बंजर भूमि बचाव के उपाय - उपभोक्तावाद और अपशिष्टों का उत्पादन - पर्यावरण और संरक्षण नियम - जन जागरूकता ।

Module 3

हिन्दी साहित्य में पर्यावरण ।

निबंध : हमारे जीवन में वनों का महत्व - कन्हैयालाल माणिकलाल मुंशी ।

कविता : (1) गंगा में जहाँ वह नाला - ज्ञानेंद्रपति ।

(2) पानी की प्रार्थना - केदारनाथ सिंह ।

Module 3

निबंध : पर्यावरण और संस्कृति का संकट - गोविंद चातक ।

कविता : (1) इक्कीसवीं शताब्दी की ओर - अरुण कमल ।

(2) अर्जी - उदय प्रकाश

कहानी : विनाश दूत - मृदुला गर्ग

Module 5

मानवाधिकार - परिचय - अर्थ - अवधारणा - विकास - इतिहास - मानवाधिकारों का वर्गीकरण - मानवाधिकारों की सार्वभौमिकता - मौलिक अंतर्राष्ट्रीय मानवाधिकार प्रलेख - मानवाधिकारों की सार्वभौमिक घोषणा - अंतर्राष्ट्रीय नागरिक और राजनीतिक अधिकारों की प्रसंविदा - अंतर्राष्ट्रीय आर्थिक सामाजिक और सांस्कृतिक अधिकारों की प्रसंविदा - मानवाधिकार मूल्य ।

मानव अधिकार और संयुक्त राष्ट्रसंघ - संयुक्त राष्ट्रसंघ सचिवालय की भूमिका - आर्थिक और सामाजिक परिषद- मानवाधिकार आयोग -आर्थिक सुरक्षा परिषद और मानवाधिकार - मानवाधिकार जातीय भेदभाव निष्कासन हेतु समिति - स्त्री भेदभाव निष्कासन हेतु समिति - आर्थिक सामाजिक और सांस्कृतिक अधिकारों की समिति - मानवाधिकार समिति- संयुक्त राष्ट्र संघ मानव अधिकार मूल्यांकन पद्धति ।

भारतीय संविधान में मानवाधिकार - मौलिक अधिकार - मानवाधिकारों का संविधानिक संदर्भ - राजनीति के निर्देशक सिद्धांत और मानवाधिकार - महिलाओं के मानवाधिकार - बच्चों के मानवाधिकार - अल्पसंख्यकों के मानवाधिकार - कैदियों के मानवाधिकार - विज्ञान और तकनीक और मानवाधिकार - राष्ट्रीय मानवाधिकार आयोग - राज्य मानवाधिकार आयोग - शिक्षा में मानवाधिकारों की जागरूकता ।

Reference

पर्यावरण और संस्कृति - गोविंद चातक, तक्षशिला प्रकाशन , दिल्ली ।

मानवाधिकार और हम - उर्मिला जैन, परमेश्वरी प्रकाशन, दिल्ली ।

मानवाधिकार एक परिचय - मानवाधिकार शिक्षा प्रतिष्ठान, राजकमल प्रकाशन , दिल्ली ।

संचायिका - राष्ट्रीय मानवाधिकार आयोग, भारत 2012

नई दिशाएं - राष्ट्रीय मानवाधिकार आयोग, 2012

नई दिशाएं - राष्ट्रीय मानवाधिकार आयोग, 2011

CORE 17- BT5CRT13- ENVIRONMENTAL BIOTECHNOLOGY AND HUMAN RIGHTS

Total hours of instruction: 72

Hours/ week: 4

Credit: 3

Module I: 12Hrs

Concept, structure, components and function of ecosystem - producer, consumer, decomposer, abiotic components. Ecological succession, Food chains, food webs, energy flow in ecosystem. Biogeochemical cycles - nitrogen cycle, carbon cycle. Energy resources: Renewable and non renewable energy resources, use of alternate energy resources.

Module II: 15Hrs

Environmental pollution- air, soil and water pollution with suitable case studies, global warming, green house effect, acid rain, smog, hazards of nuclear fallout. Ozone layer depletion, depletion of natural resources, Pesticide pollution

Module III: 20Hrs

Characteristics of waste water –COD, BOD, TOC, Suspended solids, Total dissolved solids, chlorides, acidity, alkalinity. Bacteriological analysis of drinking water, presumptive, completed and confirmed tests, Coagulation, Disinfection by chlorination, Biodegradation of organic compounds. Types of reactions in biodegradation. Biodegradation of hydrocarbons, cellulose and lignin. Molecular biology of biodegradation,

Module IV: 15Hrs

Treatment of waste water, primary, secondary and tertiary treatment. Biological treatment of waste water- aerobic methods, floc and film based processes Activated sludge process, Trickling filter process, Aerobic pond. Anaerobic process- Methanogenesis, Single and double stage reactors. Solid waste management- anaerobic treatment and land filling. Composting. Environmental laws: Environment protection act, Air and Water (Prevention and control of Pollution) Act, Wild life protection Act, Forest conservation Act.

Module V: 10Hrs

Unit 1 - Human Rights

An Introduction to Human Rights, Meaning, concept and development –History of Human Rights-Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR ,ICCPR,ICESCR.-Value dimensions of Human Rights

Unit 2 - Human Rights and United Nations

Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission Human Rights-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

Unit 3- Human Rights National Perspective

Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights-directive Principles of State Policy and Human Rights- Human Rights of Women-children –minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

References:

1. Biocatalysts and biodegradation - Lawrence P Wackett and Douglas Hershberger. ASM Press, Washington
2. Environmental Chemistry - Anil Kumar. De Wiley Eastern Ltd. New Delhi
3. Microbial ecology: Fundamentals and Applications - Atlas and Bartha, Pearson Education
4. Biotechnology: The Science and Business - V. Mopses and R.E. Capes
5. Environmental Science: Earth as living planet - Daniel B Bottein and Edward. A. Keller, John Wiley Sons.
6. Essential Environmental Studies - S. P. Misra, S. N. Pande, Ane Books Pvt.Ltd.
7. Ecology and environment - Sharma P.D
8. Basic documents in Human rights- Ian Brownly
9. Universal human rights in theory and practice- Jack Donlie.
10. Future of Human Rights- Upendra Baxi
11. Understanding Human Rights: An Overview- Dhiman O P
12. Reforming Human rights- D P Khanna
13. Human Rights in India: Historical. Social, political perspectives- Chiranjivi J Nirmal.
14. Human Rights in Post colonial India: Edited by Om Prakash Dwivedi and Julie Rajan.

SEMESTER V

CH5CRT05 - Environment, Ecology and Human Rights

Credits – 4 (72 Hrs)

Environmental Chemistry (54 h)

Objectives: Environmental awareness is to understand the fragility and sensitivity of our environment, in particular the biosphere and the importance of its protection. Promoting environmental awareness is an easy way to become an environmental steward and participate in creating a brighter future for our next generations. The most important goal of this paper is to impart awareness on various environmental aspects, with some glimpses of contemporary issues. This will help them foster a *sense* of responsibility and "*proactive citizenship*".

Module I: Introduction to environmental studies: Natural resources

10 h

Definition, scope and importance of environmental studies for sustainable development, need for public awareness.

Natural Resources: Classification of natural resources; renewable and non-renewable resources:

Natural resources and associated problems;

- 1.1 Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- 1.2 Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- 1.3 Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
- 1.4 Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, industrial farming of livestock and effects on global warming, fertilizer-pesticide problems, water logging, salinity. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, mass production of biodiesel for energy needs and *food security*.

Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

Module II: Environment: Pollution and Social Issues

18 h

Fundamental ideas of pollution and pollutant. Cause, effects and preventive measures of various types of pollutions including; air, water, soil, marine, noise and thermal pollutions. Nuclear energy as a source of energy and its hazards. Solid waste management; causes, effects and control mechanisms of urban and industrial wastes. Prevention of pollution: role of individual. Disaster management mechanisms; disaster management of; floods, earthquake, cyclone and landslides.

Movement from unsustainable to sustainable development. Urban crisis related to energy. Water conservation, rain water harvesting, watershed management, Environmental ethics: Issues and possible solutions. Introduction to important green house gases (GHGs), sources of the primary greenhouse gases in Earth's atmosphere including water vapor, carbon dioxide, methane. The lesser GHGs- nitrous oxide, ozone and fluorinated gases. Carbon cycle, CO₂ sources, Keeling curve and Natural 'sinks' for CO₂. Green house effect, climate change,

global warming, acid rain, ozone layer depletion, role of CFCs in ozone depletion, and its mechanism, nuclear accidents and holocaust. Wasteland reclamation. Consumerism and waste products. Environment Protection Act (EPA). Air (prevention and control of pollution) Act. Water (prevention and control of pollution) Act, Wildlife Protection Act, Forest Conservation Act. Issues involved in the enforcement of environmental legislation. Introduction to the concept of green chemistry, atom economy (with suitable examples) and the twelve principles of green chemistry.

Module III: Population and Environmental issues

8 h

Human population growth, *Malthusian theory (basic idea)* and theory of evolution by natural selection, *Malthusian catastrophe*. Global challenges, *environmental* problems of population growth, impacts on human health and welfare, variation among nations, population explosion and Family Welfare Programme. Socio- economic, and geo-political dimensions of poverty, absolute and relative poverty, poverty scale, variation among nations, international food crisis. Resettlement and rehabilitation of project affected population. Environmental movements in India: Chipko, Silent valley, Bishnois of Rajasthan etc.

Module IV: Ecological Chemistry

18 h

Definition and scope of ecological chemistry, ecological stress posed upon ecosystems by the presence of chemicals. Origin of chemical toxicants; natural sources, and man-made. Organization of chemicals as xenobiotic, essential or nonessential substances. Release of chemicals in the environment, Transport Processes, Classification of transformation processes, biotic and abiotic. Structure- activity relationships in degradation and biodegradation of organic chemicals. Transformation processes including general, hydrolysis, oxidation, reduction, photochemical degradation, microbial degradation, and phytodegradation, environmental fate determining processes, bioavailability, exposure of species to (bio)available fractions, uptake (accumulation), metabolism, biomagnifications, distribution in organisms, and subsequent toxic effects. Risk assessment of chemicals-assessment of contaminated soils.

Persistent organic pollutants (POPs), natural and anthropogenic origin of POCs and characteristic properties; half-lives, K_{ow} , K_{aw} and K_{od} . Adverse effects of persistent chemicals. Legislation on the use of POPs and twelve persistent organic pollutants. The sources, the uses, some of the physico-chemical properties, the half-lives in the environmental compartments of air, water and soil. Behaviour of the priority persistent organic pollutants identified by the United Nations Economic Commission for Europe (UNECE) including; polychlorinated biphenyls, dieldrin, aldrin, dichlorodiphenyltrichloroethane (DDT), Mirex, Heptachlor and Polychlorinated furans. Agency for Toxic Substances and Disease Registry (ATSDR) list, the ATSDR 2017 Substance Priority List, Restriction of Hazardous Substances (RoHS) directive, Material Safety Data Sheet (MSDN), Toxic Substances Control Act (TSCA) and banned/severely restricted chemicals list.

Suggested reference books

1. S. Manahan, *Fundamentals of environmental chemistry*, CRC-Press, 1993.
2. S. Manahan, *Fundamentals of Environmental and Toxicological Chemistry: Sustainable Science*, CRC Press, 2013
3. R.C. Brunner, *Hazardous Waste Incineration*, McGraw Hill Inc., 1989
4. W.P. Cunningham, T.H. Cooper, E Gorchani, and M.T. Hepworth, *Environmental Encyclopedia*, Jaico Publishing House, Mumbai, 2001.
5. A.K. De, *Environmental Chemistry*, Wiley Eastern Ltd.

6. V. Subramanian, *A Textbook of Environmental Chemistry*, I.K. International Publishing House Pvt. Ltd. 2011.
7. S.K. Tiwari, *Environmental Science: Volume I and II*, Atlantic Publishers and Distributers Pvt. Ltd., 2011.
8. R. M. Harrison (ed.), *Understanding Our Environment An Introduction to Environmental Chemistry and Pollution*, Royal Society of Chemistry, 1999
9. D. E. Newton, *Chemistry of the Environment*, Facts On File Inc., 2007
10. V. Udai, *Modern Teaching of Population Education*, Anmol Publications Pvt. Ltd., 2005.
11. B. McGuire, *Global Catastrophes: A Very Short Introduction*, Oxford University Press, 2002.
12. A. E. Dessler, E. A. Parson, *The Science and Politics of Global Climate Change*, Cambridge University Press, 2006.
13. J. Firor, J. Jacobsen, *The Crowded and Greenhouse- Population, Climate Change, and Creating a Sustainable World*, Yale University Press, 2002.
14. B. Lomborg, *Cool It: The Skeptical Environmentalist's Guide to Global Warming*, Alfred A. Knopf Publisher- New York, 2007.

Further readings

1. S. V. S. Rana, *Essentials of Ecology and Environmental Science*, 5th Edition, Rupa publications, 2013.
2. V.H. Heywood, and R.T. Waston, *Global Biodiversity Assessment*. Cambridge Univ. Press, 1995.
3. H. Jadhav, V.M. Bhosale, *Environmental Protection and Laws*. Himalaya Pub. House, Delhi, 1995.
4. M.L. McKinney, and R.M. School, *Environmental Science Systems and Solutions*, Web enhanced edition. 1996.
5. P. H., H. Raven, D.M. Hassenzahl, and L. R. Berg, *Environment*, 8th Edn. John Wiley & Sons, 2012.
6. A. Wreford, D. Moran, N. Adger , *Climate Change and Agriculture: impacts, adaptation and mitigation*, OECD publications, 2010.
7. R.S. Boethling D. Mackay, *Handbook of Property Estimation Methods for Chemicals*. Boca Raton, FL, USA: Lewis Publishers, 2000.
8. J.L.M. Hermens C. J. Van Leeuwen *Risk Assessment of Chemicals: An Introduction*, Dordrecht, The Netherlands, Kluwer Academic Press, 1995.
9. D. Mackay, W.Y., Shiu, K.C. Ma *Physical-Chemical Properties and Environmental Fate, Degradation Handbook*. (CD-ROM), Boca Raton, FL, USA, Chapman & Hall CRC netBASE, CRC, 1999.
10. W. J. G. M. Peijnenburg, *Ecological Chemistry, Environmental and Ecological Chemistry- Vol. III, Encyclopedia of Life Support Systems (EOLSS)*.
11. M. Ali, *Climate Change Impacts on Plant Biomass Growth*, Springer Dordrecht Heidelberg, 2013

Special Notes and Suggestions:

The purpose of the paper is to create general awareness on various dimensions of environmental sciences with a special focus on contemporary issues. The BoS in Chemistry recommend case studies or sample surveys (maybe in groups) rather than seminars. Students can undertake an assignment based on any of the following highly relevant and current topic;

- Edutainment film “Samaksham”, produced by Mahatma Gandhi University, Kottayam.
- Case Studies on the important natural resources of Kerala.

- Case Studies on the Indian *mining scams and consequent environmental damages* of; illegal mining in the *Aravali Ranges, Goa, Ganges river bed, Bellary* etc.
- Case Studies on the *disaster management mechanisms* of floods, landslides, earthquake, cyclone etc.
- Case Studies on the water conservation, rain water harvesting, watershed management in a local contest.
- Case studies on environmental movements like Narmada Bachao Andolan, Appiko Movement, Save Ganga Movement etc.

Module - V (18 h)

V.I Human Rights

An Introduction to Human Rights, meaning, concept and development –History of Human Rights- Different Generations of Human Rights- Universality of Human Rights- Basic International Human Rights Documents - UDHR, ICCPR, ICESCR.-Value dimensions of Human Rights

V-II Human Rights and United Nations

Human Rights co-ordination within UN system- Role of UN secretariat- The Economic and Social Council- The Commission (of) Human Rights?-The Security Council and Human rights- The Committee on the Elimination of Racial Discrimination- The Committee on the Elimination of Discrimination Against Women- the Committee on Economic, Social and Cultural Rights- The Human Rights Committee- Critical Appraisal of UN Human Rights Regime.

V-III Human Rights National Perspective

Human Rights in Indian Constitution – Fundamental Rights- The Constitutional Context of Human Rights- directive Principles of State Policy and Human Rights- Human Rights of Women-children –minorities- Prisoners- Science Technology and Human Rights- National Human Rights Commission- State Human Rights Commission- Human Rights Awareness in Education.

References and suggested readings

1. H.O. Agarwal, *Implementation of Human Rights Covenants with Special Reference to India*,
2. P. Alston, *The United Nations and Human Rights*, Clarendon Press, London, 1995.
3. Amnesty International, *Political Kings by Governments*, Amnesty International, London, 1983.
4. Bajwa, G.S. and D.K. Bajwa, *Human Rights in India: Implementation and Violations* , D.K. Publishers, New Delhi, 1996.
5. UNESCO, Yearbook on Human Rights.
6. NHRC, Annual Reports since 1993.
7. V.K. Bansal, *Right to Life and Personal Liberty*, Deep and Deep, New Delhi, 1986.
8. M. Banton, *International Action against Racial Discrimination* Clarendon Press, Oxford, 1996.
9. D.D. Basu, *Human Rights in Constitutional Law*, Prentice Hall, New Delhi, 1994.
10. N.Bava (ed.,) *Human Rights and Criminal Justice Administration in India*, Uppal Publishing House, New Delhi, 2000.
11. UN Centre for Human Rights, *Civil and Political Rights: The Human Rights Committee*, World Campaign for Human Rights, Geneva, 1997.
12. UN Centre for Human Rights, *Discrimination against Women*, World Campaign for Human Rights, Geneva, 1994.
13. UN Centre for Human Rights, *Minority Rights*, World Campaign for Human Rights, Geneva, , 1998.

14. UN Centre for Human Rights, *Human Rights Machinery*, World Campaign for Human Rights, Geneva, 1987.
15. Ian Brownlie, *Basic Documents Human Rights*
16. Jack Donelli, *Universal Human Rights in Theory and practice*
17. Upendra Baxi, *Future of Human Rights*
18. O P Dhiman, *Understanding Human Rights-An Overview*
19. D P Khanna, *Reforming Human Rights*
20. Chiranjivi J Nirmal, *Human Rights in India-Historical, social and political perspectives*
21. *Human Rights in Post-Colonial India*, Edited by Om Prakash Dwivedi and V G Julie Rajan

Core Course of B. Sc. Statistics Programme

Semester V- Core Course VIII

ST5CRT08–ENVIRONMENTAL STUDIES, HUMAN RIGHTS AND

VITAL STATISTICS

Hours per week – 5

Number of credits -4

The importance of environmental science and environmental studies cannot be disputed. The need for sustainable development is a key to the future of mankind. Continuing problems of pollution, solid waste disposal, degradation of environment, issues like economic productivity and national security, Global warming, the depletion of ozone layer and loss of biodiversity have made everyone aware of environmental issues. The United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 and World Summit on Sustainable Development at Johannesburg in 2002 have drawn the attention of people around the globe to the deteriorating condition of our environment. It is clear that no citizen of the earth can afford to be ignorant of environment issues.. India is rich in biodiversity which provides various resources for people. Only about 1.7 million living organisms have been described and named globally. Still many more remain to be identified and described. Attempts are made to conserve them in ex-situ and in-situ situations. Intellectual property rights (IPRs) have become important in a biodiversity-rich country like India to protect microbes, plants and animals that have useful genetic properties. Destruction of habitats, over-use of energy resource and

environmental pollution have been found to be responsible for the loss of a large number of life-forms. It

is feared that a large proportion of life on earth may get wiped out in the near future.

In spite of the deteriorating status of the environment, study of environment have so far not received

adequate attention in our academic programme. Recognizing this, the Hon'ble Supreme Court directed

the UGC to introduce a basic course on environment at every level in college education. Accordingly, the

matter was considered by UGC and it was decided that a six months compulsory core module course in

environmental studies may be prepared and compulsorily implemented in all the University/Colleges of

India.

The syllabus of environmental studies includes five modules including human rights. The first two

modules are purely environmental studies according to the UGC directions. The second two modules are

strictly related with the core subject and fifth module is for human rights.

Objectives

- Environmental Education encourages students to research, investigate how and why things happen, and make their own decisions about complex environmental issues by developing and

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enhancing critical and creative thinking skills. It helps to foster a new generation of informed consumers, workers, as well as policy or decision makers.

- Environmental Education helps students to understand how their decisions and actions affect the

environment, builds knowledge and skills necessary to address complex environmental issues, as

well as ways we can take action to keep our environment healthy and sustainable for the future.

It encourages character building, and develop positive attitudes and values.

- To develop the sense of awareness among the students about the environment and its various problems and to help the students in realizing the inter-relationship between man and environment and helps to protect the nature and natural resources.

To help the students in acquiring the basic knowledge about environment and the social norms that

provide unity with environmental characteristics and create positive attitude about the environment.

Module I:

Unit 1 :Multidisciplinary nature of environmental studies

Definition, scope and importance (2 L)

Need for public awareness.

Unit 2 : Natural Resources :

Renewable and non-renewable resources : Natural resources and associated problems.

a) Forest resources : Use and over-exploitation, deforestation, case studies.

Timber extraction, mining, dams and their effects on forest and tribal people.

b) Water resources : Use and over-utilization of surface and ground water,

floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) Food resources : World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) Energy resources: Growing energy needs, renewable and non renewable energy

sources, use of alternate energy sources, Case studies.

f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification

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- Role of individual in conservation of natural resources.
- Equitable use of resources for sustainable life styles. (10 L)
- Unit 3: Ecosystems
- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession
- Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the given ecosystem:- Forest ecosystem

(6 L)

Module II:

Unit 1: Biodiversity and its conservation

- Introduction
- Biogeographical classification of India
- Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- India as a mega-diversity nation
- Hot-spots of biodiversity

- Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts
- Endangered and endemic species of India

(8 L)

Unit 2: Environmental Pollution

Definition

Causes, effects and control measures of: -

- a. Air pollution
- b. Water pollution
- c. Soil pollution
- d. Marine pollution
- e. Noise pollution
- f. Thermal pollution
- g. Nuclear hazards

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- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution
- Pollution case studies
- Disaster management: floods, earthquake, cyclone and landslides. (8 L)

Unit 3: Social Issues and the Environment

- Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people: its problems and concerns, Case studies
- Environmental ethics: Issues and possible solutions

- Climate change, global warming, acid rain, ozone layer depletion , nuclear accidents and holocaust, Case studies
- Consumerism and waste products
- Environment Protection Act
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness (10 L)

Module III:

Measurement of Mortality-Introduction and sources of collecting data on vital statistics, Census, Registration, adhoc surveys, hospital records. Measurement of mortality: Crude Death Rate (CDR), Specific Death Rate (SDR), Infant Mortality Rate (IMR) and Standardized Death Rates. (20L)

Module IV:

Measurement of Fertility-Crude Birth Rate, General Fertility rate, age-specific fertility rate, Total Fertility rate. Measurement of Population Growth: Crude rates of natural increase, Pearl's Vital Index, Gross Reproduction Rate (GRR) and Net Reproduction Rate(NRR). (13L)

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Module V:

Unit 1- Human Rights– An Introduction to Human Rights, Meaning, concept and development, Three Generations of Human Rights (Civil and Political Rights; Economic, Social and Cultural

Rights).

Unit-2 Human Rights and United Nations – contributions, main human rights related organs UNESCO, UNICEF, WHO, ILO, Declarations for women and children, Universal Declaration of

Human Rights.

Human Rights in India – Fundamental rights and Indian Constitution, Rights for children and women, Scheduled Castes, Scheduled Tribes, Other Backward Castes and Minorities

Unit-3 Environment and Human Rights - Right to Clean Environment and Public Safety: Issues of Industrial Pollution, Prevention, Rehabilitation and Safety Aspect of New Technologies such as Chemical and Nuclear Technologies, Issues of Waste Disposal, Protection of Environment

Conservation of natural resources and human rights: Reports, Case studies and policy formulation. Conservation issues of western ghats- mention Gadgil committee report, Kasthuriengan report. Over exploitation of ground water resources, marine fisheries, sand mining etc.

(8 L)

Internal: Field study

- Visit to a local area to document environmental grassland/ hill /mountain
- Visit a local polluted site – Urban/Rural/Industrial/Agricultural Study of common plants, insects, birds etc
- Study of simple ecosystem-pond, river, hill slopes, etc

(Field work Equal to 5 lecture hours)

Books for study

1. Bharucha, E. (2010). Text Book for Environmental studies for undergraduate Courses, University Grants Commission, New Delhi.

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2. Gupta, S.C. and. Kapoor, V.K. (2014). Fundamentals of Applied Statistics, Sultan Chand & Co. New Delhi.

3. Goon, A.M. Gupta, M.K. and Das Gupta, B. (2001): Fundamentals of Statistics, Vol. II, World press, Calcutta.

4. Amartya Sen, The Idea Justice, New Delhi: Penguin Books, 2009.

5. Chatrath, K. J.S., (ed.), Education for Human Rights and Democracy (Shimla: Indian Institute of Advanced Studies, 1998)

References

1. Agarwal, K. C. (2001). Environmental Biology, Nidi Publishers Ltd, Bikaner.

2. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001 Environmental Encyclopedia, Jaico Publ. House. Mumbai. 1196p .

3. Heywood, V.H & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge University Press 1140pb

4. Jadhav. H & Bhosale. V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p

5. Mearns, M.L & Schock. R.M. 1996 Environmental Science Systems & Solutions. Web enhanced edition 639p

6. Miller T.G. Jr., Environmental Science, Wadsworth Publishing Co.

7. Odum. E.P 1971. Fundamentals of Ecology. W.B. Saunders Co. USA 574p

8. Rao. M.N & Datta. A.K. 1987 Waste Water treatment Oxford & IBII Publication

Co.Pvt.Ltd.345p

9. Rajagopalan. R, Environmental Studies from crisis and cure, Oxford University Press, Published: 2016
10. Sharma B.K., 2001. Environmental Chemistry. Geol Publ. House, Meerut
11. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science
12. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Stadards, Vol I and II, Enviro Media
13. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication
14. Shrivastava, O.S. (1983).A Text Book of Demography, Vikas Publishing House, New Delhi. 40
15. Benjamin B (1960).Elements of Vital Statistics, Quadrangle Books.
16. Law Relating to Human Rights, Asia Law House,2001.
17. Shireesh Pal Singh, Human Rights Education in 21st Century, Discovery Publishing House Pvt.Ltd, New Delhi,
18. S.K.Khanna, Children And The Human Rights, Common Wealth Publishers,1998. 2011.
19. Sudhir Kapoor, Human Rights in 21st Century,Mangal Deep Publications, Jaipur,2001.
20. United Nations Development Programme, Human Development Report 2004: Cultural Liberty in Today's Diverse World, New Delhi: Oxford University Press, 2004.

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SEMESTER 1

Core Course -1: DIMENSIONS AND METHODOLOGY OF BUSINESS STUDIES

Instructional Hours: 54

Credit: 2

Objectives

- *To understand business and its role in society*
- *To have an understanding of Business ethics and CSR*
- *To comprehend the business environment and various dimensions*
- *To familiarise Technology integration in business*
- *To introduce the importance and fundamentals of business research*

Module 1

Business and Environment Business- Functions - Scope - Significance of business - Objectives of business - Business and development - Forms of business organisations- Stake holders of business- Business Environment – Definition - Features- Importance - Components of business environment- Internal environment and external environment - Micro environment and macro environment- Global business environment
(10 Hours)

Module 2

Business in India- Stages and developments of business in the Indian economy since independence - Role of public, private, co-operative sectors - Liberalisation, Privatisation and Globalization – Disinvestment – Outsourcing –Recent economic initiatives - Niti Ayog - Make in India initiative
(10 Hours)

Module 3

Technology integration in business- E Commerce- Meaning- Functions - Operation of E-commerce - Types of E-Commerce -B2C-B2B-C2C- C2B- B2E- B2G- P2P- E-Commerce and E-Business – M-Commerce- Meaning- Advantages- Challenges – E-Payment systems (brief study) Debit/Credit card payment, Net banking, Digital wallet, e-cheque, e-cash – Payment gateway.
(14 Hours)

Module 4

Business Ethics – Importance - Principles of business ethics - Factors influencing Business Ethics - Arguments in favour and against business ethics - Social responsibility of business – objectives and principles - Arguments in favour and against social responsibility. Corporate Governance – Meaning and importance – Objectives – Principles
(10 Hours)

Module 5

Business Research – Research- Meaning and Definition- Importance of research- Quantitative and qualitative approach to research-Inductive and deductive reasoning- Major Types of Research (Pure- Applied - Exploratory- Descriptive- Empirical- Analytical) - Business Research- Elements of Business Research-Management Research- -Objectives- Research Methods vs Research Methodology -Research Process(brief outline only) –Research report
(10 Hours)

Suggested Readings

1. Keith Davis and William C. Frederick: *Business and Society Management, Public Policy, Ethics.*
2. Peter F. Drucker: *Management Tasks, Responsibilities, Practices.*
3. Peter F. Drucker: *The Practice of Management.*
4. P.T. Joseph, S.J., *E-Commerce: An Indian Perspective*, Prentice Hall of India
5. Kamallesh K Bajaj and Debjani Nag: *E-Commerce, the Cutting Edge of Business*., Tata McGraw Hill.
6. Schneider: *E-Commerce*., Thomson Publication
7. CSV Murthy, *Business Ethics*, Himalaya Publishing House, Mumbai
8. C R Kothari *Research Methodology*, New Age Publishers
9. O R Krishnaswamy: *Research Methodology- Himalaya Publications*
10. N V Badi and R.V. Badi: *Business Ethics: Vrinda Publications*
11. Cherunilam, Francis, *Business environment*, Himalaya Publishing House, Mumbai.
12. Fernando, A, C., *Business Environment*, Pearson, New Delhi
13. Francis, Ronald & Mishra, Muktha, *Business Ethics: An Indian Perspective*, Tata McGraw Hill Pvt Ltd, New Delhi
14. Sharma, J.P., *Corporate Governance, Business Ethics, and CSR*, Ane Books Pvt Ltd, New Delhi.
15. Ghosh, B.N., *Business Ethics and Corporate Governance*, Tata McGraw Hill Pvt Ltd, Delhi.

Core Course -2: FINANCIAL ACCOUNTING– I

Instructional Hours: 90

Credit: 4

Objective: *To equip the students with the skill of preparing accounts and financial statements of various types of business units other than corporate undertakings*

Module – I

Preparation of Financial Statements –Conceptual framework- Accounting Principles - Accounting Concepts - Accounting Conventions- - Capital and Revenue Expenditure - Capital and Revenue Receipts - Capital and Revenue Losses - Deferred Revenue Expenditure–Accounting Standards- Objectives -Final Accounts of Sole Trader - Trading Account - Manufacturing Account - Profit and Loss Account - Balance Sheet - Adjusting entries - Closing Entries- Practical Problems with all Adjustments.

(26 Hours)

Module -II

Accounting of Incomplete Records - Single Entry System - Features - Advantages - Disadvantages - Distinction between Single Entry and Double Entry System- Ascertainment of Profit/loss - Statement of Affairs Method - Conversion Method - Steps for Conversion of Single Entry into Double Entry - Preparation of Trading and Profit and Loss Account and Balance Sheet.

(20 Hours)

Module - III

Royalty Accounts – Meaning – Minimum Rent – Short Working – Recovery– Journal Entries in the books of Lessor and Lessee – Preparation of Minimum Rent Account – Short Working Account – Royalty Account (Excluding Sublease)– Special Circumstances :Adjustment of Minimum Rent in the event of Strike and Lock - outs - Govt. Subsidy in case of Strikes/Lockouts

(18 Hours.)

Module - IV

2. Elisabeth Papazoglou and Aravind Parthasarathy (2007) .Bionanotechnology. Volume 7 of Synthesis Lectures on Biomedical Engineering. Morgan & Claypool Publishers.
3. Bernd Rehm (Ed) (2006). Microbial Bionanotechnology: Biological Self-assembly Systems and Biopolymer-based Nanostructures. Horizon Bioscience.
4. David E. Reisner, Joseph D. Bronzino (2009). Bionanotechnology: Global prospects. CRC Press.
5. Ehud Gazit (2007). Plenty of Room for Biology at the Bottom: An Introduction to Bionanotechnology. Imperial College Press, London
6. Sulabha K. Kulkarni, (2009 Revisededition)Nanotechnology: Principals and Practices, Capital Publishing company, New Delhi.
7. Biological Nanostructures and Application of Nanostructures in Biology by Michael A.Stroscio and Mitra Dutta (2004), Kulwer Academic Publishers

MG870302 - MICROBIAL QUALITY ASSURANCE, BIOSAFETY AND INTELLECTUAL PROPERTY RIGHTS

Number of Hours / Week: 4

Credits: 4

Course Outcome

At the end of the course, students will be able to

- Comprehend the basic issues of Bioethics, Biosafety, Food safety and IPR.
- Understand the ethical underpinnings of bioethics and to develop ethical intuitions on bioethical issues.
- Recognize safety concerns and ethical issues on application of biotechnology
- Understand current *food safety* programs that are used in the *food* industry in order to assure a *safe food* supply.
- Understand different types of Intellectual Property Rights like patents, copy right, trademarks, designs, information Technology etc.

Module -I

Bioethics - Principles of Bioethics; Belmont Report on protection of human beings on biomedical and behavioural research: respect for persons, beneficence, justice, etc.; Bioethic committees; professional ethics- medical, euthanasia; Public perception of process of biotechnology involved in generation new forms of life; example: ethical issues related to creations of Dolly and on reproductive cloning- Human Fertilization and Embryology Act & Cloning Prohibition Bill 1997

Module -II

Biosafety and Genetically Modified Organisms - Guidelines on biosafety in conducting research in biology / biotechnology; Ethics in use of animals for scientific research; Ethical clearance norms for conducting studies on human subjects; Definition of GMOs & LMOs; Roles of Institutional Biosafety Committee, RCGM, GEAC etc. for GMO applications in food and agriculture; Biosafety regulatory framework for GMOs at international level: Cartagena protocol on Biosafety; Advanced Information Agreement (AIA) procedure - procedures for GMOs intended for direct use, risk assessment, handling, transport, packaging and identification of GMOs. National Environment Policy.

Module -III

Food safety and Quality assurance - Food safety- issues and factors affecting. Shelf life of Food Products- factors affecting shelf life and methods to check the shelf life. Food laws and regulations- National food legislation/ authorities and their role, product certifications (ISI mark of BIS), international organization and agreements-food and agricultural organization (FAO), world health organization (WHO), codex alimentarius, codex India, world international organization for standardization (ISO) Food safety and quality management systems: general principle of food safety, risk management, hazard analysis critical control point system (HACCP), Food Packaging: Need, material used and labelling.

Module -IV

IPR -Introduction to IPRs, Basic concepts and need for protection of Intellectual Property
Types of IP: International Treaties and Conventions on IPRs, TRIPS Agreement, PCT Agreement, Patent Act of India

Module -V

Procedure for filing a PCT application, forms of patents and patentability, The patentability of microorganisms, process and product patenting, Indian and international agencies involved in IPR & patenting, Patent databases, Patent infringement. Traditional knowledge and Patent law for protection; Geographical Indicators.

References:

1. Frederic H. Erbisch, Karim M. Maredia (2004). *Intellectual Property Rights in Agricultural Biotechnology*, CABI Publisher.
2. Mittal D.P. (1999). *Indian Patents Law*. Taxmann Allied Services (p) Ltd.
3. Christian Lenk, Nils Hoppe, Roberto Andorno (2007). *Ethics and Law of Intellectual Property: Current Problems in Politics, Science and Technology*, Ashgate Publisher (p) Ltd.
4. Felix Thiele, Richard E. Ashcroft (2005). *Bioethics in a Small World*. Springer.
5. John Bryant (2002) *Bioethics for Scientists*. John Wiley and Sons Publisher
6. World Health Organization, Geneva (2004) *Laboratory Biosafety Manual*, 3rd Edition (Revised)
7. Diane O. Fleming. (2006); *Biological safety: Principles and Practices*, 4th edition. ASM Press
8. Beier, F.K., Crespi, R.S. and Straus, T. (1985) *Biotechnology and Patent Protection-An International Review*. Oxford and IBH Publishing Co. New Delhi
9. Sasson A. (1988) *Biotechnologies and Development*, UNESCO Publications
10. Singh K (1993) *Intellectual Property rights on Biotechnology- A status report*. BCIL, New Delhi
11. *Regulatory Framework for GMOs in India* (2006) Ministry of Environment and Forest, Government of India, New Delhi
12. *Cartagena Protocol on Biosafety* (2006) Ministry of Environment and Forest, Government of India, New Delhi
13. Birch, G. and Campbell-Platt, G. (Eds.). (1993) *Food Safety - the Challenge Ahead*. Intercept Ltd., Andover, England
14. Finley, J., Robinson, S. and Armstrong, D. (Eds.). 1992. *Food Safety Assessment*. Vol. 484 of ACS symposium series. American Chemical Society, Washington D.C
15. Jones, J. (1992). *Food Safety*. 2nd ed. Eagen Press, St. Paul Minnesota
16. Sohrab.(2001) *A Practical Guide For Implementation Of Integrated ISO 9001 HACCP System For Food Processing Industries*. Allied Publishers.
17. Bhatnagar, D. and Cleveland, T. (Eds.). (1992). *Molecular Approaches to Improving Food Quality and Safety*. Van Nostrand Reinhold, New York
18. Hubbert. W and Hagstad, H. (1996). *Food Safety & Quality Assurance*. 2nd ed. Iowa State University Press, Ames, Iowa
19. Roberts, H. (Ed.). (1981). *Food Safety*. John Wiley & Sons, New York
20. Krammer, A. and Twigg, B.A. (1970). *Quality control for the food industry*. 3rd Ed., Avi Pub Co., Westport.

MAHATMAGANDHIUNIVERSITY
SYLLABIFORCORECOURSES-UGPROGRAMMES
2017ADMISSIONSONWARDS
COURSE11–WomenWriting

Course Code	EN6CRT11
Title of the course	WomenWriting
Semesterinwhichthecourseistobe taught	6
No. of credits	4
No. of contact hours	90

AIMOFTHECOURSE

To introducethe theoretical and literaryresponsesbywomen and the concerns that govern feminist literature.

OBJECTIVESOFTHECOURSE

On completion of the course, the students will be able to:

1. critically respond to literature from a feminist perspective.
2. realize how the patriarchal notions pervade in the social and cultural scenario and how feminism exposes these notions.
3. identifyhow stereotypical representations of women were constructed and how theseare subverted byfeminist writing

COURSEOUTLINE

Module1[Essays] (36hours)

BettyFriedan: TheProblem that has No Name (Chapter1 of *TheFeminineMystique*)
 ElaineShowalter: Towards a Feminist Poetics
 PatriciaHill Collins:Mammies, Matriarchs and Other Controlling Images (Chapter 4 of *BlackFeministThought*pp. 79-84

Module2[Poetry] (18hours)

Anna Akhmatova: Lot’s Wife

MamtaKalia: After Eight Years of Marriage
Julia Alvarez: Women's Work
MeenaAlexander: House of a Thousand Doors
SutapaBhattacharya: Draupadi
Kristine Batey: Lot's Wife
Vijayalakshmi: Bhagavatha

Module3[ShortFiction]

(18hours)

Charlotte Perkins Gilman: The Yellow Wallpaper
Willa Cather: A Wagner Matinee
IsabelAllende: And of the Clay We Created
Sara Joseph: The Passion of Mary

Module4[Fiction]

(18hours)

AliceWalker: *The Color Purple*

CoreText: *Women Writing*

**Semester 2 - Core Course 10:
[EN010205] -Thinking Theory**

Total Credits: 4

Total Hours: 25

Weightage:

Objectives:

This course aims at introducing students to certain core aspects of what is currently designated as 'literary theory' and also provide exposure to select current developments in this domain.

Course Description:

Conceived as interfaces, the course has 5 modules; ideally to be taught in the order in which the readings are listed.

Module 1 puts forth 3 readings which will serve as signposts that mark the moments that retrospectively are termed as turns to/within 'theory' – Jonathan Culler's 'over-view essay' on the emergence of 'Theory', Levis-Strauss' application of Saussurean Theory, and Derrida's critique of Levis-Strauss.

Module 2 situates the theoretical ruminations on Authorship and Discourse: Roland Barthes' "The Death of the Author" and Michel Foucault's "What Is an Author?" problematizes the hallowed assumptions of Literary Criticism; Robert J. C. Young's "Poems That Read Themselves" takes the unsettling deconstructive project of Poststructuralism forward.

Module 3 seeks to frame a reference wherein Psychoanalysis tackles issues pertaining to the Unconscious and Cognition: Shoshana Felman's "Beyond Oedipus: The Specimen Story of Psychoanalysis" traces the shift from Freud to Lacan; "The Phantom of Hamlet or the Sixth Act: Preceded by the Intermission of "Truth"" by Nicolas Abraham and Nicholas Rand is an interface where Literary Creativity takes Theory *per se* as its content!; Julia Kristeva's "Approaching Abjection" throws light on how insights from psychoanalysis enrich our understandings of contemporary [literary] cultures.

Module 4 has three readings, which in tandem present a discussion platform that goes beyond the normative heterosexual assumptions of Identity and even Feminism – in fact it *Queers* the Gender dynamic: Judith Butler's "Performativity, Precarity and Sexual Politics", Judith Halberstam's "Queer Temporality and Postmodern Geographies" and Eve Sedgwick's "Paranoid Reading and Reparative Reading", all are focused on the Liminality and Transitivity that are often overlooked to shore up the normative Male-Female dynamic.

Module 5 is in many ways a 'Post-postcolonial Turn': Critical Race/Ethnic Studies. In encountering bell hooks' two short pieces, "Postmodern Blackness" & "Marginality as a Site of Resistance." along with Stuart Hall's "Gramsci's Relevance for the Study of Race and Ethnicity" and Barbara Christian's "The Race for Theory", it is hoped that the student/reader will be illumined as to the way the [dominant-normative] Self *disavows* its encounter with the Othered-Marginal.

Module 1 [Change of Stance - 'Criticism to Theory']:

1.1 Jonathan Culler: 'What is Theory?' in *Literary Theory: A Very Short Introduction*

1.2 Claude Levi-Strauss: "The Structural Study of Myth"

1.3 Jacques Derrida: "Structure, Sign and Play..." in *Margins of Philosophy*

Module 2 [Post-StructuralDeconstructions – ‘Authorship and Discourse’]:

2.1 Roland Barthes: “The Death of the Author”

2.2 Michel Foucault: “What Is an Author?”

Seminar:

2.3 Robert J. C. Young: “Poems That Read Themselves.”

Module 3 [Psychoanalysis – ‘Unconscious and Cognition’]:

3.1 Shoshana Felman: “Beyond Oedipus: The Specimen Story of Psychoanalysis.”

3.2 Nicolas Abraham and Nicholas Rand: “The Phantom of Hamlet or the Sixth Act: Preceded by the Intermission of “Truth”” in *Diacritics*, Vol. 18, No. 4 (Winter, 1988)

Seminar:

3.3 Julia Kristeva: “Approaching Abjection” in *Powers of Horror: An Essay on Abjection*

Module 4 [Queering Gender – ‘Liminality and Transitivity’]:

4.1 Judith Butler: “Performativity, Precarity and Sexual Politics” in *Powers of Horror*

4.2 Judith Halberstam: “Queer Temporality and Postmodern Geographies” in *In a Queer Time and Place: Transgender Bodies, Subcultural Lives*

Seminar:

4.3 Eve Kosofsky Sedgwick: “Paranoid Reading and Reparative Reading” from *Touching Feeling*

Module 5 [Critical Race/Ethnic Studies – ‘Self and the Othered-Marginal’]:

5.1 bell hooks: “Postmodern Blackness” in *Norton Anthology of Theory and Criticism*, 1990 & “Marginality as a Site of Resistance.” in Russell Ferguson, Martha Gever, Trinh T. Minh-ha, Cornel West (eds) *Out there: marginalization and contemporary cultures*, MIT Press, New York, 1990

5.2 Stuart Hall: “Gramsci’s Relevance for the Study of Race and Ethnicity,” in *Journal of Communication Inquiry* (1986)

Seminar:

5.3 Barbara Christian: “The Race for Theory”

Specific Additional Readings:

0. Frederic Jameson: ““End of Art or ‘End of History’?” in *The Cultural Turn*.

1. Michel Foucault: “Nietzsche, Genealogy, History,” In Donald F. Bouchard (ed.), *Language, Counter-memory, Practice*

2. Jacques Derrida: “Différance” in *Margins of Philosophy*

3. Kwame Anthony Appiah: “Is the Post- in Postmodernism the Post- in Postcolonial?” *Critical Inquiry* Vol. 17, No. 2 (Winter, 1991), pp. 336-357

4. Edward Said: “Travelling Theory” in *The Edward Said Reader*

5. Terry Eagleton: “The Politics of Amnesia” in *After Theory*

6. Andrzej Warminski: “The Future Past of Literary Theory” *Canadian Review of Comparative Literature*, September-December, 2006
7. Dr. Vince Brewton: “Literary Theory” - University of Tennessee’s *Internet Encyclopedia of Philosophy*
8. Louis Althusser: “Ideology and Ideological State Apparatuses”
9. Theodore Adorno: “Commitment”
10. Frantz Fanon: “Racism and Culture”. (*African Philosophy: An Introduction* AP: A1)
11. Paul Gilroy: “The Black Atlantic” (Rivkin & Ryan)
12. Cornel West: “Moral Reasoning vs Racial Reasoning” (AP: A1)
13. Toni Morrison: “Playing in the Dark” (Rivkin & Ryan)
14. bell hooks: “Racism and Feminism” (AP : A1)
15. Jotiba Phule: “Racism Exposed in India Under the Guise of Brahmanism”
16. Andrew Bennett and Nicholas Royle: “Uncanny” [pp 34 – 42] in *An Introduction to Literature, Criticism and Theory* [Third edition]
17. Vince Brewton: ‘Literary Theory’.

Texts for Consultation:

1. Kwame Anthony Appiah: *In My Father’s House: Africa in the Philosophy of Culture*
2. Gregory Castle: *The Blackwell Guide to Literary Theory*, 2007
3. Andrew Bennett and Nicholas Royle: *An Introduction to Literature, Criticism and Theory* [Third edition]
4. M. A. R. Habib: *Literary Criticism from Plato to the Present: An Introduction*
5. David Lodge ed.: *Modern Criticism and Theory: A Reader*
6. Terry Eagleton: *Literary Theory: An Introduction*
7. Hans Bertens: *Literary Theory* [The Basics series]
8. Catherine Belsey: *Critical Practice*
9. Peter Barry: *Beginning Theory*
10. Graham Allen: *Roland Barthes*
11. Sara Mills: *Michel Foucault*
12. Christopher Norris: *Deconstruction: Theory and Practice*
13. Gerald Graff: *Professing Literature*
14. Terence Hawkes: *Structuralism and Semiotics*
15. Kiernan Ryan: *New Historicism and Cultural Materialism: A Reader*
16. Raymond Williams: *Marxism and Literature*
17. Michael Payne & John Schad (eds): *Life.after Theory*
18. Robert Rogers: *A Psychoanalytical Study of the Double in Literature*
19. Lillian Feder: *Madness in Literature*
20. Phyllis Chesler: *Women and Madness*
21. Susan Sontag- *Illness as Metaphor*

**Semester 3 - Core Course 13:
[EN010303] -Body, Text and Performance**

Total Credits: 4
Total Hours: 25
Weightage:

Objectives:

The objectives of the course include facilitating an understanding of the basic structural, thematic and theoretical patterns which govern the poetic process, especially in its relation to the performative or the theatrical.

Course Description:

The interface between the verbal and the visual is the area under discussion here. Drama, Theatre, Body, Performance and performativity need to undergo close scrutiny here. The way the aspects of power and powerlessness are constructed and performed have to be analyzed. One cannot disregard the cinematic medium in a study of performance. Theatres, dealing with issues like gender, ethnicity, caste etc. need to be introduced. Anti-Aristotelian notions like Alienation Effect, modern dramatic modes like Comedy of Menace, the techniques of cinematic adaptations, etc. are also to be discussed in connection with the texts. Though seemingly different, Expressionism and similar modes of theatrical performance should be made part of classroom discussion. Other performance patterns like dance, performance in the form of gender/transgender/autobiography have also to be seriously considered within the gamut of this paper.

Module 1 [Theoretical]:

Discusses the theories of body, performance, gender, power needed for critical deliberations in the ensuing modules.

- 1.1 Richard Schechner: “What is Performance Studies?” & “What is Performance?”
(Performance Studies: An Introduction (Third Edition), Chapter 1, PP. 1-5 & Chapter 2, PP 28-31)
- 1.2 Judith Butler: Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory (Theatre Journal, Vol.40 PP. 519-531)
- 1.3 Jen Pylypa: Power and Bodily Practice: Applying the Work of Foucault to an Anthropology of the Body (Arizona Anthropologist, Vol. 13, PP. 21-36, 1998.)

Module 2 [Desire]:

Here is desire dramatized in terms of expressive, subtle and didactic modes. The first play presents elements of Expressionism, the second gives an idea of Comedy of Menace, and the third introduces Epic Theatre, Alienation Effect and the musical Opera. They all speak about violence on the body and mind of desire in myriad forms.

- 2.1 Tennessee Williams: *A Street Car Named Desire*
- 2.2 Harold Pinter: *The Birthday Party*

Seminar:

2.3 Bertolt Brecht: *The Three-penny Opera*

Module 3 [Gender/Transgender]:

This module is about gender/transgender and its theatrical dimensions. “Lysistrata” provides a slice of the classical Greek comedy playing again in an arguably subversive mode the male gaze through feminine eyes. “Ruined” is set in Congo, a reworking on the lines of Brecht’s *Mother Courage*, yet surely a deviation, speaking about the horrors of rape at the time of an African civil war. “A Friend’s Story” mediates a love triangle involving a lesbian relation, set in Mumbai, at a time when homosexuality in India was a crime. “A Mouthful of Birds” is an ensemble of unnatural plots and theatrical performances, staged in an avant-garde fashion, discussing female violence and transgressions of gender norms through madness correlated with one another using themes from *The Bacchae* of Euripides.

3.1 Aristophanes: *Lysistrata*

3.2 Lynn Notage: *Ruined*

3.3 Vijay Tendulkar: *A Friend’s Story* (Mitrachi Goshta)

Seminar:

3.4 Caryl Churchill and David Lan: *A Mouthful of Birds*

Module 4 [Autobiography/Performance]:

Other performances in the sense of gender as performance: Isadora Duncan’s dance, seen through her autobiography- even autobiography as performance; a Bollywood sports biopic on Mary Kom; American Queer Theatre struggling to carve a niche in the popular Broadway as narrated through the personal experiences of playwright, performance artiste and gender theorist Kate Bornstein, an avowed gender non-conformist, along with her play that appears as a chapter of the autobiography.

4.1 Isadora Duncan: *My Life* (Autobiography)

4.2 Omung Kumar: *Mary Kom* (Biopic)

Seminar:

4.3 Kate Bornstein: *Queer Life/Queer Theatre & Hidden: A Gender, a play in two acts* (“Gender Outlaw: On Men, Women and the Rest of us”, Chapters 14 & 15, PP. 187-275) – (Autobiography)

Module 5 [Cinematic Dimensions; Race/Caste]:

Cinematic tellings/adaptations dealing with the issues of race, slavery and caste feature in this module. The problematizing of the binaries of villain and superhero, the black and the white etc., and the play and the critique of stereotypes are all ingredients which spice up the module. The debates are set to tone in the deftly crafted “Unbreakable” by the Indian-American Director Manoj Nellyyattu Shyamalan. William Shakespeare’s play *Othello* adapted into the Indian

context in Vishal Bhardwaj's "Omkaara" throw light on the dark recesses of racism and caste politics. Set against the brutal and vulgar feudal system in Kerala, scripted by P. Balachandran and directed by Rajeev Ravi, "Kammattipaadam", the third film, marks the ways in which the human bodies here have been socially and culturally constructed, cutting through time and space.

5.1 Andrew Dix: "Films and Ideology" (Ch. 8 of *Beginning Film Studies* PP.229-268)

5.2 M. Night Syamalan: *Unbreakable*

5.3 Vishal Bhardwaj: *Omkaara*

Seminar:

5.4 Rajeev Ravi: *Kammattipaadam*

Specific Additional Readings:

1. Descartes: Mind-body dualism (The Principles of Philosophy, PP.60-65)
2. Richard Schechner: *Performance Studies: An Introduction* (Third Edition)
3. Philip C. Kolin: Roland Barthes, Tennessee Williams, and "A Streetcar Named Pleasure/Desire": JSTOR.
4. Aloysia Rousseau: Harold Pinter's *The Birthday Party* (1958) and *The Dumb Waiter* (1960) or the Intermingling of Farce and Menace.
5. Alice Rayner: Harold Pinter: Narrative and Presence. JSTOR.
6. Bertolt Brecht: The Street Scene: The Basic Model of an Epic Theatre
7. Kim H. Kowalke: Singing Brecht vs. Brecht Singing: Performance in Theory and Practice. **8.** Alexander G. Harrington: Directing "The Three-penny Opera"
9. Emily B. Klein. *Sex and War on the American Stage: Lysistrata in Performance, 1930-2012.*
10. Carmen Mendez Garcia: "This is my Place, Mama Nadi's": Feminine Spaces and Identity in Lynn Nottage's *Ruined*.
11. Rebecca Ashworth and Nalini Mohabir: *Ruined: From Spectacle to Action*
12. Fatimah Saleh Ali Al-Humoud: Violence against Women: A Feminist Study of Women's Situation during the Civil War of the Democratic Republic of Congo in Lynn Nottage's *Ruined*.
13. Rohini Hattangady: Note on *A Friend's Story*. Collected Plays in Translation. **14.** Priyanka Chandel: Engendered Subjectivities: Construction of Queer Identity in Vijay Tendulkar's *A Friend's Story* and Mahesh Dattani's *On a Muggy Night in Mumbai* (Thesis).
15. Hidden: A Gender, a play in two acts <https://www.youtube.com/watch?v=fFD8NpA3hec>
16. Bina Toledo Freiwald: Becoming And Be/Longing: Kate Bornstein's *Gender Outlaw* and *My Gender Workbook*
17. Ann Daly: Isadora Duncan's Dance Theory (Dance Research Journal, Vol. 26, No. 2 (Autumn, 1994), pp. 24-31)
18. Sudhish Kamath: Mary Kom, about the Heroine, not the Boxer. The Hindu. Sept. 05, 2014.
19. M.C. Mary Kom: *Unbreakable: An Autobiography*
20. Valerie Bonnet: Sport in Films: Symbolism versus Verismo. Film Genre Theory, Sports Films, Towards Defining Sports Films (The French Journal of Media Studies)
21. Laura Nutten: Madness and Signification in *A Mouthful of Birds*

22. Ronald L. Jackson II: "Black Masculine Scripts" (*Scripting the Black Masculine Body: Identity, Discourse and Politics in Popular Media*, Chapter 3, PP. 73-102).
23. Dave Schilling: Unbreakable: The Film that Launched our Modern Superhero Renaissance.
24. Brinda Charry and Gitanjali Shahani: The Global as Local/Othello as "Omkaara"
25. Rebecca Dmello: Constrained Women in "Omkaara": Marriage, Mythology, and Movies.
26. Saksham Sharda: Black Skin, Black Castes: Overcoming a Fidelity Discourse in Bhardwaj's "Omkaara"
27. Sonali Pattnaik: Adaptation as 'Becoming Other': A Study of the Film "Omkaara"
28. Sreedhar Pillai: How Malayalam film "Kammatipaadam" shatters stereotypes about caste and complexion
29. Siddhant Adlakha: Fantastic Fest: "Kammatipaadam" is a Crime Masterpiece.
30. Latha V.K and Remya R.: Historical Revisionism in "Kammattippadam": A Regional Chronicle Of Dalit History
31. Interviews with Vinayakan:
<https://www.youtube.com/watch?v=e1sFQoReIec>
<https://www.youtube.com/watch?v=zk1MUQiQUAg&t=173s>

Texts for Consultation:

1. Philip B. Zarilli: Acting (Re) Considered: A Theoretical and Practical Guide
2. Philip Auslander: From Acting to Performance ("Just be your Self": Logocentrism and Differance in Performance Theory)
3. Philip Auslander: Liveness: Performance in a Mediatized Culture
4. David Krasner and David Z. Saltz: Staging Philosophy: Intersections of Theatre, Performance, and Philosophy
5. Deidre Heddon: Autobiography and Performance (Theatre and Performance Practices).
6. Robert Scholes et. al. (Ed.): "The Elements of Film" Elements of Literature
7. Keir Elam: Semiotics of Theatre and Drama
8. Alex Siers Ed.: The Methuen Drama Book of Twenty-First Century Plays
9. Shohini Chowdhuri: Feminist Film Theorists: Laura Mulvey, Kaja Silverman, Terese de Lauretis, Barbara Creed
10. Eric Lane Ed.: Telling Tales: New One Act Plays
11. Kenneth Pickering: Studying Modern Drama
12. Christian Metz: Film Language
13. Henry Bial (Ed.): The Performance Studies Reader
14. Julie Sanders: Adaptation and Appropriation
15. Marvin Carlson: Performance: A Critical Introduction
16. Johan Huizinga: Homo Ludens
17. Women's Theatre Group (WTG) & Elaine Feinstein: Lear's Daughters (Adaptations of Shakespeare: A Critical Anthology of Plays from the Seventeenth Century to the Present (Eds.) Daniel Fischlin, Mark Fortier)

**Semester 3 – Core Course 14:
[EN010304] -Literature and Gender**

Total Credits: 3

Total Hours: 25

Weightage:

Objectives:

The course seeks to highlight the historic, thematic and cultural concerns that literature attempts against the backdrop of gender issues. A theoretical framework is provided whereby gender issues are examined, paying special attention to the fundamental political, religious and social issues that shape gender relations, thereby viewing gender as a fluid rather than a *mere* fixed hetero-normative Male-Female concept.

Course Description:

The ‘woman quotient’ in Gender Studies is mapped in the first module where the concept of Masculinity which looms large in a patriarchal social order is also examined. The learner is taken on a poetic voyage through *écriture feminine* in the second module. The third section interrogates the social stakes involved in being a woman and addresses the issue of Gender and Community Identity. The fourth section addresses the problematic issues of Lesbian and Black identity. The last module is an exclusive study of the issue of patriarchal oppression portrayed in various Indian languages over the decades.

Module 1:

- 1.1** Elaine Showalter; “The Female Tradition” from *A Literature of their Own. (Feminisms: An Anthology of Literary Theory and Criticism* Ed. Robyn R. Warhol & Diane Price Herndl. pp 269-88)
- 1.2** Patricia Hill Collins: “The Power of Self-Definition”. (*Black Feminist Thought* pp 107-32)
- 1.3** Susan Jeffords: “Masculinity as Excess in Vietnam Films: The Father/Son Dynamic of American Culture”. (*Feminisms: An Anthology of Literary Theory and Criticism* Ed. Robyn R. Warhol& Diane Price Herndl 988-1010)

Module 2:

- 2.1**Sappho: Ode to Aphrodite
- 2.2** Auvaiyar: “Real Freedom”
- 2.3** AkkaMahadevi: “It was like a Stream”
- 2.4** Phyllis Wheatley: “On being brought from Africa to America”
- 2.5** Margaret Atwood: “Helen of Troy does Countertop Dancing”
- 2.6** Kamala Das: “An Introduction
- 2.7**Imtiaz Dharker: “Purdah”

Seminar:

- 2.8 Taslima Nasrin: “Things Cheaply Had”
- 2.9 Kishwar Naheed: “The Grass Is Really Like Me”
- 2.10 Meena Kandaswamy: “Princess in Exile”
- 2.11 Meena Alexander: “Illiterate Heart”

Module 3:

- 3.1 Bapsi Sidwa: The Ice Candy Man
- 3.2 Sylvia Plath: The Bell Jar
- 3.3 Alice Walker: Color Purple

Seminar:

- 3.4 Virginia Woolf: The Hours

Module 4:

- 4.1 Revathy. A.: The Truth About Me: A Hijra Life Story
- 4.2 Maya Angelou: I know Why the Caged Bird Sings
- 4.3 Lorraine Hansberry: Raisin in the Sun

Seminar:

- 4.4 Chimamanda Adichie: “We should all be Feminists,” Ted talk,
(https://www.ted.com/talks/chimamanda_ngozi_a_dichie_we_should_all_be_feminists#t-181958)
- 4.5 Rebecca Walker: “Becoming the Third Wave” (United States 1992) { *The Essential Feminist Reader* Ed. Estelle. B. Freedman 397-401 }

Module 5:

- 5.1 Lalithambika Antharjanam: Pratikaradevatha (Transl. Gita Krishnankutty *Women Writing in India Vol: I*) (490-501)
- 5.2 Prathibha Ray: The Blanket (Transl. Jayanta Mahapatra. *Women Writing in India Vol: II*) (512-23)
- 5.3 Ajeet Cour: Dead End (*Speaking for Myself: An Anthology of Asian Women’s Writing*) (369-85)
- 5.4 Rokeya Sakhwat Hossain: Sultana’s Dream (*Women Writing in India Vol: I*) (342-351)
- 5.5 Hamsa Wadkar: I’m Telling You Listen (*Women Writing in India Vol: I*) (190-196)
- 5.6 Sajitha Madathil: Kaalinaadakam (Translated by Anand Haridas in *Indian Literature* No 303, January/February 2018, Vol LXI No. 1)
- 5.7 Susie Tharu & J. Lalitha: The Twentieth Century: Women Writing the Nation (43-78)

Seminar:

- 5.8 Sara Joseph: Black Chinks (Translated by J. Devika in *The Oxford Anthology of Modern Malayalam Literature* Ed. P. P. Raveendran & G. S. Jayasree) (280-88)
- 5.9 S. Sithara: Fire (Translated by Jayasree Ramakrishnan in *The Oxford Anthology of Modern Malayalam Literature* Ed. P. P. Raveendran & G. S. Jayasree) 393-98

Texts for Consultation:

1. Robyn R. Warhol & Diane Price Herndl (eds): *Feminisms: An Anthology of Literary Theory and Criticism*
 2. Estelle B. Freedman (ed): *The Essential Feminist Reader*
 3. Susie Tharu & J. Lalitha (ed): *Women Writing in India*, vols I & 2
 4. Patricia Hill Collins: *Black Feminist Thought*
 5. Sukrita Paul Kumar and Malashri Lal (eds): *Speaking for Myself: An Anthology of Asian Women's Writing*
 6. Shosanna Feldman; "Women and Madness: the Critical Fallacy" in *The Feminist Reader: Essays in Gender and the Politics of Literary Criticism*. Ed, Catherine Belsey & Jane Moo
 7. P. P. Raveendran & G. S. Jayasree Ed. *The Oxford Anthology of Modern Malayalam Literature (Vol I&II)*
 8. J. Devika: *En-gendering Individuals: The Language of Re-forming in Early Twentieth Century Keralam* (Orient Black Swan)
 9. Claire Colebrook: *Gender* (transitions - Gen Editor Julian Wolfreys)
 10. Toril Moi: *Sexual/Textual Politics*
 11. Simone de Beauvoir: *The Second Sex*
 12. Kate Millet: *Sexual Politics*
 13. Elaine Showalter: *A Literature of Their Own*
 14. Isobel Armstrong: *New Feminist Discourses*
 15. Judith Butler: "Imitation and Gender Insubordination" in Diana Fuss(ed) *Inside Out : Lesbian Theories*
 16. Helene Cixous: "The Laugh of the Medusa" in Elaine Marks & Isabelle de Courvitron (Ed) *New French Feminism*
 17. Monique Wittig: *The Straight Mind and Other Essays*
 18. Rebecca Walker: "How my mother's fanatical views tore us apart,"
<http://www.dailymail.co.uk/femail/article1021293/How-mothers-fanatical-feministviews-tore-apart-daughter-The-Color-Purpleauthor.html>
 19. Bell hooks: "Black Women Shaping Feminist Theory," *Feminist Theory: From Margin to Center*, 1984
 20. Virginia Woolf: "Professions for Women," in *Women and Writing & A Room of One's Own*
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Semester 3 - Core Course 15:
[EN010305]-Ethics in/as Literature

Total Credits: 3

Total Hours: 25

Weightage:

Course Objectives:

The main objective of this course is to familiarise the student with certain ‘ethics’ that narrative fiction has adopted across centuries, continents and languages. It is expected that the student will be introduced to the various ethical, formal choices that schools, influences and narrative devices have upheld so as to shape narrative fiction into its present expressive plurality.

Course Description:

Module 1 includes reading from some of the major theoretical interpretations of the narrative and narrative mores: Roland Barthes’ ‘Authors and Writers’, Milan Kundera’s ‘The Depreciated Legacy of Cervantes’, Orhan Pamuk’s Preface to *Tristram Shandy* and Franco Moretti’s “History of the Novel, Theory of the Novel”.

Module 2 takes a walk down the fabulist lane that stretches beyond what we usually understand as fictional/narrative realism: Miguel de Cervantes’s *Don Quixote (Part 2)*, Lawrence Sterne’s *Tristram Shandy*, Donald Barthelme’s post-modern reworking of the *Snow White* – fairy tale, Jorge Luis Borges’ ‘The Garden of Forking Paths’ and Gabriel Garcia Marquez’ ‘The Handsomest Drowned Man in the World’

Module 3 is an attempt to sample how fiction has dealt with the issue of disabilities at different levels. Starting with the perennial classic, Victor Hugo’s *The Hunchback of Notre-Dame*, the module also includes Nikos Kazantzakis’ *God’s Pauper: St Francis of Assisi*, José Saramago’s *Blindness*, W. Somerset Maugham’s ‘The Man with the Scar’ and Raymond Carver’s ‘Cathedral’

Module 4 is all about the environment – the natural and the human and the intersectionality between them. The module starts off with the phenomenal Malayalam work by Subhash Chandran, *A Preface to Man*, followed by Orhan Pamuk’s *Snow*, Margaret Atwood’s *Oryx and Crake*, J. M. Coetzee’s ‘The Lives of Animals’ and Mahasweta Devi’s ‘Dopti/Draupadi’

Module 5 looks into issues of Otherness, as it has been tackled by narrative fiction. The selection includes Fyodor Dostoyevsky’s *The Possessed*, Ama Ata Aidoo’s parody of Joseph Conrad’s *Heart of Darkness - Our Sister Killjoy*, Arundhati Roy’s *The Ministry of Utmost Happiness*, John Henrik Clarke’s ‘The Boy Who Painted Christ Black’ and the Malayalam Dalit masterpiece, Paul Chirakkarode’s ‘Eli Eli Lama Sabachthani?’ [My God, My God, Why Hast Thou Forsaken Me?]

Note: As is evident from a perusal of the syllabus, all the seminar fields have been assigned ‘short stories’; this is a tacit nod to acknowledging the trajectories which this ‘other’ prose fictional genre has traversed in the last two hundred odd years.

Module 1 [On Narrative Ethics]:

- 1.1 Roland Barthes: 'Authors and Writers' (*Critical Essays*)
- 1.2 Milan Kundera: 'The Depreciated Legacy of Cervantes' (Part 1 of: *The Art of the Novel*)
- 1.3 Orhan Pamuk: 'Everyone Should Have an Uncle Like This' (*Other Colours*)
- 1.4 Franco Moretti: "History of the Novel, Theory of the Novel" *New Left Review* 52, July-August 2008

Module 2 [Beyond Realism]:

- 2.1 Miguel de Cervantes: *Don Quixote (Part 2)* [Edith Grossman Translation]
- 2.2 Lawrence Sterne: *Tristram Shandy*
- 2.3 Donald Barthelme: *Snow White*

Seminar:

- 2.4 Jorge Luis Borges: 'The Garden of Forking Paths'
- 2.5 Gabriel Garcia Marquez: 'The Handsomest Drowned Man in the World'

Module 3 [Disabilities]:

- 3.1 Victor Hugo: *The Hunchback of Notre-Dame*
- 3.2 Nikos Kazantzakis: *God's Pauper: St Francis of Assisi*
- 3.3 José Saramago: *Blindness*

Seminar:

- 3.4 W. Somerset Maugham: 'The Man with the Scar'
- 3.5 Raymond Carver: 'Cathedral'

Module 4 [The Human (and the) Environment]:

- 4.1 Subhash Chandran: *A Preface to Man*
- 4.2 Orhan Pamuk: *Snow*
- 4.3 Margaret Atwood: *Oryx and Crake*

Seminar:

- 4.4 J. M. Coetzee: 'The Lives of Animals'
- 4.5 Mahasweta Devi: 'Dopti/Draupadi'

Module 5 [Otherness]:

- 5.1 Fyodor Dostoyevsky: *The Possessed (The Devils/ Demons)*
- 5.2 Ama Ata Aidoo: *Our Sister Killjoy*
- 5.3 Arundhati Roy: *The Ministry of Utmost Happiness*

Seminar:

- 5.4 John Henrik Clarke: 'The Boy Who Painted Christ Black'
- 5.5 Paul Chirakkarode: 'Eli Eli Lama Sabachthani?'

Specific Additional Readings:

- 1. Mark DeStephano on *Don Quixote*

2. Ignacio Arellano on *Don Quixote*
3. Oana-Roxana Ivan on *Tristram Shandy*
4. Daniel Thomières on *Tristram Shandy*
5. Shaghayegh Mohammadi on *Snow White*
6. Alina Leonte on *Snow White*
7. Gemma Curto on ‘Garden of Forking Paths’
8. Ethan Weed on ‘Garden of Forking Paths’
9. David Holland on *Marquez*
10. Anupa Lewis on *Marquez*
11. Fiona Whittington-Walsh on *Hunchback of Notre Dame*
12. Alex J Novikoff on *Hunchback of Notre Dame*
13. Frederick Sontag on Kazantzakis and St Francis
14. Paulo C Chagas on *Saramago*
15. Hayfa Chenini on *Saramago*
16. On –‘The Man with the Scar’
17. Ala Eddin Sadeq on Raymond Carver
18. Libe García Zarranz on Raymond Carver
19. Sandhya Suresh V on *A Preface to Man*
20. Jyothi lekshmi G on *A Preface to Man*
21. Alver Ahmet on Orhan Pamuk’s *Snow*
22. Pritha Mukherjee on Orhan Pamuk’s *Snow*
23. Beth Irwin on *Oryx and Crake*
24. Valeria Mosca on *Oryx and Crake*
25. Alan Northover on Coetzee
26. Wolfe on ‘Lives of Animals’
27. Huma Yaqub on Mahasweta Devi
28. Ranita Chakraborty on Mahasweta Devi
29. Eva M Meyersson on Dostoevsky
30. Christine Smoley on Dostoevsky
31. Lhoussain Simour on *Our Sister Killjoy*
32. Aisha Al Matari on *Our Sister Killjoy*
33. Alex Tickell on Arundhati Roy
34. Angelo Monaco on Arundhati Roy

Texts for Consultation:

1. Georg Lukacs: *The Theory of the Novel*
2. Lucien Goldmann: *Towards a Sociology of the Novel*
3. David Lodge: *The Art of Fiction*
4. Wayne C. Booth: *The Rhetoric of Fiction*
5. Patricia Waugh: *Metafiction*
6. Jeremy Hawthorn: *Studying the Novel*
7. Shlomith Rimmon-Kenan: *Narrative Fiction: Contemporary Poetics*

8. Joyce Carol Oates: *Telling Stories – An Anthology for Writers*
 9. Linda Hutcheon: *A Poetics of Postmodernism: History, Theory, Fiction*
 10. Mikhail Bakhtin: *The Dialogic Imagination*
 11. Susan Lohafer & Jo Ellyn Clarey (eds): *Short Story Theory at a Crossroads*
 12. Edgar V. Roberts and Henry E. Jacobs: *Literature: An Introduction to Reading and Writing*
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