

ENVIRONMENTAL CHEMISTRY

1 Introduction to Environmental Chemistry: Concept and scope of environmental chemistry. Environmental terminology and nomenclatures. Environmental segments. The natural cycles of environment (Hydrological, Oxygen, Nitrogen).

2 Atmosphere: Regions of the atmosphere, reactions in atmospheric chemistry, Earth's radiation balance, particles, ion and radicals in the atmosphere. Chemistry of ozone layer.

3 Hydrosphere: Complexation in natural water and waste-water. Micro-organism in aquatic chemical reactions. Eutrophication. Microbiology mediated redox reactions

4 Lithosphere: Inorganic and organic components in soil, acid-base and ion-exchange reactions in soil, micro and macro nutrients, nitrogen pathways and NPK in soil.

5 Chemical Toxicology: Toxic chemicals in the environments. Impact of toxic chemicals on enzymes. Biochemical effects of arsenic, cadmium, lead, mercury, carbon monoxide, nitrogen oxides and sulphur oxides.

6 Air Pollution and Water Pollution : Particulates, aerosols, SO_x, NO_x, CO_x and hydrocarbon. Photochemical smog, air-quality standards. Water-quality parameters and standards: physical and chemical parameters (colour, odour, taste and turbidity). Dissolved oxygen: BOD, COD. Total organic carbon, nitrogen, sulfur, phosphorus and chlorine. Chemical speciation (Pb, As, Hg).

Books Recommended

- i. Environmental Chemistry A global perspective; Fourth Edition, Gary W. vanLoon and Stephen J. Duffy
- ii. Environmental Chemistry A.K. Day, New Age.

ENVIRONMENTAL BIOTECHNOLOGY

Unit I

Introduction

Environment; Basic concepts; Resources; Eco system: plants, animals, microbes; Ecosystem management; Renewable resources; Sustainability; Microbiology of degradation and decay; Role of Biotech in environmental protection; Control and management of biological processes.

Unit II

Pollution

Environmental pollution; Source of pollution; Air, water as a source of natural resource; Hydrocarbons, substituted hydro carbons; Oil pollution; Surfactants; Pesticides; Measurement of pollution; Water pollution; Biofilm; Soil pollution; Radioactive pollution; Radiation; Ozone depletion; Green house effect; Impact of pollutants; Measurement techniques; Pollution of milk and aquatic animals.

Unit III

Control, remediation and management

Waste water collection; control and management; Waste water treatment; Sewage treatment through chemical, microbial and biotech techniques; Anaerobic processes; Anaerobic filters; Anaerobic sludge blanket reactors; Bioremediation of organic pollutants and odorous compounds; Use of bacteria, fungi, plants, enzymes, and GE organisms; Plasmid borne metabolic treatment; Bioaugmentation; Bioremediation of contaminated soils and waste land; Bioremediation of contaminated ground water; Macrophytes in water treatment; Phytoremediation of soil metals; Treatment for waste water from dairy, distillery, tannery, sugar and antibiotic industries.

Unit IV

Alternate source of energy

Biomass as source of energy; Bioreactors; Rural biotechnology; Biocomposting; Biofertilizers; Vermiculture; Organic farming; Bio-mineralization; Biofuels; Bioethanol and biohydrogen; Solid waste management.

Unit V

Environment and health in respect to genetics Gene and environment; Effect of carbon and other nanoparticles upon health; Gene mutation; Genetic testing; Genetic sensors; Environmental pollution and children; Human biomonitoring.

ENVIRONMENTAL BIOTECHNOLOGY & BIOSAFETY

UNIT-I

Basic concept of Ecosystem- types, structure and functions. Renewable and non-renewable resources Conservation of Biodiversity, in situ, ex situ, Gene bank. An idea of biosensors, biopolymers, bioplastic and biochips.

UNIT-II

Wastewater management- Treatment of municipal waste and industrial effluents. Solid waste and soil pollution management- Management of non-hazardous solid waste and medical solid waste. Management of hazardous waste Air pollution and its control Reclamation of wasteland

UNIT-III

Conventional fuels (Firewood, coal, gas, animal oils) and their environmental impact. Modern fuels- Methanogenic bacteria & biogas, microbial hydrogen production, solar energy. Plant based petroleum industry Biopesticides- Bacterial & Fungla Biofertilizers- Nitrogen fixers, PSB, Mycorrhiza & VAM; vermicomposting.

UNIT-IV

Bioabsorption of metals- microorganisms and metal absorption; bacterial metal resistance; mechanism of bioabsorption; Phytoremediation Bioremediation- microorganisms in bioremediation; bioremediation technologies. Biorecovery of petroleum- MEOR

UNIT-V

Concept of biosafety in relation to Organism pathogenicity Biological active biotechnology product Release of GMOs to the environment Genetic modification and food uses Biosafety and recombinant DNA guidelines Concept of GMP(Good manufacturing practices) & GLP (Good Laboratory practices)

ECOLOGY AND BIostatISTICS

1. Plant and environment: Principles of environment, atmosphere, light, temperature, water, soil.
2. Morphological, anatomical and physiological responses of plants to water (Hydrophytes and Xerophytes): temperature (thermoperiodism and vernalization): light (heliophytes and sciophytes).
3. Population: Growth curves, ecotype and ecads.
4. Definition of community, Structure and attributes of community: frequency, density, cover, life forms and biological spectrum, ecological succession.
5. Ecosystem concept, energy flow, food chain, food web and ecological pyramids.
6. Biogeochemical cycles with emphasis on carbon and nitrogen cycles.
7. Preliminary idea of environmental pollution-air, water, soil, noise and radioactive pollution.
8. Introduction, definition, scope and importance of statistics,
9. Sampling: aim, simple random sampling, stratified random sampling, systematic sampling.
10. Measures of central tendency: mean, median and mode.
11. Classification, tabulation and graphic presentation of data.
- 8
12. Measures of dispersion-range, variance, standard deviation, standard error, Chi square test.
13. Correlation: correlation coefficient.

ECOLOGY AND ENVIRONMENTAL BIOLOGY

Ecology

Definition of ecology and its relation to humanity.

The environment

Abiotic factors, biotic factors, edaphic factors.

Concept of ecosystem with reference to pond ecosystem. Energy flow in ecosystem. Pyramids of number, biomass and energy. Food chain- grazing and detritus, Food web and trophic levels. Introduction to the laws of limiting factors (Liebig's law of minimum and Shelford's law of tolerance).

Biosphere

Hydrosphere, Lithosphere and Atmosphere. Biogeochemical cycles: Carbon and Nitrogen cycles.

Population

Definition and characteristics: density, natality, mortality, migration, emigration and immigration, growth and growth-curves. Dispersion and aggregation. Negative and positive interactions including commensalism, mutualism, predation, competition and parasitism.

Environmental Biology

Biodiversity

Conservation and management of biodiversity. Brief introduction to the concept of protected areas- Sanctuary, National Parks and Biosphere Reserves. India's wild life habitats (Ecology and distribution of fauna Pressure on India's wild life resources). Adaptations of animals to desert and aquatic life.

Pollution and its control

Air, Water, Soil pollution, Green house effect, Climate change, Acid rain, Ozone layer depletion, Bio-accumulation, Biomagnifications. Control measures to various pollution.

ENVIRONMENTAL GEOLOGY

Unit-I

Scope and aims of environmental geology. Biosphere and man. Natural hazards- Earthquakes, volcanism, floods, avalanches, landslides and slope failures, Strategies and coping up with natural hazards

Unit-II

Climatology and global environment- Coastal, temperate, desertic, tropical, cold and polar. Green house effect and global warming

Unit-III

Elementary idea of soil types. Soil erosion and conservation. Preliminary idea of environmental implications of mining activities and their remedies.

Unit-IV

Elementary concept of watershed management. Land reclamation

Books Recommended

1. Valdiya, K.S., 2013. Environmental Geology: Ecology, Resource and hazard Management. McGraw-Hill Education (India) Private Limited
2. Valdiya, K.S. 1987: Environmental Geology-Indian Context. Tata McGraw Hill
3. Keller, E.A. 1978: Environmental Geology, Bell and Howell, U.S.A.
4. Bryant, E., 1985: Natural Hazards, Cambridge University Press.
5. Patwardhan, A.M., 1999: The Dynamic Earth System. Printice Hall
6. Subramannian, V., 2001: Text book in Environmental Science, Narosa International
7. Bell, F.G., 1999: Geological Hazards. Routledge, London.
8. Smith, K., 1992: Environmental hazards. Routledge, London.

FOREST ECOLOGY AND BIODIVERSITY

Unit 1- Forest Ecology

- 1 Definition of ecology, division of ecology, scope and importance of ecology in forestry and basic concept of forest ecology.
- 2 Ecosystem- structure, component and important ecosystems, forest grassland, desert and pond.

- 3 Ecological energetic- concepts of energy flow. Tropic structure, food chain, food web and ecological pyramids.
- 4 Forest communities- vegetational analysis, biomass, productivity and forest floor mass, litter decomposition, forest soil development and nutrient cycling.
- 5 Locality factorsa. Climatic factors- Solar radiation, wind, heat and temperature, factors determining the temperature as the basis of classification of vegetation, precipitation, rain fall, snow, frost and frost damages and preventive measures, effect of snow on forest vegetation, moisture, atmospheric humidity and evaporation.
 - b. Topographic factors- configuration of land surface, latitudinal, altitudinal influence on solar radiation, temperature and rainfall, slope, aspect and exposure.
 - c. Edaphic factors- soil development, formation, soil profile, physical and chemical properties of forest soil.
 - d. Biotic factors- influence of plants competition, parasite, epiphytes, climbers, weeds, and influence of wild animals, influence of man and his domestic animals.
- 6 Succession- definition, causes and kind of succession, concept and mechanism of succession, primary succession, secondary succession and climax.
- 7 Forest hydrology.
- 8 Classification of forest- basis of classification, Champion and Seth's classification forest types of India and forest Types of Uttarakhand Himalaya.

Unit II- Biodiversity

- 1 Definition, scope and importance.
- 2 Regions of biodiversity.
- 3 Anthropogenic disturbances and biodiversity.
- 4 Ex- situ and in-situ conservation and hotspot areas. Paper III- Plantation Forestry
 1. Aims and objectives of plantation Forestry.
 2. Seed source and seedling establishment- seed biology, seed source, stand and seed orchard, seed collection, extraction, storage and testing, seed germination, germination percentage and tree seedling establishment.
 3. Nursery management- importance and objectives of nursery, preparation of plantation area, sowing, weeding and planting plan.
 4. Nursery work- sites and area, seed bed, methods of sowing, quality of seeds, time of sowing, shading, watering and damping off, weeding, soil working and transplanting, plant containers, fertilization, micro-propagation and misting units.
 5. Fencing and types of fencing, digging of pits and water conservation measures for different sites, soil fertilization in plantation and tending.
 6. Failures of plantations- reasons for failure and remedial techniques.
 7. Afforestation of problematic sites- drought prone, arid, marshy, saline land, sandy soils and Suitable species for plantation of these sites.

FOREST MANAGEMENT AND WILDLIFE

UNIT I- FOREST MANAGEMENT

1. Definition and scope, management of private forest vis-a-vis public forests, objects of management, Sustained yield, increasing and progressive yield, and arguments for and against sustained yield principles.

2. Forest organization: Geographical and ecological classification, functional classification, legal classification, territorial classification, administrative classification.
3. Increment- C.A.I. and M.A.I. curves, increment percent, quality and price increment.
4. Distribution of age classes and age gradation in even and uneven aged forest.
5. Normal forest- basic factors of normality, kinds of abnormality in regular and irregular forest.
6. Growing stock: concept and determination by different methods.
7. Yield regulation- definition, principles, object, factors effecting yield regulation in regular and irregular forests.
8. Rotation- definition and concept of rotation in regular and irregular crops, types of rotation, length of rotation, choice of rotation and conversion period.

FOREST PROTECTION

1. Definition, role of forests in relation to environment and human welfare, historical evidence of damage, factors affecting forest protection, history of forest protection in India and classification of protection measures.
2. Man as source of injury to forests: deforestation, Shifting Cultivation, encroachment, mining and felling.
3. Forest Fire: Classification of fire, fire damage, control use of fire, preventive and remedial measures, fire control policy and economics of fire protection.
4. Protection against injuries by animals-grazing and browsing, rotational and controlled grazing, effect of wild animal on forest regeneration.
5. Protection against injuries diseases- classification of forest fire diseases and their control by common, diseases in forest trees- root rot, heart rot, wilt, stem canker, stem rust, die back galls, leaf spots, leaf blight, powdery mildew and leaf rust.
6. Protection against injuries by plants: defoliation, sap sucking and mites, shoot twig and root insect, seed and cone insects, wood boring insects and gall makers.
7. Methods of control against insects and pests: silvicultural, biological and chemical.
8. Diseases caused by phanerogemic plant parasite like Dendrothothoe, Acanthobium, Loranthus etc.
9. Protection against adverse climatic factors: temperature, rainfall and winds.

WILDLIFE

1. Definition, concept and history of wildlife management in India, rare, threatened and endangered species of India.
2. Sanctuaries, National Parks, Zoological parks and Biosphere reserves, Project tiger and wildlife legislation, various Government and private agencies involved in wildlife conservation and wildlife values.

SOCIAL FORESTRY AND AGRO-FORESTRY

UNIT I - SOCIAL FORESTRY

1. Social Forestry- concept, scope, objectives, types of social forestry, practice, people participation, importance of exotic species and their nurseries, status of Social forestry projects in different states of India, factors effecting success of social forestry projects and urban forestry.
2. Plantations- Energy plantations, species suitable for road sides, canal banks, river bank sides, coastal areas, arid zones, marshy lands, waterlogged areas, sand dunes and mountainous regions, species suitable for fodder and fuelwood in Uttarakhand and their production level.

UNIT II - AGRO- FORESTRY

1. Definition, objectives, scope and constrains of agro forestry.
2. Choice and characteristics of species for Agro forestry.
3. Multipurpose trees (MPTs) in Agro forestry, crop interaction, Soil productivity aspect of Agro forestry and economic aspect of Agro forestry.
4. Agro forestry systems, socio-economic and ecological aspects of agro forestry.
5. Management of trees in agro forestry, diagnosis and design techniques.
6. Lopping practices, lopping cycle, fodder values of trees, hedge and alley cropping.
7. Research and extension needs in agro-forestry.
8. Joint Forest Management (JFM)-Principal, objectives, methodology, scope, benefits and role of NGOs.

FOREST UTILIZATION, WOOD SCIENCE AND TECHNOLOGY

1. Felling and felling tools, carpentry wood working tools, season of felling, various methods of felling and precautions.
2. Definition, scope and logging in India and other countries, methods of logging, marketing and sale, important timber species of India.
3. Timber depot, storage of timber, types of depots, their protection and management.
4. Wood Structure: Gross structure of wood, cellular composition of bark, sap wood, heart wood and pith, early wood, late wood, growth rings, grain and texture, other gross features helpful in wood identification.
5. Physical properties of wood; weight, density, reaction of heat, sound, light and electricity on wood, thermal expansion, moisture content, porosity, colour, permeability and wood working qualities.
6. Mechanical properties of wood: standard test, special testing on wood stores and timber products, non destructive testing of wood, factor influencing strength properties-hardiness, flexibility, elasticity, fusibility, strength and combustibility.
7. Defects and abnormalities of wood; natural defects, method of evaluation and measurement, influence of defects on conversion and utilization, defects during processing, manufacturing, seasoning and wood destroying agents.
8. Seasoning of woods: Principles and methods, air, solar and klin seasoning. Classification of timber seasoning, moisture and temperature measuring equipments.
9. Wood preservation; causes and curve, various methods, different preservatives and their properties.

10. Minor Forest Produce: Importance of non-wood forest products, grasses and other products, distillation and extraction of products like grass oil, seed oil, tans and dyes, gum resin, rubber, fiber and flosses, animals and minerals and other miscellaneous products.
11. Medicinal Plants: drugs, spices, edible and poisons important medicinal plants of Uttarakhand.
12. Important Forest Industries: paper and pulp, cutch and Katha, lac, turpentine, bidi, furniture, sport goods, pencils, toys, plywood and match.

VALUE EDUCATION AND HUMAN RIGHTS

UNIT I

Concept and nature of Value Education Need and importance of Value Education in contemporary social context Concept of human value with special reference to Indian tradition and culture Different types and components of value education

UNIT II

Moral education vis-à-vis religious education Moral judgment and moral action Concept of moral development of child Approaches of moral development: Social theory approach and cognitive development approach.

UNIT III

Human Rights-Universal Declaration of Human Rights Human Rights violations – National Integration – Peace and non-violence Dr. A P J Kalam’s ten points for enlightened citizenship Social Values and Welfare of the citizen The role of media in value building

UNIT IV

Environment and Ecological balance Constitutional or national values - Democracy, socialism, secularism, equality, justice, liberty, freedom and fraternity and different social values

Suggested Readings

1. Allport, G.W., Vermon, P.E., and Lindzey, G. (1970) study of values, Buston: Houghton Mifflin.
2. Central Board of Secondary Education (1997), Value Education: A Handbook for Teachers, Delhi: Central Board of Secondary Education.
3. Delors, J. (1996), Learning: The Treasure within- Report of the International Commission on Education for the Twenty-First Century, Paris: UNESCO.
4. Karan Singh (1996) Education for global society, in Delors, J., Learning: The Treasure Within, Paris: UNESCO.
5. Kollberg, L. (1964), Development of moral character and ideology, in M.K.
6. Hoffman and L.W. Hoffman (eds) Review of Child Development Research, Vol.1, New York: Russell Sage.
7. Kohlberg, L. (1969), Stage and sequence, in D.A. Goslin (ed) Handbook of Socialization Theory and Research, Chicago: Rand Mc Nally.
8. Morris, Charles W. (1956). Varieties of Human Values. Chikago: University of Chicago Press.
9. Piaget, J. (1960). The Moral Judgment of the Child. New York: Free Press

10. Shukla, R.P.(2005). Value Education and Human Rights. Sarup & Sons, New Delhi
11. Value Education. Manish Prakashan , Plat No. 26, Rohit Nagar Colony, Baranasi Hindu University , Varanasi.
12. M.G.Chitakra: Education and Human Values, A.P.H.Publishing Corporation, New Delhi- 12, 2003
13. Bandiste, D.D.: Humanist Values: A Source Book, B.R.Publishing Corporation, Delhi, 1999
14. Ruhela, S.P. : Human Values and education, Sterling Publications, New Delhi, 1986
15. Kaul, G.N.: Values and Education in Independent Indian, Associated Publishers, Mumbai, 1975
16. NCERT, Education in Values, New Delhi, 1992
17. Swami Budhananda (1983) How to Build Character A Primer : Ramakrishna Mission, Belur Math.
18. A Cultural Heritage of India (4 Vols.), Bharatiya Vidya Bhavan, Bombay. (Selected Chapters only)
19. For Life, For the future : Reserves and Remains – UNESCO Publication
20. Values, A Vedanta Kesari Presentation, Sri Ramakrishna Math, Chennai, 1996
21. Swami Vivekananda, Youth and Modern India, Ramakrishna Mission, Chennai
Swami Vivekananda, Call to the Youth for Nation Building, Advaita Ashrama, Calcutta

ROLE OF JUDICIARY, NGO's IN ENVIRONMENTAL PROTECTION

Unit-I

Theories of Environmental Protection

Bentham's Doctrine of Utility and Environment Protection Roscoe Pound's theory of Social Engineering and Environmental Protection The Contemporary Environmental Issues

Unit-II

Social Engineering and Sustainable Development Indian Judiciary on Environment Protection Public Interest Litigation and Environment Protection

Unit-III

Judicial Response and Environment Expanding Horizons of Article 21

Right to Clean and Healthy Environment- A Basic Human Right

Right to Clean and Healthy Environment

Right to Pure Drinking Water

Right to Protection against Noise Pollution

Right to Life Vis a Vis Right to Livelihood

Right to Life Vis a Vis Right to Freedom of Trade, Business and Profession

Unit- IV

Role of Judiciary in Enforcement of International Environmental Laws

Doctrine of Inter-Generational Equity

Polluter Pay Principle

Doctrine of Absolute Liability

Precautionary Principle

Environmental Rights- Third Generation Rights

Role of NGOs in Environment Protection

Joint Forest Management

Suggested Readings:

1. Jaswal, P. S. & Jaswal, N. (2015), Environmental Law, Allahabad Law Agency, Faridabad.
2. Khan, I. A. (2009), Environmental Laws, Central Law Publication, Allahabad.
3. Shastri, S. C. (2010), Environmental Laws, Eastern Book Company, Lucknow.
4. Dube, I. (2007), Environmental Jurisprudence Polluter's Liability, Lexis Nexis.
5. Singh, Gurdip, (2005), Environmental Law in India, Mac Millan, New Delhi.
6. Leelakrishnan, P. (2010), Environmental Law, Lexis Nexis, New Delhi.
7. Armin R. And Divan Shyam, (2013) Environmental Law and Policy in India- Case, Material and Statutes, Oxford University Press.

ENVIRONMENTAL LAW

UNIT I

1. Concept of Environment
2. Ecosystem
3. Biosphere
4. Factors responsible for degradation of environment
5. Population explosion
6. Industrial development
7. Urbanization
8. excess use of technology
9. energy
10. Unplanned development
11. agricultural development
12. Major, environmental hazards
13. Climate change
14. Greenhouse effect, depletion of ozone layer

UNIT II

1. Constitutional provision and environment 42nd Amendment Act
2. The Directive Principles of State Policy
3. Article 253 and environmental legislation
4. fundamental Duties and environment
5. Environmental Protection and Fundamental Rights- Right to Wholesome Environment
6. Right to livelihood
7. Right to equality
8. Freedom of Trade vis-à-vis environment
9. Role of Judiciary -PIL

UNIT III

1. Deforestation-causes and effects
2. Role o of forests in Himalyan ecosystem
3. Forest Act,1927-Definition of Forest
4. Kinds-Reserved forests, Protected forests, Village Forests and Van Panchayats, Private Forests

5. Forest Offences
6. Forest (Conservation) Act,
7. Definition and scope of forests
8. Non forest purpose
9. Wildlife (Protection) Act
10. Definition-animal, animal article, hunting, National park, sanctuary, wild animal ,wild life.
11. Authorities- Director Wildlife, Chief Wild Life Warden, Wild Life Advisory Board
12. Hunting of Wild animals
13. Sanctuaries, National Parks and closed Areas
14. Central Zoo Authority and Recognition of zoos
15. Trade or Commerce in Wild Animals
16. Animal Articles and Trophies
17. Environmental (Protection) Act
18. Objects
19. Definitions
20. General powers of Central government
21. Rule making power
22. Prevention, control and abatement of environmental pollution
23. Penalties and offences by the companies and government department

UNIT IV

1. UN Conference on Human Environment,1972 (The Stockholm Conference)
2. Declaration
3. UN Conference on Environment and Development, 1992 (The Earth Summit)
4. Rio-declaration
5. Agenda -21

SUGGESTED READINGS

- 1- Armin Rosencraouz, Syam Diwan - Environmental Law & Policy in India: Cases
- 2- Marthal L. Noble Material & Statements
- 3- Rama Krishna - The Emergence of Environmental Law in Developing Countries- A Case Study of India
- 4- P. S. Jaswal and NishtaJaswal - Environmental Law
- 5- R.G. Chaturvedi & M.N. Chaturvedi - Law on Protection of Environment and Prevention of pollution

INTERNATIONAL ENVIRONMENTAL LAW

Unit-I

- 1- Concept of Climate Change
- 2- Global Warming
- 3- Causes and Effects if Climate Change
- 4- United Nations Framework, Convention on Climate Change
- 5- Climate Regulations COP
- 6- Paris Agreement- General Features

Unit-II

- 1- Evaluation and Development of the Concept of Sustainable Development
- 2- United Nations Commission of Sustainable Development, 1993
- 3- United Nations Conference on Environmental and Development, 1992
 - Rio Declaration
 - Principles
 - Agenda-21
- 4- World Summit on Sustainable Development (WSSD), 2002

Unit-III

- 1- Deforestation- Causes and Effects
- 2- Effects on Climate Change
- 3- Concept of Reducing Emission
- 4- Forestry Principles, 1992
- 5- Deforestation and Degradation of Forests (REDD)

Unit-IV

- 1- Loss of Bio-diversity
- 2- Bio-diversity convention established norms of International Environmental Laws
- 3- Doctrine of Inter-generational Equity
- 4- Principles of Preventive Action and Precaution
- 5- Polluter Pays Principle
- 6- Inter generational Equity
- 7- Common But Differentiated Responsibilities.

SUGGESTED READINGS

- 1- Armin Rosencraouz, Syam Diwan - Environmental Law & Policy in India: Cases
- 2- Marthal L. Noble Material & Statements
- 3- Rama Krishna - The Emergence of Environmental Law in Developing
- 4- Countries- A Case Study of India
- 5- P. S. Jaswal and NishtaJaswal - Environmental Law
- 6- R.G. Chaturvedi & M.N. Chaturvedi - Law on Protection of Environment and
- 7- Prevention of pollution
- 8-

HUMAN RIGHTS: LAW AND PRACTICE

Unit-I

- 1- Concept of Human Rights
- 2- Origin and Development of Human Right
- 3- Universal Declaration of Human Rights

Unit-II

- 1- International Covenants of Human Rights, International Covenants of Civil and Political Rights, International Covenants of Economic, Social and Cultural Rights.
- 2- International Covenants on Inhuman Acts- Genocide, Apartheids, Torture, Slavery, Slave Trade, Forced and Compulsory labour, Traffic in Persons and Prostitution, Women Racial Discrimination.
- 3- Vulnerable groups and Human Rights, Women, Children and Migrant workers, Refugees, Older Persons, Disabled person, Indigenous People

Unit-III

- 1- International Conferences on Human Rights
- 2- International Humanitarian Laws
- 3- Human Rights and Terrorism

Unit-IV

- 1- Internal Covenants and the Indian Constitution
- 2- Human Rights Commission in India : Human Rights Act, 1993

SUGGESTED READINGS

- 1- The World of Women in Pursuit of Human Rights - Patanjali Nandan Chaturvedi
- 2- The United Nations & The Human Rights - Patanjali Nandan Chaturvedi
- 3- Judicial Review of Administrative Actions - De. Smith
- 4- Human Rights for Children in Indian Evolution - Sudip Chakraborty
- 5- Policies and Publications
- 6- Human Rights – An Introduction - Darren J.D'byrne
- 7- Human Rights - D.D. Basu
- 8- Human Rights - Thomas Buergenthan

Unit-IV Social Profile of the Legal Profession

1. Professional Opportunities- Upward mobility
2. How far have Underprivileged groups such as SC/ST advanced in the profession
- 3- Lawyers in Court 1- How to address the Court 2- Attitude towards opponent counsel

SUGGESTED READINGS

1. C.L. Anand: Professional Ethics of the Bar
2. B.K. Goswami: Legal Profession and Its Ethics
3. Anirudh Prasad: Principles of the Ethics of Legal Profession in India
4. Sunil Deshta and Kiran Deshta: Practical Advocacy of Law.
5. S.K. Mookerji: Iyer's Law of Contempt of Court.