

B.Com. (Hons.): Semester - VI
Paper BCH 6.1- AUDITING AND CORPORATE GOVERNANCE

Duration: 3 hrs.

Objective: To provide knowledge of auditing principles, procedures and techniques in accordance with current legal requirements and professional standards.

Unit I: Auditing

Basic Principles and Techniques; Classification of Audit, Audit Planning, Internal Control – Internal Check and Internal Audit; Audit Procedure – Vouching and verification of Assets & Liabilities;

Company Auditor- Qualifications and disqualifications, Appointment, Rotation, Removal, Remuneration, Rights and Duties; Auditor's Report- Contents and Types, Liabilities of Statutory Auditors under the Companies Act 2013

Special Areas of Audit: Cost audit, Tax audit and Management audit; Recent Trends in Auditing: Basic considerations of audit in EDP Environment; Relevant Auditing and Assurance Standards (AASs).

Unit II: Corporate Governance

Meaning, Theories, Models and Benefits of Corporate Governance; Politics and Governance; Board Committees and their Functions; Insider Trading; Rating Agencies; Green Governance/ E-governance; Clause 49 of Listing Agreement; Corporate Governance in Public Sector Undertakings; Corporate Funding of Political Parties; Class Action; Whistle Blowing; Shareholders Activism.

Unit III: Major Corporate Governance Failures

BCCI (UK), Maxwell Communication (UK), Enron (USA), World.Com (USA), Andersen Worldwide (USA), Vivendi (France), Harshad Mehta Scam, Satyam Computer Services Ltd, and Kingfisher Airlines; Common Governance Problems Noticed in various Corporate Failures; Codes and Standards on Corporate Governance; Initiatives in India.

Unit IV: Business Ethics

Morality and Ethics; Business Values and Ethics; Various Approaches to Business Ethics; Ethical Theories; Ethical Governance; Corporate Ethics; CSR – Extension Of Business Ethics; Benefits of Adopting Ethics in Business; Ethics Programme; Code of Ethics; Ethics Committee

Unit V: Corporate Social Responsibility (CSR)

Corporate Philanthropy, Meaning of CSR, CSR and CR, CSR and Corporate Sustainability, CSR and Business Ethics, CSR and Corporate Governance, Environmental Aspect of CSR, CSR provision under the Companies Act 2013, CSR Committees, CSR Models, Drivers of CSR, Codes and Standards on CSR, Global Reporting Initiatives, ISO 26000

Suggested Readings:

1. Institute of Chartered Accountants of India, *Auditing and Assurance Standards*, ICAI, New Delhi.
2. Relevant Publications of ICAI on *Auditing (CARO)*.
3. Gupta, Kamal., and Arora, Ashok. *Fundamentals of Auditing*. Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi.
4. Ghatalia, S.V. *Practical Auditing*. Allied Publishers Private Ltd., New Delhi.
5. Singh, A. K., and Gupta, Lovleen. *Auditing Theory and Practice*. Galgotia Publishing Company.
6. Mallin, Christine A. *Corporate Governance (Indian Edition)*. Oxford University Press, New Delhi.
7. Rani, Geeta D., and Mishra, R.K. *Corporate Governance- Theory and Practice*, Excel Books, New Delhi.
8. Tricker, Bob. *Corporate Governance-Principles, Policies, and Practice (Indian Edition)*. Oxford University Press, New Delhi.
9. Sharma, J.P. *Corporate Governance, Business Ethics, and CSR*. Ane Books Pvt Ltd, New Delhi.

Note: Latest edition of text books may be used.

Paper 3: Indian History & Culture

I. Environment; Culture, Tradition & Practices:

- Historical overview
- Oral & codified information on medicinal Plants
- Water & Water Bodies
- Fieldwork

II. Urbanization & Urbanism:

- Issues of settlements & Landscapes
- Social differentiations
- Communication networks

III. Social inequality & Gender:

- Status within Households: An overview
- Present context
- Issues of Violence
- Employment, distribution of resources

IV. Cultural Heritage:

- Main components
- Built Heritage
- Historical Tourism

V. Cultural Forms & Cultural Expressions:

- Performing Arts
- Fairs & Festivals
- Fieldwork

References:

Indu Banga, ed. *The City in Indian History: Urban Demography, Society & Polity*, Delhi, Manohar, 1991

Koch, E. *Mughal Art & Imperial Ideology*

Radha Kumar, *History of Doing: An Illustrated Account of Movements for Women's Rights & Feminism in India 1880-1990*, Zubaan, 2007

V. Vasudev, *Fairs & Festivals*, Incredible India Series, 2007

V. Singh, *The Human Footprint on Environment: Issues in India*, New Delhi, and Macmillan, 2012

B. Parikh, *Composite Culture in a multicultural Society*, Delhi, NBT, 2007

N. Mehta, *Introduction: Satellite Television, Identity & Globalization in Contemporary India* in N. Mehta, ED, *Television in India*, New York, Routledge, 2008

R.C. Thakran & Sheo Dutt, ed *Bhartiya Upmahaduip ki Sanskritiyan*, University of Delhi

7. Women, Power and Politics

Course objective: This course opens up the question of women's agency, taking it beyond 'women's empowerment' and focusing on women as radical social agents. It attempts to question the complicity of social structures and relations in gender inequality. This is extended to cover new forms of precarious work and labour under the new economy. Special attention will be paid to feminism as an approach and outlook. The course is divided into broad units, each of which is divided into three sub-units.

I. Groundings (6 weeks)

1. Patriarchy (2

weeks) a. Sex-Gender Debates b. Public and Private c. Power

2. Feminism (2 weeks)

3. Family, Community, State (2

weeks) a. Family b. Community c. State

II. Movements and Issues (6 weeks)

1. History of the Women's Movement in India (2 weeks)

2. Violence against women (2 weeks)

3. Work and Labour (2 weeks)

**a. Visible and Invisible work
b. Reproductive and care work
c. Sex work**

Reading List

I. Groundings

1. Patriarchy

Essential Readings:

T. Shinde, (1993) 'Stree Purusha Tulna', in K. Lalitha and Susie Tharu (eds), *Women Writing in India*, New Delhi, Oxford University Press, pp. 221-234

U. Chakravarti, (2001) 'Pitrasatta Par ek Note', in S. Arya, N. Menon & J. Lokneeta (eds.) *Naarivaadi Rajneeti: Sangharsh evam Muddey*, University of Delhi: Hindi Medium Implementation Board, pp.1-7

a. Sex Gender Debates

Essential Reading:

V Geetha, (2002) *Gender*, Kolkata, Stree, pp. 1-

20 b. Public and Private

2.Human Rights in a Comparative Perspective

Course objective: This course attempts to build an understanding of human rights among students through a study of specific issues in a comparative perspective. It is important for students to see how debates on human rights have taken distinct forms historically and in the contemporary world. The course seeks to anchor all issues in the Indian context, and pulls out another country to form a broader comparative frame. Students will be expected to use a range of resources, including films, biographies, and official documents to study each theme. Thematic discussion of sub-topics in the second and third sections should include state response to issues and structural violence questions.

I. Human Rights: Theory and Institutionalization (3 weeks)

- a. Understanding Human Rights: Three Generations of Rights
- b. Institutionalization: Universal Declaration of Human Rights
- c. Rights in National Constitutions: South Africa and India

II. Issues (5 weeks)

- a. Torture: USA and India
- b. Surveillance and Censorship: China and India
- c. Terrorism and Insecurity of Minorities: USA and India

III. Structural Violence (4 weeks)

- a. Caste and Race: South Africa and India
- b. Gender and Violence: India and Pakistan
- c. Adivasis/Aboriginals and the Land Question: Australia and India

READING LIST

I. Human Rights: Theory and Institutionalization

Essential Readings:

J. Hoffman and P. Graham, (2006) 'Human Rights', *Introduction to Political Theory*, Delhi, Pearson, pp. 436-458.

SAHRDC (2006) 'Introduction to Human Rights'; 'Classification of Human Rights: An Overview of the First, Second, and Third Generational Rights', in *Introducing Human Rights*, New Delhi: Oxford University Press.

The Constitution of the Republic of South Africa, Chapter 2: Bill of Rights.

The Constitution of India, Chapter 3: Fundamental Rights

II. Issues

a. Torture: USA and India

Essential Readings:

7.Feminism: Theory and Practice

Course Objective: The aim of the course is to explain contemporary debates on feminism and the history of feminist struggles. The course begins with a discussion on construction of gender and an understanding of complexity of patriarchy and goes on to analyze theoretical debates within feminism. Part II of the paper covers history of feminism in the west, socialist societies and in anti-colonial struggles. Part III focuses a gendered analysis of Indian society, economy and polity with a view to understanding the structures of gender inequalities. And the last section aims to understand the issues with which contemporary Indian women's movements are engaged with.

I. Approaches to understanding Patriarchy (22 Lectures)

- Feminist theorising of the sex/gender distinction. Biologism versus social constructivism
 - Understanding Patriarchy and Feminism
 - Liberal, Socialist, Marxist, Radical feminism, New Feminist Schools/Traditions

II. History of Feminism (22 Lectures)

- Origins of Feminism in the West: France, Britain and United States of America
- Feminism in the Socialist Countries: China, Cuba and erstwhile USSR
- Feminist issues and women's participation in anti-colonial and national liberation movements with special focus on India

III. The Indian Experience (16 Lectures)

- Traditional Historiography and Feminist critiques. Social Reforms Movement and position of women in India. History of Women's struggle in India
- Family in contemporary India - patrilineal and matrilineal practices. Gender Relations in the Family, Patterns of Consumption: Intra Household Divisions, entitlements and bargaining, Property Rights
- Understanding Woman's Work and Labour – Sexual Division of Labour, Productive and Reproductive labour, Visible - invisible work – Unpaid (reproductive and care), Underpaid and Paid work,- Methods of computing women's work , Female headed households

Essential Readings

I. Approaches to understanding Patriarchy

Geetha, V. (2002) *Gender*. Calcutta: Stree.

Geetha, V. (2007) *Patriarchy*. Calcutta: Stree.

**PROPOSED UNDER GRADUATE COURSES FOR SANSKRIT (HON.)
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)**

Detail of the Core Course for Sanskrit

C-7 Indian Social Institutions and Polity		
[A] Prescribed Course:		Total 56 Credits
Section 'A'	Indian Social Institutions : Nature and Concepts	12 Credits
Section 'B'	Structure of Society and Value of Life	14 Credits
Section 'C'	Indian Polity : Origin and Development	18 Credits
Section 'D'	Cardinal Theories and Thinkers of Indian Polity	12 Credits
[B] Course Objectives:	<p>Social institutions and Indian Polity have been highlighted in <i>Dharma-sāstra</i> literature. The aim of this course is to make the students acquainted with various aspects of social institutions and Indian polity as propounded in the ancient Sanskrit texts such as <i>Saṁhitās</i>, <i>Mahābhārata</i>, <i>Purāṇa</i>, Kauṭilya's <i>Arthasāstra</i> and other works known as <i>Nītiśāstra</i>.</p>	
[C] Unit-Wise Division:	<p>Section 'A' Indian Social Institutions : Nature and Concepts</p>	
	<p>Indian Social Institutions : Definition and Scope: Sociological Definition of Social Institutions. Trends of Social Changes, Sources of Indian Social Institutions (Vedic Literature, <i>Sūtra</i> Literature, <i>Purāṇas</i>, <i>Rāmāyaṇa</i>, <i>Mahābhārata</i>, <i>Dharmasāstras</i>, Buddhist and Jain Literature, Literary Works, Inscriptions, Memoirs of Foreign Writers)</p>	
Unit: I		06 Credits
	<p>Social Institutions and <i>Dharmasāstra</i> Literature: <i>Dharmasāstra</i> as a special branch of studies of Social Institutions, sources of <i>Dharma</i> (<i>Manusmṛti</i>, 2.12; <i>Yājñavalkyasmṛti</i>, 1.7). Different kinds of <i>Dharma</i> in the sense of Social Ethics (<i>Manusmṛti</i>, 10.63; <i>Viṣṇupurāṇa</i> 2.16-17); Six kinds of <i>Dharma</i> in the sense of Duties (<i>Mitākṣarāṅkā</i> on <i>Yājñavalkyasmṛti</i>, 1.1). Tenfold <i>Dharma</i> as Ethical Qualities (<i>Manusmṛti</i>, 6.92); Fourteen-<i>Dharmasthānas</i> (<i>Yājñavalkyasmṛti</i>, 1.3)</p>	
Unit: II		06 Credits

PROPOSED UNDER GRADUATE COURSES FOR SANSKRIT (HON.)
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

Generic Elective (GE) Course for Sanskrit

GE-2		
Indian Culture and Social Issues		
[A] Prescribed Course:		Total 56 Credits
Section 'A'	Culture in a multi-cultural society	26 Credits
Section 'B'	Cultural roots of India	30 Credits
[B] Course Objectives:	This paper is designed to introduce nuances of Indian culture to students and to show how cultural traditions have evolved. The paper also engages them in debates about certain significant socio-cultural issues.	
[C] Unit-Wise Division:	Section 'A'	
	Understanding Culture	
Unit: I	1. What is culture? Culture and Civilization 2. What is 'Indian' culture? 3. Culture in a multi-cultural society	06 Credits
Unit: II	1. Vedic sabhyata 2. Sindhu sabhyata 3. Sanskrit in Indo-Islamic tradition – (Proceedings of the Sagar University seminar on 'Islām kā Sanskrit paramparā ko yogadāna')	09 Credits
Unit: III	1. Pandavani, 2. Versions of the Rāma legend in Sanskrit literature – Vālmīki's Rāmāyana, Bhāsa's Pratimā nāṭakam, Bhavabhūti's Uttarāma caritam, Raghuvarṅgam of Kalidasa, Somadeva's Kathāsaritsāgara, Rāmāyana mañjari of Rājasekhara etc. 3. Ritusarṅghra in folk music 4. Sanskrit themes in traditional dance forms in Kerala 5. Yakṣagan 6. Gītagovinda and Odissi 7. Major agricultural and seasonal festivals of India and the Indian calendar – Bihu, Holi, Pongal, Makar Saṅkrāntī, Lohari, Oṅam, Baisakhi, Śrāvāṇī Pūrṇimā	12 Credits

**PROPOSED UNDER GRADUATE COURSES FOR SANSKRIT (HON.)
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)**

Generic Elective (GE) Course for Sanskrit

GE-4		
Basic Principles of Indian Medicine System (Ayurveda)		
[A]	Prescribed Course:	Total 56 Credits
	Section 'A' Introduction to Indian Medicine System: Āyurveda	12 Credits
	Section 'B' Basic Principles of Āyurveda	18 Credits
	Section 'C' Dietetics, Nutrition and Treatments in Āyurveda	18 Credits
	Section 'D' Important Medicinal Plants and their based on Āyurveda	08 Credits
[B]	Course Objectives:	
	Āyurveda is a traditional Indian system of healthcare that has been traced back to as early as 5,000 BCE. This course will introduce students to the theory of Āyurveda. The major objective is to understand the basic principles and concepts of preventive medicine and health care, diet and nutrition, usage of commonly used spices and herbs and an outline of Āyurvedic therapeutic procedures in Āyurveda.	
[C]	Unit-Wise Division	
	Section 'A'	
	Introduction to Indian Medicine System: Āyurveda	
	Definition of Āyurveda, Āyuh (Life), Śarīra (Body), Health, Aim of Āyurveda, Subject Matter of Āyurveda, Salient Features of Āyurveda, Concept of Health according to Āyurveda, Unique features of Āyurveda.	
Unit: I		04 Credits
	History of Āyurveda, Atharvaveda as an early source for medicinal speculations, Introduction to Major Texts (Suśruta Saṁhitā and Caraka Saṁhitā) and Authors (Suśruta and Caraka) and Aṣṭāṅga Hṛdayam, Aṣṭāṅga Saṅgraha of Vāgbhaṭa.	
Unit: II		04 Credits
	Eight Components of Āyurveda (aṣṭāṅgaĀyurveda):	
	1. Kāyçikitsā (General Medicine)	
	2. Kaumārabhṛtya (Pediatrics)	
	3. ŚalyaTantra (Surgery)	
Unit: III		04 Credits
	4. Śālākya-Tantra (Ent. and Ophthalmology)	
	5. Bhūta Vidyā (Psychiatry Medicine).	
	6. Viṣa Vijñāna (Toxicology).	
	7. Rasāyana (Rejuvenates).	
	8. Vajīkaraṇa (Aphrodisiac).	
	Section 'B'	

PROPOSED UNDER GRADUATE COURSES FOR SANSKRIT (HON.)
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

Generic Elective (GE) Course for Sanskrit

GE-10		
Individual, Family and Community in Indian Social Thought		
[A] Prescribed Course:		Total 56 Credits
Section 'A' Individual		20 Credits
Section 'B' Family		15 Credits
Section 'C' Community		15 Credits
[B] Course Objectives:	This course will introduce the current research and development in Sanskrit computing. Primary emphasis will be on tools and techniques developed under government and private funding and to explore new technologies for Sanskrit.	
[C] Unit-Wise Division:	Section 'A' Individual	
Unit: I	Idea of a person (Gītā 6/5) ; Functions of the indriyas, buddhi, manas and the ātmā – (Gītā 3/42, 15/7, 15/9, 3/34, 2/58, 2/59, 3/6-7, 5/8, 2/ 64)	05 Credits
Unit: II	Three guṇas and their impact on the individual (Gītā 14/5-13, 14/17, 3/36-38, 18/30-32, Managing the mind-body mechanism according to the Gītā – (i) yoga of action, (2/47-48, 3/8, 3/ 4, 3/19, 3/25) (ii) yoga of bhakti – 7/1, 8/7, 9/14, 9/27, 12/11, 12/ 13-19) (iii) (yoga of knowledge, (4/38-39, 4/42, 18/63) (iv) yoga of meditation (16/34, 16/12, 16/26, 16/25)	05 Credits
Unit: III	Saṁskāras – Growth of the individual in society (From : Importance of saṁskāras in Hindu Saṁskāra – Rajabali Pandey)	05 Credits
Unit: IV	Aim of life : Four Puruṣārtha	05 Credits

B.Com. (Hons.): Semester - III
Paper BCH 3.1: HUMAN RESOURCE MANAGEMENT

Duration: 3 hrs.

Objective: To acquaint students with the techniques and principles to manage human resource of an organisation.

Unit I: Human Resource Management

Concept and functions; Role, status and competencies of HR manager; HR policies; Evolution of HRM; Emerging challenges of human resource management - Workforce diversity, empowerment, downsizing, VRS, work life balance.

Unit II: Acquisition of Human Resource

Human resource planning- Quantitative and qualitative dimensions; Job analysis – Job description and job specification; Recruitment – concept and sources; Selection – concept and process; Test and interview; Placement, induction and socialization; Retention.

Unit III: Training and Development

Concept and importance; Role specific and competency based training; Training and development methods – Apprenticeship, understudy, job rotation, vestibule training, case study, role playing, sensitivity training, In-basket, management games, conferences and seminars, coaching and mentoring, management development programs; Training process outsourcing.

Unit IV: Performance Appraisal and Compensation Management

Performance appraisal- Nature, objectives and process; Performance management; Methods of performance appraisal; Potential appraisal; Employee counselling; Job changes - Transfers and promotions, Human resource audit;

Compensation - Concept and policies, Base and supplementary compensation; Individual, group and organization incentive plans; Fringe benefits; Performance linked compensation; Employee stock option; Pay band compensation system; Job evaluation.

Unit V: Maintenance of employees and Emerging Horizons of HRM

Employee health and safety; Employee welfare; Social security (excluding legal provisions); Employer-employee relations- An overview; Grievance handling and redressal; Industrial disputes: Causes and settlement machinery; e-HRM; Human Resource Information System and e-HRM; Impact of HRM practices on organisational performance; HR audit, Contemporary issues in human resource management.

Suggested Readings

1. Mondy, A. W., and Noe, R. M. *Human Resource Management*. Pearson Education.
2. Decenzo, D.A., and Robbins, S. P. *Fundamentals of Human Resource Management*. Wiley, India.
3. Dessler, G., and Varkkey, B. *Human Resource Management*. Pearson Education, Delhi.

4. Chhabra, T.N. *Human Resource Management*. Dhanpat Rai & Co., Delhi.
5. Aswathappa, K. *Human Resource Management*. Tata McGraw-Hill, New Delhi.
6. French, W. L. *Human Resource Management*. Houghton Mifflin, Boston.
7. Gupta, C.B. *Human Resource Management*. Sultan Chand & Sons, Delhi.
8. Rao, V. S. P. *Human Resource Management: Text and Cases*. Excel Books.

Note: Latest edition of text books may be used.



**B.Com.: Semester V
Paper BC 5.1 (a): Human Resource Management**

Duration: 3 hrs.

Objective: The objective of the course is to acquaint students with the techniques and principles to manage human resource of an organisation.

Contents

Unit I: Introduction

Concept and functions; Role, status and competencies of HR manager; Organization of HR Department; HR Policies; Evolution of HRM; Emerging challenges of human resource management like workforce diversity, downsizing, work life balance, etc.

Unit II: Acquisition of Human Resource

Human resource planning; Job analysis – job description and job specification; Recruitment – Concept and sources; Selection – Concept and process; Testing and interview; Placement and induction.

Unit III: Training and Development

Concept and importance; Identifying training and development needs; Designing training programmes; Training and development methods – Apprenticeship, understudy, job rotation, vestibule training, case study, role playing, sensitivity training, In-basket, management games, coaching and mentoring, management development programs; Evaluating training effectiveness.

Unit IV: Performance Appraisal

Nature and objectives; Performance appraisal process; Methods of performance appraisal; Job changes - transfers and promotions; Potential appraisal.

Unit V: Compensation and Maintenance of employees

Compensation - Concept and policies; Job evaluation; Methods of wage payments and incentive plans; Fringe benefits; Performance linked compensation; Employee health and safety; Employee welfare; Social security (excluding legal provisions); Grievance handling and redressal.

Suggested Readings:

1. Decenzo, D.A. and Robbins, S. P. *Fundamentals of Human Resource Management*. India: Wiley.
2. Dessler, G. and Varkkey, B. *Human Resource Management*. Delhi: Pearson Education.
3. Chhabra, T.N. *Human Resource Management*. Delhi: Dhanpat Rai & Co.
4. Aswathappa K. *Human Resource Management*. New Delhi: Tata McGraw-Hill.
5. Gupta, C.B. *Human Resource Management*. Delhi: Sultan Chand & Sons.
6. Rao, V. S. P. *Human Resource Management: Text and Cases*. Excel Books.

Note: Latest edition of text books may be used.

**Skill Enhancement Course
Intellectual Property Rights
(Credits 2)
Lectures: 30**

- Unit 1: Introduction to intellectual property right (IPR)** (2 lectures)
Concept and kinds. Economic importance. IPR in India and world: Genesis and scope, some important examples. IPR and WTO (TRIPS, WIPO).
- Unit 2 : Patents** (3 Lectures)
Objectives, Rights, Patent Act 1970 and its amendments. Procedure of obtaining patents, Working of patents. Infringement.
- Unit 3: Copyrights** (3 Lectures)
Introduction, Works protected under copyright law, Rights, Transfer of Copyright, Infringement.
- Unit 4: Trademarks** (3 Lectures)
Objectives, Types, Rights, Protection of goodwill, Infringement, Passing off, Defences, Domain name.
- Unit 5: Geographical Indications** (3 Lectures)
Objectives, Justification, International Position, Multilateral Treaties, National Level, Indian Position.
- Unit 6: Protection of Traditional Knowledge** (4 Lectures)
Objective, Concept of Traditional Knowledge, Holders, Issues concerning, Bio-Prospecting and Bio-Piracy, Alternative ways, Protectability, need for a Sui-Generis regime, Traditional Knowledge on the International Arena, at WTO, at National level, Traditional Knowledge Digital Library.
- Unit 7: Industrial Designs** (2 Lectures)
Objectives, Rights, Assignments, Infringements, Defences of Design Infringement
- Unit 8: Protection of Plant Varieties** (2 Lectures)
Plant Varieties Protection-Objectives, Justification, International Position, Plant varieties protection in India. Rights of farmers, Breeders and Researchers. National gene bank, Benefit sharing. Protection of Plant Varieties and Farmers' Rights Act, 2001.
- Unit 9: Information Technology Related Intellectual Property Rights** (4 Lectures)
Computer Software and Intellectual Property, Database and Data Protection, Protection of Semi-conductor chips, Domain Name Protection
- Unit 10: Biotechnology and Intellectual Property Rights.** (4 Lectures)
Patenting Biotech Inventions: Objective, Applications, Concept of Novelty, Concept of inventive step, Microorganisms, Moral Issues

Core Course IX: Ecology
(Credit: Theory-4, Practical-2)
THEORY
Lectures: 60

Unit 1: Introduction	(4 lectures)
Basic concepts; Levels of organization. Inter-relationships between the living world and the environment, the components and dynamism, homeostasis.	
Unit 2: Soil	(8 lectures)
Importance; Origin; Formation; Composition; Physical, Chemical and Biological components; Soil profile; Role of climate in soil development.	
Unit 3: Water	(4 lectures)
Importance; States of water in the environment; Atmospheric moisture; Precipitation types (rain, fog, snow, hail, dew); Hydrological Cycle; Water in soil; Water table.	
Unit 4: Light, temperature, wind and fire	(6 lectures)
Variations; adaptations of plants to their variation.	
Unit 5: Biotic interactions	(2 lectures)
Unit 6: Population ecology	(4 lectures)
Characteristics and Dynamics. Ecological Speciation	
Unit 7: Plant communities	(8 lectures)
Concept of ecological amplitude; Habitat and niche; Characters: analytical and synthetic; Ecotone and edge effect; Dynamics: succession – processes, types; climax concepts.	
Unit 8: Ecosystems	(4 lectures)
Structure; Processes; Trophic organisation; Food chains and Food webs; Ecological pyramids.	
Unit 9: Functional aspects of ecosystem	(8 lectures)
Principles and models of energy flow; Production and productivity; Ecological efficiency; Biogeochemical cycles; Cycling of Carbon, Nitrogen and Phosphorus.	
Unit 10: Phytogeography	(12 lectures)
Principles; Continental drift; Theory of tolerance; Endemism; Brief description of major terrestrial biomes (one each from tropical, temperate & tundra); Phytogeographical division of India; Local Vegetation.	

Practical

1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer/hygrometer, rain gauge and lux meter.
2. Determination of pH of various soil and water samples (pH meter, universal indicator/Levi bond comparator and pH paper)
3. Analysis for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency from two soil samples by rapid field tests.
4. Determination of organic matter of different soil samples by Walkley & Black rapid titration method.
5. Comparison of bulk density, porosity and rate of infiltration of water in soils of three habitats.
6. Determination of dissolved oxygen of water samples from polluted and unpolluted sources.
7. (a). Study of morphological adaptations of hydrophytes and xerophytes (four each).
 (b). Study of biotic interactions of the following: Stem parasite (Cuscuta), Root parasite (Drosera) Epiphytes, Predation (Insectivorous plants).
8. Determination of minimal quadrat size for the study of herbaceous vegetation in the college campus, by species area curve method (species to be listed).
9. Quantitative analysis of herbaceous vegetation in the college campus for frequency and comparison with Raunkiaer's frequency distribution law.
10. Quantitative analysis of herbaceous vegetation for density and abundance in the college campus.
11. Field visit to familiarise students with ecology of different sites.

Suggested Readings

1. Odum, E.P. (2005). Fundamentals of ecology. Cengage Learning India Pvt. Ltd., New Delhi. 5th edition.
2. Singh, J.S., Singh, S.P., Gupta, S. (2006). Ecology Environment and Resource Conservation. Anamaya Publications, New Delhi, India.
3. Sharma, P.D. (2010). Ecology and Environment. Rastogi Publications, Meerat, India. 8th edition.
4. Wilkerson, D.M. (2007). Fundamental Processes in Ecology: An Earth Systems Approach. Oxford University Press. U.S.A.
5. Kormondy, E.J. (1996). Concepts of ecology. PHI Learning Pvt. Ltd., Delhi, India. 4th edition.

Keywords:

Green chemistry, Twelve principles of green chemistry, Atom economy, Waste minimization, Green metric, Green solvents, Solvent free, Catalyst, Bio-catalyst, Renewable energy sources, Hazardous, Renewable feedstock, Ionic liquids, Supercritical fluids, Inherent safer design, Green synthesis, Co-crystal controlled solid state synthesis, Sustainable development, Presidential green chemistry awards.

Course Code: CHEMISTRY –DSE-9**Course Title: Industrial Chemicals and Environment****Total Credits: 06****(Credits: Theory-04, Practical-02)****(Total Lectures: Theory- 60, Practical-60)**

Objectives:

The objective of this course is to make students aware about the concepts of different gases and their industrial production, uses, storage and hazards. Manufacturing, applications, analysis and hazards of the Inorganic Chemicals, Preparation of Ultra-Pure metals for semiconducting technology, Air and Water pollution, control measures for Air and Water Pollutants, Catalyst and Biocatalyst, Energy and Environment.

Learning Outcomes:**By the end of this course students will be able to understand:**

- The different toxic gases and their toxicity hazards
- Safe design systems for large scale production of industrial gases.
- Manufacturing processes, handling and storage of inorganic chemicals.
- Hazardous effects of the inorganic chemicals on human beings and vegetation.
- The requirement of ultra-pure metals for the semiconducting technologies
- Composition of air, various air pollutants, effects and control measures of air pollutants.
- Different sources of water, water quality parameters, impacts of water pollution, water treatment.
- Different industrial effluents and their treatment methods.
- Different sources of energy.
- Generation of nuclear waste and its disposal.
- Use of biocatalyst in chemical industries.

Unit 1:

Industrial Gases: Large scale production, uses storage and hazards in handling of the following gases: oxygen, nitrogen, argon, neon, helium, hydrogen, acetylene, carbon monoxide, chlorine, fluorine, and sulphur dioxide.

(Lectures: 6)**Unit 2:**

Inorganic Chemicals: Manufacture, applications, analysis and hazards in handling the following chemicals: hydrochloric acid, nitric acid, sulphuric acid, caustic soda, borax, bleaching powder, sodium thiosulphate, hydrogen peroxide, potassium dichromate and potassium permanganate

(Lectures: 10)

Unit 3:

Industrial Metallurgy: Preparation of ultrapure metals for semiconductor technology.

(Lectures: 4)

Unit 4:

Environment and its segments:

Ecosystems. Biogeochemical cycles of carbon, nitrogen and sulphur.

Air Pollution: Major regions of atmosphere, chemical and photochemical reactions in atmosphere.

Air pollutants: types, sources, particle size and chemical nature; Photochemical smog: its constituents and photochemistry. Major sources of air pollution, Pollution by SO₂, CO₂, CO, NO_x, H₂S and other foul smelling gases, methods of estimation of CO, NO_x, SO_x and control procedures, Effects of air pollution on living organisms and vegetation

Greenhouse effect and Global warming, Environmental effects of ozone, Ozone depletion by oxides of nitrogen, chlorofluorocarbons and halogens, Air pollution control, Settling Chambers, Venturi Scrubbers, Cyclones, Electrostatic Precipitators (ESPs).

(Lectures:15)

Unit 5:

Water Pollution:

Hydrological cycle, water resources, aquatic ecosystems, Sources and nature of water pollutants, Techniques for measuring water pollution, Impacts of water pollution on hydrological cycle and ecosystems. Water purification methods. Effluent treatment plants (primary, secondary and tertiary treatment). Industrial effluents from the following industries and their treatment: electroplating, textile, tannery, dairy, petroleum and petrochemicals, agro fertilizer.

Sludge disposal. Industrial waste management, incineration of waste.

Water treatment and purification (reverse osmosis, electro dialysis, ion exchange).

Water quality parameters for wastewater, industrial water and domestic water.

(Lectures:15)

Unit 6:

Energy & Environment: Sources of energy: Coal, petrol and natural gas. Nuclear fusion / fission, solar, hydrogen, geothermal, tidal and hydel.

Nuclear Pollution: Disposal of nuclear waste, nuclear disaster and its management.

Biocatalysis: Introduction to biocatalysis: Importance in green chemistry and chemical industry.

(Lectures: 10)

Practical:

(Credits: 2, Laboratory periods: 60)

Chemistry Lab: Industrial Chemicals & Environment

1. Determination of dissolved oxygen in water.
2. Determination of Chemical Oxygen Demand (COD).
3. Determination of Biological Oxygen Demand (BOD).
4. Percentage of available chlorine in bleaching powder.
5. Measurement of chloride, sulphate and salinity of water samples by simple titration method (AgNO₃ and potassium chromate).
6. Estimation of total alkalinity of water samples (CO₃²⁻, HCO₃⁻) using double titration method.
7. Measurement of dissolved CO₂.
8. Determination of hexavalent Chromium Cr(VI) concentration in tannery wastes/waste water sample using UV-Vis spectrophotometry technique.
9. Preparation of borax/ boric acid

References:

Theory

1. Manahan, S.E. (2017), **Environmental Chemistry**, CRC Press
2. Buchel, K.H.; Moretto, H.H.; Woditsch, P.(2003), **Industrial Inorganic Chemistry**, Wiley-VCH.
3. De, A.K.(2012), **Environmental Chemistry**, New Age International Pvt., Ltd.
4. Khopkar, S.M.(2010), **Environmental Pollution Analysis**, New Age International Publisher.

Practical

1. Vowles, P.D.; Connell, D.W. (1980), **Experiments in Environmental Chemistry: A Laboratory Manual**, Vol.4, Pergamon Series in Environmental Science.
2. Gopalan, R.; Anand, A.; Sugumar R.W. (2008), **A Laboratory Manual for Environmental Chemistry**, I. K. International.

(xii) ENVIRONMENTAL ECONOMICS

Course Description

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

Course Outline

1. Introduction

What is environmental economics; review of microeconomics and welfare economics.

2. The Theory of Externalities

Pareto optimality and market failure in the presence of externalities; property rights and the coase theorem.

3. The Design and Implementation of Environmental Policy

Overview; pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

4. International Environmental Problems

Trans-boundary environmental problems; economics of climate change; trade and environment.

5. Measuring the Benefits of Environmental Improvements

Non-Market values and measurement methods; risk assessment and perception.

6. Sustainable Development

Concepts; measurement.

Readings:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, -Environmental Economics: A Survey, *Journal of Economic Literature*, Volume 30:675-740.

1. Disaster Management

1. Disasters: Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification
2. Disasters in India: (a) Flood: Causes, Impact, Distribution and Mapping; Landslide: Causes, Impact, Distribution and Mapping; Drought: Causes, Impact, Distribution and Mapping
3. Disasters in India: (b) Earthquake and Tsunami: Causes, Impact, Distribution and Mapping; Cyclone: Causes, Impact, Distribution and Mapping.
4. Manmade disasters: Causes, Impact, Distribution and Mapping
5. Response and Mitigation to Disasters: Mitigation and Preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During and Post Disasters

Reading List

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir (2007) "Disaster Management Future Challenges and Oppurtunities", 2007. Publisher- I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

9. Environmental Geography

1. Environmental Geography – Concept and Scope
2. Human-Environment Relationships – Historical Progression, Adaptation in different Biomes.
3. Ecosystem – Concept, Structure and Functions
4. Environmental Problems in Tropical, Temperate and Polar Ecosystems
5. Environmental Programmes and Policies – Global, National and Local levels

Reading List

1. Chandna R. C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
2. Cunningham W. P. and Cunningham M. A., 2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: *The Nature of the Environment*, Blackwell, Oxford.
4. Mal, Suraj., and Singh, R.B. (Eds.) (2009) *Biogeography and Biodiversity*. Rawat Publication, Jaipur
5. Miller G. T., 2004: *Environmental Science: Working with the Earth*, Thomson BrooksCole, Singapore.
6. MoEF, 2006: *National Environmental Policy-2006*, Ministry of Environment and Forests, Government of India.
7. Singh, R.B. and Hietala, R. (Eds.) (2014) *Livelihood security in Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India*. *Advances in Geographical and Environmental Studies*, Springer
8. Odum, E. P. et al, 2005: *Fundamentals of Ecology*, Ceneage Learning India.
9. Singh S., 1997: *Environmental Geography*, Prayag Pustak Bhawan. Allahabad.
10. UNEP, 2007: *Global Environment Outlook: GEO4: Environment For Development*, United Nations Environment Programme.
11. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) *Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1*. *Advances in Geographical and Environmental Studies*, Springer
12. Singh, R.B. (1998) *Ecological Techniques and Approaches to Vulnerable Environment*, New Delhi, Oxford & IBH Pub..
13. Singh, Savindra 2001. *Paryavaran Bhugol*, Prayag Pustak Bhawan, Allahabad. (in Hindi)

5. Climate Change: Vulnerability and Adaptation

1. Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment- IPCC
2. Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability; Social Vulnerability
3. Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health
4. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia.
5. National Action Plan on Climate Change; Local Institutions (Urban Local Bodies, Panchayats)

Further Readings

1. IPCC. (2007) Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.
2. IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
3. IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
4. Palutikof, J. P., van der Linden, P. J. and Hanson, C. E. (eds.), Cambridge University Press, Cambridge, UK.
5. OECD. (2008) Climate Change Mitigation: What Do we Do? Organisation and Economic Co-operation and Development.
6. UNEP. (2007) Global Environment Outlook: GEO4: Environment for Development, United Nations Environment Programme.
7. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer
8. Sen Roy, S. and Singh, R.B. (2002) Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions, Oxford & IBH Pub., New Delhi.

14. Disaster Management based Project Work (Practical)

The Project Report based on any two field based case studies among following disasters and one disaster preparedness plan of respective college or locality:

1. Flood
2. Drought
3. Cyclone and Hailstorms
4. Earthquake
5. Landslides
6. Human Induced Disasters: Fire Hazards, Chemical, Industrial accidents

Reading List

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 3
5. Singh, R. B. (ed.), (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi.
7. Stoltman, J.P. et al. (2004) International Perspectives on Natural Disasters, Kluwer Academic Publications. Dordrecht.
8. Singh Jagbir (2007) "Disaster Management Future Challenges and Opportunities", 2007. Publisher-I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

Paper 11: Women's Writing

1. Emily Dickinson 'I cannot live with you'
'I'm wife, I've finished that'
Sylvia Plath 'Daddy'
'Lady Lazarus'
Eunice De Souza 'Advice to Women'
'Bequest'
2. Alice Walker *The Color Purple*

11

24
2/2/2017

12

3. Charlotte Perkins Gilman 'The Yellow Wallpaper'
Katherine Mansfield 'Bliss'
Mahashweta Devi 'Draupadi', tr. Gayatri Chakravorty Spivak (Calcutta: Seagull, 2002)
4. Mary Wollstonecraft *A Vindication of the Rights of Woman* (New York: Norton, 1988) chap. 1, pp. 11–19; chap. 2, pp. 19–38.
Pandita Ramabai 'A Testimony of our Inexhaustible Treasures', in *Pandita Ramabai Through Her Own Words: Selected Works*, tr. Meera Kosambi (New Delhi: OUP, 2000) pp. 295–324.
Rassundari Debi Excerpts from *Amar Jiban* in Susie Tharu and K. Lalita, eds., *Women's Writing in India*, vol. 1 (New Delhi: OUP, 1989) pp. 192–202

Suggested Topics and Background Prose Readings for Class Presentations

Topics

The Confessional Mode in Women's Writing
Sexual Politics
Race, Caste and Gender
Social Reform and Women's Rights

Readings

1. Virginia Woolf, *A Room of One's Own* (New York: Harcourt, 1957) chaps. 1 and 6.
2. Simone de Beauvoir, 'Introduction', in *The Second Sex*, tr. Constance Borde and Sheila Malovany-Chevallier (London: Vintage, 2010) pp. 3–18.
3. Kurnkum Sangari and Sudesh Vaid, eds., 'Introduction', in *Recasting Women: Essays in Colonial History* (New Delhi: Kali for Women, 1989) pp. 1–25.
4. Chandra Talapade Mohanty, 'Under Western Eyes: Feminist Scholarship and Colonial Discourses', in *Contemporary Postcolonial Theory: A Reader*, ed. Padmini Mongia (New York: Arnold, 1996) pp. 172–97.

Paper 5: Contemporary India: Women and Empowerment

1. Social Construction of Gender (Masculinity and Femininity)
Patriarchy
2. History of Women's Movements in India (Pre-independence, post independence)
Women, Nationalism, Partition
Women and Political Participation
3. Women and Law
Women and the Indian Constitution

30

31

Personal Laws(Customary practices on inheritance and Marriage)
(Supplemente! by workshop on legal awareness)

4. Women and Environment
State interventions, Domestic violence, Female foeticide, sexual harassment
Female Voices: *Sultana's Dream*. Rokeya Sakhawat Hossain, "Sultana's Dream" *Sultana's Dream and Padmarag: Two Feminist Utopias*, New Delhi: Penguin, 2005. (1-15)

Dalit Discourse: "Baby Kondiba Kamble: *Jinne Amuche*" pg.194-225 and "Vimal Dadasaheb More: *Teen Dagdachi Chul*" pg. 344-386 in *Writing Caste/ Writing Gender: Narrating Dalit Women's Testimonios*, ed. Sharmila Rege, New Delhi: Zubaan Books, 2006.

Suggested Readings:

Social Construction of Gender

Ann Oakley. *Sex, Gender and Society*. London: Temple Smith, 1972.
Kamala Bhasin. *What is Patriarchy?* New Delhi: Kali for Women, 1993.
Kamala Bhasin. *Exploring Masculinity*, New Delhi: Women Unlimited, 2004.
V. Geetha. *Gender*. Calcutta: Stree, 2002.
Kate Millet. *Sexual Politics*. New York: Doubleday, 1970.

**DEPARTMENT OF ENVIRONMENTAL STUDIES
UNIVERSITY OF DELHI**

Environmental Studies*
(Six-month Module for Undergraduate Courses)

Unit 1 : Introduction to environmental studies

- Multidisciplinary nature of environmental studies
- Scope and importance
- Need for public awareness.

(2 lectures)

Unit 2 : Ecosystems

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Energy flow in an ecosystem: food chains, food webs and ecological pyramids.
- Ecological succession.
- Case studies of the following ecosystems :
 - a) Forest ecosystem
 - b) Grassland ecosystem
 - c) Desert ecosystem
 - d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

(6 lectures)

Unit 3 : Natural Resources : Renewable and Non-renewable Resources

- Land resources and land use change : Land as a resource, land degradation, landslides (natural & man-induced), soil erosion and desertification.
- Forests & forest resources : Use and over-exploitation, deforestation, case studies.
- Impacts of deforestation, mining, dam building on environment, forests, biodiversity and tribal populations.
- Resettlement and rehabilitation of project affected persons; problems and concerns, case studies
- Water resources: Use and over-exploitation of surface and ground water, floods, drought, conflicts over water (international & inter-state).
- Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

(8 lectures)

Unit 4 : Biodiversity and Conservation

- Levels of biological diversity : genetic, species and ecosystem diversity.
- Biogeographic zones of India
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational values
- Biodiversity patterns and global biodiversity hot spots
- India as a mega-biodiversity nation; Endangered and endemic species of India
- Threats to biodiversity : Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions.
- Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

(8 lectures)

Unit 5 : Environmental Pollution

- What is environmental pollution and its types?
- Causes, effects and control measures of :
 - a) Air pollution

- b) Water pollution – freshwater and marine
- c) Soil pollution
- d) Noise pollution
- e) Thermal pollution
- Nuclear hazards and human health risks
- Solid waste management : Control measures of urban and industrial waste.
- Role of an individual in prevention of pollution.
- Pollution case studies.

(8 lectures)

Unit 6 : Environmental Policies & Practices

- Concept of sustainability and sustainable development.
- Water conservation & watershed management.
- Climate change, global warming, acid rain, ozone layer depletion.
- Disaster management : floods, earthquake, cyclones and landslides.
- Wasteland reclamation.
- 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.
- Environment: rights and duties.

(7 lectures)

Unit 7 : Human Population and the Environment

- Population growth, demographic variation among nations.
- Environment, human health and welfare; infectious and lifestyle diseases in contemporary world.
- Value Education: Environmental ethics.
- Environmental communication and public awareness, case studies.

(6 lectures)

Unit 8 : Field work

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

(Equal to 5 lectures)

Suggested Further Readings:

- 1 Brunner RC, 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480pgs.
- 2 Carson, Rachel. 1962. Silent Spring (Boston: Houghton Mifflin, 1962), Mariner Books, 2002
- 3 Cheney, J. 1989. Postmodern environmental ethics. *Environmental Ethics* 11: 117-134.
- 4 Economy, Elizabeth. 2010. The River Runs Black: The Environmental Challenge to China's Future.
- 5 Gadgil, M. & Ramachandra, G. 1993. *This fissured land: an ecological history of India*. Univ of California Press.
- 6 Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge.
- 7 Gleick, H.P. 1993. Water in Crisis, Pacific Institute for Studies in Development.
- 8 Environment and Security. Stockholm Environmental Institute, Oxford University Press.
- 8 Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. Principles of conservation biology.

Sunderland: Sinauer Associates, 2006.

- 9 Grumbine, R. Edward, and Pandit, M.K. Threats from India's Himalaya dams. *Science* 339.6115 (2013): 36-37.
- 10 Heywood V.H. & Watson, R.T. 1995. *Global Biodiversity Assessment*. Cambridge University Press.
- 11 McCully, P. 1996. *Silenced rivers: the ecology and politics of large dams*. Zed Books.
- 12 McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
- 13 Norton, B. G. 1984. Environmental ethics and weak anthropocentrism. *Environmental Ethics* 6: 131-148.
- 14 Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
- 15 Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic press, 2011.
- 16 Philander, S. George (Ed.). (2012). *Encyclopedia of global warming & climate change*. (2nd ed., Vols. 1-3). Thousand Oaks, CA: SAGE Publications, Inc.
- 17 Rao MN and Datta AK, 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
- 18 Raven, P.H., David M. H., & Linda R. B. *Environment*. De Boeck, 2009.
- 19 Reaka-Kudla, Marjorie L., Don E. Wilson, and Edward O. Wilson, eds. 1996. *Biodiversity II: understanding and protecting our biological resources*. Joseph Henry Press.
- 20 Ricklefs, R. E., & Miller, G.L. 2000. *Ecology*. W. H. Freeman, New York.
- 21 Robbins, P. 2012. *Political ecology: A critical introduction*. John Wiley & Sons.
- 22 Rosencranz, A., Divan, S. & Noble, M.L.. *Environmental law and policy in India*. 2001. Tripathi 1992.
- 23 Rothmun, H.K. 1998. *The Greening of a Nation? Environmentalism in the United States since 1945*.
- 24 Sengupta, R. 2003. *Ecology and economics (OUP): An approach to sustainable development.*" *OUP Catalogue*.
- 25 Singh, J.S., Singh, S.P. and Gupta, S.R. 2006. *Ecology, Environment and Resource Ecology, Environment and Resource Conservation*. Anamaya Publishers.
- 26 Sodhi, N.S., Gibson, L. & Raven, P.HG. (eds). 2013. *Conservation biology: voices from the Tropics*. John Wiley & Sons.
- 27 Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
- 28 Van Leeuwen, C. J., & Vermeire, T. G. 2007. *Risk assessment of chemicals*.
- 29 Warren, C.E. 1971. *Biology and water pollution control*.
- 30 Wilson, E. O. 2006. *The creation: An appeal to save life on earth*. New York: Norton.
- 31 World Commission on Environment and Development. 1987. *Our Common Future*. Oxford: Oxford University Press.

***Note:** The course is uploaded as sent by the Department concerned. The scheme of marks and number of periods/lectures will be determined by the University and will be corrected in the syllabus according to Academic Council and Executive Council Minutes (dated 19th July 2014) and guidelines framed by the Course Implementation Committee, University of Delhi. Editing, typographical changes and formatting will be undertaken further.

Undergraduate Programme Secretariat

सेमेस्टर-3

(3.3)

HCC-7 : हिंदी कहानी

इकाई-1

- | | | |
|----------------|---|----------------------|
| 1. उसने कहा था | - | बंद्रधर शर्मा गुलेरी |
| 2. घूस की रात | - | प्रेमचंद |
| 3. छोटा जदून | - | प्रसाद |

इकाई-2

- | | | |
|----------------|---|-----------------|
| 4. पावेल | - | वैशेन्द्र कुमार |
| 5. तीसरी कसम | - | कणी अरविध रेणु |
| 6. पीफ की दावत | - | भीरम साहनी |

इकाई-3

- | | | |
|------------------|---|--------------|
| 7. परिवे | - | निर्मल वर्मा |
| 8. दोपहर का भोजन | - | अमरकांत |
| 9. सिकका बदल गया | - | कृष्णा खेवती |

इकाई-4

- | | | |
|-----------------|---|----------------|
| 10. जंगल जातकम् | - | का गिनाथ सिंह |
| 11. चापसी | - | उषा प्रियंवदा |
| 12. घुसपैटिले | - | ओमप्रकाश शर्मा |

सहायक ग्रंथ

- संकलित निबंध - जलिन किलोचन शर्मा
- 'एक दुनिया समाधानतर' - राजेन्द्र पादव
- 'कहानी : नई कहानी' जमवर सिंह
- नई कहानी की भूमिका - कमलेश्वर
- हिंदी कहानी का इतिहास - खेचल राय

(ख) अस्मितामूलक विमर्श और हिंदी साहित्य

इकाई-1 : विमर्शों की सैद्धांतिकी

- (क) दलित विमर्श : अक्बारणा और आंदोलन, फूले और अम्बेडकर
- (ख) स्त्री विमर्श : अक्बारणाएँ और मुक्ति आंदोलन (पारखत्य और भारतीय) ईडिकल, मार्क्सवादी, उदारवादी आदि, यौनिकता, लिंगभेद, पिढूमता, समलैंगिकता
- (ग) आदिवासी विमर्श : अक्बारणा और आंदोलन जल, जंगल, जमीन और पहचान का सवाल

इकाई-2 : विमर्शमूलक कथा साहित्य :

- 1. आंमदकाश काल्पीक - सलाम,
- 2. हरियम पीण - धूनी तपे तीर, पृष्ठ संख्या 158-167
- 3. नासिरा शर्म - खुदा की वापसी

इकाई-3 : विमर्शमूलक कविता :

- (क) दलित कविता : अहूतानंद (दलित कहीं तक पहुँचे रहेंगे), मणीम सिंह (किलनी ज्यथा) सात प्रसाद (सोनेवा का पिंजरा)
- (ख) स्त्री कविता : 1. कीर्ति चौधरी : सीमा रेखा 2. काल्याणी : सात भाइयों के बीच चम्मक 3. सविता सिंह : 'मैं किसकी औरत हूँ?'

इकाई-4 : विमर्शमूलक अन्य गद्य विधाएँ :

- 1. प्रभा खेतान, पृष्ठ 28-42 : अन्या से अन्या तक
- 2. तुलसीराम मुर्दिया (चौधरी चन्दा से प्रारंभ; पृष्ठ संख्या 125 से 135)
- 3. साहदेवी वर्मा : 'स्त्री के अर्थ स्वातंत्र्य का प्रश्न'

सहायक ग्रंथ :

- निमोन र बंडवा - स्त्री उर्पेक्षता

सेमेस्टर-5

(5.2)

HCC-12 : हिन्दी नाटक/एकांकी

इकाई-1	:	भारत दुर्देश - भरतेन्दु
इकाई-2	:	भुवस्वामिनी - जयशंकर प्रसाद
इकाई-3	:	बकरी - सर्वेश्वर दत्तल मकसेना
इकाई-4	:	शेषदान - रामकुमार वर्मा
		स्ट्राइक - भुवनेश्वर
		सूखी हाली - उपेन्द्रनाथ अग्रक
		तीन अमाहिन - विपिन कुमार अग्रवाल

सहायक ग्रंथ

- नाटककार भारतेन्दु की रंग-परिकल्पना - सत्येंद्र तनेजा
- आधुनिक हिन्दी नाटक और रंगमंच - सच. बंमिचंद जैन
- हिन्दी एकांकी की शिल्पविधि का विकास - सिद्धनाथ कुमार
- हिन्दी नाटक : उद्भव और विकास - दशरथ शंभू
- हिन्दी के प्रतीक नाटक - रमेश गौतम
- हिन्दी नाटकों में विद्रोह की परम्परा - किरणचंद भार्गव
- जयशंकर प्रसाद : एक पुनर्मूल्यांकन - विनोद साही
- प्रसाद के नाटक : स्वरूप और संरचना - गोविंद चातक
- हिन्दी नाटक का आत्मसंघर्ष - गिरिश रस्तोगी
- नई रंगचेतना और हिन्दी नाटककार - जयदेव तनेजा
- नई रंगचेतना और बकरी - कुसुम लता
- एकांकी और एकांकीकार - रामचरण महेंद्र