

### **1.3.1 Criteria**

**At present in the Calcutta University Syllabus there are several topics related to cross cutting issues which are relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability.**

### **Political Science DSE**

#### **DSE(H)-1: Gender and Politics**

##### **Module I**

I. Groundings 1. Patriarchy a. Sex-Gender Debates b. Public and Private c. Power 2. Feminism 3. Family, Community, State a. Family b. Community c. State

##### **Module II**

II. Movements and Issues 1. History of the Women's Movement in India 2. Violence against women 3. Work and Labour a. Visible and Invisible work b. Reproductive and care work c. Sex work

### **Education**

#### **DSE – A (Semester – 6)**

Gender and Society Objectives: • To understand the basic terms, concepts used in gender studies. • To understand the gender discrimination in construction and dissemination of knowledge. • To develop an awareness and sensitivity.

Unit: 1 = Gender Concepts Definition of Gender and difference with sex Gender Dynamics: Gender identity; Gender role and gender stereotype Social Construction of Gender

Unit: 2 = Gender Socialization Childhood, socialization and gender biases in the family and school Social Differentiation among women in educational context by caste, tribe, religion and region Gender discrimination in the management of the school and education system.

Unit: 3 = Gender roles Gender Roles and Relationships Matrix Gender based division and Valuation of Work Exploring Attitudes towards Gender Unit:

4 = Gender inequality in the schools Gender inequality in the structure of knowledge Presentation of gender in the development of curriculum and text books. Dynamics of gender in the classroom in reference to girl friendly school, co-education and single sex schooling.

#### **DSE – B (Semester – 6) Women Education Objectives:-**

- To know the historical perspectives of Women Education

- To know the Policy Perspectives and Committees and Commissions on Women Education
- To know the role of Indian thinkers towards Women Education
- To identify major constraints of Women Education and Women Empowerment.

Unit: 1 = Historical Perspectives of Women Education Synoptic view of women education through the ages: Vedic, Brahmanic, Medieval Period Contribution of Missionaries Role of British Govt.

Unit: 2 = Policy Perspective, Committee and Commission on Women Education Constitutional provision, NPE -1968, 1986, 1992, POA-1992 Radhakrishnan, Mudaliar and Kothari Commission Durgabai Deshmukh Committee, Hansraj Mehta Committee and Bhaktabatsalam Committee

Unit: 3 = Role of Indian Thinkers in promoting Women Education Rammohan Roy Vidyasagar

Unit: 4 = Major Constraints of Women Education and Women Empowerment Social – Psychological Political – Economical Role of women empowerment in modern society (in brief.)

**Environmental Studies Semester-2 Total Marks-100(Credit -2) (50 Theory-MCQ type + 30 Project + 10 Internal Assessment + 10 Attendance) [Marks obtained in this course will be taken to calculate SGPA & CGPA] Theory**

Unit 1 Introduction to environmental studies 2 lectures •Multidisciplinary nature of environmental studies; •Scope and importance; Concept of sustainability and sustainable development.

Unit 2 Ecology and Ecosystems 6 lectures •Concept of ecology and ecosystem, Structure and function of ecosystem; Energy flow in an ecosystem; food chains, food webs; Basic concept of population and community ecology; ecological succession. •Characteristic features of the following: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries)

Unit 3 Natural Resources 8 lectures • Concept of Renewable and Non-renewable resources • Land resources and land use change; Land degradation, soil erosion and desertification. •Deforestation: Causes, consequences and remedial measures •Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). •Energy resources: Environmental impacts of energy generation, use of alternative and nonconventional energy sources, growing energy needs.

Unit 4 Biodiversity and Conservation 8 lectures •Levels of biological diversity: genetic, species and ecosystem diversity; • Biogeographic zones of India; 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. •Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit 5 Environmental Pollution 8 lectures • Environmental pollution: concepts and types, • Air, water, soil, noise and marine pollution- causes, effects and controls • Concept of hazards waste and human health risks • Solid waste management: Control measures of Municipal, biomedical and e-waste.

Unit 6 Environmental Policies and Practices 7 lectures •Climate change, global warming, ozone layer depletion, acid rain and their impacts on human communities and agriculture •Environment Laws: Wildlife Protection Act; Forest Conservation Act. Water (Prevention and control of Pollution) Act; Air (Prevention & Control of Pollution) Act; Environment Protection Act; Biodiversity Act. •International agreements: Montreal Protocol, Kyoto protocol and climate negotiations; Convention on Biological Diversity (CBD). •Protected area network, tribal populations and rights, and human wildlife conflicts in Indian context.

Unit 7 Human Communities and the Environment 6 lectures •Human population growth: Impacts on environment, human health and welfare. •Case studies on Resettlement and rehabilitation. • Environmental Disaster: Natural Disasters-floods, earthquake, cyclones, tsunami and landslides; Manmade Disaster- Bhopal and Chernobyl. •Environmental movements: Bishnois, Chipko, Silent valley, Big dam movements. •Environmental ethics: Role of gender and cultures in environmental conservation. •Environmental education and public awareness

Project/ Field work Equal to 5 lectures •Visit to an area to document environmental assets: Natural resources/flora/fauna, etc. •Visit to a local polluted site-Urban/Rural/Industrial/Agricultural. •Study of common plants, insects, fish, birds, mammals and basic principles of identification. •Study of ecosystems-pond, river, wetland, forest, estuary and agro ecosystem. Total 50 Lectures

**Paper: PHS-A SEC-B-TH**

**Renewable energy and Energy Harvesting (Theory)**

### **1. Fossil fuels and Alternate Sources of energy 5 Lectures**

Fossil fuels and nuclear energy, their limitation, need of renewable energy, non-conventional energy sources. An overview of developments in Ocean shore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

**2. Solar energy 5 Lectures** Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, role of maximum power point tracking for harvesting maximum energy and sun tracking systems.

**3. Wind Energy harvesting 4 Lectures** Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies. (only idea of synchronisation, current injection, islanding etc with utility grid)

**4. Ocean Energy 4 Lectures** Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass.

### **5. Geothermal Energy 2 Lectures**

Geothermal Resources, Geothermal Technologies.

### **6. Hydro Energy 2 Lectures**

Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

### **7. Piezoelectric Energy harvesting 3 Lectures**

Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications.

**8. Electromagnetic Energy Harvesting 3 Lectures (a)** Linear generators, physics mathematical models, recent applications (b) Carbon captured technologies, cell, batteries, power consumption. (c) Environmental issues and Renewable sources of energy, sustainability.

**9. Fuel cell 2 Lectures** Introduction, Design principle and operation of fuel cell, Types of fuel cells, conversion efficiency of fuel cell, application of fuel cells

### **Organic farming, SEC in Sem 3 (Botany)**

Organic farming- green manuring and organic fertilizers, recycling of biodegradable municipal, agricultural and industrial wastes- biocompost making methods, types and methods of vermicomposting- field application.

### **Crop improvement techniques & Application, SEC in Sem 4 (Botany)**

Methods of crop improvement: Introduction- centres of origin and domestication of crop plants, plant genetics resources; acclimatization, selection methods- for self pollination, cross pollinated and vegetatively propagated plants, hybridization- for self, cross and vegetatively propagated plants, procedure, advantages and limitations.

## Value Education

### Philosophy SEC (G) 4.

#### Value Education (80 Credits)

- A. Meaning, Characteristics, significance and objectives of Value education (20)
- B. Values in different contexts: Individual, Social, Cultural, Moral and Global and Spiritual. (20)
- C. Meaning and Characteristics of Peace education (10)
- D. Aims and Objectives of Peace Education (10)
- E. Types of peace education (10)
- F. Peace and Value education in Global Perspective (10)

### Discipline Specific Elective Course [\[Economics\]](#) (DSE -A)

#### BA/BSc (General)

#### Name of the Course: Sustainable Development (SD)

1. **The Approach Towards Sustainability-Introductory ideas** 15 lecture hours Key environmental issues and problems, economic way of thinking about these problems, circular flow of environmental pollutants and waste recycling-laws of thermodynamics, renewable and non-renewable resources-the issue of sustainability
2. **The meaning of Sustainable Development** 25 lecture hours Different definitions of sustainable development, rules of sustainable development, measures of sustainable development, sustainable management of resources-the role of property rights, stakeholders associated with sustainable management of different types of renewable resources, fishery, forestry and water, the concept of sustainable livelihood in the context of sustainable resource management.
3. **Trans-boundary pollution, climate change and sustainable development** 15 lecture hours Implementation of environmental policies in developing countries and international experience; transboundary environmental problems-international meetings, protocols and treaties; economics Page 68 of 75 of climate change-basic ideas of the carbon credit market-clean development mechanism and international emission trading.
4. **Sustainable Resource Management Policies in India** 20 lecture hours Water policy, forestry policy and fishery policy of India. Basic objectives of the policies along with goals and visions.

## Education

SEC (G) 4. Value Education (80 Credits) A. Meaning, Characteristics, significance and objectives of Value education (20) B. Values in different contexts: Individual, Social, Cultural, Moral and Global and Spiritual. (20) C. Meaning and Characteristics of Peace education (10) D. Aims and Objectives of Peace Education (10) E. Types of peace education (10) F. Peace and Value education in Global Perspective (10)

### Education and Development of values

#### Unit 4 = SEM II/CC4

Philosophy for development of humanity

Education and development of values

Education for national integration

Education for international understanding

Education for promotion of peace and harmony

#### DSE – A (Semester – 5) Peace and Value Education Objectives:

To know the concept of peace education • To understand peace and non-violence • To develop the concept of value education • To understand peace, value and conflict resolution

Unit: 1 = Peace Education Concept and Scope of Peace Education Aims of peace Education Role of Teachers in Promoting Peace education NCFTE 2009 on Peace Education

Unit: 2 = Peace and Non Violence Factors of Violence Role of Peace for Non-Violence Gandhian principle of Non Violence Role of Educational Institutional in Promoting Peace education

Unit: 3 = Value Education Meaning , Definition, Concept of Value Education Classification of Values and Sources of Values Need For Value education in the 21st Century Fostering Values – Role of Home, School and Society.

Unit: 4 = Peace, Value and Conflict Resolution Bases of conflict Role of Value Education in resolving conflict

#### ETHICS

#### Core Course (H)12 Ethics (Indian) (90 Credits)

A. Introduction: Concerns and Presuppositions, Concept of Sthitaprañjña, Karmayoga: (Gīta) Puruṣārthas and their inter-relations. ( 20)

B. Meaning of Dharma, Concept of ṛṇa and ṛta. Classification of Dharma: sādharmaṇadharma and Asadharana Dharma, Varnasrama Dharma (20)

C. Vidhi and Niṣedha (12)

D. Buddhist Ethics: Pancaśīla, Brahmavihārabhāvanā (Bauddha) Anubrata, Mahābrata, Ahimsā. (10)

E. Jaina Ethics: anubrata, mahābrata (8)

F. Mimāṃsa Ethics: nitya naimittika karma and kāmya karma, the imperative in kāmya karmas and in kāmya karmas involving hiṃsā. (20)

## **COMMERCE SEM IV (Business Ethics)**

**Unit 1: Business Ethics No. of classes: 8 / Marks: 8** Introduction – Meaning - Scope – Types of Ethics – features – Factors influencing Business Ethics – significance of Business Ethics - Arguments for and against business ethics- Basics of business ethics - Corporate Social Responsibility and Business Ethics

**Unit 2: Principles of Business Ethics No. of classes: 8 / Marks: 8** Introduction – Meaning – Element – Ethics, Morale, Business ethics, Ethical dilemma [basic idea, features and significance of each of element]

**Unit 3: Ethics in Management No. of classes: 8 / Marks: 8** Introduction – Ethics in HRM – Ethics in Marketing — Ethics in Accounting and finance - Work place Ethics - Value and Ethics.

**Unit 4: Corporate Culture No. of classes: 8 / Marks: 8** Meaning – Role – Functions – Impact of Corporate Culture – Globalization and cross culture issues in ethics, Corporate Code of ethics

**Unit 5: Ethics & Corporate Governance No. of classes: 8 / Marks: 8** Concept of Corporate Governance, Scope, Reports on Corporate Governance and its benefits and limitations-- Corporate Governance and Business Ethics [Brief Concept]