



Crosscutting Issues Environment & Sustainability

B. A. Part - I
DSE (Discipline Specific Elective) - I Geography
June 2018 onwards

Physical Geography



Preamble: This paper intends to acquaint the students with various dimensions of, as also the challenges, confronting the physical geography. The Geography students of B. A. Part-I can betterly understand all latest concepts in Physical Geography and Human Geography in brief but in adequate manner.

The objective of this course is to introduce the latest concepts in Physical Geography and Human Geography, Specifically in Atmosphere, Lithosphere, Fluvial Cycle, Hydrosphere, Human races, Population growth, Characteristics of Population and Settlements.

Semester - I

	Teaching Hours	Credits
Module – I Introduction to Physical Geography	15	01
1.1 Meaning and Definitions		
1.2 Scope of Physical Geography		
1.3 Branches of Physical Geography		
1.4 Importance of Physical Geography		
Module- II Atmosphere	15	01
2.1 Composition and Structure of Atmosphere		
2.2 Insolation: Factors affecting on Insolation		
2.3 Temperature: Distribution of temperature (Vertical and Horizontal)		
2.4 Atmospheric Pressure: Belts and Planetary Winds.		
Module – III Lithosphere	15	01
3.1 Interior of the earth		
3.2 Wagner's Continental Drift Theory		
3.3 Earthquakes – Causes and Effects		
3.4 Volcano – Causes and Effects		
Module – IV Denudation	15	01
4.1 Weathering: Concept and Types		

Indian Economy - II



Preamble : This paper intends to acquaint the students with various dimensions of as also the challenges, confronting the Indian economy. It endeavors to provide useful insights to the students about the present economic standing and composition of the Indian economy, the major sectors and their relative importance in the Indian economy and the major challenges faced by it

- Objectives :**
1. To acquaint the students with the policies and performance of major sectors in Indian Economy.
 2. To explain the economic reforms introduced in India since 1991.

Semester – II

Module – I Policies and Performance in Agriculture	Teaching Hours 15	Credits 01
1.1 Changing role of agriculture in Indian Economy 1.2 Agricultural productivity : concepts, causes of low agricultural productivity and its measures. 1.3 Green Revolution : Causes, Success and failure, Need of 2nd Green Revolution. 1.4 Agricultural Pricing and Procurement		
Module - II Policies and Performance in Industry	15	01
2.1 Need of Industrialization 2.2 Industrial Policy since 1991 2.3 Problems and prospects of Cottage and Small scale Industries 2.4 Foreign Investment Policies since 1991		
Module – III Service Sector in India	15	
3.1 Growing importance of service sector 3.2 Significance of Banks, financial Institutions and Insurance 3.3 Importance of IT, Transport, Communication. 3.4 Importance of Tourism.		
Module – IV Economic Reforms	15	01
4.1 Liberalization : Concept, Implementation and Impact on Indian Economy. 4.2 Privatization : Concept, Implementation and Impact on Indian Economy. 4.3 Globalization : Concept, Implementation and Impact on Indian Economy. 4.4 Recent export promotion policy.		

B. Sc. Part – I Semester –II

ZOOLOGY

DSC – 16 B (Genetics)

Theory: 30 hrs. (37.5 lectures of 48 minutes)

Marks-50 (Credits: 02)



Genetics

Unit: 1

Introduction to Genetics

(3hrs.)

Mendel's work on transmission of traits, Genetic Variations, Molecular basis of Genetic Information

Mendelian and post Mendelian Genetics

(8hrs.)

Principles of Inheritance, Incomplete dominance and co-dominance, gene interaction, Multiple alleles w.r.t. ABO, Rh blood groups and coat colour in rabbit, sex linked inheritance.

Linkage, Crossing Over

(4hrs.)

Linkage and process of crossing over, Coupling and repulsion theory, Cytological evidence of crossing over.

Unit 2:

Mutations

(8hrs.)

Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy, induced gene mutation.

Sex Determination

(7hrs.)

Chromosomal theory, Genic balance theory, Haploidy-Diploidy mechanism, Environmental

Theory

Total Periods – 30 hrs



UNIT-I

1. Energy and Wind Energy

(8 hrs)

Energy, Forms of energy, Man and environment, Energy chains, Classification of energy resources, Energy demands, Age of renewable and alternatives, Wind energy, Wind energy chains, Wind energy quantum, Planning of wind farm, Wind power density, Efficiency factor of wind turbine (P-H graph), Power of wind turbine for a given incoming wind velocity, Types of a wind turbine generator unit, Horizontal axis propeller type wind turbine generator unit.

2. Solar Energy

(8 hrs)

Solar energy, Solar energy spectrum (UV, Visible and IR), Utilization of solar energy-thermal route, photovoltaic route, Essential subsystems in solar energy plant, Solar constant, Clarity index, Solar insolation, Solar energy from satellite station through microwave to earth station, Solar photovoltaic systems, Merits and limitations of solar PV systems, Prospects of solar PV systems, Power of a solar cell and solar PV panel.

3. Biomass Energy

(2 hrs)

Origin of biomass, Biomass energy resources (biomass from cultivated crops, biomass from waste organic matter), Biomass conversion process (biochemical conversion-anaerobic digestion and fermentation)

UNIT-II

1. Superconductivity

(6 hrs)

Idea of superconductivity, Critical temperature, Critical magnetic field, Meissner effect, Type-I and Type-II superconductors, London equation and penetration depth, Isotope effect, Application (magnetic levitation)

2. Nanotechnology

(12 hrs)

Introduction to nanoscience and nanotechnology, Length scales relevant to nanoscience, Nanostructures: 1D, 2D and 3D nanostructures, Size effects in nanosystems, Quantum

द्वितीय सत्र : विशेष ऐच्छिक प्रश्नपत्र -II

हिंदी गद्य साहित्य



अध्ययनार्थ गद्य पाठ :

इकाई -I 1. जीवन और शिक्षण (निबंध) - विनोबा भावे

2. सूरदास (निबंध) - बाबू श्यामसुंदर दास

3. विज्ञापन युग (निबंध) - मोहन राकेश

इकाई -II 4. भगत की गत (व्यंग्य) - हरिशंकर परसाई

5. हिंदुत्व के कलाकार (व्यंग्य) - शरद जोशी

6. मोक्षदाता और सरपंच (व्यंग्य) - शंकर पुणताबेकर

इकाई -III 7. गोवर्द्धन (कहानी) - फणीश्वरनाथ रेणु

8. चौक की दासत (कहानी) - भीष्म सहानी

9. अकेली (कहानी) - मन्नू भंडारी

इकाई -IV 10. सरकार और भावना (एकांकी) - विष्णु प्रभाकर

11. राज्या (चित्र) - रामवृक्ष बेनीपुरी

12. विज्ञान के घर से (यात्रा संवाद) - मधु काकरिया

B. A. Part III – Political Science - Semester – VI

Semester VI, Paper No. XII DSE E- 201

Title of the Paper: Modern Political Concepts

**Course Outcome**

1. Student will know modern concepts such as Feminism, Multiculturalism, Environmentalism and Civil Society etc.
2. This will enable students to have comprehensive idea of contemporary scenario in political science.

Sr. No.	Unit No. and Title of the Unit	Teaching Hours	Credits
1.	Unit – 1. : Feminism I. Meaning, Origin and Development of Feminism. II. Characteristic of Feminism III. Theories of Feminism	15	01
2.	Unit – 2. Multiculturalism I. Meaning and Development of Multiculturalism II. Will Kymlicka's theory of Multiculturalism III. Nationalism and Multiculturalism	15	01
3.	Unit – 3. Environmentalism I. Origin and Causes of Environmentalism II. Characteristics of Environmentalism III. International Efforts for protection of Environment IV. Global Warming	15	01
4.	Unit – 4. Civil Society I. Meaning and Development of Civil Society II. Civil Society—Liberalism and Political Economy III. Locke, Hegel, Marx and Antonio Gramsci on Civil Society IV. Post Colonialism and Civil Society	15	01

Recommended Books:

- 1 Kymlicka Will, Multicultural Citizenship :Liberal Theory of Minority Rights, Clarendon Press, 1995
- 2 Kymlicka Will, Contemporary Political Philosophy, Oxford, 2001
3. Bhargava Rajeev and Acharya Ashok, Political Theory : An Introduction, 1st. Edition, Pearson, New Delhi, 2008
- 4 राठी शुभांगी डी. आधुनिक राजकीय विचारप्रणाली, अथर्व, घुळे, 2014
- 5 भार्गव राजीव , आचार्य अशोक, (संपा.) राजकीय सिद्धांत परिचय (अनुवाद: हेमंत खानझोडे) पिअर्सन , नवी दिल्ली, 2011
- 6 खेडेकर दिगंबर , राजकीय सिद्धांतातील मुलभूत संकल्पना, चिन्मय , औरंगाबाद, 2009
- 7 भागवत वंदना , संदर्भासहित स्वीवाद
- 8 भागवत विद्युत , स्वीवादी सामाजिक विचार : सहा महत्वाच्या विचारवंत स्त्रियांचा परिचय, डायमंड, पुणे, 2008

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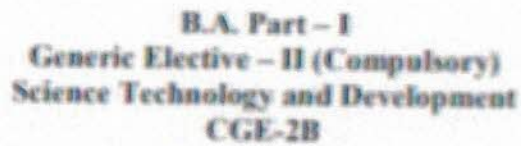


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The objective of this course is to introduce the latest concepts in Science Technology and Development, Specifically in Fundamental concept in scientific thinking, Contribution of Eminent Scientist, Non Conventional Power Resources of India Disaster Management, communication and Information Technology Space Research and Defense and Ocean Research.

Teaching Hours	Credits
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Module - I Disaster Management	15	01
1.1 Types of Disaster		
1.2 Earthquake		
1.3 Flood		
1.4 Drought		
1.5 Fire		
1.6 Accident		
1.7 Crowd		
Module -II Means of Communication and Information Technology	15	01
2.1 A Brief History of Communication		
2.2 Origin Development and Importance of Computer		
2.3 Computer Network		
2.4 Internet		
2.5 Computer Viruses		
2.6 Information Technology		
Module – III Science Technology in Space Research	15	01
3.1 Beginning of Satellite Era in the World		
3.2 Rocket Technology		
3.3 Artificial Satellite – Types and Usages		
3.4 Satellite Programme of India		
3.5 Introduction of: a) Geographical Information System (GIS) b) Geographical Positioning System (GPS)		
Module – IV Science Technology in India's Defence and Ocean Research	15	01
4.1 Science Technology in National Defence		
4.2 Defence Research and Development Organization (DRDO)		