**Syllabus**

**BA (Hons) Geography**

**Programme**

**[Applicable w.e.f. Academic Session 2015]**



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| --- | --- |
|  |  |

**School of Humanities and Social Sciences**

**BA (HONS) GEOGRAPHY PROGRAMME**

**Introduction:-**

Geography is the study of the relationship between man and nature. And now with this relationship becoming an issue of concern all over the world, there is a great demand for geographers, who can guide through various developmental projects, use and create the best technology to track natural resources and prepare the world against natural disasters and calamities. The course deals with not only the geographical features of India but also the earth’s feature and its population. Various fields like study of the feature of soil, climate. plantations etc will be coved in this course. This course will enrich the students about the geography of the world as a whole.

**Advantages or Benefits of Doing Bachelor of Arts Honors in Geography:-**

After completion of the course students can look for job both in private and public sector. Those interested to do higher studies have option for that too. There are a lot of job openings in colleges or universities, NGO’s, Government departments etc. But it is always preferred to do a masters degree as it will be difficult to get a job with a mere degree certificate.

**Eligibility Criteria for B.A. (Hons) (Geography) program:-**

All those students who have completed their 10+2 can apply for BA Geography. The minimum pass percentage mark is 60%.

Job and career options for B.A. (Hons) (Geography)

* Forest Mangers
* Agricultural Specialists
* Cartographers
* Regional and Urban Planners
* GIS and Remote Sensing Specialists
* Demographers
* Urban Planner
* Climatologist
* Environment Manager
* Transpiration Manager
* Teacher
* Tourist Guide Translator
* Regional and Urban Planner
* Companies Manager
* Cartographer
* Mining Supervisor
* Geographer
* IAS,IPS & PCS officer

Some of the employment areas are:

* Colleges/Universities
* Travel Journalism
* Travel and Tourism
* Solid Waste Disposal
* Rural Development Departments
* Oil Drilling
* Mining Industry
* Government Research Institutes
* Gas Exploration Companies
* Environment Protection Agencies
* Agricultural Research
* Indian Civil Services

**SURESH GYAN VIHAR UNIVERSITY**

**Teaching and Examination Scheme for BA Hons. Geography (Regular)**

**(3 Year Program) Edition 2015**

**YEAR: 1 SEMESTER: 1**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of Course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
|  | GEO-101 | Geomorphology | PC | 3024 | 3 | 40 | 60 |
|  | GEO-103 | Climatology | PC | 3024 | 3 | 40 | 60 |
|  | GEO-105 | Hydrology and Oceanography | PC | 3024 | 3 | 40 | 60 |
|  | GEO-107 | Economic geography | PC | 3024 | 3 | 40 | 60 |
|  |  | Paper 1(Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
|  | EN 103 | English Language I | UC | 2002 | 3 | 40 | 60 |
|  | DC101 | Proficiency in co curricular Activities | **UC** | **0002** |  | 100 |  |
|  |  | **Total**  |  |  |  |  |  |

**YEAR: 1 SEMESTER: 2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of Course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
| 1. | GEO-102 | Analytical physical geography | PC | 3024 | 3 | 40 | 60 |
| 2. | GEO-104 | Oceanography | PC | 3024 | 3 | 40 | 60 |
| 3. | GEO-106 | Map Interpretation and Survey with Instruments (practical) | PC | 3024 | 3 | 40 | 60 |
| 4. | GEO-108 | Geography of settlements | PC | 3024 | 3 | 40 | 60 |
| 5. |  | Paper 2 (Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
| 6. | ES 101 | Environmental Studies | UC | 2002 | 3 | 40 | 60 |
|  | EM 101 | Employability Skills | **UC** | **1001** | - | 100 |  |
|  | DC 102 | Proficiency in co curricular Activities | **UC** | **0002** |  | 100 |  |
|  |  | **Total**  |  |  |  |  |  |

**SURESH GYAN VIHAR UNIVERSITY**

**Teaching and Examination Scheme for BA Hons. Geography (Regular)**

**(3 Year Program) Edition 2015, effective 2016**

**YEAR: 2 SEMESTER: 3**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
|  | GEO-201 | Geography of population | PC | 3024 | 3 | 40 | 60 |
|  | GEO-203 | Environmental geography | PC | 3024 | 3 | 40 | 60 |
|  | GEO-205 | Remote sensing (practical) | PC | 3024 | 3 | 40 | 60 |
|  | GEO-207 | Urban geography | PC | 3024 | 3 | 40 | 60 |
|  |  | Paper 3 (Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
|  | CP 105 | Elementary Computers | UE | 2023 | 3 | 40 | 60 |
|  | PC 201 | Proficiency in co curricular Activities | **UC** | **0002** | - | 100 |  |
|  |  | **Total** |  |  |  |  |  |
|  |  | **Total Teaching Load** |  |  |  |  |  |

**YEAR: 2 SEMESTER: 4**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of Course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
| 1. | GEO-202 | Geography of natural resources | PC | 3024 | 3 | 40 | 60 |
| 2. | GEO-204 | Spatial dimensions of development | PC | 3024 | 3 | 40 | 60 |
| 3. | GEO-206 | Statistical methods in geography (practical) | PC | 3024 | 3 | 40 | 60 |
| 4. | GEO-208 | Geography of India | PC | 3024 | 3 | 40 | 60 |
| 6. |  | Paper 4 (Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
| 5. | **EM 202** | Employability Skills | UC | 0201 | - | 100 |  |
|  | PC 202 | Proficiency in co curricular Activities | **UC** | **0002** | - | 100 |  |
|  |  | **Total** |  |  |  |  |  |
|  |  | **Total Teaching Load** |  |  |  |  |  |

**SURESH GYAN VIHAR UNIVERSITY**

**Teaching and Examination Scheme for BA Hons. Geography (Regular)**

**(3 Year Program) Edition 2015, effective 2017**

**YEAR: 3 SEMESTER: 5**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
| 1. | GEO-301 | Evolution of geographical thought | PC | 3024 | 3 | 40 | 60 |
| 2. | GEO-309 | Field techniques(practical) | PC | 3024 | 3 | 40 | 60 |
| 3. | GEO-303 | Agricultural geography | PC | 3024 | 3 | 40 | 60 |
| 4. | GEO-305 | Biogeography | PC | 3024 | 3 | 40 | 60 |
| 5. |  | Paper 5(Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
| 6. |  | Paper 6 (Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
|  | EM 301 | Employability skills | **UC** | **0201** | - | 100 |  |
|  | PC 301 | Proficiency in co curricular Activities | **UC** | **0002** |  | 100 |  |
|  |  | **Total Teaching Load** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**YEAR: 3 SEMESTER: 6**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Nature of course** | **Credits****LTPC** | **Exam Hrs.** | **Weight age (in %)** |
|  | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |
| 1. | GEO-302 | Social geography | PC | 3024 | 3 | 40 | 60 |
| 2. | GEO-304 | Geographical information system(practical) | PC | 3024 | 3 | 40 | 60 |
| 3. | GEO-306 | Political Geography | PC | 3024 | 3 | 40 | 60 |
| 4. | GEO-308 | Geography of tourism  | PC | 3024 | 3 | 40 | 60 |
| 5. |  | Paper 7(Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
| 6. |  | Paper 8 (Subsidiary Subject) | UE | 3024 | 3 | 40 | 60 |
|  | EM 302 | **Employability Skills** | **UC** | **0201** | - | 100 |  |
|  |  | **Total** |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

 **L = Lecture T = Tutorial CE = Continuous Evaluation**

 **S = Seminar P = Practical ESE = End Semester Examination**

**Students will have to choose anyone of the following subsidiary subject.**

**List of Subsidiary Subject Economics**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Credits** | **Contact Hrs/Wk.** | **Exam Hrs.** | **Weight age (in %)** |
| **L** | **T/S** | **P** | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |  |  |
| Sem1. | ECO-101 | Introduction to Micro Economics | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem2. | ECO-104 | Money banking and Financial Systems | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem3. | ECO-205 | International Economics | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem4 | ECO-206 | Development and Growth Economics | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem5 | ECO-311 | Labour Economics | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem5 | ECO-309 | Relative Economics and sustainable development | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem6 | ECO-302 | Indian Economic Laws & Infrastructure  | 4 | 3 | 1 |  - | 3 | 40 | 60 |
| Sem6 | ECO-312 | Agriculture and rural Economics | 4 | 3 | 1 |  - | 3 | 40 | 60 |

**Papers of Pubic Administration to studies in various semesters as Subsidiary Subject**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sem 1 | PAD-101 | Elements of Public Administration | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem2. | PAD-104 | Indian Administration  | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem3. | PAD-207 | State and District Administration | 4 | 3 | 1 | - | 3 | 40 | 60 |
| Sem4 | PAD-206 | International Issues in Public Administration | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem5 | PAD-309 | Citizen and Administration | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem5 | PAD-303 | Public Relations | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem6 | PAD-302 | Global Politics | 4 | 3 |  1 | - | 3 | 40 | 60 |
| Sem6 | PAD-304 | Political Institution and Processes in Corporate processes. | 4 | 3 |  1 | - | 3 | 40 | 60 |

**List of Subsidiary paper of Psychology**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Course Code** | **Course Name** | **Credits** | **Contact Hrs/Wk.** | **Exam Hrs.** | **Weight age (in %)** |
| **L** | **T/S** | **P** | **CE** | **ESE**  |
|  |   | **A. Theory** |  |  |  |  |  |  |  |
| Sem1. | PSY-101 | Foundations of Psychology | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem2. | PSY-106 | Child and Adolescent Development | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem3 | PSY-205 | Life style and Health | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem4 | PSY-206 | Clinical Psychology | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem5 | PSY-301 | Abnormal Psychology | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem5 | PSY-309 | Counseling Psychology | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem6 | PSY-302 | Counselling Psychology  | 4 | 3 |  - |  2 | 3 | 40 | 60 |
| Sem7 | PSY-304 |  Psychology of Social Issues | 4 | 3 |  - |  2 | 3 | 40 | 60 |

**SURESH GYAN VIHAR UNIVERSITY**

**LIST OF COURSES for BA Hons. Geography (Regular)**

**(3 Year Program) Edition 2015**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Name** | **Credits** | **Contact Hrs/Wk.** | **Exam Hrs.** | **Weight age (in %)** |
| **L** | **T/S** | **P** | **CE** | **ESE**  |
|   | **A. Theory** |  |  |  |  |  |  |  |
| GEO-101 | Geomorphology | 4 | 3 |  | 2 | 3 | 40 | 60 |
| GEO-103 | Climatology | 4 | 3 |  |  -2 | 3 | 40 | 60 |
| GEO-105 | Hydrology and Oceanography | 4 | 3 |  |  2 | 3 | 40 | 60 |
| GEO-107 | Economic geography | 4 | 3 |  |  2 | 3 | 40 | 60 |
|  | Paper 1(Subsidiary Subject) | 4 | 3 |  |  - | 3 | 40 | 60 |
|  | Language English | 3 | 3 | - |  - | 3 | 40 | 60 |
| GEO-102 | Analytical physical geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-104 | Oceanography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-106 | Map Interpretation and Survey with Instruments (practical) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-108 | Geography of settlements | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | Paper 2 (Subsidiary Subject) | 4 | 3 | - | 2 | 3 | 40 | 60 |
|  | Environmental Studies | 2 | 2 |  - | - | 3 | 40 | 60 |
| GEO-201 | Geography of population | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-203 | Environmental geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-205 | Remote sensing (practical) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-207 | Urban geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | Paper 3 (Subsidiary Subject) | 4 | 3 | - | 2 | 3 | 40 | 60 |
|  | Computer Fundamental | 3 | 3 |  - | - | 3 | 40 | 60 |
|  | Discipline & Extra curricular Activities | **2** |  |  | - | - | 100 |  |
| GEO-202 | Geography of natural resources | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-204 | Spatial dimensions of development | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-206 | Statistical methods in geography (practical) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-208 | Geography of India | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | Soft Skills | 3 | 3 | - | - | 3 | 40 | 60 |
|  | Paper 4 (Subsidiary Subject) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-301 | Evolution of geographical thought | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-309 | Field techniques(practical) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-303 | Agricultural geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-305 | Biogeography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | Paper 5(Subsidiary Subject) | 4 | 3 | - | 2 | 3 | 40 | 60 |
|  | Paper 6 (Subsidiary Subject) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-302 | Social geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-304 | Geographical information system(practical) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-306 | Political Geography | 4 | 3 |  - | 2 | 3 | 40 | 60 |
| GEO-308 | Geography of tourism  | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | Paper 7(Subsidiary Subject) | 4 | 3 | - | 2 | 3 | 40 | 60 |
|  | Paper 8 (Subsidiary Subject) | 4 | 3 |  - | 2 | 3 | 40 | 60 |
|  | **Total** | **2** |  |  | - | - | 100 |  |
|  | **Total Teaching Load** | **26** | **18** | **-** | 12 |  |  |  |
|  |  |  | **24** |  |  |  |  |  |

 **L = Lecture T = Tutorial CE = Continuous Evaluation**

 **S = Seminar P = Practical ESE = End Semester Examination**

**GEOMORPHOLOGY**

Unit I: Geotectonics

1.1 Origin of the Earth with particular reference to Big Bang Theory; Geological time scale and related topographic and structural evolution

1.2 Isostasy: Airy and Pratt

1.3 Folds and Faults—origin, types and their topographic expressions

1.4 Plate Tectonics: plate tectonic processes--sea floor spreading, subduction, orogenesis, earthquake and vulcanicity

Unit II: Geomorphology

2.1 General degradational processes: processes of rock weathering and their effects on landform

2.2 Fluvial processes and landforms

2.3 Glacial processes and landforms; fluvio-glacial landforms

2.4 Aeolian processes and landforms; fluvio-aeolian processes

Unit III: Geomorphology and Structure

3.1 Basic concepts of Geomorphology as postulated by Thornbury

3.2 Landforms on granite and basalt

3.3 Landforms on limestone

3.4 Development of river network and landforms on uniclinal and folded structure

Unit IV:Theories of Geomorphology

4.1 Normal cycle of erosion by W.M.Davis

4.2 Views of W. Penck on normal cycle of erosion

Unit IV:Theories of Geomorphology

5.1 Cycle of Pediplanation by L.C.King

5.2 Dynamic Equilibrium theory by J.T. Hack

**Climatology**

Unit I: Atmospheric Layers and Thermal Variation

1.1 Nature, composition and layered structure of the atmosphere

1.2 Factors controlling insolation ; heat budget of the atmosphere

1.3 Horizontal and vertical distribution of temperature; Inversion of temperature

1.4 Green house effect and importance of ozone layer

Unit II: Atmospheric Layers and Wind Circulation

2.1 Global atmospheric pressure belts and their oscillation

2.2 General wind circulation

2.3 Jet stream and index cycle

2.4 Monsoon mechanism with reference to jet stream

Unit III: Precipitation and Air mass

3.1 Processes and forms of condensation

3.2 Mechanism and forms of precipitation- Ice Crystal theory, Collision-coalescence

3.3 Airmass: typology, origin and characteristics

3.4 Warm and cold fronts; frontogenesis and frontolysis

Unit IV: Weather Disturbance and Climatic Classification

4.1 Tropical cyclone

4.2 Mid-latitude cyclone and anti-cyclone

Unit V: Climatic Classification

5.1 Climatic classification after Koppen

5.2 Climatic Classification after Thornthwaite: 1931 and 1948

**Hydrology and Oceanography**

Unit I: Surface Hydrology

1.1 Definition, scope and content of Hydrology

1.2 Global hydrological cycle: its physical and biological role

1.3 Drainage basin as a hydrological unit

1.4 Run off: controlling factors--infiltration, evaporation and transpiration; Run off cycle

Unit II: Groundwater Hydrology

2.1 Physical properties of ground water

2.2 Chemical properties of ground water

2.3 Components, factors, and processes controlling storage and movement of ground water

2.4 Types of aquifers and issues related to their over utilization

Unit III: Ocean Water

3.1 Physical properties of ocean water

3.2 Chemical properties of ocean water

3.3 Concept of water mass; Waves, Tides and their influence

3.4 Ocean currents and their influence

Unit IV: Ocean Basins

4.1 Oceanic sediments: origin and classification

4.2 Coral reefs and atolls: types and factors, coral and volcanic islands

Unit V

5.1 Major features of the ocean floor: formation explained by Plate Tectonics

5.2 Resource potential of the oceans

**ECONOMIC GEOGRAPHY**

Unit I: RESOURCES

1.1Concept and classification of resources: Economic and Environmental approaches to resource utilization.

1.2 Resource depletion and resource conservation; Forrester-Meadows model on Limits to Growth; Sustainable use of resources

1.3 Land as resource; Problems of land acquisition in developing countries; Development of EPZ and SEZ; Land reforms in India with special reference to Rajasthan .

1.4 Global scenario of resource related problems and trend of management with reference to Iron Ore, Bauxite, Coal, Petroleum and Nuclear power

Unit II: PRIMARY ACTIVITIES

2.1 Primary activities: Concept, classification and importance.

2.2 World view of primary activities-- problems and trend of management with reference to forestry, fishing and livestock farming.

2.3 Critical appreciation of agricultural systems: Intensive agriculture (Rice), Extensive agriculture (Wheat), Plantation farming (Tea) and Mixed farming (NW Europe).

2.4 Land use and Agricultural models: L.D.Stamp ,Von Thunen and Weaver

Unit III: SECONDARY ACTIVITIES

3.1 Secondary activities: concept, classification and importance

3.2 Factors of industrial location; industrial location and economic growth models: Weber, Losch and Gunner Myrdal

3.3 Industries-- their resource base, distribution, potentials of growth and problems with reference to Iron and steel (UK, Japan, and India), Cotton textile (USA and India), Petrochemicals (USA and India) and Food processing (India).

3.4 Industrial association, integration, infrastructure and problems with reference to Lake District, Kanto Plains, and Kolkata-Haldia.

Unit IV: TERTIARY ACTIVITIES

4.1 Tertiary activities and service: concept, classification and importance

4.2 Trade: as an engine and hindrance to growth, determinants, trade strategies – import substitution and export promotion.

Unit V:World organization

5.1 International trade: Ricardian theory, international trade with reference to GATT and WTO.

5.2 Transport: concept of distance, accessibility and connectivity relative cost advantage of different modes of transport;

 **Physical Geography**

**Unit 1: Geomorphology**

1. Structure of the interior of the earth.

2. Influence of rocks on topography

3. Broad outline of Plate Tectonics and major crustal formations: Fold mountains, trenches, island-arcs.

4. Evolution of landforms under Flu vial, Marine and Aeolian processes

**Unit 2: Climatology**

1. Insolation and Heat Budget

2. Horizontal and Vertical distribution of temperature and pressure

3. Greenhouse effect

4. Tropical disturbances: Thunderstorm and Cyclone

**Unit 3: Bio-geography**

1. Origin of soils.

2. Processes of Profile development

3. Properties of soil : Physical and Chemical

4. Concept of Zonal, Azonal and Intrazonal soils

**Unit 4**

1.Concepts of Ecosystems and Biomes

2. Plant types and distribution (Halophyte, Xerophyte, Hydrophyte, Mesophyte,Tropophyte)

3. Plant and animal communities of the following biomes:

i) Tropical rainforest

ii) Savannah

iii) Hot desert

**Unit 5**

1Cycle of erosion (after Davis)

2. Monsoon mechanism

3.Climatic classification after Koppen

**Oceanography**

**Unit 1:**

1. Nature and scope of Oceanography.
2. Temperature, Salinity and Density of sea water.

Unit 2:

1 Ocean Currents: Pacific, Atlantic and Indian Ocean

2.Bottom Topography: Pacific, Atlantic and Indian Ocean.

Unit 3

1 Formation Characteristics and Theories of origin of coral reefs.

**2**  Definition and stages of Remote Sensing. EMR and its spectral ranges.

Unit 4:

1. Types of Resolution in RS,Concept of FCC. Remote Sensing Platforms and Sensors – ANDSAT,SPOT and IRS.
2. Concept of aerial photography and photogrammetry. Type of aerial photographs. Photo -interpretation keys: Shape, Size, Tone, Colour, Texture, Pattern, Shadow, Site and Association

Unit 5

 1. Fundamental concepts of GIS . Use of RS data in GIS. Raster and Vector data format. Data Analysis : Visual and Digital Techniques of Image Interpretation. Global Positioning System. Role of RS and GIS in mo dern Cartography

2 Application areas of RS and GIS in managing Agriculture, Forestry, Fishing and Water Resources. Monitoring Urban Growth and Environmental Degradation

**Map Interpretation and Survey with Instruments**

UNIT-1 :

1.Topographical Sheet

2 Principles of toposheet numbering as followed by Survey of India

UNIT2

1 Thorough study of plateau region on toposheet of 1:50,000 scale

2 Morphometric techniques in 10 x 12 cm area : Relative relief (after Smith), Average slope (after Wentworth), Drainage density and grid-wise Road density with interpretation

UNIT 3

1. Drawing and analysis of profiles and transect chart with interpretation

2. Analysis of landforms and correlation between physical and cultural elements under the heads of: relief, drainage, natural vegetation, settlements and transport

UNIT 4

1.Survey with instruments

2.Contouring by leveling along radial line by a Dumpy Level: at least three radial lines to be set out from a common centre and their relative position to be obtained by measurement of magnetic bearing and/or included angle by Prismatic Compass

UNIT 5

1. Preparation of Level Book

2. Longitudinal /profile leveling by Dumpy Level

3 Closed traverse survey by Prismatic

**Geography of Settlement**

Unit I:

1.Population Dynamics

2.Factors influencing spatial distribution and density of population

3.Population growth: global trends and patterns

4.Population structure: Age and Sex specific

5.Population composition: Economic and Ethnic

Unit II:

1. Demographic Attributes
2. Determinants and Measures of Fertility, Morbidity and Mortality; Migration
3. Theories of Population Growth: Malthus and Marx
4. Demographic Transition Model
5. Population- Resource Region (as per Zelinsky)

Unit III:

1. Settlements
2. Definition, nature and characteristics of rural settlements
3. Morphology of rural settlements: site and situation, layout-internal and external
4. Rural house types with reference to India

Unit IV:

1. Census definition and categories in India

2. Urban morphology: Classical models-Burgess,

Unit V:

1. Comparison between Urban Settlements and rural Settlements

2. Social segregation in rural areas; Census categories of rural settlements