SAURASHTRA UNIVERSITY

STRUCTURE OF THE COURSES

OF

SUBJECT : GEOGRAPHY

M.A./M.SC. ALL SEMESTER
(Revised Syllabus in Force from: June-2016)
<table>
<thead>
<tr>
<th>Sr No</th>
<th>Level</th>
<th>Sem</th>
<th>Course Group</th>
<th>Course (Paper) Title</th>
<th>Course (Paper) No</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical /Viva Marks</th>
<th>Total Marks</th>
<th>Course (Paper) Unique Code</th>
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<td>Dissertation/ Field work</td>
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</table>
Note:
1. Each paper and practical consist of 100 marks external and 30 marks internal.
2. Each semester consists of 4 Theory, 1 practical.
3. Figures at the end of each topic of all the courses (Theory and Practical) indicate tentative number of lecture to be delivered on respective topic of theory paper or exercise to be conducted in case of Practical.
4. Students can Carry Stencil Maps in the Examination.
5. Drawing maps and diagrams necessary in each papers.

Teaching Programme and Conditions:

1. The total number of courses to be offered by a student will be 20, spread over four semesters. All the 20 courses will be University Courses.
2. Each theory and practical course will be covered in at least 45 lectures. There shall be four periods each of 55 minutes per week, per theory course.
3. There will be a continuous assessment of the student through class tests and/or seminars and home assignments.
4. There shall be a batch of 15 students for each Practical Course. There shall be Three Practical of six (6) hours duration, per week, per practical course.
5. The students will have to declare the option for Dissertation at the beginning of the 3rd semester.
6. The students will maintain a journal for all the practical courses and it will be certified by Head of the Department and will be reassessed at viva-voce. In the semester-end examination, the viva-voce (10) and journal (20) will carry 30 marks.
Course Objective

The objective of the course is to familiarize the students with the need for understanding of geomorphology with reference to certain fundamental concepts, focusing on the unity of geomorphology in the earth materials and the processes with or without an elements of time process component. Geomorphology is the segmented into the internal and external processes of landscape evolution.

Course Content

Unit - 1


Unit-2


Unit-3

Factors controlling landforms Development- Endogenetic forces – Epiorogenic and Orogenic movement, Compression, Tension , Folds-Type and Landforms, Fault-Types and Landforms.

Unit-4

Evolution of continent and ocean- Wegener’s Continental Drift Theory, Plate Tectonics,

Suggested Readings
Subject: Geography  
Course (Paper) Name & No: Regional Geography of India-I Paper No-2 (Physical Division)

Course (Paper) Unique Code: CORE  
Course Exam Time Duration: 45 Lectures

<table>
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<th>Name of Course</th>
<th>Semester</th>
<th>Core/ Elective/ Practical</th>
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<th>Paper Title</th>
<th>Credit</th>
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<th>External Marks</th>
<th>Practical/ Viva/ Exam. Marks</th>
<th>External Exam. Time Duration</th>
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<td>30</td>
<td>70</td>
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<td>2.15 hrs</td>
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Course Objectives:

To understand India in terms of various regional divisions, their important characteristics, Intra-regional and inter-regional linkages; to analyze the natural resource endowments, their conservation and management; to sensitize the students with development issues and policies and Programmes designed for regional development.

Course Content

Unit-1

Location & Space Relations, Topographic- Structure, relief and Physiographic Divisions of India, Drainage system of India, Climate types-Regional variations

Unit-2

Soil Resource- Soil types and distribution, problems, and their remedies. Natural Vegetation - Classification, types and distribution pattern of forests. Live stock in India.

Unit-3

Water Recourses-water resources of India and their utilization, Distribution of irrigated areas and sources of irrigation, main canals of India, Multi purpose projects and their classification.

Unit-4

Energy Resources - scenario on India, source of energy (Conventional and non conventional energy).

Suggested Readings :

5. Sinha B. M. : Industrial Geography of India (World Press Pvt. LTD. Calcutta)
6. Bharangar L. P. : Transport in Modern India (Kishore Publishing House - Kanpur)
7. Prasan Amba : Indian Railways (Asia Publishing House)
10. Wadia D. N. : Minerals of India (National Book Turst)
14. Deshpande C. D. : India a Regional Interpretation (ICSSR & Northern Book Centre - 1992)
Subject: Geography  
Course (Paper) Name & No : Philosophy of Geographic Thought Paper No-3

Course (Paper) Unique Code  ELECTIVE-1  1601300202010100  
Course Exam Time Duration : 45 Lectures

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<td>30</td>
<td>70</td>
<td>Exam. Marks 100</td>
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**Course Objectives:**

This introductory paper is intended to acquaint the students with distinctiveness of geography as a field of learning in social science as well as in natural science. The philosophy, History and methodology of the subject is discussed in such away that students develop a keen interest in the subject and pursue it for higher studies.

**Course Content**

**Unit-1**

Geography as a scientific discipline, science and Philosophy of geography, Basic concept of Geography, Dualism and Dichotomy - Dualism in geography, Environmental Determinism, Possibilism, Neo-Determinism and Probabilism,

**Unit-2**

Contribution of classical geographers Greeks and Roman Geographers (600-BC to 300 AD), Early Medieval Geographers and contributions by Arab Geographers (300 AD to 1200 AD), Late Medieval Geographers – Renaissance (About 1250 AD to 1700 AD)

**Unit-3**

18th Century Geography, Politic – Statistical Geography, Reine Geography, Scientific Methods, Philosophical Methods and Classification of Geography, Geographers of the 19th Century, Classical period of Geography,

**Unit-4**

German School of Geographic Thought, French school of Geographic Thought. The British, The American and the soviet schools of Geography.
Recent trends -1950 onwards - change in methodology and explanation, quantitative revolution, Development of laws, theories and models (Concentric Zone Theory, Von Thunen Theory, Walter Christaller’s Theory).

Suggested Readings :
18. Mandal, R. B., Recent Trends in Geography, Concept, New Delhi.
Subject: Geography
Course (Paper) Name & No: Urban Geography Paper No-4

Course (Paper) Unique Code: ELECTIVE-2 1601300302010100
Course Exam Time Duration: 45 Lectures

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Course Objectives:
The objectives of this course is to make the students understand the process of urbanization and origin, growth and classification of urban settlements with relevant theories and models; Examine the changing economic base and structure of the contemporary cities; Relate urbanization process and the evolution of urban system; Examine the contemporary urban issues and suggest new urban planning and urban policy perspectives.

Course Content:

Unit - I:
Urban geography: Meaning, definition and scope of urban geography, Relationship of urban geography with other disciplines. Approaches to the study of urban geography.

Unit - II:
Urban growth: Factors affecting origin and evolution of urban, stages of urban growth. Site and situation of urban: Meaning and essential elements of site and situation, Factors affecting the site and situation of urban, classification of the site and situation of urban. Central place theory of chris taller, theories of urban internal structure (concentric zone theory, sector theory and multiple nuclei theory)
Unit - III:

Urban morphology: Definition, constituents and factors affecting urban morphology, types of urban lat – out plan, problems of improvement and reconstruction of urban lay – out, outer Shape of urban. Urban Planning: meaning, definition and aims of urban planning, types of urban planning, Concepts of urban planning, urban planning in India.

Unit - IV:

Urban Problems: environmental, transport, water, electricity, healthy and other.

Urban Slums: Definition, characteristics and responsible factors the Slums, effects and remedy of slums.

Selected Readings

6. Dwyer, D. J. (Ed.). The City as a Centre of Change in Asia, University of Hong Kong Press, Hongkong, 1971.
Subject: Geography
Course (Paper) Name & No : Advanced Cartography (Practical) Paper No-5

Course (Paper) Unique Code PRACTICAL 1601300602010100
Course Exam Time Duration : 45 Lectures

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Note :

1. One practical of Five hours duration.
2. The Course shall be covering three practical sessions per week. Each practical session shall be of two periods each period of 1(one) hours.
3. Diagramic Representation of Statistical Data using population, agriculture, industry and transportation data

Course Content

Unit-1 –
Cartography – Nature and Scope, Scales - Concept and application, Conversion of Scale, Representative Fraction, Construction of Plain, Comparative and Diagonal Scales.

Unit -2
Relief and Climatic Diagrams – Cross Profile, Long Profile, Indivisibility of Terrain Study and Exercise on Contour Maps-Slope and Gradients. Profiles: i) superimposed ii) projected iii) composite iv) longitudinal profile v) Transverse Profile

Unit-3
Introduction to Survey of India (SOI) Toposheet, Numbering, Scale, Grid Reference, Signs and Symbols, Study and Interpretation of SOI

Unit -4
Field report Recorded in Journal. & viva-Voce

Note-
1 Candidate shall record their practical working the journal and the journal duly certified by the professor In -charge and the certificate should be produced at the time of examination. Candidates who have no journal or completed the
practical should not be appear at the Examination.

2. Draw and interpretation of diagrams and use

3. 100 marks Paper external, paper no internal marks.

4. Scheme of Evolution yearly
   a) Practical Exam-70
   b) Viva-Voce and journal - 20+10=30 Marks
   c) Time - 5 Hours

**Suggested Readings:**

1. Singh. R.L: Elements of Practical Geography
3. Singh and Dutt : Elements of Practical Geography (Students friend - Allahabad)
4. Monkhouse and Wilkinson : Maps and Diagrams (Methuen)
Course Objectives

The objective of the course is to familiarize the students with the need for understanding of geomorphology with reference to certain fundamental concepts, focusing on Denudational process, Weathering and Erosional process of geomorphology in the earth materials and the processes with or without an element of time process component. Geomorphology is the segmented into the internal and external processes of landscape evolution.

Course Content

Unit-1

Denudational processes- weathering, Types of Weathering-Physical, Chemical and Biological, Erosion and mass wasting, Mass Movement-Slides, Falls, Flow and Creep. The Concept of cycle of Erosion- Penk's, Davis, Slope development-Views of Davis, Penk's, Wood and King

Unit-2

Fluvial Processes (River)-Drainage Basin and Drainage Patterns, Machines of Erosion, Transportation and Deposition, Erosional Landforms, Depositional landforms

Unit-3

Glacial Processes –Types of Glaciers, Machines of Erosion, Transportation and Deposition, Erosional Landforms, Depositional landforms
Karst Process- Machines of Erosion, Transportation and Deposition, Erosional Landforms, Depositional landforms

Unit-4

Sea waves Coastal Process- Machines of Erosion, Transportation and Deposition ,
Erosional Landforms, Depositional landforms

Suggested Readings
2. Cooke, R. U. and Doornkamp, J. C. : Geomorphology in Environmental
    1996.
Course Objectives
The course is aimed at presenting a comprehensive, integrated and empirically based profile of India. The objective is to highlight the agricultural, industrial and socio-economic aspects on the basis of various linkages of India and regional development.

Course Content
Unit-I
Agriculture - Principal corps (Rice, Wheat, Maize, Sugarcane, Groundnut, Tea, Coffee, Cotton, Jute, Rubber, Tobacco and cropping regions, Agro-climatic Zones; agro-ecological regions,

Unit-II Industrialization and Major Industries, Industrial development during the plans
(i) iron and steel industries, Aluminum, Copper, Lead.
(ii) Cotton, Jute, Silk, Woolen
(iii) Heavy Mechanical Engineering, Electronic and Information Technology (IT).
(v) Sugar Industry, Agro-based Industries etc.
Industrial regions of India, New Industrial Pockets, special economic zones, tourism and its types.

Unit-3 Population Growth and Distribution; Ethnic Diversity, Language, Religious structure Density, Composition, Occupational Structure,
Road, railways, airways and pipe line network and there complementary roles in regional development, Trade policy, Export Processing Zones. Development of communication and information technology.

Suggested Readings:

5. Sinha B. M. : Industrial Geography of India (World Press Pvt. LTD. Calcutta)
6. Bharangar L. P. : Transport in Modern India (Kishore Publishing House - Kanpur)
7. Prasan Amba : Indian Railways (Asia Publishing House)
10. Wadia D. N. : Minerals of India (National Book Turst)
14. Deshpande C. D. : India a Regional Interpretation (ICSSR & Northern Book Centre - 1992)
Subject: Geography
Course (Paper) Name & No : Bio-Geography Paper No-8

Course (Paper) Unique Code ELECTIVE-1 16013002020200
Course Exam Time Duration : 45 Lectures

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<td>Core</td>
<td>Bio-Geography</td>
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<td>30</td>
<td>70</td>
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<td>2.15 hrs</td>
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Course objectives-
The purpose of this paper is to appraise the students of the interrelationships among the living organisms within the environment and the importance of conservation of biosphere and biodiversity.

Course contain
UNIT I
Biogeography: Nature, Scope, Significance, Approaches, History, Recent Development; Concept of Ecology, Ecosystem, Succession and Ecological Adaptation.

UNIT II
Historical Evolution of Plants and animals; pattern and causes of plant and animal distribution; Major plant formations of the tropics- forests, grasslands, deserts, mangroves; Bio geographical regions of world and India.

UNIT III
Biodiversity: concept and significance; Biodiversity and global climatic change; Plaeobotanical and plaeo climatological records of environmental change in India; Biogeography of the seas and islands.

UNIT IV
Conservation of wildlife and forests, soil conservation of forestation, reforestry, social forestry, National forest policy of India; International and national efforts for conserving biological resources; Biosphere reserves;
Suggested Readings :

Course objectives

The objective of this paper is to provide an overview of resource of Gujarat and its interface with environment. The course aims to provide an understanding of the existing reality of resource utilization and environmental depletion; further aims to sensitize the students to the concept of sustainable resource use and sustainable development.

Course Contents:

Unit - I:

Meaning of resources, Resource creating factors.

Water resources: Major Rivers and multipurpose irrigation projects in Gujarat.

Unit - II:

Forest resources: Types, distributions and utility in Gujarat.

Animal resources: Major types of animals in Gujarat and its products - milk, milk products, wool, meat.

Unit - III:

Mineral resources: Importance and distribution in Gujarat (Fluorspar, Limestone, Bauxite and China clay)

Conventional and non conventional energy resources sources in Gujarat, Importance and utility emerge in Gujarat. (Lignite, Mineral oil, Natural gas, solar, wind and biogas)
Unit - IV:


Suggested Readings:

1) દવે મંજલાબેન બી.: ગુજરાતની આંકિક અને પ્રકૃતિક અંગોના સમાચાર (યુનિ. ગ્રંથ નિર્માણ બોર્ડ, અમદાવાદ)
2) સી. સી. ડોટર: ગુજરાતની વસ્તી (યુનિ. ગ્રંથ નિર્માણ બોર્ડ, અમદાવાદ)
3) નકશામાં ગુજરાત: (યુનિ. ગ્રંથ નિર્માણ બોર્ડ, અમદાવાદ)
4) Dikshit K.R. Geography of Gujarat (National Book Trust of India)
5) Spate O.H.K. India and Pakistan.
6) Kapadia – Animal Life in Gujrat.
7) Bhatt – Ports of Gujarat.
Subject: Geography
Course (Paper) Name & No: Advanced Cartography-II (Practical) Paper No -10

Course (Paper) Unique Code PRACTICAL 1601300602020200

Course Exam Time Duration: 45 Lectures

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<th>Name of Course</th>
<th>Semester</th>
<th>Core/ Elective/ Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical/ Viva/ Exam. Marks</th>
<th>External Exam. Time Duration</th>
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<tr>
<td>M. A.</td>
<td>2</td>
<td>Practical</td>
<td></td>
<td>Advanced Cartography-II</td>
<td>6</td>
<td>-</td>
<td>100</td>
<td>70+30</td>
<td>5 hrs</td>
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</table>

Course Objective

The objectives of this course are to train the student in the art of representing demographic and Socio-economic data base of any area through simple statistical techniques and cartograms. The techniques and map projections necessary for accurate geographical positioning and preparing physical plans of an area also form parts of the practical exercise. This course thus train the preparing different types of Cartographic maps and Cartograms diagrams

Note:

1. Practical’s each of Five hours duration.
2. The Course shall be covering three practical sessions per week.
   Each practical session shall of two periods each period of 1(one) hours.
3. Diagramic Representation of statistical Data using Climatic, population, agriculture, industry and transportation data

Unit-1 –

Representation of Statistical Data-
 Compound Bar Graph, Compound Pyramid, Divided Rectangle, Pie Diagram, Wind rose, Triangular graph- (three variables) ,Cumulative graph, Deviational graph, Scatter diagram

Unit -2

Mapping of Climatic, Socio –Economic Phenomena
Dot method, Bar Graph, Pie Diagram, Block Diagram, Circle, Sphere, Chloropleth map, Isopleth Map, Flow Chart relevance to distribution
Unit-3
Indian daily Weather report- Weather Elements and Weather Instruments, Weather Signs and Symbols, Study and Analyses of weather Reports.

Unit-4 Field Toor
Recorded in Journal. & viva-Voce

Note-
1. Candidate shall record their practical working the journal and the journal duly certified by the professor in charge and the certificate should be produced at the time of examination. Candidates who have no journal or completed the practical should not be appear at the Examination.
2. There shall be one Practical’s Session of five hours duration.
3. 100 marks Paper external, paper no internal marks.
4. Scheme of Evolution Semesters wise
   - Practical Exam-70
   - Viva-Voce and journal - 20+10=30 Marks
   - Time -5 Hours

Suggested Readings:
1. Singh. R.L: Elements of Practical Geography
4. Singh and Dutt : Elements of Practical Geography (Students friend - Allahabad)
5. Monkhouse and Wilkinson : Maps and Diagrams (Methuen)
Course Objectives:

The objectives of this course is to make the students.
The aim of the course is to provide an understanding of weather phenomena; dynamics of global climates and generation of climatic information and their application.

Course Contents:

Unit-1


Unit-2

Temperature Zone, Pressure Belts, Factor effecting the Pressure, Distribution of Atmospheric pressure.
Condensation and Precipitation – Types, Factors affecting Rainfall and World Distribution of Rainfall, Mechanism of monsoon.

Unit-3

Types of Air masses and Fronts - its properties, Atmospheric disturbances: Cyclones and its kind, (tropical and temperate cyclones) Climatic classification; basis of Koppen’s classification and types - distribution, Characteristics.

Unit-4
Global climatic Change, Role of Man in World Climatic Change, Consequences of Climatic Change, Applied Climatology; Clothing, Health, Architecture, Agriculture, Industries, Tourism and Transport.

**Suggested Reading.**

Course Content

To introduce student to the study of Natural Hazards and men’s role in its causes. Its information and their application Prediction, Control Measures and Planning for Natural Hazards.

UNIT I
Types of natural hazards-Earthquake, Tsunamis, Volcanic eruptions, Landslides, Avalanches, Floods, famines and Droughts, Cyclones, Distribution of natural hazards;

UNIT II
Hazard prone areas of the world and India; Man’s role in natural hazard.
Natural Hazards in India: Seismic zones, Tsunamis, Landslides prone areas, Flood prone areas, Drought prone areas;

UNIT III
Damager due to natural hazards in India; Some natural hazards of recent history-Earthquake- Koyna, Utterkashi, Bhuj ; Tsunamis of 2005. Landslides in the Garhwal Himalays; Floods of the Ganga valley; Cyclones along Orissa Coast; Drought prone areas of India.

UNIT IV
Management of Natural Hazards- Prediction of natural hazards; Control measures for natural hazards; Planning for natural hazards- (a) long-term policy.

Recommended Books:
2. W.J.Petak and A.D. Atkinson: Natural Hazard Risk Assessment and Public Policy,


Subject: Geography  
Course (Paper) Name & No: Remote Sensing and Geographical Information System (GIS)  Paper No -13

Course (Paper) Unique Code  ELECTIVE-1  1601300202030300  
Course Exam Time Duration:  45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Semester</th>
<th>Core/Elective/Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical/Viva/Exam. Marks</th>
<th>External Exam. Time Duration</th>
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<td>Core</td>
<td>111111</td>
<td>Remote Sensing and Geographical Information System (GIS)</td>
<td>4</td>
<td>30</td>
<td>70</td>
<td></td>
<td>2.15 hrs</td>
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Course Contain

To introduce

- To the students the basic Principals of Air Photograph, Remote Sensing & Geographical Information System (GIS).
- To Indicate the fundamentals of Visual and Digital Interpretation of Satellite Images ,
- To outline the application value of Air Photo, Remote Sensing & GIS

UNIT I

Aerial photograph -Definitions and concepts; aerial cameras and aerial photographs, Geometry of aerial photographs, scale of aerial photographs; image displacement; measurement of height differences, Air photo interpretation,

UNIT II


UNIT III

UNIT IV
Geographical Information System (GIS) - Meaning, Definition, Importance, Objectives, Development and Elements, Data Model and Structure, Remote Sensing & Data Integration, Applications and Error

Suggested Reading.

3. P.R. Wolf: Elements of Photogrammetry.
Subject: Geography  
Course (Paper) Name & No: Geography of Population  
Course (Paper) Unique Code: ELECTIVE-2  
1601300302030300  
Course Exam Time Duration: 45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Semester</th>
<th>Core/Elective/Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical/Viva/Exam. Marks</th>
<th>External Exam. Time Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. A.</td>
<td>3</td>
<td>Elect</td>
<td></td>
<td>Geography of Population</td>
<td>3</td>
<td>30</td>
<td>70</td>
<td></td>
<td>2.15hrs</td>
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</table>

Course Contain

The course is meant to provide an understanding of Spatial and Structural dimensions of Population and the end the immerging issues.

The course is further aimed at familiarizing the students with global and regional level problems and also equip them for Comprehending the Indian situation.

Unit-1

Population Geography -Scope and objectives, development of population, population geography, Theories in population, distribution and growth, world pattern and their determinates, Factors affecting to distribution population, density and growth patterns, concepts of under-population and over population.

Unit-2

Population composition.-Age and sex, family and households, literacy and education, religion, caste and tribes, rural and urban, occupational structure gender issues;

Unit-3

Population Dynamics, Measurement of Fertility and Mortality, Migration - Types of Migration, National and international etc.

Unit-4

Population and development- Population resource regions, regions and levels of population and socio-economic development, India's population policies. Population issues and policies.
**Suggested Readings**


Course objectives

To introduce some basic statistical procedures to the students to be applied to various themes in geography.

- To indicate the assumptions, limitations and interpretation of these procedures and results.
- To train the students to handle these statistics towards analyzing the geographical problems:

Note:-

1. Practical’s each of Five hours duration.
2. The Course shall be covering three practical sessions per week.
   Each practical session shall of two periods each period of 1(one) hours.
3. Diagramic Representation of statistical Data using Climatic ,population, agriculture, industry and transportation data

Course contain

Unit 1

Research- Scientific methods, Problems formulation and Planning ,Hypothesis, Variables, Concepts, Types of Research, Research Procedure, Revised work Method, Data, Questionnaire, Schedule, Tabulation, Analysis of Data,
Unit 2
Definition of Statistics, Importance & use of statistical techniques in geography.
Statistical methods - Frequency Distribution- class intervals, frequency, frequency density, cumulative and relative frequency, Histogram, Polygon,

Unit 3
Measures of central tendency- Calculation of mean, Grouped Data Median, Group and Un Group Data , Quartiles .
Measure of dispersion –Absolute measurements- Mean deviation , Quartile deviation, and Standard deviation.
Correlation Analysis- Karl Personas’ Product movement correlation coefficient – Speareman’s rank order

Note-
1. Candidate shall record their practical working the journal and the journal duly certified by the professor in charge and the certificate should be produced at the time of examination. Candidates who have no journal or completed the practical should not be appear at the Examination.
2. There shall be one Practical’s Session of five hours duration.
3. 100 marks Paper external, paper no internal marks.
4. Scheme of Evolution Semesters wise
   • Practical Exam-70
   • Viva-Voce and journal - 20+10=30 Marks
   • Time -5 Hours

Suggested Readings
2. Elhance, D.N.(1972):Fundamentals of Geography, Kitab Mahal
5 Singh .R.L : Elements of Practical Geography
Subject: Geography
Course (Paper) Name & No: Oceanography Paper No-16

Course (Paper) Unique Code: CORE
Course Exam Time Duration: 45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Semester</th>
<th>Core/Elective/Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical/Viva/Exam. Marks</th>
<th>External Exam. Time Duration</th>
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<td>Core</td>
<td>Oceanography</td>
<td>4</td>
<td>30</td>
<td>70</td>
<td>2.15 hrs</td>
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</tbody>
</table>

Course Objectives:

The objectives of this course is to make the students

1. The objectives of the course are to introduce students to the many facets of Oceans, such as, evolution of the oceans,
2. Physical and chemical properties of sea water, atmospheric and oceanographic circulation,
3. The fascinating world of marine life and the characteristic of marine environment and the impact of man on the marine environment.

Course Contents:

Unit-1

Nature and scope of oceanography, Relevance of oceanography in earth and atmospheric sciences: Definition of Oceanography, Distribution of land and water. Submarine relief of Ocean, Ocean floor, continental shelf, continental slope, abyssal plain, mid-oceanic and oceanic trenches.

Unit-2

Distribution of temperature and salinity of oceans and seas. Circulation of oceanic waters: waves their influence, tides and its theories their influence, currents and their influence - currents of the Atlantic, pacific and Indian Ocean.

Unit-3

Formation theories of Coral Reefs reefs and atolls, Marine deposits, types and distribution of deposits, Oceanic biological life.
Unit-4

Geographical important of Ocean as storehouse of resources for the future, Impact of Humans on the Marine Environment.

Suggested Readings

1. પિ. કાનભાઇ એન. જસાણી : સમુદ્રશાસ્ત્ર, યુનિવર્સિટી ગ્રુંડનીમોં બોલે.
2. પિ. મહેંદ્રભંડોર આર. શાહ અને પિ. કાનભાઇ એન. જસાણી : સૌન્દર્ય સૂચના, 
યુનિવર્સિટી ગ્રુંડનીમોં બોલે.
Subject: Geography
Course (Paper) Name & No: Geography of Human Hazards and Management
Paper No-17

Course (Paper) Unique Code: CORE 1601300102040800
Course Exam Time Duration: 45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Semester</th>
<th>Core/Elective/Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
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<th>External Marks</th>
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<th>External Exam. Time Duration</th>
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<tbody>
<tr>
<td>M. A.</td>
<td>4</td>
<td>Core</td>
<td>Geography of Human Hazards Management</td>
<td>4</td>
<td>30</td>
<td>70</td>
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<td>2.15 hrs</td>
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</table>

**Course contain**

To introduce the student about the Hazards, the concept of Human Hazards and its impacts on society and nature and their application, interaction between them.

**UNIT-I**

Introduction Types of man induced hazards – physical, chemical, biological, and pollution. Man induced Physical Hazards - Cause and effects of Landslides, Soil erosion, forest fires, desertification etc.

**UNIT-II**

Biological Hazards induced by man – effects of over exploitation, entrophication, adverse impact on biodiversity.

**UNIT-III**

Chemical Hazards Nuclear Hazards, release of toxic elements in the air, soil and water, oil spills etc.

**UNIT-III**

Population - Air pollution, source and types of pollutants, effects on nature and society, water pollution, sources, types and effects and controls, soil, solid waste, noise and cultural pollution - causes, consequences and measurements.

**UNIT-IV**

Global issue and National issues Global Warming, Effects of global warming, ozone depletion, Carbon budgeting, Global terrorism.
Reference Books:

1. Turk J. (1985) : Introduction to Environmental Studies, Saunders, College Publication, Japan
Subject: Geography
Course (Paper) Name & No : Men and Environment System  Paper No-18

Course (Paper) Unique Code  ELECTIVE-1  1601300202040400
Course Exam Time Duration : 45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
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<th>Credit</th>
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<th>Practical/Viva/Exam. Marks</th>
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<td>Elect</td>
<td></td>
<td>Men and Environment System</td>
<td>3</td>
<td>30</td>
<td>70</td>
<td></td>
<td>2.15 hrs</td>
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</table>

Course objectives

The basic objectives of this course are to familiarize the students with the interrelationship between man and environment within which he lives and his linkages with other organisms. The importance of conserving biodiversity to maintain ecological balance has also been emphasized in the course. Examples of some man induced ecological changes have been highlighted and restoration measures suggested.

Unit-1

Introduction- Nature and Scope of Environmental Geography - Perspective of environment relationship, Historical perspective of men – environment , Classification of Environment-Physical, Biological, Social, Economic and Ecological etc.

Unit-2

Approaches Environmental Studies -Landscape ecology, economic approach environmental approach , Hazards- Nature and causes, Pollution—Types of Pollution -Air, Water, Noise, Land, etc, Origen and Causes, Characteristics and Consequences

Unit-3

Ecology-Types of ecosystem, structure and function of Ecosystem, The Water cycle, Carbon cycle, Oxygen cycle, Nitrogen cycle, Mineral cycle, Ecological Balance,

Unit-4

Study of any two Ecological regions of India in relation to their plant and animal life in their relations, Environmental Planning- Approaches towards maintaining and re starting ecological balance,-Integrated environmental planning.

Suggested Readings
Subject: Geography
Course (Paper) Name & No : Geography of Tourism Paper No-19

Course (Paper) Unique Code ELECTIVE-2 1601300302040400
Course Exam Time Duration : 45 Lectures

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Semester</th>
<th>Core/Elective/Practical</th>
<th>Paper Code</th>
<th>Paper Title</th>
<th>Credit</th>
<th>Internal Marks</th>
<th>External Marks</th>
<th>Practical/Viva/Exam. Marks</th>
<th>External Exam. Time Duration</th>
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<tr>
<td>M. A.</td>
<td>4</td>
<td>Elect</td>
<td></td>
<td>Geography of Tourism</td>
<td>3</td>
<td>30</td>
<td>70</td>
<td></td>
<td>2.15 hrs</td>
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</table>

Course Objectives:

The objectives of this course are:
- to familiarize the students with aspects of tourism which have a bearing on subject matter of geography;
- to orient the students to the logistics of tourism industry and the role of tourism in regional development;
- to understand the impact of tourism on physical and human environments.

Course Contain

Unit-I


Unit-II


Unit-III

Economic, Social, physical, and Cultural impacts of Tourism, Evolution of Tourism potential.

Unit-IV

Impact of Tourism: On Economy, Environment and Society; Concept of Ecotourism Globalization and Tourism, Environmental Laws and Tourism

Suggested readings

Subject: Geography
Course (Paper) Name & No: Dissertation (Practical & Field work) Paper No-20

Course (Paper) Unique Code: CORE 1601300102040900
Course Exam Time Duration: 45 Lectures

<table>
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<tr>
<th>Name of Course</th>
<th>Semester</th>
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<th>Paper Title</th>
<th>Credit</th>
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<td>Practical</td>
<td>Dissertation</td>
<td>6</td>
<td></td>
<td>100</td>
<td>70+30</td>
<td>5 hrs</td>
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</tbody>
</table>

Course Objectives:

The main objective of the field work (Physical) is to conduct an extensive survey of a contiguous wider region and identify salient landforms; their genesis and their impact on human life, flora and fauna.

(1) Dissertation (Assessment of thesis record)

1. A candidate may write a dissertation of at text 75 to 100 types page (single space typed pages) on any Geographical region or problems making use of cartographic techniques; field methods, statically methods and library work under the supervision of recognized post Graduate Teachers.
2. A candidate is expected to write a dissertation individually on any approved subject evincing capacity for independent investigation on geographical problems.
3. The topic and working plan of the dissertation should be finalized in the beginning of the first term of M.A. Part-II

Note-

1. The dissertation in three written copies (Typed with CD) should be submitted one month before the semester ends of University examination.
2. Presentation of thesis viva by modern technique.
3. No internal exam, 100 marks external exam.

SCHEME OF EVOLUTION: (OUT OF 70)

A) Evolution Dissertation: -70 Marks
B) Seminar/Presentation/ Viva- Voce - 30 Marks
SAMPLE QUESTIONS

Note : This Paper Contains Certain Sections.

Section-A

Note-1: This section consists of Four essay type question of fifteen (15) marks to be answered in about one thousand (1000) words on any of the following topic.

1. This section consists of Four essay type question with internal options of fifteen (15) marks each to be answered in about one thousand (1000) words on any of the following topic. Diagrams and map wherever necessary.

   (15 x 4 = 60 marks)

2. This section consists of Four short notes type question with general options of five (5) marks each to be answered five (250) words on any of the following topic. Diagrams and map wherever necessary.

   (5 x 2 = 10 marks)