

# **COURSES OF STUDIES**

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## **FOR POST GRADUATE DEGREE IN GEOGRAPHY (SEMESTER SYSTEM)**

**Session: 2016-2018**



**GANGADHAR MEHER UNIVERSITY,  
SAMBALPUR, ODISHA**

**Courses of Studies for P. G. in GEOGRAPHY**

**Session 2016-2018**

**Framed and approved by**

**The Board of Studies in GEOGRAPHY**

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## **FOREWORD**

**The University Grants Commission has decided to do away with the annual examination system and adopt the Semester System in all Colleges and Universities during the 11th Five-Year-Plan. By this, the students will be evaluated by a continuous internal process. It gives the student an advantage of quick learns and fear of examination is obliterated. The Department of Higher Education, Government of Odisha in its letter no. HE-UM-1/06 (Pt) 33388/01.09.2006 has proposed to introduce the Semester System in all autonomous colleges from the academic session, 2011-2012. Our college implemented this system at both UG and PG level from 2008-09 sessions. The courses have been thoroughly revised basing on the present needs of the society. At the M. Phil. level, the students are being evaluated on a scale of Grades instead of marks while the Syllabi are under Course Credit System.**

**I hope, the students will immensely benefit from the present Semester System of Examination.**

**REGISTRAR**

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## **P. G. SEMESTER EXAMINATION REGULATIONS**

### **CHAPTER – I**

#### **REGULATION OF GENERAL ACADEMIC MATTERS**

1.1 The Departments shall follow Semester System of teaching and Examination based on continuous evaluation internally as well as externally subject to moderation of question papers. The system of evaluations of the students shall be based on Course Credit System.

**1.1.1 Academic Year**

The Academic Year of the department shall ordinarily be from JUNE to MAY. It may however, be modified by the Staff Council from time to time.

**1.1.2 Semester**

The academic year shall have two semesters, each of which shall be of 6 months duration.

**1.2 Minimum working days in a Semester**

A Semester shall have a minimum of 90 working/instructional days excluding examination days/Sundays/Holidays etc. The minimum number of classes in a semester shall not fall short of the number of classes as mentioned below.

- |                              |                      |
|------------------------------|----------------------|
| 1. One Credit hour courses   | = 10 classes minimum |
| 2. Two Credit hour courses   | = 20 classes minimum |
| 3. Three Credit hour courses | = 30 classes minimum |
| 4. Four Credit hour courses  | = 40 classes minimum |
| 5. Five Credit hour courses  | = 50 classes minimum |

**1.3 Credit hours**

One credit shall signify the quantum of teaching imparted corresponding to one hour of theory class and two hours of laboratory/project work and two hours of seminar per week during a semester in respect of a particular course. Each teaching hour of theory class will be of 60 minutes and practical classes/project work will be of 120 minutes duration and seminar will be of 120 minutes duration. For field study outside headquarters, one working day will be considered as two teaching hours. However, the field study should not exceed 30 days (including Sundays) in one semester.

The P. G. Syllabus may be so designed that the total of credit hours for all four semesters shall be 80 spread equally over all semesters as far as practicable, tutorials and proctorials shall be treated as non-credit components.

**1.4 Course**

A course is a unit of instruction under any discipline carrying a specific number of credit hours describing its weightage. Those courses, which a student must take as compulsory requirement, are, called Core Courses. Those courses, which a student opts out of a list of specialized courses offered by the department, are called Elective Courses.

Choice Based Credit System (CBCS) is introduced at the P. G. Semester-I level uniformly in all the subjects to be taught in paper-103. The students of P. G. Arts stream can not opt for the CBCS course of Science stream. The details of the CBCS courses offered by different P. G. Departments are given in Annexure-II.

# SEMESTER SYSTEM OF P. G. GEOGRAPHY

## ANNEXURE-II

CBCS: P. G. Paper-103

<u>Department</u>	<u>Name of the CBCS Course</u>
Botany	Plant in Human Welfare
Chemistry	Polymer Science
Commerce	Fundamental of Business Organization and Entrepreneurship Development
Economics	Indian Economy
Education	Pedagogical Trends and Issue
English	Global English
Geography	Introduction to Geography
History	Tourism & Heritage Management
Mathematics	Elements of Computer Programming
Odia	“Adhunika Odia Nataka o Odia Bhashara Dhwanitatwa” (Modern Odia Drama and Odia Phonetics)
Physics	Foundation in Physics
Philosophy	Practical Ethics
Political Science	Indian Government & Politics
Psychology	Fundamentals of Psychology
Sanskrit	Arthashastra and Dharmashastra
Zoology	Zoology in Human Welfare

### 1.4.1 **Grade**

The grade awarded to a student in any particular course shall be based on his/her performance in all the tests conducted during a semester and shall be awarded at the end of the semester. The grade in each course is expressed in numerical value in 10.00 scale. The marks of a student shall be converted to 10.00 scale and the points scored thereby shall be called the “Grade Point” in the course. Respective “Grade Point Average” (GPA) and “Overall Grade Point Average” (OGPA) shall be awarded at the end of each semester and all semester respectively. A 3.0 Grade Point is required for passing in individual paper and 4.0 GPA to pass any semester examination. The G. P. shall be rounded to one decimal point and GPA to two decimal points.

### 1.4.2 **Grade Point Average (G.P.A.)**

Grade Point Average (G.P.A.) of a semester shall be calculated as:

$$\text{GPA} = \frac{\text{Summation of } \{( \text{Credits in each course} ) \times ( \text{Grade point in that course} )\}}{\text{Total No. of Credits in that Semester}}$$

Where the summation is taken over all courses in a given semester, G.P.A. shall be rounded up to 2 decimal points.

### 1.4.3 **O.G.P.A. (Overall Grade Point Average)**

It is the average of accumulated grade points of a student, worked out by dividing the cumulative total of grade points by the cumulative total of credit hours of all the courses covered and completed by a student during all the Semesters. For the first semester of the programme the GPA and OGPA shall be the same.

$$\text{OGPA} = \frac{\text{Summation of } \{( \text{Credits in each semester} ) \times ( \text{Total Credits in that semester} )\}}{\text{Total No. of Credits in that Semester}}$$

Where the summation is taken over all semesters in a given programme. OGPA shall be rounded up to 2 decimal points. For merit lists, in case of equality, the OGPA shall be calculated beyond two decimal places if necessary.

## SEMESTER SYSTEM OF P. G. GEOGRAPHY

### 1.4.4 **Conversion of grades to marks and classification of results under course credit system.**

The OGPA can be converted to percentage of marks in the following manner:

Percentage of Marks = (OGPA) × 10

A student after successful completion of all the semesters, Degree shall be awarded in the following manner:

O.G.P.A.	≥ 6.0	: FIRST CLASS
O.G.P.A.	≥ 5.0 - < 6.0	: SECOND CLASS
O.G.P.A.	4.0 - < 5.0	: THIRD CLASS
O.G.P.A.	< 4.0	: FAIL

### 1.5 **Academic Calendar**

The Examination Section and the academic section shall finalise the schedule of semester registration and other academic activities at the start of academic session. The Academic Calendar shall be prepared by the Academic Committee of the College in consultation with examination section.

The broad format for academic calendar for P. G. with regard to admission, registration and commencement of classes shall be as follows:

Admission and Registration and	
Commencement of Classes for 1st Semester	JULY
1 <sup>st</sup> Semester Examination	DECEMBER
Commencement of Classes 2 <sup>nd</sup> Semester	JANUARY-MAY
2 <sup>nd</sup> Semester Examination	JUNE
Commencement of 3 <sup>rd</sup> Semester Classes	JULY-NOVEMBER
3 <sup>rd</sup> Semester Examination	DECEMBER
Commencement of 4 <sup>th</sup> Semester Classes	JANUARY-APRIL
4 <sup>th</sup> Semester Examination	APRIL & MAY
Final Results to be published in the month of	JUNE

### 1.5.1 **Requirement of award of degree**

The minimum credit hour requirement for the Master Degree shall be 80 (eighty) credits and the residence required for Master Degree shall be continuous four semesters from the first date of registration and the maximum time allowed to complete the Master Degree shall be 8 (eight) semesters.

### 1.6 **Requirement for attendance**

A candidate shall be required to attend 75% lectures, tutorials and practical classes separately during the semester (For late admitted students' attendance to be calculated from the date of admission). Condonation may be granted by the staff council only to the extent of 15% in exceptional cases. (Illness, accident, mishap in the family, deputation by University/Department). When a candidate has been deputed by the College to represent the college/university/state for any activity, the lectures delivered during his/her absence for the purpose shall not be counted towards the calculation of attendance provided the student submits a certificate to that effect from the appropriate authority.

### 1.7 **Registration in a semester**

A student has to register his/her name at the beginning of every semester in the prescribed form, for the course he/she wants to take in that semester. Examination Section (General) shall notify the registration dates and the list of registered students for the semester shall be given to the Head of the Department within two weeks of the commencement of the Semester.

**CHAPTER – II**

**REGULATIONS ON EXAMINATION MATTERS**

**2.1 Mid Term Examination**

In each Semester there shall be one Mid Term Assessment examination of 60 minutes duration. The Mid Term examination shall be conducted by COE like that of End Term examination. The answer scripts shall be evaluated by the external and internal examiners and the marks along with answer scripts shall be retained in COE.

**2.2 Semester Examination**

After the end of each semester there shall be an examination of each theory paper of 2 hours duration and of each practical paper of 4 hours duration, which shall be called Term End / "Semester Examination". The maximum marks for each theory paper shall be 50 out of which 40 marks for term end and 10 marks for Mid Term. The maximum marks for each practical/ semester/ project/ dissertation/ review examination shall be 50 for Arts and Commerce and 100 marks for Science. The classes shall remain suspended ten days (including Sundays and holidays, if any) before the date of commencement of semester test for preparation by the students.

**2.3 Results of Examinations**

The results shall be declared ordinarily within four weeks of completion of the examinations. A students who seeks re-addition of his/her marks in a course shall be allowed to do so by submitting an application to Principal along with a required fees in the fee counter of the College. All such cases/complaints if any shall be disposed of by the Autonomous Examination Section in a prefixed day and necessary corrections if any shall be reflected in the mark/grade sheet. The candidates shall have to appear in all the units of a semester examination to be eligible to be a declared 'pass' provided he/she secures minimum pass marks/grade.

**2.4 Promotion to the next semester**

A student shall be admitted to the next semester only when he/she appears in all the papers of the concerned semester examination. However, a student failing to appear semester examination in some or of all papers due to some reasons as mentioned in 2.5 may be admitted to the next semester. Such a student shall produce sufficient proof in favour of his/her reason for not being able to appear in some or all papers of the Semester Examination on the next academic session in the corresponding semesters.

**2.5 Absence from Examination**

If a student is unable to appear a semester examination in some or all papers the Principal shall consider his/her case for admission into the next higher semester only the following cases:

- (a) When he/she is hospitalized.
- (b) When he/she is not be able to appear in the examination due to serious illness or death of parents, brothers, sisters, spouse or children.
- (c) When he/she met an accident of serious nature.
- (d) When the department/University or any official directive deposes him/her

**2.6 Procedure for Repeat/Improvement**

A student who wants to sit for the semester examination of first and/or second semester in the subsequent academic session (for repeat or improvement) he/she shall have to apply to the Principal in plain paper before fifteen days of the commencement of the said examination. If allowed by the Principal, he/she shall deposit the required fees for each paper with centre charge and produce the proof to the teacher in-charge examination with permission letter from the Principal.

In a semester to appear improvement examination the candidates must have passed the semester examination. A candidate can appear repeat examination of papers in which he/she has failed or not appeared for reasons mentioned in 2.5.



## SEMESTER SYSTEM OF P. G. GEOGRAPHY

The Master Degree student seeking to appear/improvement examination in any course(s) shall get 3 chances for 1<sup>st</sup> and 2<sup>nd</sup> semester within 8 semesters.

Candidates appearing in repeat/improvement examination shall not be considered in the merit list and it shall be reflected in the Provisional Certificate cum Mark sheet (PCM) but not in the final degree certificate.

### **2.7 Award of Degree Certificate, Grade/Mark sheet**

A Degree certificate under the official seal of the university and signed by the Vice-Chancellor shall be presented at the Convocation or in absentia to each of the successful students of particular degree. The Controller of Examinations shall issue the mark/grade sheet of each semester to the candidates in the sheet of each semester to the candidates in the prescribed format by depositing the required fees for marks/Grade Sheet to be deposited in the college counter.

### **2.8 Guideline for filling up of Forms for PG Classes (IMP/ Repeat)**

A student shall repeat all the theory and practical papers in which he/she failed in the semester examination within a period of eight semesters from the date of first registration. Such students shall have to apply to the Head of the Department/Principal in plain paper during the filling up of form for the ensuing semester examination. If allowed, he/she shall deposit the fees as prescribed by the college.

If a candidate secures less than 3.0 Grade point in a paper(s) and less than 4.0 Grade point average in a Semester examination he/she has to appear all the papers in that Semester.

If a candidate secures less than 3.0 Grade Point in a paper(s) and a minimum 4.0 Grade point average in a semester examination, he/she has to appear only the paper(s) in which he/she secured less than 3.0 Grade point.

A candidate is eligible to sit for improvement in a paper(s) only when he/she has passed the semester examination concerned. Further, he/she can improve in a maximum of EIGHT paper(s) in the entire course. The Master Degree students seeking to take improvement examination in any course(s) shall get chances within 8 semesters from the year of admission to the course. The candidates taking this advantage (improvement) will be examined on the basis of current syllabus and the higher marks shall be retained during computation of result.

2.9 If a candidate fails to appear in any paper of the said examination and marked ABSENT his/her results will be declared only when he/she clears that paper/those papers.

### **2.10 Disciplines in the Examination**

(A) Late Comers: A student arriving in the examination hall/room fifteen minutes after the commencement of the examination shall not be ordinarily allowed to sit for the examination. No examinee shall be allowed to go out of the examination hall within one hour of commencement of examination. The invigilators shall keep a record of temporary absence of students from the examination hall/room during the examination.

(B) Adoption of unfair means in the Examination:

Possession of unauthorized materials and using it, copying from scripts of other students or from any other source, showing his/her answer script to others during the examination, creating disturbance or acting in a manner so as to cause inconvenience to other students in the examination hall or near about shall be treated as adoption of unfair means or malpractice.

**Sd/-  
REGISTRAR**

# SEMESTER SYSTEM OF P. G. GEOGRAPHY

## P. G. COURSE OF THE DEPARTMENT OF GEOGRAPHY AT A GLANCE

(Under Course Credit System) Total 250 20 CH

### SEMESTER- I

<u>Course No.</u>	<u>Name of the Course</u>	<u>Marks</u>	<u>Credit</u>
GEO-101	Geographical Thought	(40+10)	5 CH
GEO-102	Advanced Physical Geography	(40+10)	5 CH
GEO-103	Introduction to Geography (CBCS)	(40+10)	5 CH
GEO-104	Statistical Methods and Computer Applications (Practical)	(100)	

### SEMESTER - II

<u>Course No.</u>	<u>Name of the Course</u>	<u>Marks</u>	<u>Credit</u>
GEO-201	Economic & Resource Geography	(40+10)	5 CH
GEO-202	Geography of Tourism	(40+10)	5 CH
GEO-203	Population & Settlement Geography	(40+10)	5 CH
GEO-204	Map Making & Map Projection (Practical)	(100)	

### SEMESTER - III

<u>Course No.</u>	<u>Name of the Course</u>	<u>Marks</u>	<u>Credit</u>
GEO-301	Climatology and Oceanography	(40+10)	5 CH
GEO-302	Social, Cultural & Political Geography	(40+10)	5 CH
GEO-303	Environmental Geography	(40+10)	5 CH
GEO-304	Models (Practical)	(100)	

### SEMESTER - IV

<u>Course No.</u>	<u>Name of the Course</u>	<u>Marks</u>	<u>Credit</u>
GEO-401	Natural Resource Conservation and Management (India and Odisha)	(40+10)	5 CH
GEO-402	Special Paper: Urban & Reg. Planning-I / Geography of Tourism-I	(40+10)	5 CH
GEO-403	Special Paper: Urban & Reg. Planning-II/Geography of Tourism-II	(40+10)	5 CH
GEO-404	Regional Planning/Geography of Tourism (Practical)	(100)	

**FIRST SEMESTER**

**THEORY**

**GEO – 101 (Paper-I)**

**GEOGRAPHICAL THOUGHT**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

The Field of Geography-Meaning, Philosophy and Purpose of Geography, Place of Geography in the classification of Sciences. Geography as a social science. Concepts in the Philosophy of Geography – distributions, man and environment, relationships, interactions, areal differentiation, space, place, spatial organization, environment, time, region, culture and cultural landscape.

**Unit-II**

Contribution of Greek, Roman and Arab Geographers, Contribution of Kant, Humboldt, Ritter, Blache, Hartshorne, Semple, Hagget.

Dualism in Geography – Systematic vs Regional, Physical vs Human.

**Unit-III**

Contemporary Trends-Qualitative, Quantitative Paradigm, Behavioural Revolution, Perception and Cognition, Radicalism and humanism. Post-Modernism, Post-Structuralism. Hypothesis and Model Building in Geography.

**Book List:**

1. Majid Hussain: Models in Geography, Rawat Publications.
2. R. J. Johnston: Geography and Geographers, Arnold London.
3. Majid Hussain: Evolution of Geographical Thought, Concept Publishers.
4. M. E. Harvey and B. P. Holly (Ed.): Themes in Geographic Thought, Rawat Publications.
5. Edward A. Ackerman, Et. Al.: The Science of Geography, Report of the Adhoc Committee on Geography.
6. Derek Gregory: Ideology, Science and Human Geography, Hutchinson University Library.

**GEO – 102 (Paper-II)**

**ADVANCED PHYSICAL GEOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Fundamental concepts of geomorphology, Concept of Uniformitarianism, Multicyclic and Polygenetic evolution of landforms. Concept of threshold, Morphological evolutionary concepts of Davis, Penck and King.

**Unit-II**

Development of Slopes – Concept and Theories (Davis, Penck, King, and Gilbert), Stream Network and drainage patterns-Morphometric laws of drainage basins. Concept of peneplain and pediplain. Periglacial processes and landforms. Coastal Zone geomorphology – costal lagoons, backwater and backshore landforms.

**Unit-III**

Concept of applied geomorphology, Land capability and Land suitability classifications. Soil profile, soil forming processes, soil erosion and control measures.

## SEMESTER SYSTEM OF P. G. GEOGRAPHY

### Book List:

1. W. D. Thornbury: Principles of Geomorphology, Wiley Eastern Reprint.
2. B. W. Sparks: Geomorphology, Longman.
3. Strahler and Strahler: Advanced Physical Geography, John Wiley, New York.
4. E. Ahmed: Coastal Geomorphology of India, Orient Longman.
5. P. Dayal: A Text Book of Geomorphology, Shukla Book Depot, Patna.
6. A. N. Strahler: Physical Geography, Wiley International Edition.

### **GEO – 103 (Paper-III)** **INTRODUCTION TO GEOGRAPHY (CBCS)**

**TE - 40**

**Internal Assessment - 10**

#### **Unit-I**

- 1.1. Internal structure of the earth- crust, mantle and core. Geological time scale.
- 1.2. Composition and Structure of the atmosphere.
- 1.3. Bottom topography of the oceans.

#### **Unit-II**

- 1.1 Brief introduction to India. Unity in Diversity.
- 1.2 Physical Basis of India-Physiography, climate, natural vegetation, soil.
- 1.3 Population- Growth, distribution, density and problems of population (special reference to India).

#### **Unit-III**

- 1.1 History of Development and recent trends in agriculture (India).
- 1.2 History of Development and recent trends in industry and trade (India).
- 1.3 Impact of globalization and climate change on natural resource and its management.

#### **References:**

1. Dayal P. - A text book of Geomorphology.
2. Strahler and Strahler - Physical Geography.
3. Lal D. S. - Climatology.
4. Sharma & Vatal - Oceanography for Geographer.
5. Sidhartha K. & Mukherjee S. - Oceanography.
6. Singh R. L. – A Regional Geography of India.
7. Sharma & Coutinho – Economic and Commercial Geography of India.

### **PRACTICAL** **GEO – 104 (Paper-IV)** **STATISTICAL METHODS AND COMPUTER APPLICATIONS**

**F. Marks - 100**

#### **Unit-I**

Geographical Data, Sources of geographical data, Schedule, Questionnaire, Interview, Tabulation of data, Concept of Sampling, Sample Units, design and types.

#### **Unit-II**

Frequency distribution. Measures of Central Tendency-Geometric Mean, Harmonic Mean, Moving Average, Measures of Dispersion-Range, MD, SD, Co-efficient of variation.

**Unit-III**

Concept of Parametric and Non-Parametric statistics. Relationship between two or more variables. Regression Analysis, Bi-variate Scatter, Co-relation Analysis – Product Moment Co-relation, Spearman’s Rank Co-relation.

**Unit-IV**

Field Survey, PRA, RRA, Hypothesis testing, Hypothesis Formulation. Null and Alternative Hypothesis. Choosing a rule for making a decision. Student’s T-test, Chi-square test, Analysis of variance (ANOVA) and Sneder’s F-test. Factor Analysis, Principal Component Analysis.

**Unit-V**

Practical Record and Viva-voce 20% marks.

**SECOND SEMESTER**  
**THEORY**  
**GEO – 201 (Paper-V)**  
**ECONOMIC AND RESOURCE GEOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Definition, Scope and Methods of Economic Geography. Fundamental concepts of Economic Geography. Concept of Economy and Economic development. Classification of Economy.

**Unit-II**

Resource – Definition, concept and classification. Resource aspects – Natural, Human and Cultural Dynamics of resource base – Resource Scarcity Hypothesis. Concept and approach to natural resource management.

**Unit-III**

Location of Primary activity – Von Thunen’s Agriculture Location Theory. Location of Secondary activity – Industrial Location Theory of Weber, Hoover, Smith, Isard. Location of Tertiary Activity Location of Market and Service centre – contribution of Christaller and Losch. Principles of Areal Functional Organisation.

**Book List:**

1. P. Roy: An Appraisal of Resources, New Central Book Agency, Calcutta.
2. S. K. Sadhukhan: Resource Geography, S. Chand & Co.
3. T. A. Hartshorn and J. W. Alexander: Economic Geography, Prentice Hall of India.
4. Economic and Social Geography Made Simple, Rupa Publication.
5. D. M. Smith: Industrial Location: An Economic Geographical Analysis, John Wiley.

**GEO - 202 (Paper-VI)  
GEOGRAPHY OF TOURISM**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Geography of Tourism, Scope, nature, meaning and concept of Tourism, Historical development of Tourism-Leisure, recreation. Tourism as an Industry.

**Unit-II**

Types of Tourism- Cultural, Eco-Ethnic, Adventure, National and International Tourism. Infrastructure and support system. Accommodation and supplementary accommodation. Transport and communication, Travel agencies and intermediaries, Government and Semi Government Organization, other facilities and amenities. Hospitality Industry

**Unit-III**

Impact of Tourism on Physical, Social, Environmental and Economics aspects of a region. Role of foreign capital and impact of globalization. Organization of Tourism- UOTO, WTO, PATA. Tourism and Economic development, Eco-Tourism.

**Book List:**

1. A. K Bhati: Tourism Development, Sterling Publishers
2. A. K Bhatia: International Tourism
3. R. N Kaul: The Dynamics of Tourism, Vol. I, II, III, Sterling Publishers
4. P. N. Seth & S. B. Bhat: An Introduction to Travel and Tourism, Sterling Publishers.
5. IGNOU Study Material on Tourism.

**GEO - 203 (Paper-VII)  
POPULATION AND SETTLEMENT GEOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Meaning and Scope of Population Geography. Sources of Population data – Census, Registrar of vital events, Sample Survey, Population Characteristics. Distribution and density of population, Sex ratio, literacy, occupational structure, Malthus theory of population growth, Theory of demographic transition, concept of under population, over population, optimum population, population policy and programmes with special reference to India.

**Unit-II**

Meaning and scope of settlement geography, Factors affecting growth of settlement. Evolution, types and patterns of rural settlement.

**Unit-III**

Morphology of urban settlement, Urban Sphere of Influence, rural-urban fringe, Satellite town, umland, Settlement Systems-Rank size Rule, Urban Hierarchy, Concept of Primate City, Urbanization Process, Pattern and Trend (World and India).

**Book List:**

1. R. C Chandana: A Geography of Population, Kalyani.
2. W. Zelinsky: A Prologue to Population Geography, Prentice Hall Inc. NJ.
3. R. J. Johnston et. al. (ed.): A Dictionary of Human Geography, Basil Blackwell.
4. Sumita Ghosh: Introduction to Settlement Geography, Orient Longman.
5. Harold Carter: The Study of Urban Geography, Edward Arnold, London

**PRACTICAL**  
**GEO – 204 (Paper-VIII)**  
**MAP MAKING AND MAP PROJECTION**  
**F. Marks – 100**

**Section – I (Map Making)**

**Unit-I**

Visual variables, Symbolization, Use of point, line, area Symbol, Preparation of Base Map, Map design and Layout

**Unit-II**

Isopleth and Choropleth Maps- Grouping Techniques and classification of cartographic data population distribution by multiple dots. Distribution of urban population by spheres. Traffic flow cartogram.

**Unit-III**

Drawing of Triangular Graph to show Functional Classification of Towns. Drawing of Lorenz Curve. Drawing of Climograph and Ergograph.

**Section – II (Map Projections)**

**Unit-I**

Definition, classification, properties and uses of Map Projection.

**Unit-II**

Construction of map projection using mathematical method.

Universal Transverse Mercator's Projection (UTM), Conical with Two Standard Parallel, Polyconic.

**Section-III**

Practical Record & Viva-voce (20% of total marks)

**THIRD SEMESTER**  
**THEORY**  
**GEO – 301 (Paper-IX)**  
**CLIMATOLOGY AND OCEANOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Fundamental Principles of Climatology. Solar radiation-surface receipt and its effect. Moisture-air stability and instability, condensation, precipitation – formation, characteristics and types. Atmospheric motion. Effects of upper air circulation and atmospheric disturbances. Tropical and Temperate cyclones. Origin, types and distribution of jetstreams. Mechanism of Indian Monsoon.

## **SEMESTER SYSTEM OF P. G. GEOGRAPHY**

### **Unit-II**

Climate variability and change-Evidences causes and theories. Paleoclimatology, Global Warming, Ozone depletion. Synoptic climatology-Weather forecasting, interpretation and generation of climatic information specially for water balance study and agricultural study.

### **Unit-III**

Physical and chemical properties of ocean water. Coral reef and atoll-origin and growth. Ocean deposits. Marine resources and their significance.

### **Book List:**

1. H. J. Critchfield: General Climatology, Prentice Hall of India Pvt. Ltd.
2. E. T. Stringer: Foundations of Climatology, Surjeet Publications.
3. G. T. Trewartha: An Introduction to Climate, McGraw Hill.
4. Barry & Chorley: Atmosphere, Weather and Climate.
5. P. K. Das: Monsoons, NBT.
6. D. S. Lal: Climatology, Chaitanya Publishing House.
7. R. C. Sharma and M. Vatal: Oceanography for Geographers, Chaitanya Publishing House.

## **GEO – 302 (Paper-X) SOCIAL, CULTURAL AND POLITICAL GEOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

### **Unit-I**

Concept, field and approaches in cultural geography. Cultural elements, Components, convergences and divergences. Cultural diversity of the world Race, Religion and Language as elements of culture.

### **Unit-II**

Definition, nature and scope of Social Geography. Elements of Social Geography – Tribe, Caste, Language, Religion. A Social Geographic analysis of India-Historical developments of Social Organization. Social differentiation and region formation.

### **Unit-III**

Social and Political Organizations. Nation and State. Concept of Heartland and Rimland concept of Geopolitics-external and internal Right over coastal waters, Riparian rights, concept of EEZ.

### **Book List:**

1. De Blij: Regions and concepts in Geography
2. A. Ahmed: Social Geography, Rawat Publications.
3. Sudepta Adhikary: Political Geography
4. N. J. G. Pounds: Political Geography, McGraw Hill.
5. De Blij: Human Geography, Culture, Society and Space



## **SEMESTER SYSTEM OF P. G. GEOGRAPHY**

### **GEO - 303 (Paper-XI) ENVIRONMENTAL GEOGRAPHY**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Concept of Environment, Development of Environmentalism. Man-Environment Relationship. Basic Principles of Environment. Sustainable Development – Concept, Definition, Goal. Strategy for sustainable living. Environmental Laws.

**Unit-II**

Environmental Impact Assessment- EIA concept, Process and Evaluation methods. Goals and Principle's of EIA. Effects of EIA on projects. Environmental effects of Tourism Development Activities. Environmental Impact Management of Water Resource Development Projects. Different Earth Summits.

**Unit-III**

The concept of Hazard and Disaster. Types, Occurrence and characteristics of natural hazards- Drought, Flood, Earthquake, Tsunami, Landslide; Concept of Disaster Management-Impact, Rescue, Relief, Reconstruction. Planning, Preparedness, Mitigation.

**References:**

1. Miller: Living in Environment.
2. Tyler G: Living in the Environment.
3. Odum: Fundamental of Ecology
4. Singh Sovinder: Environmental Geography.

### **PRACTICAL GEO - 304 (Paper-XII) MODELS**

**Full Marks - 100  
Seminar - 20**

**TE - 80**

**Unit-I**

Models – types and uses.

**Unit-II**

Morphometric Analysis of Fluvial Landscape, Testing of laws of Stream Order, Length, Area, Slope, Drainage density, Sinuosity Index.

**Unit-III**

Rural and urban settlement pattern, Nearest Neighbour Analysis, Chi-square distribution, Population Potential and population interaction model.

**Unit-IV**

Network Analysis of Transport – Alpha, Beta and Gamma Indices, Degree of circuitry, Detour Index, Degree of Development.

**Unit-V**

Agricultural Efficiency, Construction of Isotims and Isodapanes.

**Unit-VI**

Population Projection – AP, GP and Gibbs Method

Practical Record and Viva voce 20% marks.

**Unit-VII**

Seminar

**FOURTH SEMESTER**

**THEORY**

**GEO – 401 {Paper-XIII (THEORY)}**

**NATURAL RESOURCE MANAGEMENT**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Need of Natural Resource Management, Approach of Natural Resource Management (Conservationist & Populist), Population Pressure, Development and Resource use. Natural hazards and impact on resource.

**Unit-II**

Meaning and principal of conservation and management, integrated management of natural resource with special reference to India.

**Unit-III**

Historical background of use of resource (Soil, Water & Forest) in India & Odisha.  
Concept of Resource appraisal , Concept of Sustainable development , Limits growth , Use of GIS & Remote sensing in resource appraisal.

**Book List:**

1. W.M Adams: "Green Development, Environmental & Sustainable Development" 1990
2. P. L. Owens & S. Owens: "Environment Resource & Conservation", 1991, Cambridge University.
3. R.W Kates & Burton: "Geography, Resources & Environment", University of Chicago, 1996
4. B.S Negi: "Human and Resource Geography"
5. J. A. Miller - Living in Environment

**GEO – 402 (Paper-XIV)**

**Special Paper**

**URBAN AND REGIONAL PLANNING – I (Urban Planning)**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Urban Geography-Meaning, concepts, scope and approaches to the study. Development of Urban Geography (World and India). Origin and evolution of towns. (Factors, stages of evolution) in India and World. Urbanisation in India.

**Unit-II**

Factors influencing morphology – Types of urban morphology. Theories of urban morphological growth. Axiate theory, Concentric Zone theory, Sector theory, Multiple Nuclei Theory, Composite theory, Garrison Model, Colin Clark Model. Urban Land use (Residential, Commercial, Industrial, Transport, Public and Semi-Public, Open Spaces) Morphology of Indian Cities (Varanasi, New Delhi, Kolkata, Bhubaneswar).

**Unit-III**

Functional classification of Towns, Quantitative classification of towns-Aurroussau, Mc canzie, Taylor, Mumford, Harris, Webb, Mukerjee. Theory of Spatial Diffusion of Innovation Centrality of Central Places- Hierarchy of Central Places. Town Planning Theories of Howards, Gedds, Le Corbuzer.

**Book List:**

1. Ashis Bose: Studies in India's Urbanisation, Tata McGraw Hill.
2. Harold Carter: The Study of Urban Geography, Edward Arnold, London.
3. Roy Turner (ed.): India's Urban Future.
4. K. Siddharth: Urban Geography, Kishlay Publications
5. R. J. Johnston: City and Society – An Outline for Urban Geography, Unwin.
6. R. B. Mandal: A Text Book of Urban Geography Concept.

**OR**

**GEO – 402 (Paper-XIV)  
Special Paper  
GEOGRAPHY OF TOURISM – I**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Travel and Tourism. Growth of travel through ages-accounts of famous travellers, pleasure re, religion, the grand Tour, Origin of concept of annual holiday. Industrial revolution and development of travel. Growth and development of modern tourism. Basic components and elements of tourism.

**Unit-II**

The organization of tourism – Need for organization. Factors influencing type of organization. Recommendation of UN conference. Tourist policy of Government of India. The measurement of Tourism-need, importance. Definition of the term 'tourist'. General problems of measurement. Types of tourist statistics. Methods of measurement.

**Unit-III**

Tourism marketing – concept, the tourist product. Market Segmentation, Marketing processes and functions. Tourism Promotions. Economic and social significance of tourism.

**Book List:**

1. A. K. Bhatia: Tourism Development Principles and Practices, Sterling Publication.
2. N. Prasad & R. Basu (ed.): Contemporary Dimensions in Geography, ASC, University of Burdwan.
3. J. M. S. Negi: Tourism and Travel, Concepts and Principles, Gitanjali Publishing House, N. Delhi.
4. H. Robinson: A Geography of Tourism, Mc Dowel and Evans.
5. P. N. Seth: Successful Tourism Management, Sterling Publishers.
- 6.
- 7.

**GEO – 403 (Paper-XV)**

**Special Paper**

**URBAN AND REGIONAL PLANNING – II (Regional Planning)**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Concept of region in Geography. Concept, Scope, content and types of regional planning. Types of regional Methods and techniques of Regionalisation. Regional Development theories. Economic Base Theories, Growth foci theories of regional development, Territorial Production complex, Land Use Planning.

**Unit-II**

Regional Imbalance and Regional disparity in India. Regional Planning efforts in India through plans. Planning regions of India. Multi level planning, decentralized planning. Development of backward areas. Target group approach. Area development strategy, Employment and income generation.

**Unit-III**

Watershed Management Planning, Wasteland Development Planning and Wetland Management Planning. Metropolitan planning-Master Plan Delhi, Chandigarh and Bhubaneswar.

**Book List:**

1. John Glassor: Regional Planning.
2. R. P. Mishra (ed.): Regional Planning; Concepts, Techniques, Policies, Case Studies; Vikash.
3. P. G. Hall: Urban and Regional Planning, Penguin.
4. Mahesh Chand and V. K. Puri: Regional Planning in India, Allied Publishers.
5. M. J. Bruton (ed.): The Spirit and Purpose of Planning, Hutchinson, London.
6. Dhruv Narayan: Watershed Management Planning.
7. L. N. Vyas and R. K. Garh (ed.): Wetland Conservation Env. Comm. Center Udaipur.

**OR**

**GEO – 403 (Paper-XV)**

**Special Paper**

**GEOGRAPHY OF TOURISM - II**

**TE - 40**

**Internal Assessment - 10**

**Unit-I**

Study of Physical and cultural environment of India from tourist point of view. Historical perspective of Indian tourism. Cultural heritage of India and its effect on tourism. Physical landscape of India and its effect on tourism.

**Unit-II**

Study of selected tourist places of India under following heads (a) Geographical location, (b) Physical landscape, (c) Climate, (d) Tourist resources and (e) Infrastructure and tourist flow.

Tourist Places – Kedarnath, Badrinath, Gangotri, Shimla, Nainital, Darjeeling, Varanasi, Agra, Gaya, Delhi, Kolkata, Amritsar.

Problems and Prospects of tourism in India.

**Unit-III**

Cultural heritage of Orissa and its effect on tourism. Development of tourism in Orissa after independence. Study of important tourist places in Orissa – Puri, Konark, Bhubaneswar, Similipal, Chilika, Hirakud Dam, Ushakothi.

**Book List:**

1. Ram Acharya: Tourism in India, National Publishing House, N. Delhi.
2. S. N. Chib: Perspectives on Tourism in India, Publications Division, Ministry of I & B, New Delhi.
3. V. K. Gupta: Tourism in India, Gian Publishing House.
4. M. Kumar: Tourism Today; An Indian Perspective, Kaniska Publishing House.
5. S. N. Singh: Geography of Tourism and Recreation in India, New Delhi.
6. A Handbook of Tourist Places in Orissa, Deptt. of Tourism, Government of Orissa.

**PRACTICAL**  
**GEO – 404 (Paper-XVI)**  
**REGIONAL PLANNING**  
**Full Marks – 100**

**TE – 80**

**Seminar-20**

**Unit-I**

- (i) (a) Delimitation of CBD (b) Neighbourhood Planning (c) Redevelopment Plan (d) Delimitation of Umland
- (ii) (a) Delimitation of Economic Regions (i) Agriculture (ii) Industry (iii) Transport (b) Delimitation of Socio-Cultural Regions (i) Population (ii) Backward Population (c) Composite regions (i) Level of Development (ii) Regional Disparity Analysis
- (iii) Practical Record and Viva voce 20% of marks.

**Unit-II**

Seminar Presentation and submission of report.

**OR**

**GEOGRAPHY OF TOURISM**

**Unit-I**

- (i) Drawing of Climograph with scale of comfort and its interpretation.
- (ii) Drawing of frequency curve, histogram based on tourist data.
- (iii) Drawing of traffic flow cartogram showing linkage of tourist places.
- (iv) Drawing of divided circles and composite bar diagram showing tourist arrival and availability of tourist accommodation.

**Unit-II**

Practical Record and Viva voce 20% of marks.  
Seminar Presentation and submission of report.

## **SEMESTER SYSTEM OF P. G. GEOGRAPHY**

### **Book List (Paper- 104, 204, 304 and 404):**

1. A. Robinson: Elements of cartography, Wiley International Edition.
2. S. Gregory: Statistical Methods and Geography.
3. R. L. Singh: Elements of Practical Geography.
4. S. K. Pal: Statistics for Geoscientists; Concept.
5. Neela Mukherjee: Participatory Rural Appraisal; Concept.
6. N. Khan: Quantitative Methods in Geographical Research; Concept.
7. R. P. Mishra & A. Ramesh: Fundamentals of Cartography; Concept
8. J. A. Steers: Introduction to study of Map Projection.
9. T. P. Kanitker: Surveying (Vol. I & II).
10. Brian. P., Fitzgerald: Science in Geography, Oxford University Press.
11. F. J. Monkhouse: Maps and Diagrams, B. I. Publications.

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