PERIYAR UNIVERSITY

PERIYAR PALKALAI NAGAR

SALEM - 11

DEGREE OF MASTER OF SCIENCE

CHOICE BASED CREDIT SYSTEM

SYLLABUS FOR M.SC.GEOGRAPHY

FOR THE STUDENTS ADMITTED FROM THE ACADEMIC YEAR 2012 – 2013 ONWARDS

BOARD OF STUDIES

1.	**Thiru P. Peethambaram,** **Associate Professor & Head,** **Department of Geography,** **Arignar Anna Govt. Arts College,** **Namakkal – 637 002.**	**Chairman**
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4.	**Thiru P. Sundarasolan,** **Associate Professor,** **Department of Geography,** **Arignar Anna Govt. Arts College,** **, Namakkal – 637 002.**	**Member**
5.	**Thiru. P. Arul,** **Associate Professor,** **Department of Geography,** **Govt. Arts College For Men (Autonomous),** **Kumbakonam - 612 001.**	**Member** **(EXTERNAL)**
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PERIYAR UNIVERSITY

PERIYAR PALKALAI NAGAR

SALEM – 11

M.Sc., DEGREE COURSE

(Semester System)

FACULTY OF SCIENCE

BRANCH - IV: GEOGRAPHY
(Choice Based Credit System)
(For Periyar University Affiliated Colleges)

REGULATIONS AND SYLLABUS

(with effect from 2012-2013 onwards)

1. Objectives of the Course

Geography discipline is penetrating in to all sphere of human activities and therefore it is necessary to prepare the students to cope with the advanced developments in various fields of Geography. The objectives of this course are the following:

(a) To impart knowledge in conventional and recent concepts and applications in various areas of Geography.

(b) To train the students in various practical aspect of Geography.

(c) To provide wide choice of elective subjects which are relevant with updated and new areas in various branches of Geography to meet the needs of all students.

2. Eligibility for Admission:

A candidate who has passed B.Sc., Geography / B.Sc Earth Sciences, Physical Sciences, Chemical Sciences, Biological Sciences and computer applications degree of this University or any of the above degree of any other University accepted by the Syndicate equivalent thereto, subject to such condition as may be prescribed therefore shall be permitted to appear and qualify for the Master of Science (M.Sc.,) Degree Examination in Geography of this University after a course of study of two academic years.

3. Duration of the Course:

The course of study of Master of Science in Geography shall consist of two academic years divided into four semesters with 92 credits. Each Semester consists of 90 working days.

4. Course of Study:

The courses of study for the degree shall be in Branch - Geography (Choice Based Credit System) with internal assessment according to syllabi prescribed from time to time. The **Internal Assessment** mark is distributed to 3 components viz **Tests, Seminar** and **Attendance** as **10**, **10** and **05** marks, respectively.

Total Number of Marks : **2100**
For Each Paper : **100** (Int. 25 + Ext. 75)

Project : **100** [Internal Valuation 25 + External Valuation 25
Joint Viva Voce 25 + 25]

5. <u>STRUCTURE OF THE PROGRAMME:</u>

SEM	Paper No.	Paper Code	Title of the Paper	Hours	Credit	MARKS		
						CIE	EA	Total
I	I	12PGG01	Geomorphology	6	5	25	75	100
	II	12PGG02	Population Geography	6	5	25	75	100
	III	12PGG03	Environmental Studies	6	5	25	75	100
	IV	12PGGP01	**Practical – I** Terrain and Climatic Data Analysis	6	4	25	75	100
	V	12PGGZ01	Agricultural Geography **(ELECTIVE)**	5	4	25	75	100
II	VI	12PGG04	Geography of Economic Activities	6	5	25	75	100
	VII	12PGG05	Climatology	6	5	25	75	100
	VIII	12PGG06	Urban Geography	6	5	25	75	100
	IX	12PGGP02	**Practical – II** Statistical and Computer Applications in Geography	6	4	25	75	100
	X	12PGGZ02	Oceanography **(ELECTIVE)**	5	4	25	75	100

	XI XII	12PGGEDC1 12PGGEDC2	Geography of India **(EDC)** **(OR)** Regional Geography of Tamil Nadu **(EDC)**	5	4	25	75	100
	XIII	12PHR01	Human Rights **(COMMON PAPER)**	5	2	25	75	100
III	XIV	12PGG07	Principles of Cartography	6	5	25	75	100
	XV	12PGG08	Concepts and Trends in Geography	6	5	25	75	100
	XVI	12PGGP03	**Practical – III** Thematic Cartography	6	4	25	75	100
	XVII	12PGGZ03	Disaster Studies **(ELECTIVE)**	5	4	25	75	100
IV	XVIII	12PGG09	Geography of India	6	5	25	75	100
	XIX	12PGG10	Principles of Remote Sensing and GIS	6	5	25	75	100
	XX	12PGGP04	**Practical – IV** GIS and Remote Sensing Applications	6	4	25	75	100
			PROJECT	6	4	25	75	100
	XXI	12PGGZ04	Geography of Travel and Tourism **(ELECTIVE)**	5	4	25	75	100
Total				**120**	**92**			**2100**

6. Examinations:

The examination shall be of **three hours** duration for each paper at the end of each semester. The candidate failing in any subject(s) will be permitted to appear for each failed subject(s) in the subsequent examination.

Practical examinations for PG course should be conducted at the end of the even semester only.

At the end of fourth semester viva-voce will be conducted on the basis of the Project report by one internal and one external examiner.

7. Question paper pattern:

Question paper pattern for Theory Examination

Time: Three Hours **Maximum Marks:** 75

Part – A (5 X 5 = 25 Marks)

Answer **ALL** Questions

(Either or Type)

Part – B (5 X 10 = 50 Marks)

Answer **ALL** Questions

(Either or Type)

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Question paper pattern for Practical Examination

Time: 3 Hours Maximum: **100 (**Internal: 40 + External: 60) Marks

Practical Examination: **60** Marks (Exam: 50 Marks, Record: 10 Marks)
Passing Minimum: **30** Marks (Aggregate of examination and Record)
(No passing minimum for records)

There will be one question with or without subsections to be asked for the practical examination. Every question should be chosen from the question bank prepared by the examiner(s). Every fourth student gets a new question i.e. each question may be used for at most three students.

8. Project:

(a) Topic:

The topic of the project shall be assigned to the candidate before the beginning of third semester and a copy of the same should be submitted to the University for approval.

(b) No. of copies project:

The students should prepare **Three** copies of Project report and submit the same for the evaluation by Examiners. After evaluation one copy is to be

retained in the college library and one copy is to be submitted to the university (Registrar) and one copy can be held by the student.

Format to be followed:

The formats / certificate for project to be submitted by the students is given below:

Format for the preparation of project work:

(a) Title page

(b) Bonafide Certificate

(c) Acknowledgement

(d) Table of contents

CONTENTS

Format of the Title page:

TITLE OF THE PROJECT

Project Submitted in partial fulfillment of the requirement for the award of the Degree of Master of Science in

GEOGRAPHY

(Under Choice Base Credit System)

to the Periyar University, Periyar Palkalai Nagar, Salem -636 011.

By

Student's Name :

Register Number :

College :

Year :

Format of the Certificate:

CERTIFICATE

This is to certify that the project entitled ……submitted in partial fulfillment of the requirement of the award of the Degree of Master of Science in **GEOGRAPHY (Under Choice Based Credit System)** to the Periyar University, Salem is a record of bonafide research work carried out by……..under my supervision and guidance and that no part of the project has been submitted for the award of any degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journals or magazines

Date: Signature of the Guide

Place:

Signature of the Head of the Department

Guidelines for approval of PG guides for guiding students in their research for submitting project:

A person seeking for recognition as guide should have:

(a) A Ph.D. Degree or M.Phil / M.A. / M.Sc. Degree with first class / second class and

(b) Should have 3 years of teaching / research experiences.

9. Passing Minimum

The candidate shall be declared to have passed the examination if the candidate secures not less than 50% marks in both the **University Examinations** and **Internal Assessment** in each paper.

For the Practical paper, a minimum of 50 marks out of 100 marks in the University examination and the record notebook taken together is necessary for a pass. There is no passing minimum for the record notebook. However submission of record notebook is a must.

For the Project work and viva-voce a candidate should secure 50% of the marks for pass. The candidate should attend viva-voce examination to secure a pass in that paper.

Candidate who does not obtain the required minimum marks for a pass in a paper / Practical Project Report shall be required to appear and pass the same at a subsequent appearance.

10. Classification of Successful Candidates

Candidates who secure not less than 60% of the aggregate marks in the whole examination shall be declared to have passed the examination in **First Class.**

All other successful candidate shall be declared to have passed in the **Second Class.**

Candidates who obtain 75%of the marks in the aggregate shall be deemed to have passed the examination in the **First Class with Distinction** provided they pass all the examinations prescribed for the course at the first appearance.

Candidates who pass all the examinations prescribed for the course in the first instance and within a period of two academic years from the year of admission to the course only are eligible for **University Ranking.**

11. Maximum Duration for the completion of the PG Programme:

The maximum duration for completion of the PG Programme shall not exceed eight semesters.

12. Commencement of this Regulation:

These regulations shall take effect from the academic year 2012-2013, that is, for students who are admitted to the first year of the course during the academic year 2012-2013 and thereafter.

13. Transitory Provision:

Candidates who were admitted to the PG course of study before 2012-2013 shall be permitted to appear for the examinations under those regulations for a period of three years, that is, up to end inclusive of the examination of April / May 2015. Thereafter, they will be permitted to appear for the examination only under the regulations then in force.

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Detailed Structure of Syllabus

GEOMORPHOLOGY

Paper – I **12PGG01** **Credits: 5**

UNIT – I

Nature, Scope and Development – Basic Concepts in Geomorphology- Endogenic processes –Fold, Fault, Earthquake, Volcanoes – Continental Drift – Plate Tectonics.

UNIT – II

Exogenic processes – Weathering – Mass movement – Soils – Concept of Landform evolution – Davisian – Dynamic Equalibrium concept.

UNIT – III

Arid Cycle – Slopes – Basic characteristics – Ideas of Wood – Concept of Slope Decline, Slope Replacement and Parallel Retreat of Slopes.

UNIT – IV

Aeolian landforms – Karst landforms – Glacial landforms – Coastal landforms – Classification of coasts.

UNIT – V

Ice Ages – Climatic Geomorphology – Morphogenetic regions – Applied Geomorphology with reference to engineering, mineral exploration and hydrological studies.

Books for Reference:

1. Study of Landforms – Small, R.J., Cambridge, 1999.
2. A textbook of Geomorphology – Dayal, P., Shukla Book Depot, 1996.
3. Geomorphology - Chorley et al, Methuen, 1984.
4. Principles of Geomorphology – Thornbury, W.D. John Wiley, 1984.
5. Geomorphology – Sparks, Longmans, 1976.
6. Introduction to Climatic Geomorphology – Tricart & Caileux, Longmans, 1972.
7. Introduction to Geomorphology – Pitty, Alistair F. Methuen, 1971.

POPULATION GEOGRAPHY

Paper – II 12PGG02 Credits: 5

UNIT – I

Nature, scope and significance of Population Geography-Sources of Population data-Reliability of population data-World population distribution-Factors affecting distribution.

UNIT – II

Dynamics of Population-Fertility-Measures and determinants of Fertility-World trend-Mortality-Measures and determinants of Mortality –World trend-World population –Growth and its trend.

UNIT – III

Theories of population growth-Malthus-Demographic Transition-Migration-Types-Determinants-Major consequences of migrations-Laws of migration.

UNIT – IV

Population composition-Sex composition-Gender-Age structure –Problems of the aged-Literacy-Determinants and world pattern of literacy.

UNIT – V

Occupational composition of population-Determinants and world pattern-Urbanization-Population and resources-Optimum population,over population and under population –population problems.

Books for Reference:

1. The End of World Population Growth in the 21st century:New Challenge for Human Capital formation and Sustainable Development – Lutz,W.Sanderso,W.C.and Scherbov,S.-Earthscan,London 2005.
2. Geography and Population:Approach and Applications-Clarke John,I(ed.),Pergamon Press Ltd.Oxford,1984.
3. Populataion Geography-Clarke,J.I.,Pergamon Press Ltd.,Oxford,1972.
4. PoPulation Geography:A Reader,Demko G.J.,Rose,H.M.and Schnell,G.A.,Mc Graw Hill IBook Col.,New York,1970.
5. Principles of Demography,Bogue Donald,J.,John Wiley &Sone,New York,1969.
6. A Geography of population:World Patterns-Trewartha,G.T.,John Wiley & Sons,New York,1969.
7. Population Geography,Wilson,M.G.A.,Nelson,London,1968.
8. Geography of population,Beaujeu-Garnier,Longman Group Ltd,London,1966.

ENVIRONMENTAL STUDIES

Paper - III 12PGG03 Credits: 5

UNIT – I

Nature and scope of Environmental Studies – Role of Geography – Man and environment relationship.

UNIT – II

Concept of Ecosystem – Structure – Functioning of the ecosystem – Food chain, food web and food pyramid – Nutrient cycles – Natural disruptions of the ecosystem – Floods – Drought and others.

UNIT – III

Human interference of the ecosystem – Population growth and its impact – Man's impact on the biosphere – Agriculture – Green Revolution – HYV and pesticides – Man's impact on land – Mining – Soils – Coastal areas.

UNIT – IV

Human settlements and environment – Industrial environment – Emerging environmental problems – Urban environment – Pollution – Environmental and health – Environmental degradation.

UNIT – V

Eco crisis – Environmental quality – Environmental management and planning – Environmental Impact Assessment – Conservation movements – Need for interdisciplinary approach.

Books for Reference:

1. Principles of Environmental Science: Inquiry and Application – Cunningham, W.P. and Cunningham, M.N., Tata McGraw Hill Publishing Company, Ltd. 2004.
2. Essentials of Environmental Studies – Joseph, Kurina, Nagendran, P., Pearson Educatioin, 2004.
3. Environmental Challenges of the 21st century – Radha, S, Dankhyan, A.S. Deep and Deep Publications Pvt.Ltd. New Delhi, 2002.
4. Environmental Impact Assessment – Wathern, P, Routledge, 1995.
5. Introduction to Environmental Studies – Turk, Saunders 1980.
6. Geography and Man's environment – Strahler and Strahler, Wiley 1977.
7. Man and the changing environment – Frank, Holt Reinhart 1975.
8. Conceptual revolution in Geography – Davies, University of London, 1972.
9. Man's impact on environment – Detwyler, T.R., McGraw Hill Book Company,1971.

PRACTICAL – I TERRAIN AND CLIMATIC DATA ANALYSIS

Paper – IV **12PGGPO1** **Credits: 4**

UNIT – I: Drawing Profiles

1.1 Serial Profile
1.2 Superimposed Profile
1.3 Projected Profile
1.4 Composite Profile

UNIT – II: Slope Analysis

2.1 Wentworth method
2.2 Smith Relative relief method
2.3 Altimetric Frequency Curve
2.4 Hypsographic Curve.

UNIT – III: Morphometric Analysis

3.1 Stream Ordering
3.2 Bifurcation ratio
3.3 Stream Length Ratio
3.4 Miller's Drainage Shape Calculating Method

UNIT – IV: Climatic data analysis

4.1 Foster Climograph
4.2 Climatograph
4.3 Rainfall Dispersion Diagram
4.4 Wind-Rose Diagram

Books for Reference:

1. Elements of Cartography – Robinson, A. John Wiley & Sons, Inc, 1978
2. Maps and Diagrams – Monkhouse F.G., and Wilkinson, H.R., Methuen & Co. Ltd. 1973.
3. Elements of Practical Geography – Singh, R.L. and Dutt, P.K., Student Friends, Allahabad, 1972.

AGRICULTURAL GEOGRAPHY

Elective Paper - V 12PGGZ01 Credits:4

UNIT – I

Nature scope and significance of Agricultural Geography-Approaches to the study of Agricultural geography-Elements of agriculture.

UNIT – II

Determinants of agricultural land use-Physical,economic,social,institutional and technological determinants.

UNIT – III

Von Thunen's theory of agricultural location and its recent modifications-Land use-Types –Land use surveys-Land capability classification.

UNIT – IV

Agricultural productivity-Factors affecting productivity-Measurement of agricultural productivity-Crop combination-Delimitation of crop combination regions-Weaver-Crop diversification regions.

UNIT-V

Agricultural regions of the world-A review of Whittlessey's agricultural classification-Agricultural regions of India-Characteristics-Agricultural Problems.

Books for Reference:

1. Agricultural Geography-Hussian,M.,Inter-India Publications,Delhi,1979
2. Agricultural Geography-Morgan,W.B,and Munton,R.J.C.,London,1971
3. Agricultural Geography-Jaspir Singh and Dhillon,Tata McGraw Hall,Pub.Company Ltd., New Delhi.

GEOGRAPHY OF ECONOMIC ACTIVITIES

Paper – VI **12PGG04** **Credits: 5**

UNIT – I

Introduction to Geography of Economic Activites – Nature, scope and Significance – Approaches – Dynamism of Economic Activities.

UNIT – II

World agriculture – Factors affecting agriculture – types – Distribution, production and trade of wheat, rice, maize, sugarcane, cotton, tea and rubber only – Forestry – Fishing – Grazing and pastoralism.

UNIT – III

Economic significance of minerals – Distribution and production of iron ore, manganese, bauxite, copper, gold and mica only – Fuel resources – Coal – Petroleum – Nuclear minerals.

UNIT – IV

Manufacturing industries – Major inputs – Locational factors – Distribution of iron and steel, textiles (cotton and woolen) – Ship-building – Automobile industries only – Major industrial regions of the world.

UNIT – V

Transportation – Land, water and air – Major sea routes of the world – Trade – Factors influencing trade – Technological revolution and trade – Major trade blocs of the world – EU – OPEC – ASEAN – WTO.

Books for Reference:

1. Economic Geography – James, O., Wheeler & Peter O, Muller, John Wiley, 1998.
2. Economic and Commercial Geography – Khanna, K.K. and Gupta, V.K. Sultan Chand & Sons, 1998.
3. Agricultural Geography – Morgan, W.B., and Muntan, R.J.C., Methuen & Co. Ltd., 1981.
4. Agricultural Geography – Hussain, M., Inter –India Publication, New Delhi.
5. Industrial Location – Smith, D.M., John Wiley & Sons, 1971.
6. Fundamentals of Economic Geography – Van Royen, W., and Bensten, N.A., Prentice Hall of India Private Ltd. New Delhi, 1971.
7. Geography of Economic Activity – Thoman, R.S., Conkling, E.C., and Yeates, M.H. McGraw Hill, 1968.
8. Economic Geography – Alexander, John, W, Prentice Hall, 1963.

CLIMATOLOGY

Paper – VII 12PGG05 Credits: 5

UNIT – I

Structure and Composition of the Atmosphere – Insolation – Heat balance – Temperature – Factors controlling temperature distribution – Green house gases.

UNIT – II

Atmospheric pressure – Pressure belts – Horizontal and vertical distribution of pressure Wind systems - General circulation – Planetary winds – Seasonal and Local winds – Jets, Streams.

UNIT – III

Humidity – Evaporation – Condensation – Forms – Clouds – Precipitation – Types and Distribtion.

UNIT –IV

Air masses – Classification – Fronts – Atmospheric disturbances – Tropical cyclones and Temperate cyclones.

UNIT – V

Koppen and Thornthwaite – Weather forecast weather satellites – recent trends – Climatic regions of world.

Books for Reference:

1. Climatology: An atmospheric Science – Oliver and Hidore, J.J., Pearson Education, 2002.
2. Oceanography: An invitation to Marine Science – Garroson, T., Brooks/ Cole 2002.
3. Climatology – Miller , A, Suhubhi Publicaitons, Delhi, 2001.
4. Atmosphere, Weather and Climate – Barry & Chorley, Methuen & Co., 1998.
5. General Climatology, Critchfield, H.J., Prentice Hall of India, Private Ltd. 1997.
6. Climatology – Lal, D.S. Chaitanya Publishing House, Allahabad, 1996.
7. An Introduction to Climate – Trewartha, McGraw Hill, 1980.
8. Introduction to Meteorology – Cole, F. W., John Wiley & Sons. 1975.
9. Principles of Climatology – Neuburger, H and Cahir, J, Holt and Reinhart, 1969.
10. General Meterology – Byers, R.H., McGraw Hill Book Company, 1959.
11. Introduction to Physical Hydrology – Chorley, Methuen.
12. Principles of Hydrology – Ward.
13. Water, Earth and Man – Chorley.
14. Hydrology – Raghunath Singh.

URBAN GEOGRAPHY

Paper – VIII 12PGG06 Credits: 5

UNIT-I

Nature,scope and development of urban geography-Urbanization-Factors affecting urban growth-World urbanization-Urbanization in Developing countries-Urbanization in India.

UNIT-II

Demographic structure of cities-Age and sex structure-Population density distribution-Models-Occupational structure-Urban land use –Types Central business district-Delimitation-Residential land use –Types-Central business district-Delimitation-Residential land use –Urban land use change.

UNIT-III

Urban land use models-Burgess-Hoyt-Harris and Ullman –Urban ecology-Social Area analysis-Factorial ecology –Economic Base and functional organization of the city-Basic and Non basic concept-Functional classification of the city-Basic and Non-basic concept –Functional classification of cities.

UNIT-IV

Urban expansion-Vertical-Urban renewal-Horizontal-Urban sprawl-Rural-Urban Fringe-Suburbs-Growth and characteristics-City region Umland demarcation.

UNIT-V

Urban hierarchy-Rank size rule –Central Place theory-Urban Problems –Slums,Transport,Solid waste management,Drinking water supply-Pollution –Urban Planning.

Books for Reference:

1. The Study of Urban Geography-Carter,H.,Arnold,2002.
2. Urbanization and Landuse Conflict at Urban Fringes-Bimal Kumar (ed) A.P.H. Publishing Company,1998.
3. Urban Geography-Tim Hall,Routledge,1998.
4. Urban Geography –Northam.
5. The North American City-Yeats,M.and Garner,B.,Harper and Row,1976.
6. Urban Society-Gist,N.P.and Fava,S.F.,Thomas,Y.Crowell Company,New York,1974.
7. Urban Geography: An Introductory Analisis-Johnson,J.H,.Pergamon Press,Oxford,1972.
8. The Geography of Towns –Jones.Oxford University Press,1970.
9. Readings in Urban Geography-Mayer,H.M.and Kohn,C.F.Central Book Depot, Allahabad,1967.

STATISTICAL AND COMPUTER APPLICATIONS IN GEOGRAPHY

Paper – IX **12PGGP02** **Credits: 5**

UNIT – I: Introduction to Basics of Computers

1.1 Historical Development
1.2 Microsoft-Word-Power point Presentation –Excel Graphics

UNIT – II: Data Collection

2.1 Sources of Data
2.2 Primary, Secondary and Spatial Data
2.3 Pilot study
2.4 Sampling methods
2.5 Sampling error

UNIT – III: Data Processing and Representation

3.1 Frequency distributions and diagrammatic representation
3.2 Histogram
3.3 Frequency curve
3.4 Polygon

UNIT – IV: Measures of Central tendency

4.1 Mean, Median and Mode

Measures of dispersion

4.2 Mean deviation
4.3 Quartile deviation
4.4 Standard Deviation
4.5 Coefficient of Variations

UNIT – V: Correlation Techniques

5.1 Pearson's Product Moment Correlation
5.2 Spearman Rank Correlation

Regression Analysis in Geography

5.3 Residual Mapping
5.4 Factor Analysis

Books for Reference:

1. Statistical Analysis Quick Reference Guide Book With SPSS Example-Elliott,A.C.,&Woodward W.A.Sage Publication-2007.
2. Applied Statistics with SPSS-Huizingh,E.Sage Publication,London,2007.
3. Statistical Techniques,N.K.Sharama,Mangal Deep Publication,Jaipur,1996.
4. Statistical Analysis for social Sciences-Surendar,S.Yadava and K.N.S. Yadava Mank Publication,Pvt,Ltd.Delhi 1995.
5. Statistical Methods and the Geographer,Gregory,S.Longmans,London.1964.
6. Maps and Statistics –Lewis,P.,Methuen& Co. 1972.
7. Statistical Analysis on Geogrphy-Leslie,J King,Prentice Hall –Inc.Engelwood Cliffs, N.J.1969.
8. Quantitative Geography:Techniques and Theories in geography –Cole,P and King,A.M.,John Wiley&sons,Ltd.,London,1968.

OCEANOGRAPHY

Paper - X **12PGGZ02** **Credits: 4**

Unit – I

Scope, Content, Significance, Distribution of Land and Sea – Hypsometric Curve, Surface Configuration of the Ocean Floor: Continental Shelf, Continental Slope, Deep Sea Plain, Oceanic Deeps and Submarine Canyons.

Unit – II

Atlantic, Pacific and Indian Ocean – Horizontal and Vertical Distribution of Seawater Temperature, Salinity: Factors Affecting Salinity and Distribution.

Unit – III

Factors Influencing Ocean Circulation – General Circulation of Ocean Currents, Currents of the Atlantic, Pacific and Indian Ocean, Waves and Tides: Definition and Types, Tsunamis: Origin and Effects.

Unit – IV

Classification and Distribution – Coral Reefs types - Conditions for the Growth.

Unit – V

Types – Distribution and Uses – Tidal Energy – Role of National Institute of Oceanography in India.

Books for Reference:

1. Anikouchine, W. A. and Sternberg, R. W.: The World Oceans - An Introduction to Oceanography, Englewood Cliffs, 1973.
2. Garrison, T.: Oceanography, Wadsworth Co. USA, 1998.
3. Gerald, S.: General Oceanography: An Introduction, John Wiley & Sons, New York, 1980.
4. King, C. A. M.: Beaches and Coasts, E. Arnold, London, 1972.
5. King, C. A. M.: Oceanography for Geographers, E. Arnold, London, 1975.
6. Ramasamy, G.: Oceanography (Tamil Edition), Tamil Nadu Text Book Society, Chennai, 1970.
7. Sharma, R. C. and Vatel, M.: Oceanography for Geographers, Cheytanya Publishing House, Allahabad, 1970.
8. Shepard, F. P.: Submarine Geology, Harper & Sons, New York, 1948.

GEOGRAPHY OF INDIA

Paper – XI **12PPGEDC1** **Credits: 4**

UNIT – I

Location and Administrative units - Physiographic divisions – Climate – Climatic types – Soils and Natural Vegetation.

UNIT – II

Agriculture – Salient features – Factors affecting, agriculture in India – Major crops – Rice, wheat, cotton, jute, tea, coffee, sugarcane and tobacco only – Irrigation and types – Multipurpose projects.

UNIT – III

Power resources: Hydel, thermal and nuclear – Mineral resources: Iron ore, manganese, bauxite and mica only – Fuel minerals: Coal and Petroleum – Major industries: Iron and steel, Cotton textile, Cement, Sugar and Jute industries.

UNIT – IV

Transport and communication: Land transport – Road and Railways – Water transport – Inland waterways – Ports – Air transport – Foreign trade – Exports and Imports.

UNIT – V

Population: Growth and Distribution of Population – Population migration, Urbanisation in India.

Books for Reference:

1. Geography of India – Tirtha,R. – Rawat Publications, 2002.
2. Geography of India – Nag,P., and Sengupta,S., Concept of publishing Company, New Delhi, 1992.
3. Economic and Commercial Geography of India – Sharma T.C., and Cutchino, O., ViKas Publications, 1980.
4. A Geography of India – Gopal Singh, ATMA Ram Sons, Delhi, 1977.
5. India and Pakistan, Spat O.H.K., and Learmonth, A.T.A., .I. Publications, Maras, 1972.
6. Regional geography of India – Singh R.L., NGSI, Varanasi, 1971.
7. Economic and Commercial Geography of India – Mamoria, C.B. Kitab Mahal, Allahabad.
8. Government of Tamilnadu Publication – Tecno – economic Survey of India.

REGIONAL GEOGRAPHY OF TAMIL NADU

Paper – XII **12PGGEDC2** **Credits: 4**

UNIT – I

Location and administrative units – Physiographic divisions – Climate – Rainfall – Climatic types – Soils – Natural Vegetation.

UNIT – II

Agriculture – Salient features – Major crops – Rice, cotton, tea, coffee, sugarcane – Irrigation and types .

UNIT – III

Power resources – Hydel, thermal and nuclear – – Mineral resources – Iron ore, manganese, bauxite – Fuel minerals – Coal and Petroleum – Major industries – Iron and steel, Cotton textile, Cement and Sugar industries.

UNIT – IV

Transport and communication – Land transport – Road and Railways – Ports – Air transport – Exports and Imports.

UNIT – V

Growth and Distribution of Population – Population migration, Urbanisation in Tamil Nadu.

Books for Reference:

1. Geography of Tamil Nadu – Sakthi V Kumarasamy.
2. Geography of India – Nag,P., and Sengupta,S., Concept of publishing Company, New Delhi, 1992.
3. A Geography of India – Gopal Singh, ATMA Ram Sons, Delhi, 1977.
4. India and Pakistan, Spat O.H.K., and Learmonth, A.T.A., .I. Publications, Maras, 1972.
5. Government of Tamilnadu Publication – Tecno – economic Survey of India.

PRINCIPLES OF CARTOGRAPHY

Paper – XIV **12PGG07** **Credits: 5**

UNIT – I

Meaning and Nature of Cartography – Cartography as a Science – Historical development – Maps – Types of maps – Compilation and generalization of maps.

UNIT – II

Map design and lay out – Lettering and toponomy – Tools and techniques for map drawing – Map construction and reproduction – Developing processes – Photographic and Printing – Photostat – Contact prints – Electronic stencil cutters.

UNIT – III

Symbolizing and processing data – Statistical data base – Use of diagrams on maps – Point, line, area and volume symbols – Qualitative and Quantitative maps.

UNIT – IV

Mapping thegeologic structure, relief and terrain data – Mapping the climatological and hydrological data – Mapping the socio-economic data.

UNIT – V

Map Projections – Fundamentals – Classification – Major types of map projections – Characteristics and uses – Choice of Projections – Recent development in Cartography – Computer Cartograpghy – Digital Cartography.

Books for Reference:

1. Cartography: Vusualization of Geo Spatial Data – Menno Jan Kraak & Ferjan Ormeing, Pearson Education, New Delhi, 2003.
2. Fundamentals of Cartography – Misra and Ramesh, Concept Publishing House, New Delhi, 1989.
3. Elements of Practical Geography – Sigh, R.L., Kalyani Publishers, 1979.
4. Elements of Cartography – Robinson, John Wiley 4th 1978.
5. Maps and Diagrams – Monkhouse and Wilkinson, Methuen & Co. Ltd., London, 1973.
6. Principles of Cartography – Raisz, McGraw hill, 1962.

CONCEPTS AND TRENDS IN GEOGRAPHY

Paper – XV **12PGG08** **Credits: 5**

UNIT – I

Geographical thought – Greeks, Romans, Arabs – German – French – British – America – Australia – Indian Geographical Thought.

UNIT – II

Traditions in Geography – Man – Land, Area Studies, Spatial and Earth Science Traditions – Dualism and Dichotomy – Systematic and Regional, Deterministic and Possibilistic, Physical and Human, Ideographic and Nomothetic, Qualitative and Qualitative.

UNIT – III

Explanations in Geography – Models and Theories in Geography.

UNIT – IV

Recent trends in Geographic Studies – Resource Management – Environmental Impact Assessment – Risk Analysis – Human Rights and Conflict Resolution.

UNIT – V

New Techniques in Geography – Spatial Technology – Remote Sensing – GIS – GPS.

Books for Reference:

1. Modern Geographical Thought – Peet,R, Blackwell Publishers, 2004.
2. Radical Geography – Peet, R., Rawat Publication, Jaipur & New Delhi, 2002.
3. Evolution of Geographical Thought – Hussain, M, Rawat Publication, 2002.
4. Themes in Geographic Thought – Harvey, M.E. & Plly B.P. (ed), Rawat Publications 2002.
5. Geographical Thought: A Contextual History of Ideas – Dikshit, R.D., Prentice Hall of India Private Ltd., 1997.
6. Geography: A Modern Synthesis – Haggett, P., Harper & Row Publishers, 1979.
7. Explanation in Geography – Harvey, Arnold 1972.
8. Conceptual revolution in Geography – Davies, University of London 1972.
9. The changing nature of Geography – Minshull, Hutchinson 1970.
10. Hundred years of Geography – Freeman, Hutchinson 1961
11. Perspective on the Nature of Geography – Hartshorne, AAAG, 1959.

PRACTICAL - III THEMATIC CARTOGRAPHY

Paper – XVI 12PGGP03 Credits: 4

Unit – I

Map Generalization

Unit – II

Scale Conversion

2.1 Large scale
2.2 Small scale
2.3 1 inch to 4 miles
2.4 1 inch to 1 mile
2.5 1:50000 and 1:25000.

Unit – III

3.1 Cartographic Appreciation of Survey of India.
3.2 Detailed interpretation of Survey of India.

Unit – IV

4.1 British Ordnance Survey.
4.2 US Geological Survey maps.

Unit – V

Representation of Statistical data into Thematic maps
Point, Line, Area
Volume symbols.

Books for Reference:

1. Elements of Cartography – Robinson, A.H. and Sale, R.D. John Wiley and Sons, New York 1978.
2. Maps and Diagrams – Monkhouse, FJ. And Willkinson, H.R., Methuen & Co. Ltd. 1973.

DISASTER STUDIES

Elective Paper – XVII 12PGGZ03 Credits: 4

UNIT – I

Basic concepts of disaster-types of disasters-Natural forces and Life-Increasing importance of disasters.

UNIT – II

Earthquakes- Volcanism- Landslides-Tsunami-Cyclone- Flood-Drought, Casual factors, Impact Assessment

UNIT – III

Hazardous Wastes-Radioactivity-Toxicity-Nuclear War, Biological Weapons-Landmines. Pollution: water-Land-Air-Noise pollution.

UNIT – IV

Disaster Preparedness and Mitigation-Managing natural and anthropogenic disasters-Risk assessment and analysis.

UNTI – V

Management and Planning- Response requirement study- GIS and GPS in disaster management: Alternate Route for sending relief and shortest evacuation routes-map creation for action plan identification of risk and planning.

Books for Reference:

1. Introduction to Remote Sensing – Arthur Carcknell, Ladson Hayes, Taylor and Francis, 1991.
2. Principles of Remote sensing and GIS – Anand, P.H. Rajesh, Kumar., V., Sri Venkateswara Publication, India, 2003.
3. Remote Sensing for Hazard Monitoring and Disaster Assessment: Marine and Coastal Application in the Mediterranean Region, Eric C. Barrett, Anton Micallef., Gordon and Breach Science publication, 1991.
4. Remote sensing and Image Interpretation – Lillesand, T.M. and R.W. Kiefer, John Wiley and Sons, New York, 1987.

GEOGRAPHY OF INDIA

Paper – XVIII 12PPG09 Credits: 5

UNIT – I

Location and Administrative units - Physiographic divisions – Climate – Climatic types – Soils and Natural Vegetation.

UNIT – II

Agriculture – Salient features – Factors affecting, agriculture in India – Major crops – Rice, wheat, cotton, jute, tea, coffee, sugarcane and tobacco only – Irrigation and types – Multipurpose projects.

UNIT – III

Power resources: Hydel, thermal and nuclear – Mineral resources: Iron ore, manganese, bauxite and mica only – Fuel minerals: Coal and Petroleum – Major industries: Iron and steel, Cotton textile, Cement, Sugar and Jute industries.

UNIT – IV

Transport and communication: Land transport – Road and Railways – Water transport – Inland waterways – Ports – Air transport – Foreign trade – Exports and Imports.

UNIT – V

Population: Growth and Distribution of Population – Population migration, Urbanisation in India.

Books for Reference:

1. Geography of India – Tirtha,R. – Rawat Publications, 2002.
2. Geography of India – Nag,P., and Sengupta,S., Concept of publishing Company, New Delhi, 1992.
3. Economic and Commercial Geography of India – Sharma T.C., and Cutchino, O., ViKas Publications, 1980.
4. A Geography of India – Gopal Singh, ATMA Ram Sons, Delhi, 1977.
5. India and Pakistan, Spat O.H.K., and Learmonth, A.T.A., .I. Publications, Maras, 1972.
6. Regional geography of India – Singh R.L., NGSI, Varanasi, 1971.
7. Economic and Commercial Geography of India – Mamoria, C.B. Kitab Mahal, Allahabad.
8. Government of Tamilnadu Publication – Tecno – economic Survey of India.

PRINCIPLES OF REMOTE SENSING AND GIS

Paper – XIX 12PGG10 Credits: 5

UNIT – I

Remote sensing – Historical development- Development of Remote Sensing in India – Electromagnetic Radiation – Interaction of EMR with earth surface and atmosphere – Platforms – Sensors.

UNIT – II

Aerial Remote Sensing – Types of aerial photographs – Elements of Interpretation – Visual Interpretation – Equipments used for interpretation – Photogrammetry.

UNIT – III

Satellite Remote Sensing – Visual Image Interpretation – Digital Image Processing – Image Rectification – Image Enhancement techniques – Image Classification – Supervised and unsupervised classification.

UNIT – IV

GIS – Components – Data sources – Data models – Query, Buffer, Overlay, Neighbourhood analysis- Generation of DEM – TIN – Data Integration – GPS.

UNIT – V

Application of Remote Sensing and GIS in Geographical Studies – Disaster Management – Lnad use Planning – Urban Planning.

Books for Reference:

1. Introduction of Remote Sensing – Campbell, James,B., Taylor & Francis, London & New York, 2002.
2. Remote Sensing and Image interpretation – Lillesand, T.M., and Kiefer, R.W., John Wiley and Sons, Inc, New York, 2002.
3. Digital Remote Sensing – Nag,P. and Kudrat, M., Concept Publishing Company, New Delhi, 1998.
4. Remote Sensing and Photogrammetry; Principles and Applications – Jhanwar, M.L., and Chouhan, T.S., Vigyan Praksham, Jodhpur, 1998.
5. Readings in Remote Sensing Applications – Chouhan, T.S., and Joshi, K.N.,(ed)., Scientific Publishers, 1992.
6. An Introduction to Geographical Information Systems – Heywood,I., Cornelius,S. and Carver,S.Pearson,Education., 2005.
7. Concepts and Techniques of Geographic Information Systems – Yeung, Albert, K.W., Prentice Hall of India Private Ltd., New Delhi, 2004.
8. Geographic Information Systems:Socio-economic application – Martin,D.Routledge, London, New York., 2002.
9. Fundamentals of Geographic Information Systems – Demers, M.N., John Wiley & Sons, Inc., 2002.

PRACTICAL – IV GIS AND REMOTE SENSING APPLICATIONS

Paper – XX **12PGGZ04** **Credits: 4**

UNIT – I

1.1 Aerial Photo
1.2 Marginal Information
1.3 Interpretation of Aerial photographs
1.4 Determination of Scale and Height

UNIT – II

Satellite Imagery

2.2 Marginal Information
2.3 Visual interpretation
2.4 Digital Image Enhancement
2.5 Image Classification

UNIT – III

3.1 GIS Scanning
3.2 File Conversion
3.3 Georeferencing
3.4 Digitization
3.5 Data Coding
3.6 Vector and Raster Data
3.7 Generation of DEM and TIN
3.8 Query, Buffering and Overlay Analysis

UNIT – IV

4.1 GPS Survey
4.2 Thematic Mapping

Books for Reference:

1. Principles of Aerial Photographic Interpretation – Luder, D.R., McGraw Hill Book, Co., London.
2. Remote Sensing Techniques for Envrionmental Analysis – Estes J.E. and L.W. Senger, Hamilton Publishing Co., California.
3. Concepts and Techniques of Geographic Information Systems – Yeung, Albert, K.W., Prentice Hall of India Private Ltd., New Delhi, 2004.
4. Remote Sensing and Photogrammetry; Principles and Applications – Jhanwar, M.L., and Chouhan, T.S., Vigyan Praksham, Jodhpur, 1998.
5. Remote Sensing and Image interpretation – Lillesand, T.M., and Kiefer, R.W., John Wiley and Sons, Inc, New York, 2002.

GEOGRAPHY OF TRAVEL AND TOURISM

Elective Paper – XX1 12PGGZ04 Credits: 4

UNIT – I

Concepts of Leisure and Tourism – Principles and Purpose – Types of tourism – Significance of Tourism development in Modern society – Tourism development in the world – Tourism in India.

UNIT – II

History of tourism – Ancient, Medieval and Modern periods – Determinants and motivation of tourism.

UNIT – III

Elements of tourism – Attraction, Accessibility and Amenities – Classification of tourist spots – Accommodation – Primary and supplementary accommodation – Hotels, inns and motels.

UNIT – IV

Role of transport in tourism development – Travel formalities – Tour itinerary – Travel agency – Travel restrictions – Passport, Visa and bank restrictions – Traveller's cheques – Credit and debit cards – Tourism and environment – Eco tourism.

UNIT – V

Tourism Organization – WTO – ITDS and subsidiaries – Tourism promotion – Advertisement – Tourism Planning and Development – Tourist spots in India – Potentials of tourism in India – Problems of tourism development.

Books for Reference:

1. Tourism Development – Bhatia, Sterling Publishers, 1986.
2. Tourism: Past, Present and Future – Burkart & Medlik, Heinemann, 1976.
3. Geography of Tourism – Robinson, Mcdonald and Evans, 1976
4. Geography of Recreation and Leisure – Consgrove, Hutchinson, 1972.

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