



PERIYAR UNIVERSITY

PERIYAR PALKALAI NAGAR

SALEM – 636011

**DEGREE OF MASTER OF SCIENCE
CHOICE BASED CREDIT SYSTEM**

**SYLLABUS FOR
M.SC. GEOGRAPHY
(SEMESTER PATTERN)**

**(For Candidates admitted in the Colleges affiliated to
Periyar University from 2017-2018 onwards)**

REGULATIONS

1. OBJECTIVES OF THE COURSE

Geography discipline is penetrating in to all sphere of human activities and herefore 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 for theory is distributed to 3 components viz., Tests, Seminar and Attendance as 10, 10 and 05 marks, respectively. For practical, it is distributed to Record Work, Tests, and Attendance as 25, 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]

COURSE OF STUDY AND SCHEME OF EXAMINATION

S.No.	Paper Code	Subject Title	Hours	University Examination			Credits
				Internal (25%)	External (75%)	Total	
I Semester							
1	Core - I	Geomorphology	6	25	75	100	5
2	Core - II	Population Geography	6	25	75	100	5
3	Core - III	Environmental Studies	6	25	75	100	5
4	Core - IV	Practical – I: Terrain and Climatic Data Analysis	6	40	60	100	4
5	Elective-I	Agricultural Geography	5	25	75	100	4
II Semester							
6	Core - V	Geography of Economic Activities	6	25	75	100	4
7	Core - VI	Climatology	6	25	75	100	5
8	Core - VII	Urban Geography	6	25	75	100	5
9	Core - VIII	Practical – II: Statistical and Computer Applications in Geography	6	25	75	100	4
10	Elective - II	Oceanography	5	25	75	100	4
11	EDC Paper I	Geography of India (OR)	5	25	75	100	4
12	EDC Paper II	Regional Geography of Tamil Nadu					
13	Common Paper	Human Rights	5	25	75	100	2

M.Sc.GEOGRAPHY

S.No.	Paper Code	Subject Title	Hours	University Examination			Credits
				Internal (25%)	External (75%)	Total	
III SEMESTER							
1	Core - IX	Principles of Cartography	6	25	75	100	5
2	Core - X	Concepts and Trends in Geography	6	25	75	100	5
3	Core - XI	Practical – III: Thematic Cartography	6	25	75	100	4
4	Elective III	Disaster and Management Studies	5	25	75	100	4
IV SEMESTER							
6	Core - XII	Geography of India	6	25	75	100	5
7	Core - XIII	Principles of Remote Sensing and GIS	6	25	75	100	5
8	Core - XIV	Practical – IV: GIS and Remote Sensing Applications	6	60	40	100	4
9	Core XV	Project	6	25	75	100	4
10	Elective IV	Geography of Travel and Tourism	5	25	75	100	4
		Total	120			2100	92

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)

Question Paper Pattern for Practical Examination

Time: 3 Hours

Maximum Marks: 100 (Internal: 40 + External: 60)

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
- e) List of Tables
- f) List of Figures

Chapter No.	Title	Page No.
1.	Introduction	
2.	Review of Literature	
3.	Aim and Objectives	
4.	Methodology	
5.	Results and Discussion	
6.	Summary and Conclusion	
7.	References	

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 entitledsubmitted 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 2017- 2018, that is, for students who are admitted to the first year of the course during the academic year 2017-2018 and thereafter.

13. TRANSITORY PROVISION:

Candidates who were admitted to the PG course of study before 2017-2018 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 2020. Thereafter, they will be permitted to appear for the examination only under the regulations then in force.

M.Sc. GEOGRAPHY

SEMESTER I

CORE I - GEOMORPHOLOGY

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 Equilibrium 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.

REFERENCE BOOKS:

1. Small, R.J. (1970). Study of Landforms: A Textbook of Geomorphology. Cambridge University Press, Cambridge.
2. Dayal, P. (1996). A Textbook of Geomorphology (2nd Edition). Shukla Book Depot, Patna.
3. Chorley, R.J., Schumm, S.A. and Sugden, D.E. (1984). Geomorphology. Methuen Publications, London.
4. Thornbury, W.D. (1969). Principles of Geomorphology. John Wiley and Sons, New York.
5. Pitty, A.F. (1974). Introduction to Geomorphology. Methuen Publication, London.
6. Singh, S., (1998): Geomorphology, Prayag Pustakalay, Allahabad.
7. Sparks, B.W. (1960). Geomorphology. Longmans, London.

M.Sc. GEOGRAPHY
SEMESTER I
CORE II - POPULATION GEOGRAPHY

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.

REFERENCE BOOKS:

1. Clarke, J.I. (1984). Geography and Population: Approach and Applications. Pergamon Press Ltd., Oxford.
2. Trewartha, G.T. (1969). A Geography of Population: World Patterns. John Wiley & Sons Inc, New York.
3. Clarke, J.I. (1984). Geography and Population: Approaches and Applications. Pergamon Press, London.
4. Bogue, D.J. (1969). Principle of Demography. John Wiley & Sons Inc, New York.
5. Demko, G.J., Rose, H.M. and Schnell, G.A. (1970). Population Geography: A Reader. McGraw Hill Book Company, New York.
6. Wilson, M.G.A. (1968). Population Geography. Thomas Nelson, London.

M.Sc. GEOGRAPHY
SEMESTER I
CORE III - ENVIRONMENTAL STUDIES

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.

REFERENCE BOOKS:

1. Cunningham, W.P. and Cunningham, M.N. (2004). Principles of Environmental Science: Inquiry and Application. Tata McGraw Hill Publishing Company, Ltd., New Delhi.
2. Joseph, K and Nagendran, R. (2004). Essentials of Environmental Studies. Pearson Education, Delhi.
3. Radha, S. and Dankhyan, A.S. (2002). Environmental Challenges of the 21st Century. Deep and Deep Publications Pvt. Ltd., New Delhi.
4. Saxena, H.M. (2004). Environmental Geography (2nd Edition). Rawat Publications, Jaipur.
5. Singh, S. (1991). Environmental Geography. Prayag Pustak Bhawan, Allahabad.
6. Wathern, P. (1995). Environmental Impact Assessment: Theory and Practice. Routledge, London.
7. Strahler, A.H. and Strahler, A.N. (1977). Geography and Man's Environment. Wiley, Cambridge.

M.Sc. GEOGRAPHY
SEMESTER I
CORE IV - PRACTICAL I
TERRAIN AND CLIMATIC DATA ANALYSIS

UNIT I

Drawing Profiles

- 1.1 Serial Profile
- 1.2 Superimposed Profile
- 1.3 Projected Profile
- 1.4 Composite Profile
- 1.5 Longitudinal 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's Climograph
- 4.2 Climatograph
- 4.3 Rainfall Dispersion Diagram
- 4.4 Wind-Rose Diagram
- 4.5 Cyclone Track

REFERENCE BOOKS:

1. Robinson, A.H. (1978). Elements of Cartography. John Wiley & Sons Inc., New York.
2. Monkhouse, F.J. and Wilkinson, H.R. (1971). Maps and Diagrams (3rd Edition). Methuen & Co., London.
3. Khullar, D.R. (2004). Essentials of Practical Geography. New Academic Publishing Co., Jalandhar.
4. Misra, R.P. and Ramesh, A. (1989). Fundamentals of Cartography. Concept Publishing Company, New Delhi.
5. Negi, B.S. (1998). Practical Geography. Kedarnath and Ramnath, Meerut.
6. Saha, P. and Basu, P. (2013). Advanced Practical Geography. Kolkata Books and Allied Publisher, Kolkata.

M.Sc. GEOGRAPHY

SEMESTER I

ELECTIVE I - AGRICULTURAL GEOGRAPHY

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.

REFERENCE BOOKS:

1. Basu, D.N., and Guha, G.S., (1996). Agro-Climatic Regional Planning in India (Vol. I & II). Concept Publication, New Delhi.
2. Grigg, D.B. (1984). Introduction to Agricultural Geography. Hutchinson, London.
3. Shafi, M., (2006). Agricultural Geography. Doring Kindersley India Pvt. Ltd., New Delhi.
4. Singh, J. and Dhillon, S.S. (1984). Agricultural Geography. Tata McGraw Hill, New Delhi.
5. Hussain, M. (1979). Agricultural Geography. Inter India Publications, New Delhi.
6. Morgan, W.B. and Munton, R.J.C. (1971). Agricultural Geography. Methuen & Co., London.
7. Singh, J. and Dhillon, S.S. (1995). Agricultural Geography. Tata McGraw Hill Pub. Company Ltd., New Delhi.

M.Sc. GEOGRAPHY

SEMESTER II

CORE V - GEOGRAPHY OF ECONOMIC ACTIVITIES

UNIT I

Introduction to Geography of Economic Activities – 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– Forestry – Fishing – Grazing and pastoralism.

UNIT III

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

UNIT IV

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

REFERENCE BOOKS:

1. Wheeler, J.O. and Muller, P.O. (1998). Economic Geography. John Wiley and Sons, New York.
2. Khanna, K.K. and Gupta, V.K. (1998). Economic and Commercial Geography. Sultan Chand and Sons, New Delhi.
3. Morgan, W.B. and Munton, R.J.C. (1971). Agricultural Geography. Methuen & Co., London.
4. Hussain, M. (1979). Agricultural Geography. Inter India Publications, New Delhi.
5. Smith, D.M. (1971). Industrial Location. John Wiley and Sons, New York.
6. Royen, W.V. and Bengtson, N.A. (1935). Fundamentals of Economic Geography. Prentice Hall Inc, New York.
7. Thoman, R.S., Conkling, E.C., and Yeates, M.H. (1968). Geography of Economic Activity. McGraw Hill Book Company, New York.

M.Sc. GEOGRAPHY
SEMESTER II
CORE VI - CLIMATOLOGY

UNIT I

Structure and Composition of the Atmosphere – Insolation – Heat balance – Temperature – Factors controlling temperature distribution – Greenhouse 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 Distribution.

UNIT IV

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

UNIT V

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

REFERENCE BOOKS:

1. Lal, D.S., (1989). Climatology. Chaitanya Publisher's House, Allahabad.
2. Critchfield, H., (1975). General Climatology. Prentice-Hall, New York.
3. Das, P.K. (1968). The Monsoons. National Book Trust, New Delhi. 4. Mather, J.R. (1974). Climatology: Fundamentals and Applications. McGraw-Hill, New York.
5. Patterson, S. (1969). Introduction of Meteorology. McGraw-Hill Book Company, London.
6. Stringer, E.T. (1982). Foundation of Climatology. Surjeet Publications, New Delhi.
7. Trewartha, G.T. (1968). An Introduction to Climate (4th Edition). McGraw-Hill Book Kogakushu Ltd., New York.
8. Oliver, J.E. and Hidore, J.J. (2002). Climatology: An Atmospheric Science. Pearson Education, New Delhi.
9. Miller, A.A. (2001). Climatology. Dutton Publications, Boston.

M.Sc. GEOGRAPHY**SEMESTER II****CORE VII - URBAN GEOGRAPHY****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.

UNIT IV

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

UNIT V

Urban hierarchy – Rank size rule – Central Place theory – Urban Problems : Slums, Transport, Solid waste management, Drinking water supply and Pollution – Urban Planning – Smart Cities in India.

REFERENCE BOOKS:

1. Carter, H. (2002). The Study of Urban Geography. Arnold Heinemann, London.
2. Fyfe, N.R. and Kenny, J.T. (2005): The Urban Geography Reader, Routledge, London.
3. Johnson, J.H. (1972). Urban Geography: An Introductory Analysis. Pergamon Press, Oxford.
4. Mayer, H.M. and Kohn, C.F. (1967). Readings in Urban Geography. Central Book Depot, Allahabad.
5. Hall, T. (2006): Urban Geography, Routledge, London.
6. Kaplan, D.H., Wheeler, J.O. and Holloway, S.R. (2008). Urban Geography, John Wiley and Sons, New York.
7. Pacione M. (2009). Urban Geography: A Global Perspective, Taylor and Francis, New York.

**M.Sc. GEOGRAPHY
SEMESTER II
CORE VIII- PRACTICAL II
STATISTICAL AND COMPUTER APPLICATIONS IN
GEOGRAPHY**

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

REFERENCE BOOKS:

1. Elliott, A.C. and Woodward, W.A. (2007). Statistical Analysis Quick Reference Guidebook: With SPSS Examples. Sage Publications Pvt. Ltd., New York.
2. Singh, S.N. and Yadava, K.N.S. (1981). Statistics for Geographers and Social Scientists (Eds: Mandal). Concept Publishing Co., New Delhi.
3. Gregory, S. (1964). Statistical Methods and the Geographer, Longmans, London.
4. Lewis, P. (1972). Maps and Statistics. Methuen and Company Ltd., London.
5. King, L.J. (1969). Statistical Analysis in Geography. Prentice Hall Inc., New Jersey.

M.Sc. GEOGRAPHY

SEMESTER II

ELECTIVE II - OCEANOGRAPHY

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

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

UNIT V

Ocean Deposits: Types – Distribution– Tidal Energy – Role of National Institute of Oceanography in India.

REFERENCE BOOKS:

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

M.Sc. GEOGRAPHY

SEMESTER II

EDC - PAPER I - GEOGRAPHY OF INDIA

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 – Irrigation and types – Multipurpose projects.

UNIT III

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

UNIT IV

Transport and communication : Road, Railways and 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.

REFERENCE BOOKS:

1. Singh, G. (1976). A Geography of India. Atma Ram & Sons Pub., New Delhi.
2. Siddhartha, K. and Mukherjee, S. (2013). Geography through Maps (11th Edition). Kisalaya Publications Pvt. Ltd., New Delhi.
3. Husain, M. (2014). Geography of India (5th Edition). McGraw Hill Education, New Delhi.
4. Sharma, T.C. and Coutinho, O. (1978). Economic and Commercial Geography India (2nd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.
5. Mamoria, C.B. (1980). Economic and Commercial Geography of India. Shiva Lal Agarwala & Company, Agra.
6. Dubey, R.N. and Negi, B.S. (1968). Economic and Commercial Geography of India. Kitabmahal, Allahabad.
7. Tiwari, R.C. (2010). Geography of India. Prayag Pustak Bhawan, Allahabad.
8. Spate, O.H.K. and Learmonth, A.T.A. (1967). India and Pakistan: A General and Regional Geography. Methuen Publications, London.

M.Sc. GEOGRAPHY

SEMESTER II

EDC - PAPER II - REGIONAL GEOGRAPHY OF TAMIL NADU

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 and sugarcane – Irrigation and types.

UNIT III

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

UNIT IV

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

UNIT V

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

REFERENCE BOOKS:

1. Spate, O.H.K. and Learmonth, A.T.A. (1967). India and Pakistan: A General and Regional Geography. Methuen Publications, London.
2. Stamp, L.D. (1967). Asia: A Regional and Economic Geography. B.I. Publication Ltd., New Delhi.
3. Shafi, M. (2000). Geography of South Asia. MacMillan and Co., Kolkata.
4. SHBoTN (2004). Statistical Hand Book of Tamil Nadu. Department of Economics and Statistics, Government of Tamil Nadu, Chennai.
5. TNEA (2014). Tamil Nadu – An Economic Appraisal 2011-12 to 2013- 14. Department of Evaluation and Applied Research, Chennai.
6. SCRoTN (2004). Season and Crop Report of Tamil Nadu for the Agricultural Year 2003-2004. Department of Economics and Statistics, Chennai.

M.Sc. GEOGRAPHY
SEMESTER III
CORE IX - PRINCIPLES OF CARTOGRAPHY

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 layout – Lettering and toponymy – 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 symbols on maps : Point, line, area and volume symbols – Qualitative and Quantitative maps.

UNIT IV

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

UNIT I

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

REFERENCE BOOKS:

1. Misra, R.P. and Ramesh, A. (1989). Fundamentals of Cartography. Concept Publishing Company, New Delhi.
2. Monkhouse, F.J. and Wilkinson, H.R. (1971). Maps and Diagrams (3rd Edition). Methuen & Co., London.
3. Robinson, H. (1995). Elements of Cartography (6th Edition). John Wiley & Sons, New York.
4. Keates, J.S. (1989). Cartographic Design and Production (2nd Edition). Longman Scientific and Technical, Essex.
5. Raize, E. (1982). Principles of Cartography. McGraw Hill Publicatins, New York.
6. Saha, P. and Basu, P. (2013). Advanced Practical Geography. Kolkata Books and Allied Publisher, Kolkata.

M.Sc. GEOGRAPHY

SEMESTER III

CORE X - CONCEPTS AND TRENDS IN GEOGRAPHY

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 Quantitative.

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.

REFERENCE BOOKS:

1. Peet, R. (1998). Modern Geographical Thought. Wiley-Blackwell Publishers, New Jersey.
2. Hussain, M. (2002). Evolution of Geographical Thought. Rawat Publication, Jaipur.
3. Harvey, M.E. and Pilly, B.P. (2002). Themes in Geographic Thought. Rawat Publications, Jaipur.
4. Husian, M. (2011). Human Geography. Rawat Publication, New Delhi.
5. Leong, G.C. and Morgan, G.C. (1982). Human and Economic Geography. Oxford University Press, London.
6. Haggett, P. (1979). Geography: A Modern Synthesis (3rd Edition). Harper and Row Publishers, New York.
7. Dikshit, R.D. (1997). Geographical Thought: A Contextual History of Ideas. Prentice-Hall India Pvt. Ltd., New Delhi.

M.Sc. GEOGRAPHY

SEMESTER III

CORE XI - PRACTICAL III - THEMATIC CARTOGRAPHY

UNIT I

Map Compilation and Generalization

- 1.1 Map Generalization
- 1.2 Map Compilation
- 1.3 Scale Conversion

UNIT II

Methods of Depiction of Relief

- 2.1 Spot Height
- 2.2 Bench Mark
- 2.3 Triangulation Station
- 2.4 Hachuring
- 2.5 Hill shading
- 2.6 Layer Tinting

UNIT III

Representation of Statistical data into Thematic maps

- 3.1 Point symbol Maps
- 3.2 Line symbol Maps
- 3.3 Area symbol Maps
- 3.4 Volume symbols Maps

UNIT IV

Survey of India Topographical Sheet

- 4.1 Cartographic Appreciation of Survey of India
- 4.2 Detailed interpretation of Survey of India

UNIT V

Interpretation of British and US maps

- 5.1 British Ordnance Survey
- 5.2 US Geological Survey maps

REFERENCE BOOKS:

1. Monkhouse, F.J. and Wilkinson, H.R. (1971). Maps and Diagrams (3rd Edition). Methuen & Co., London.
2. Khan, M.Z.A. (1998). Text Book of Practical Geography. Concept Publishing Company, New Delhi.
3. Negi, B.S. (1998). Practical Geography. Kedarnath and Ramnath, Meerut.
4. Singh, G. (1995). Map Work and Practical Geography (3rd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.
5. Khullar, D.R. (2004). Essentials of Practical Geography. New Academic Publishing Co., Jalandhar.
6. Robinson, H. (1995). Elements of Cartography (6th Edition). John Wiley and Sons, New York.

M.Sc. GEOGRAPHY
SEMESTER III

ELECTIVE III - DISASTER AND MANAGEMENT STUDIES

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.

UNIT 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.

REFERENCE BOOKS:

1. Kapur, A. (2010). Vulnerable India: A Geographical Study of Disasters. SAGE India Pvt. Ltd., New Delhi.
2. GoI (1997). Vulnerability Atlas of India. Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India, New Delhi.
3. Singh, R.B. (2005). Risk Assessment and Vulnerability Analysis (Chapter 1, 2 and 3), Indira Gandhi National Open University (IGNOU), New Delhi.
4. Modh, S. (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.
5. Singh, R.B. (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation (Edited Volume). Rawat Publications, New Delhi.
6. Stoltman, J.P., Lidstone, J. and DeChano, L.M. (2004). International Perspectives on Natural Disasters: Occurrence, Mitigation, and Consequences (Edited Volume). Springer Publications, Dordrecht.

M.Sc. GEOGRAPHY
SEMESTER IV
CORE XII - GEOGRAPHY OF INDIA

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 – Irrigation and types – Multipurpose projects.

UNIT III

Power resources: Hydel, thermal and nuclear – Mineral resources: Iron ore, manganese, bauxite and mica – 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.

REFERENCE BOOKS:

1. Siddhartha, K. and Mukherjee, S. (2013). Geography through Maps (11th Edition). Kisalaya Publications Pvt. Ltd., New Delhi.
2. Husain, M. (2014). Geography of India (5th Edition). McGraw Hill Education, New Delhi.
3. Tirtha, R. (2002). Geography of India. Rawat Publications, Jaipur. 4. Singh, G. (1976). A Geography of India. Atma Ram & Sons Pub., New Delhi.
5. Siddhartha, K. and Mukherjee, S. (2013). Geography through Maps (11th Edition). Kisalaya Publications Pvt. Ltd., New Delhi.
6. Husain, M. (2014). Geography of India (5th Edition). McGraw Hill Education, New Delhi.
7. Sharma, T.C. and Coutinho, O. (1978). Economic and Commercial Geography India (2nd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.
8. Mamoria, C.B. (1980). Economic and Commercial Geography of India. Shiva Lal Agarwala & Company, Agra.
9. Dubey, R.N. and Negi, B.S. (1968). Economic and Commercial Geography of India. Kitabmahal, Allahabad.
10. Tiwari, R.C. (2010). Geography of India. Prayag Pustak Bhawan, Allahabad.

M.Sc. GEOGRAPHY
SEMESTER IV

CORE XIII - PRINCIPLES OF REMOTE SENSING AND GIS

UNIT I

Remote Sensing: Definition – Types – Components – Electromagnetic Radiation – Electromagnetic Spectrum – Interaction of EMR with earth surface and atmosphere – Platforms – Payloads – Historical development – Development of Remote Sensing in India.

UNIT II

Aerial Remote Sensing – Types of aerial photographs – Camera – Films – Filters; Photogrammetry: Stereoscopic Vision – Photo Scale – Relief Displacement – Parallax – Mosaic.

UNIT III

Satellite Remote Sensing – Types of Satellites – Orbits. Resolutions: Spatial – Spectral – Radiometric and Temporal; Satellite Programmes – Resource Satellites: IRS, LANDSAT, SPOT and Weather Satellites: INSAT and NOAA Series – Image Analysis.

UNIT IV

GIS and GNSS: Definition – Components – Data sources – Data models: RASTER, VECTOR & TIN; GIS Analysis: Overlay, Buffer, Network Analysis – DEM. GNSS: Components of GNSS Satellites – GNSS Survey: Handheld GPS and DGPS

UNIT V

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

REFERENCE BOOKS:

1. Barrett, E.C. and Curtis, L.F. (1992). Introduction to Environmental Remote Sensing. Chapman and Hall Publications, London.
2. Campbell, J.B. and Wynne, R.H. (1987). Introduction to Remote Sensing. The Guilford Press, New York.
3. Lillesand, T.M. and Kiefer, R.W. (1987). Remote Sensing and Image Interpretation. John Willy and Sons, New York.
4. Lueder, D.R. (1959). Aerial Photographic Interpretation – Principles and Applications. McGraw Hill Book Co., New York.
5. Jensen, J.R. (2005). Introductory Digital Image Processing: A Remote Sensing Perspective (4th Edition). Pearson Prentice-Hall, New Jersey.
6. Burrough, P.A. and McDonnell, R.A. (2000). Principles of Geographical Information System (Spatial Information System). Oxford University Press, New York.
7. Heywood, I., Cornelius, S. and Carver, S. (2011). An Introduction to Geographical Information Systems (4th Edition). Pearson Education Limited, London.
8. Jeffrey, C. (2015). An Introduction to GNSS: GPS, GLONASS, Galileo and other Global Navigation Satellite Systems. NovAtel, Alberta.

M.Sc. GEOGRAPHY
SEMESTER IV
CORE XIV - PRACTICAL IV
GIS AND REMOTE SENSING APPLICATIONS

UNIT I

Aerial Photographs

- 1.1 Marginal Information
- 1.2 Interpretation of Aerial photographs
 - Physical Features
 - Cultural Features
- 1.3 Determination of Scale
- 1.4 Determination of Height

UNIT II

Satellite Images

- 2.2 Marginal Information
- 2.3 Elements of Image Interpretation
 - Physical Features
 - Cultural Features
- 2.4 Digital Image Processing
- 2.5 Image Classification

UNIT III

Geographic Information System

- 3.1 Map to Raster Conversion
- 3.2 Georeferencing
- 3.3 Digitization – Point, Line and Polygon
- 3.4 Data Coding
- 3.5 DEM and TIN Generation
- 3.6 GIS Analysis: Query, Buffering and Overlay

UNIT IV

Global Positioning Survey

- 4.1 GPS Survey (Point, Line & Polygon)
- 4.2 Thematic Map Preparation

UNIT V

Global Navigation Satellite Systems

- 5.1 GNSS Survey (Point, Line & Polygon)
- 5.2 Thematic Map Preparation

REFERENCE BOOKS:

1. Barrett, E.C. and Curtis, L.F. (1992). Introduction to Environmental Remote Sensing. Chapman and Hall Publications, London.
2. Lillesand, T.M. and Kiefer, R.W. (1987). Remote Sensing and Image Interpretation. John Willy and Sons, New York.
3. Lueder, D.R. (1959). Aerial Photographic Interpretation – Principles and Applications. McGraw Hill Book Co., New York.
4. Heywood, I., Cornelius, S. and Carver, S. (2011). An Introduction to Geographical Information Systems (4th Edition). Pearson Education Limited, London.
5. Jeffrey, C. (2015). An Introduction to GNSS: GPS, GLONASS, Galileo and other Global Navigation Satellite Systems. NovAtel, Alberta.

M.Sc. GEOGRAPHY
SEMESTER IV

ELECTIVE IV - GEOGRAPHY OF TRAVEL AND TOURISM

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.

REFERENCE BOOKS

1. Robinson, H. (1976). A Geography of Tourism. Mcdonald and Evans, London.
2. Seth, P.N. and Bhat, S.S. (2012). An Introduction to Travel and Tourism. Sterling Publishers Private Ltd., New Delhi.
3. Ghosh, B. (2009). Tourism and Travel Management (2nd Edition). Vikas Publishing House Pvt. Limited. New Delhi.
4. Singh, A.P. (1989). Himalayan Environment and Tourism. Chugh Publications, Allahabad.
5. Kaul, R.N. (1985). Dynamics of Tourism: A Trilogy. Sterling Publishers Pvt. Limited, New Delhi.
6. Bhatia, A.K. (2002). Tourism Development: Principles and Practices. Sterling Publishers Pvt. Limited, New Delhi.
7. Singh, S.N. (1985). Geography of Tourism and Recreation with Special Reference to Varanasi. Inter India Publication, New Delhi.
8. Das, M. (1983). India, a Tourist Paradise: Introducing a Wonderful Land and a Wonderful People. Sterling Publishers Pvt. Limited, New Delhi.

PRACTICAL MODEL QUESTION PAPER

M.Sc., DEGREE EXAMINATION

(For the candidates admitted from 2017-2018 onwards)

Name of the course: M.Sc., GEOGRAPHY

Title of the Paper - Practical-III: THEMATIC CARTOGRAPHY

Semester – IV

Time: 3 Hours

Max. Marks: 60

For Practical: (5 x 10) = 50

For Record = 10

Answer ALL question

(All Questions carry equal marks)

1. Generalize the given portion of the Indian topographical sheet from the scale of 1:50,000 to 1:1,00,000.
2. The given map of Tamil Nadu and Kerala is depicted with the scale of 1:46,00,000 and the another map of Karnataka and Andhra Pradesh is having the scale of 1:92,00,000. Compile these two maps into the scale of 1:92,00,000.
3. Write the cartographic appreciation of the given British Ordnance survey sheet.
4. Interpret the given Indian topographical Sheet with special reference to land use and drainage.
5. Draw a located pie diagram for the following data.

Literate and Illiterate population of Tamil Nadu – 2011

S.NO.	Name of the District	Total Population	Literate Population	Illiterate Population
1.	Thiruvallur	3725697	2812869	912858
2.	Villuppuram	3463284	2223605	1239679
3.	Erode	2259608	1516380	743228
4.	Perambalur	564511	379797	184714
5.	Dindigul	2161367	1507310	654057
6.	Sivaganga	1341250	976384	364866
7.	Tirunelveli	3072880	2298262	774618

THEORY MODEL QUESTION PAPER

Sl.No. 243

PERIYAR UNIVERSITY

M.Sc., DEGREE EXAMINATION

(For the candidates admitted from the year 2017-18 onwards)

Title of the Paper: GEOMORPHOLOGY

Time: 3 Hrs.

Maximum: 100 Marks

SECTION - A (5 x 5 =25)

Answer ALL the Questions

(All Questions carry equal marks)

1. a) Principle of Uniformitarianism (OR)
b) Briefly explain the landscape types
2. a) Simply explain the classification of plate margins. (OR)
b) Defects of continental drift theory.
3. a) Write a short note on Penk's morphological system. (OR)
b) Briefly explain the King's Pediplanation cycle.
4. a) Give a short account on Young's classification of slope angles. (OR)
b) Write about the classification of slopes.
5. a) What is placer? Classify the placer (OR)
b) Mention the problems solved through Applied Geomorphology

SECTION - A (5 x 10 =50)

Answer ALL the Questions

(All Questions carry equal marks)

6. a) Evolution of Landscape is a function of 'Structure', 'process' and 'Stage' Discuss. (OR)
b) Give a detailed account on continental drift theory.
7. a) Explain the major 'Volcanic zones' of the world. (OR)
b) Write an essay on various types of weathering with suitable examples.
8. a) Discuss the slope replacement and parallel retreat of the slope. (OR)
b) Give a detailed account on arid cycle with suitable illustrations.
9. a) Discuss about the landforms created by wind erosion and deposition. (OR)
b) Analyse the classification of coasts by the various geomorphologists.
10. a) "Geomorphology as an aid to resource evolution, Engineering construction and planning" elucidate with suitable examples. (OR)
b) Examine the utilities of the classification of morphogenetic regions in the geomorphological studies.

