



**Course Structure for M.A. (GEOGRAPHY)  
under Semester System to come into force from  
Academic Session 2013-14.**

**M.A. GEOGRAPHY  
(SEMESTER-WISE)**

## **M. A. (GEOGRAPHY)**

### **SEMESTER STRUCTURE**

The two-year course is divided into four semesters of six months each. Each semester comprises of three theory papers and one practical paper of 100 marks each. Candidates shall be required to pass separately in theory and practical examinations securing 36 % marks in each.

<b>SEMESTER I</b>	<b>400 MARKS</b>
Paper I History of geographical thought	100 MARKS
Paper II Advanced Geomorphology	100 MARKS
Paper III Geography of India	100 MARKS
Practical Cartograms and thematic maps	100 MARKS

# **M. A. (GEOGRAPHY)**

## **SEMESTER STRUCTURE**

<b>SEMESTER II</b>	<b>400 MARKS</b>
Paper I Climatology and oceanography	100 MARKS
Paper II Natural Resources and management	100 MARKS
Paper III Population and settlement geography	100 MARKS
Practical Quantitative techniques and socio-economic survey	100 MARKS

## **M. A. (GEOGRAPHY)**

### **SEMESTER STRUCTURE**

<b>SEMESTER III</b>	<b>400 MARKS</b>
Paper I Environment and Disaster Management	100 MARKS
Paper II Regional Planning and Development	100 MARKS
Paper III Elective (Optional)	100 MARKS
(a) Remote Sensing and GIS	
(b) Research Methodology	
(c) Political Geography	
(d) Geography of Any one of the Meso regions of the world	
• Monsoon Asia	
• North America (USA and Canada)	
• Australia and New Zealand	
(e) Dissertation	
Practical Advanced Cartography and GIS	100 MARKS

# **M. A. (GEOGRAPHY)**

## **SEMESTER STRUCTURE**

### **SEMESTER IV**

**400 MARKS**

**Choose anyone of the following groups**

#### **Group A**

**100 MARKS**

Paper I Population Geography

Paper II Geography of Rural Settlement

Paper III Urban Geography

#### **Group B**

**100 MARKS**

Paper I Agricultural Geography

Paper II Geography of Manufacturing

Paper III Geography of Tourism

#### **Group C**

**100 MARKS**

Paper I Biogeography

Paper II Soil Geography

Paper III Geography of water resource management

Practical Advanced surveying and field survey tour

**100 MARKS**

## **M. A. (GEOGRAPHY)**

### **SEMESTER I**

#### **PAPER I HISTORY OF GEOGRAPHICAL THOUGHT**

- Unit I** Geography: Meaning, Nature and Scope  
General character of geography during ancient and medieval period  
Founders of modern geography: Contribution of German, French, British and American schools
- Unit II** History and development of geographical thought in India  
Modern Indian geography: Prospects, Problems and future
- Unit III** Conceptual developments and changing paradigms in geography:  
Man and Environment: Determinism and Possibilism, Neo Determinism  
Areal Differentiation and spatial Organization
- Unit IV** Philosophical and Methodological Development in geography during the 20<sup>th</sup> century:  
Positivism  
Quantitative Revolution  
Models- Definition and Types
- Unit V** Applied Geography  
Behavioral Geography  
Radical Geography  
Humanistic and Welfare Approach

#### **Suggested readings:**

- R. Hartshorne(1959): Perspective on nature of geography
- R. Minshull (1970): The changing nature of geography
- R. J. Johnson(1997) Geography and geographer
- Richard Pee(1998) Modern geographical thought
- Milton E. Harvey & Brian P. Holly(1989): Themes in Geographical thought
- D. Harvey(1969): Explanation in Geography
- R. Doi (2009): Geographical Thought
- M. Hussain (2004): Evolution of Geographical Thought
- R. D. Dikshit (ed.): The Art and Science of Geography
- R.D. Dikshit (2002): Geographical Thought: A Conceptual History of Ideas
- Jagdish Singh (2000): Bhaugolik Chintan Ka Mool Aadhaar (Hindi)

- Kaushik (2009): Bhaugolik Chintana avam Vidhitantra(Hindi)
- V. K. Shrivastava (2002):Bhaugolik Chintan ka Aadhaar(Hindi)
- Bansal (2008): Bhaugolik Chintan(Hindi)
- Lalit Raina (2008): Geographical Thought( English)
- S. Adhikari (2009 5<sup>th</sup> ed.): Fundamentals of Geographical Thought

## **M. A. (GEOGRAPHY)**

### **SEMESTER I**

#### **PAPER II ADVANCED GEOMORPHOLOGY**

- Unit I**            Geomorphology: Nature and scope  
Fundamental Concepts: Geological Structures and Landforms  
Polygenetic Evolution of Landscape
- Unit II**            Evolution of Earth's Crust:  
Isostasy  
Plate Tectonics  
Orogenetic Structures with reference to the evolution of Himalayas
- Unit III**           Earth Movements: Epeirogenetic and Orogenetic movements  
Forces of crustal instability: Earthquakes and Vulcanicity
- Unit IV**           Evolution of the following landforms:  
Fluvial Landforms  
Arid Landforms  
Glacial Landforms  
Periglacial Landforms  
Karst Landforms
- Unit V**            Landscape evolution Models: Davis, Penck, L. C. King  
Geomorphic Hazards  
Hydro- Geomorphology

#### **Suggested Readings:**

- William D. Thornbury- Principles of Geomorphology
- Embleton and King- Glacial and Periglacial Geomorphology
- Savindra Singh- Geomorphology
- Enayat Ahmad- Geomorphology



- P. Dayal- Geomorphology
- V. K. Sharma- Geomorphology: Earth's Surfaces and Forms
- Wooldridge and Morgan- An outline of Geomorphology
- R. N. Tikka- Physical Geography
- P. K. Sen and N. Prasad- An Introduction to the Geomorphology of index
- D. S. Lal- Physical Geography
- P. Dayal- Bhu-Aakriti-Vigyan
- L. C. King- Morphology of the Earth

## **M. A. (GEOGRAPHY)**

### **SEMESTER I**

#### **PAPER III GEOGRAPHY OF INDIA**

- Unit I** Physical setting of India: Structure and Relief  
Origin and characteristics of Indian monsoon  
Soils of India: types & characteristics
- Unit II** Natural vegetation types and forest resources in India  
Sources of Power: Coal, Petroleum, Natural Gas and Hydroelectricity
- Unit III** Analysis of Agro-Based Industries (Sugar, Cotton)  
Analysis of Mineral-Based Industries (Iron & Steel)  
Industrial regions of India  
Seaports of India
- Unit IV** Population:  
Growth, distribution and density of population  
Population problems and their solutions
- Unit V** Socio- Economic studies of the following natural regions of India
- Upper Ganga Plain
  - Rajasthan Plain
  - Malabar Coastal Plain
  - Jammu & Kashmir's valley

#### **Suggested Readings:**

- Wadia, D. N. : Geology of India
- Krishnan, M. S. : Geology of India, Burma and Ceylon
- Spate, O. H. K. : Geography of India and Pakistan
- Singh, R. L. (ed.) : India- A Regional Geography
- Singh, J. : An Agricultural atlas of India
- Ganguly, B. N. : Trends of Agriculture and Population in the Ganges valley
- Sharma, T. R. : Location of Industries in India
- Sinha, B. N. : Industrial Geography of India
- Brown, J. C. & A. K. Dey : India's mineral wealth

- Sovani, M. V. : The Population problem in India: A Regional approach
- Agarwal, A. N. : Indian Agriculture
- Rajan and Rao : Studies on soils of India
- Lahiri, T. B. : Balanced Regional development of India
- Govt. of India : Gazetteer of India: lands
- Govt. of India : Agricultural Commission Report
- Verma, R. V. : Geography of India (Hindi)
- Singh, Gopal : Geography of India
- Chaturbhuj Mamoria : Bharat ka Bhugol
- Chauhan, B. S. & Gautam, Alka : Bharat
- Singh, Gopal : Bharat ka Bhugol

**M. A. (GEOGRAPHY)**

**SEMESTER I**

**PRACTICAL      CARTOGRAM AND THEMATIC MAPS**

- Unit I**            Representation of Statistical Data- Band Graph, Ergo graph  
Circle and Spherical Diagram  
Dispersion and scatter Diagrams  
Pyramid diagram- Simple and Compound
- Unit II**            Definition and classification of map  
Map as a data model  
Tools of map-making: lettering and symbolization of maps  
Climatic Maps- Hythergraph, Climograph, Windrose  
Interpretation of Weather maps
- Unit III**            Distribution Maps- Types and methods of drawing thematic maps:  
Chorochromatic, choroschematic, choropleth and isopeth

**M. A. (GEOGRAPHY)**

**SEMESTER II**

**PAPER I CLIMATOLOGY AND OCEANOGRAPHY**

- Unit I** Nature and scope of climatology and its relation with meteorology  
Composition and structure of the atmosphere  
Insolation: Heat budget of the Earth  
Distribution of temperature and pressure  
Planetary Wind system, Jet streams  
Monsoon mechanism; El Nino and La Nina
- Unit II** Air masses: characteristics and classification  
Fronts: Types, frontogenesis and frontolysis  
Tropical and temperate cyclones  
Anticyclones
- Unit III** Climatic classification of Koppen and Thornwaite  
Evidences of climatic change  
Global warming- causes and consequences
- Unit IV** Nature and scope of oceanography  
Composition of Oceanic Water; Distribution of temperature and Salinity  
Surface configuration of the Ocean Floor
- Unit V** Circulation of ocean water: Waves, Currents and Tides  
Theories of Origin of tides  
Ocean deposits: their sources and kinds  
Coral Reefs: Types and theories of their origin

**Suggested readings**

- Savindra Singh: Climatology
- D. S. Lal: Climatology

- A. Miller: Climatology
- E. Aguado E. and J. E. Brent: Understanding Weather and Climate
- S. M. Jain: Bhautik Bhugol
- Alka Gautam: Jalvayu Avum Samundra Vigyaan
- Sharma and Vatal- Oceanography for Geographers

**M. A. (GEOGRAPHY)**

**SEMESTER II**

**PAPER II NATURAL RESOURCES AND MANAGEMENT**

- Unit I** Natural Resources: An Introduction  
Meaning of Natural resources  
Concepts and Subject Area of Natural Resources  
Problems of Natural Resources
- Unit II** Classification of Natural Resources:  
Types of natural resources  
General Classification and Owen's Classification of resources  
Resource Utilization  
Soils, Minerals and Power Resources
- Unit III** Resource Utilization and Regionalization  
Iron and steel industry, Textile Industry, Chemical Industry  
Resource Development and its application  
Resource regions of the world
- Unit IV** Conservation of natural resources:  
Meanings, Aims, Trends and problems of conservation  
Soil, forest and mineral conservation
- Unit V** Management of Natural Resources:  
Measures of management and their benefits  
Soil Management  
Water Management  
Power Management  
Human Resource Management

**Suggested Readings:**

- Adams, W. M. : Green Development : Environment and Sustainability in the New World, Routledge and Chapman Hall, New York, 1990

- Burton, I. and Kates, R. W. (1978) : Readings in Resource Management and Conservation, McGraw Hill, New York
- Clark, G. L., Feldman, M. P. and Gertler, M. S. (eds.) (2000) : The Oxford Handbook of Economic Geography, Oxford University Press, New York
- Ehrlich, P. R. , Ehrlich, R. H. and Holdren, J. P. (1998) : Ecoscience: Population, Resources and Development, 2<sup>nd</sup> edition, Freeman and company, San Francisco
- Granfelt, T. R. (1999): Management in the globalized environment, J. & L. Composition Ltd., New York.
- Holechek, J. L. (2000): Natural Resources: Ecology, Economics and Policy, Prentice Hall, New Jersey
- Hooja, R. & Joshi, R. (1994) : Desert, Drought and development, Studies and Resource, Management and Sustainability; Rawat Publications, Jaipur
- Kates, R. W. & Burton, I. (eds.) (1986): Geography, Resources and Environment, Volume I and Volume II, University of Chicago Press, Chicago



**M. A. (GEOGRAPHY)**

**SEMESTER II**

**PAPER III POPULATION AND SETTLEMENT GEOGRAPHY**

- Unit I** Nature and Scope of population geography, Relationship with Demography  
Historical development of population geography  
Sources of population data and their level of reliability
- Unit II** Population: distribution, density and growth  
World patterns and their determinants  
Theories of Growth-Malthus, Marx and Demographic Transition  
Concept of underpopulation and overpopulation
- Unit III** Population Composition: Age & Sex, Rural & Urban, Literacy  
Population dynamics: fertility, mortality and migration  
Migration: National and international patterns  
Population and Development: population resource regions
- Unit IV** Meaning and scope of settlement geography  
Site and situation; Evolution of settlements  
Types and patterns of rural settlements  
Internal morphology of rural and urban settlements
- Unit V** Settlement Hierarchy- primate city, Rank Size Rule  
Central Place theory  
Theories of Christaller & Losch  
Hierarchy of settlements in India

**Suggested Readings:**

- Chandana, R.C. : A study in Population Geography
- Ghosh, B. N.: Population Geography

- Hiralal: Jansankhya Bhugol
- Bhende and Kantkar: Population Studies
- Hopkinson D. (1989): Geography of Settlement, Oliver and Boyd
- Hudson, F. S. (1970): Geography of Settlement, Mackold And Erau.
- Singh, R. L.(ed.): Rural Settlements in Monsoon Asia
- Carter, H. (1972): The Study of Urban Geography, Arnold Heinemann
- Misra, R. P. and K. Misra (ed.): Million Cities of India, Nice Publisher
- Singh, R. Y. : An Introduction to settlement geography
- Ghosh, S.: Settlement Geography

**M. A. (GEOGRAPHY)**

**SEMESTER II**

**PRACTICAL QUANTITATIVE TECHNIQUES AND SOCIO-ECONOMIC SURVEY**

**UNIT I**

Statistics and statistical data

Sampling: sample units and design, sampling frame and procedures

Standard error and sampling size

Testing the adequacy of sample: Binomial test

Probability theory and laws

**UNIT II**

Bivariate analysis

Forms of relation and measuring the strength of association and relation

Construction and meaning of the Scatter diagram

Spearman's rank size rule

Pearson's product moment co-relation coefficients

Regression analysis, Ratio of regression and ratio of variation

**UNIT III**

Conduct a socio-economic survey of households with a structured questionnaire; supplement the information by personal observations and perceptions. Based on results, prepare a critical field survey report. Photographs and sketches, in addition to maps and diagrams supplement the report.

A socio-economic field survey camp will be arranged for the duration of ten days at any selected site (Rural or Urban settlement) away from the institution. The camp will be compulsory for all students.

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER I ENVIRONMENT AND DISASTER MANAGEMENT**

- Unit I**            Meaning and Scope of environmental studies  
Ecology and ecosystem  
Components of ecosystem- complete and incomplete ecosystem  
Types of ecosystem- marine and terrestrial
- Unit II**            Environmental degradation: Causes and effects  
Pollution: Air, Water & Soil
- Unit III**            Global Warming- Causes and effects  
Sea-level changes  
Ozone depletion  
Climatic changes
- Unit IV**            Environmental hazards and disasters  
Floods and droughts in India  
Man induced environmental changes with special reference to Ganga  
and Yamuna Projects
- Unit V**            Environmental legislation: The Stockholm conference  
The Kyoto conference  
Environmental laws in India: The wildlife act, Forest act.

**Selected readings:**

- Saxena, H. M. : Environmental Geography
- Singh, Savindra : Paryavaran Bhugol
- Odum P. : Fundamentals of ecology
- Chandan, R. C. : Environmental Awareness

- Detwyler, T. R. : Man's Impact on environment
- Embelon, C. : Natural Hazards and global change
- Morgan, A. E. : Dams and other disasters
- Bara, M. C. (ed.) : Proceedings of International Conference on Disaster Management, Guwana 23- 26 april, 1998

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER II REGIONAL PLANNING AND DEVELOPMENT**

- Unit I**            Region- A conceptual framework
- Types of region: Formal and Functional, Uniform and Nodal
- Single feature region and Multi feature region
- Unit II**            Methods for delineation of region
- Regional Planning- Merits and Limitations
- Planning process- Sectoral, temporal and spatial dimensions
- Short term and long term planning
- Unit III**            Special purpose planning regions in India:
- River valley regions & Metropolitan Regions
- Problem regions- Hilly regions, Tribal regions, regions of drought and flood
- Unit IV**            Development: Concept and Indicators
- Regional disparities in India
- Need for regional planning in India
- Regional Development in India- Problems and Prospect
- Unit V**            Concept of multilevel planning, decentralized planning
- People's participation in planning process
- Role of panchayati raj institutions in Regional development
- Regional development in India, problems and prospects
- Concept of MNREGA

**Suggested Readings**

- Chand and Puri- Regional Planning in India
- Misra, R. P.- Regional Planning
- Shrivastava and Chauhan- Praadeshik Niyojan avum Santulit Vikas

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER III OPTIONAL**

**III (A) REMOTE SENSING AND GIS**

- Unit I**            Meaning of Remote Sensing  
                      Historical Development of Remote Sensing in Geography  
                      Stages and elements of processes of Remote Sensing
- Unit II**            Interaction of electromagnetic energy with matter  
                      Remote Sensing systems- Radiation, Sensors, Platforms, Solar Energy  
                      Elements of Photographic System- types, scales, ground coverage, resolution, areal cameras
- Unit III**           Types of Remote Sensing  
                      Utility of Remote Sensing  
                      Principles and Elements of GIS  
                      Data-Source and Digital Cartography
- Unit IV**           Geography as a Spatial Science  
                      Dynamics of spatial information  
                      Elements of Information Technology
- Unit V**            Basic principles of computer cartography for GIS and GPS  
                      Applications of remote sensing and GIS in Urban and  
                      Disaster Management

**Suggested Readings:**

- Avery, T. E. (1962) : Interpretation of aerial photograph, Minneapolis
- Dury, G. M. (1952) : Map Interpretation
- Cunan, R. J. (1985) : Principles of Remote Sensing



- Lillesand, T. M. & Kiefer, R. W. (1979) : Remote Sensing and Image Interpretation, New York
- Sabins, F. F. (1997) : Remote Sensing and Interpretation, New York
- Campbell, J. B. : Introduction to Remote Sensing, London
- Fraser Taylor, D. R. (1991) : Geographical Information System, London
- Siddiqui: An Introduction to GIS
- Devidatt Chaunyal: Sudoor Samvednam Bhaugolik Chinta Pranali

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER III OPTIONAL**

**PAPER III (B) RESEARCH METHODOLOGY**

- Unit I**            Conceptual Foundation of research  
Meanings and types of research, objectives and motivation of research  
Concepts of pure and Applied Research  
Research problems and research design
- Unit II**            Sampling techniques and Aims of Sampling  
Sampling and Sample Design  
Sampling types- Random, Stratified and purposive
- Unit III**          Data Collection:  
Methods of field observation  
Techniques of primary data collection, preparation of questionnaires  
Data Collection from secondary sources  
Tabulation and data analysis
- Unit IV**          Cartographical Analysis of data  
Techniques of data representation by quantitative maps  
Hypothesis and procedure for hypothesis testing
- Unit V**            Drafting of research report, quantitative and qualitative interpretations  
Organization and designing of report  
Evaluating a report

**Suggested Readings**

- Mahmood, Aslam: Statistical Methods for Geographical Studies
- Koshari, K.C.: Research Methodology in Social Sciences

- Suleman, M. : Research Techniques and Methods in Social Sciences
- Adhikari, S. : Fundamentals of Geographical Thought, Allahabad
- Chorley, R. J. & Haggett, P. (ed.) (1967): Models in Geography, London
- Hartshorne, R. (1994 Indian print): The Nature of Geography, Rawat publishers
- Harvey: Explanation in Geography
- Kaushik, S. D. (2001): Bhaugaulik Chintan avam Vichaardhara (Hindi)

## **M. A. (GEOGRAPHY)**

### **SEMESTER III**

#### **PAPER III OPTIONAL**

#### **PAPER III (C) POLITICAL GEOGRAPHY**

- Unit I** Political Geography: Meaning and scope  
Approaches to political geography, Functional & unified field approaches  
Recent developments in Political geography
- Unit II** Geographic elements and the state:  
Physical Elements, Human elements & Economic elements  
Political geography and environment interface
- Unit III** Themes in political geography: nation, state, nation state & nation building  
Frontiers and boundaries, Maritime boundaries  
Changing patterns of world power perspective and core periphery concept
- Unit IV** Geopolitical world order: origin and cessation of cold war  
Global Strategic views: H. J. Mackinder, N. G. Spykman, De Severosky  
Power and politics in the World Economy
- Unit V** Development of political geography in India  
Changing political map of India: State Re-organization  
Geographical Bases of Indian Federalism  
River Water Disputes: International and National  
Geopolitics of Indian Ocean

#### **Suggested Readings**

- John R. Stuart(1992)- An introduction to political geography
- Richard Muir(1995)- Modern Political Geography
- Bergman K. Edward(1975)- Modern Political Geography
- Lucile Carlson(1971)- Geography and World Politic
- S. B. Cohen(1968)- Geography and Politics in a Divided world
- N. J. G. Pounds(1972)- Political Geography
- I. M. Alexander(1963)- World Political Systems
- P. J. Taylor & C. Flint: (2004 India Ed.)- Political Geography

- R. D. Dikshit(1982): Political Geography
- S. Adhikari(1997): Political Geography
- B. L. Sukhwal(1985): Modern Political Geography of India
- S. Adhikari(2008): Political Geography of India: A Contemporary Perspective
- G. Parkar(1998): Geopolitics: Past, Present and Future
- S. K. Dikshit(2006): Political Geography and Geo- Politics
- Hari Mohan Saxsena(2009): Political Geography
- S. Adhikari and Ratan Kumar(2010): Political Geography

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER III OPTIONAL**

**PAPER III (D) GEOGRAPHY OF ANY ONE OF THE MESO REGIONS OF THE WORLD**

**III (D) (I) MONSOON ASIA**

- Unit I**            Physical Setting: Structure and relief  
Physical Divisions  
Climate and Climatic Regions  
Natural Vegetation and Soil Regions
- Unit II**            Population: density, growth and distribution  
Population problems and their solutions
- Unit III**           Resources and their uses  
Distribution and Utilization of Power Resources  
Minerals: Distribution and Production  
Water Resources
- Unit IV**           Economy: Agriculture, Industries, Transport, Trade and Commerce
- Unit V**            Regional Study of the following countries
- Pakistan
  - Nepal
  - Bangladesh
  - Burma
  - Indonesia
  - Malaysia
  - Thailand

**Suggested Readings:**

- Robinson, H. : Monsoon Asia
- Ahmad, K. S. : A Geography of Pakistan
- Dobby, E. H. G. : Monsoon Asia
- Rawson, R. R. : Monsoon Lands

- Little : Far East
- Spencer, J. : Asia- East by South
- Fisher, C. A. : South east Asia
- Moulton: Japan – A geography
- Trewartha, J. T. : Japan- A Geography
- Ahmad, N. : An Economic Geography of Pakistan
- Cressey, G. B. : China’s Geographic Foundation
- Singh, R. L. (ed.) : Rural Settlements in Monsoon Asia
- Green, F. : The Far East
- Cohen, B. : Monsoon Asia: A Map Geography
- M. N. Nigam & Bhanwar Lal Garg : Monsoon Asia

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER III OPTIONAL**

**PAPER III (D) (II) NORTH AMERICA (USA AND CANADA)**

**GEOGRAPHY OF U.S.A. AND CANADA**

**Unit I** Physical Setting: Structure and Relief

Physical divisions

Climate and Climatic Regions

**Unit II** Natural Resources and their uses:

Natural Vegetation zones

Soil regions

Minerals: Distribution and Production

Distribution and utilization of resources of power

**Unit III** Population:

Density, growth and distribution

Population problems and their solutions

**Unit IV** The Economy: Agriculture and Agricultural regions

Irrigation and river valley projects

Industrial Regions

Transport, trade and commerce

**Unit V** Study of the following regions:

**U.S.A.**

- The North- Eastern States
- The Columbia- Fraser and Los Angeles Basin

**Canada**

- St. Lawrence Region
- The Prairie Plains



**Suggested Readings:**

- Jones and Miller : North America
- A. E. Perkins : North America
- Weston, J. W. : North America
- Hudson, F. S. : North America
- White and Foscoe : Regional geography of Anglo- America
- Taylor, G. : Canada
- Moad, W. N. : The United States and Canada
- Shaw, B. B. : Anglo America- A regional geography
- Ashton, L. G. : North America
- Banwari Lal Sharma & Nivendra Kumar Sharma : Uttari America

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PAPER III OPTIONAL**

**PAPER III (D) (III) AUSTRALIA AND NEW ZEALAND**

- Unit I**            Physical Setting: Structure and Relief  
Physical Divisions  
Climate and Climatic Regions
- Unit II**            Natural Resources and their uses  
Natural Vegetation zones  
Soil regions  
Minerals: Distribution and Production  
Distribution and utilization of resources of power
- Unit III**            Population: density, growth and distribution  
Population problems and their solutions
- Unit IV**            Economy: Agriculture  
Irrigation  
Pastoral Economy (Dairying and Sheep Industry)  
Manufacturing Industries
- Unit V**            Study of the following regions
- Canberra
  - Victoria
  - Tasmania
  - Murray Darling Basin

**Suggested Readings:**

- C. S. I. R. O. : Atlas of Australian Resources
- C. S. I. R. O. : The Australian Environment
- Taylor, G. : Australia
- Suggate, L. S. : Australia and New Zealand

- Laborde, E. D. : Australia, New Zealand and Pacific island
- Domollo, K. : Australia
- Rees, H. : Australia
- Prescott, J. A.: The soils of Australia in relation to vegetation and climate, C. S. I. R. O. Bulletin 52 (1952)
- Government of Australia: Official yearbook of the common wealth of Australia

**DISSERTATION:**

**Note:** Student securing 55 % and above marks in M.A. Semester I and Semester II examination may opt for dissertation in lieu of any one elective paper.

**M. A. (GEOGRAPHY)**

**SEMESTER III**

**PRACTICAL      ADVANCED CARTOGRAPHY**

**Unit I**

Map Projection: Classification, Properties and Choice of Map Projection

Construction of Map projections- Mercator's Projection, Gnomonic Polar Zenithal projection, Stereographic polar zenithal projection, Stereographic Equatorial Zenithal Projection, Stereographic/ Zenithal Projection

**Unit II**

Construction of Mollweid's homographic projection, Gall's projection, Interrupted Sanson Flamsteed sinusoidal projection, Orthographic equatorial zenithal projection, Orthographic Polar Zenithal Projection

**Unit III**

Remote sensing and interpretation of aerial photos: Meaning and Scope of Remote Sensing, processes and elements of remote sensing, Advantages of remote sensing, Electromagnetic Energy, Remote sensing platforms, Kinds of remote sensors. Methods of aerial photography, Types of aerial photography, Stereoscopic and 3-D maps

**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP (A) PAPER I POPULATION GEOGRAPHY**

- Unit I** Population Geography: Meaning, Scope and Objectives  
Development of Population Geography as a field of specialization  
Population geography and Demography  
Sources of population data and problems of mapping of population data
- Unit II** Determinants of Growth: Fertility, Mortality and Migration  
Fertility: Measurement, Determinants and Distribution  
Mortality: Measurement, Determinants and Distribution  
World Population growth duration ancient, medieval and modern periods  
Theories of migration: Ravenstein's and Lee's theory of migration
- Unit III** World Population Distribution: Acumene and non-acumene zones  
Concept of density and its importance  
Types of density  
India: Population Distribution, density and growth profile
- Unit IV** Population Composition:  
Age and sex composition: Demographic and economic implications  
Caste and Tribes  
Literacy and Education  
Rural and Urban  
Population Composition of India
- Unit V** Population and Development:  
Human Development Index and its components  
Population resource regions: Ackerman's scheme  
Population Problems and policies w.s.r.t. India

**Suggested Readings:**

- Chandana, R.C. : A study in Population Geography
- Ghosh, B. N.: Population Geography
- Hiralal: Jansankhya Bhugol

- Bhende and Kantkar: Population Studies
- Garnier, J. B. : Geography of Population
- Clark, J. : Population Geography
- Agarwal, S. N. : India's Population

**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP (A) PAPER II GEOGRAPHY OF RURAL SETTLEMENTS**

- Unit I** Settlement Geography: Meaning and Scope  
Significance and Development of Rural Settlement Geography  
Types of Rural Settlement in India
- Unit II** Types and patterns of rural settlements  
Morphology of Rural Settlements  
Rural Service Centres- their nature and hierarchy
- Unit III** Problems of Rural Settlements  
Social and Economic issues in Rural settlements:  
Poverty, housing and shelter, deprivation and inequality  
Empowerment of women, Health care, Rural- Urban Interaction
- Unit IV** Environmental issues in Rural Settlements:  
Water Supply  
Health Hazards  
Sanitation and Drainage
- Unit V** Rural Development planning in India  
House Types and field patterns of rural settlements in Ganga-Plain  
Causes and Consequences of Rural Migration

**Suggested Readings:**

- Alam, S. M. (1982) : Settlement System of India, Oxford and IBH publication Co. , New Delhi
- Brock, J.O.M. and Welb, J. W. (1978) : Geography Of Mankind, McGraw Hill, London

- Chisholm. M. (1967) : Rural Settlements and Land Use, Jhon Wiley New York
- Clout, H.D. (1977) : Rural Geography, Permajon, Oxford.
- Daniel,P. and Hopkinson, M. (1986) : The Geography Of Settlement, Olive & Boyd, Edinburg
- Grover, N (1985) : Rural Settlement a cultural Geography Analisis, Inter-India Publication Delhi
- Hudson F.S (1976): A Geography Of Settlement, McDownald and Evans, New York. CourseXVIII (A)



**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP (A) PAPER III URBAN GEOGRAPHY**

- Unit I**      Urban geography: Nature and scope  
Development of urban geography  
Attributes of urban places during ancient, medieval and modern periods  
Locational and Functional classification of towns
- Unit II**      Bases and process of urbanization and development  
Origin and growth of urban settlements  
Urban growth and theories; Central place theory of Christaller and Losch  
Theories of Perroux and Boudeville  
Urban Hierarchy- Rank size rule and primate city
- Unit III**      Urban morphology and land use structure  
Theories of Urban land use- Burgess, Hyot, Harris and Ulman  
Concept and characteristics of CBD  
Conurbation, Urban Agglomeration
- Unit IV**      Concept of city region, Umland and Sphere of Influence Area  
Rural Urban fringe  
Concept of Megalopolis and Metropolitan region
- Unit V**      Trends of urbanization in India  
Planned and unplanned cities of India  
Urban problems with special reference to slums and urban poverty  
Urban Planning and Policies in India

**Suggested Readings**

- Carter, H. (1972): The Study of Urban Geography, Arnold Hienemann
- Geddes, P. (1968): Cities in Evolution, Benn Publishers
- Hall, P. (1992): Urban and Regional Planning, Routledge, London
- Johnson, J. (1972): Urban Geography: An Introductory Analysis, Germ Area
- Mayer & Kohn (1959): Readings in Urban Geography, Chicago Area
- Scett, A. (2001): Global City Region, Oxford University area, U. K.
- Sinha, M. M. P. & SeemaBala: Nagariya Bhugol(Hindi)
- Bansal: Nagariya Bhugol( Hindi)

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**SEMESTER IV**

**GROUP B    PAPER I    AGRICULTURAL GEOGRAPHY**

- Unit I**            Agricultural Geography: Nature, scope and significance  
Objectives of Agricultural Geography  
Sources of Agricultural Data
- Unit II**            Agricultural Land Utilization, Land reforms, Land Use Policy and Planning  
Agricultural Productivity and Crop Diversity  
Impact and Consequences of Green Revolution
- Unit III**           Von Thunen's Theory of Agricultural Location and its Recent Modifications  
Whittlesey's Classification of Agricultural regions
- Unit IV**            Regional Pattern of productivity in India  
Problems in Indian Agriculture  
Agricultural Policy in India
- Unit V**            Intensity of Cropping and Land Capability in Agriculture  
Employment in Agricultural Sector  
Environment Degradation: Role of chemical Fertilizer, insecticides and pesticides

**Suggested Readings:**

- Bayliss Smith, T.P (1987) : The Ecology of Agricultural Systems, Cambridge University Press, London
- Berry, B.J.L et.Al. (1976) : The Geography of Economic Systems, Prentice Hall, New York
- Brown, L.R (1990) : The Changing World Food Prospects- The Nineties and Beyond, World Watch Institute, Washington D.C
- Dyson, T. (1996) : Population and Food-Global Trends and Future Prospects. Routledge, London.
- Gregor, H.P. (1970) : Geography of Agriculture, Prentice Hall, New York

**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP B    PAPER II    GEOGRAPHY OF MANUFACTURING**

- Unit I**            Nature, Scope and recent developments  
Elements and factors of localization of manufacturing industries
- Unit II**            Theories and models of industries location: Weber, Losch, Hoover  
Modern refinements to least cost theory  
Critical review and application of industrial location theories
- Unit III**            Distributional pattern of manufacturing industries:  
Iron and steel  
Energy goods and automobiles  
Textile  
Chemicals  
Petrochemical  
Hardware & Software industries
- Unit IV**            Environmental degradation caused by manufacturing industries  
Industrial hazards and occupational health  
Role of Globalization on manufacturing sector  
Shifting of industries and its impact on the urban fringe
- Unit V**            Major manufacturing regions of the world  
Major manufacturing regions of India  
Agro based industries of U. P.

**Suggested Readings:**

- Alexander, J. W. (1998) : Economic Geography, Prentice Hall, Englewood Cliffs
- Alexanderson, D. (1967) : Geography of Manufacturing, Prentice Hall, Bombay
- Hoover, E. M. (1948) : The Location and Space of Economy, McGraw Hill, NY
- Isard, W. (1956) : Methods of regional Analysis, The Technology press of M.I.T. and John
- Miller, E. (1962) : A Geography of Manufacturing, Prentice Hall, Englewood cliffs
- Weber, Alfred (1957) : Theory of location of Industries, Chicago University Press

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**SEMESTER IV**

**GROUP B    PAPER III    GEOGRAPHY OF TOURISM**

<b>Unit I</b>	Tourism: Definition and meaning Factors Influencing Tourism: Historical, Natural, Socio- Cultural and Economic factors Elements of Tourism
<b>Unit II</b>	Types of Tourism: Cultural, Historical and Adventure Tourism Tourism as an Industry International Tourism
<b>Unit III</b>	Evolution of tourism in India Problems of Tourism in India Regional Dimensions of Tourist Attractions in India
<b>Unit IV</b>	Infrastructural Approach for the Development of Tourism Motivating Factors for National and International Tourists Development of Indian Hotel Industry
<b>Unit V</b>	Role of Foreign Capital and Impact of Globalization on Tourism Environmental Law and Tourism Government Policies for Planning and Promotion of Tourism in India

**Suggested Readings:**

- Bhatia A.K (1996): Tourism Development: Principles and Practices. Sterling Publishers, New Delhi
- Inskeep. E (1991): Tourism Planning: An Integrated and Sustainable Development Approach Van Nostrand and Rienhold, New York

- Kaul R.K (1985): Dynamics of Tourism and Recreation, Inter- India, New Delhi
- Kaur, J. (1985): Himalyan Pilgrimages and New Tourism, Himalyan Books, New Delhi
- Lea, J. (1988): Tourism and development in the third world
- Milton, D. (1993): Geography of World Tourism, Prentice Hall, New York
- Peace, D. G. (1987): Tourism To-Day: A geographical Analysis, Harlwo, Longman
- Robinson, H. A.(1996): A geography of tourism, McDonald and Evans, London
- Sharma, J. K. (ed.)(2000) : Tourism, Planning and Development- A new perspective, Kanishka Publishers, New Delhi

**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP C    PAPER I    BIOGEOGRAPHY**

- Unit I**            Biogeography: Meaning, Scope and development  
Environment, habitat and plant-animal association  
Biome types
- Unit II**            Elements of plant geography  
Distribution of forests and major communities  
Plant succession in newly formed landforms-examples from flood plains and glacial fore  
fields
- Unit III**           Zoogeography and its Environmental Relationship
- Unit IV**           Palaeo-botanical and Palaeo-climatological records of environment change in India
- Unit V**            National forest policy of India  
Conservation of Biotic Resources

**Suggested Readings**

- Agarwal, D. P. (1992) : Environment and ecology of early amn in northern India, R. B. Publication Corporation
- Hoyt, J. B. (1992) : Man and the Earth, Prentice hall of USA
- Huggett, R. J. (1998) : Fundamentals of Biogeography, Routledge, USA
- Illies, J. (1974) :Introduction to Zoogeography, McMillan, London
- Khoshoo, T. N. & Sharma, M. (eds.) (1991): Indian geosphere-biosphere, Har-Anand Publications, New Delhi
- Lapedes, D. N. (ed.) (1974) :Encyclopedia of Environmental Science, McGraw
- Mathur, H. S. (1998) : Essentials of Biogeography, Anuj Printers, Jaipur
- Pears, N. (1985) : Basic Biogeography



**M. A. (GEOGRAPHY)**

**SEMESTER IV**

**GROUP C    PAPER II    SOIL GEOGRAPHY**

- Unit I**            Nature, Scope and Significance of soil geography  
Relation with Pedology
- Unit II**            Importance of the study of Soil Geography  
Factors affecting soil formation: Material, Organic, Climatic,  
Topographic and Spatio-Temporal  
Processes of soil formation and soil development: Physical, Biotic and Chemical
- Unit III**            Development of soil science  
Soil organism; Macro-animals (earthworms, mites, centipedes, rodents and insects)  
Micro-animals and plants  
Fungi, Bacteria and Algae
- Unit IV**            Physical and Chemical properties of soil  
Genetic Classification of soil  
Taxonomic classification of soil: Zonal, Azonal & Intra-zonal soils  
Their characteristics and world patterns
- Unit V**            Soil erosion and degradation  
Land capability classification  
Soil Conservation and Management w.s.r.t. India

**Suggested Readings:**

- Backman, H. O. and Brady, N. C. (1960) : The nature and properties of soil, McMillan, New York
- Bennett, Hugh H. : Soil conservation, McGraw Hill, New York
- Bunting, B. T. (1973) : The Geography of Soil, Hutchinson, London

- Clarke, G. R. (1957) : Study of the soil in the field, Oxford University Press, Oxford
- Foth, H. D. & Turk, L. M. (1972): Fundamentals of soil science, John Wiley, New York
- Govinda Rajan, S. V. and Gopala Rao, H. G. (1978): Studies on soils of India, Vikas Publications, New Delhi
- Mc. Bride, M. B. (1999): Environmental Chemistry of Soils, Oxford University Press, Oxford and New York

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**SEMESTER IV**

**GROUP C    PAPER III    GEOGRAPHY OF WATER RESOURCE MANAGEMENT**

**Unit I**

Water resource management: Meaning and scope  
Aims and Objectives of Water Resource Management  
The basic hydrological cycle: precipitation, evaporation and  
Evapo-transpiration

**Unit II**

Water Resource- Inventory and distribution (surface and sub-surface)  
Water storages- Glaciers, river channels, lakes and reservoirs

**Unit III**

Water Demand and Use:  
Methods of estimation- agricultural, industrial and municipal use of water

**Unit IV**

Water balance pattern:  
Measurement of Water Balance  
Assessment of water requirement  
Depletion and water quality management

**Unit V**

Problems of Water Resource Management  
Water Resource Management in Disaster Area  
Water Quality  
Management and Pollution Control  
Water Management in Urban Area  
Watershed management  
National Water Policy

**Suggested readings**

- Agarwal, Anil and Sunita Narain (1997): Dying Wisdom: Rise, Fall and Potential of India.
- Traditional Water Harvesting System. Centre for Science and Environment, New Delhi.
- Economic and Social commission for Asia and the Pacific, United Nations (1989)
- Guidelines for the preparation of National Master Plans

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**SEMESTER IV**

**PRACTICAL    ADVANCED SURVEYING AND FIELD SURVEY TOUR**

- Unit I**                      Surveying: Definition, principles of surveying, types of surveying
- Plane table Survey: Inter-section, Re-section 3 point problem, 2 point problem (inside and outside case)
- Prismatic compass surveying: closed traverse, elimination of error
- Telescopic Alidade, Distance and Height Calculation
- Unit II**                      Theodolite- Least Count, Angle Measurement and Plotting
- Dumpy Level: plotting the longitudinal profile
- Sextant: calculation of height, accessible & inaccessible method
- Indian Clinometers: Calculation of height, accessible & inaccessible method
- Unit III**                      Geographical tour is to be organized for a period of about 10 days in a selected area at least 100 km away from the institution. The students shall conduct a field survey pertaining to physical features, local flora and local fauna, Settlement Structure and lifestyle of people on the basis of the observations. On the basis of the observations, the students shall prepare a field report supplemented with maps, sketches and photographs

**Time: 4 hours**

**Distribution of marks shall be as follows:**

Field Work (one exercise from each unit): 40 marks

Field Survey Report: 35 marks

Viva-voce: 25 marks