

## SCHEME OF EXAMINATION OF MA GEOGRAPHY 2009-10

### Semester-III

Paper No.	Nomenclature	M.Marks	Duration of Exam
Paper-XI	Geography of World Economy	100	3 Hours
Paper-XII	Regional Development & Planning	100	3 Hours
Paper-XIII	Environmental Geography	100	3 Hours
Paper-XIV	Any one of the following (i) Oceanography (ii) Geography of Natural Hazards and Disaster Management (iii) Water Resource and Management (iv) Biogeography	100	3 Hours
Paper-XV	Practicals Surveying and Toposheet Interpretation	100	4 Hours

### Semester-IV

Paper	Nomenclature	Marks	Duration of Exam
Paper-XVI	Geographical Thought-III	100	3 Hours
Paper- XVII	Research Methodology	100	3 Hours
Paper-XVIII	Any one of the following (Courses with reference to India) (i) Agricultural Geography (ii) Political Geography (iii) Population Geography (iv) Urban Geography	100	3 Hours
Paper-XIX	Any one of the following (Courses with reference to India) (i) Geopgraphy of Tourism (ii) Indian Geomorphology (iii) Rural Geography (iv) Geography of Health	100	3 Hours
Paper-XX	Practicals XX (a) Remote Sensing & GIS (Theory) Paper to be held along with other Theory papers. XX(b) Photorammetry and Remote Sensing	50	3 Hours
		50	4 Hours

## PAPER-XI GEOGRAPHY OF WORLD ECONOMY

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

### UNIT-I

Nature of Economic Geography : Commercial Geography, Environmental Determinism, Aereal Differentiation, Locational Analysis, World Economy.

Fundamental Concepts : Capital and Circuits of Capital, Capital Accumulation, Capital Accumulation by Dispossession.

### Unit-II

Transition from Feudalism to Capitalism, Merchant capitalism and colonialism, Capitalism in Twelfth Century-Organized Capitalism, Disorganization of Capitalism : Neo-Liberalism and New-Imperialism.

### Unit-III

World Economy and the Capitalist mode of production, The Basic Elements of World Economy : A Single Market, a Multiple State System, the Three-tier structure; A Space-Time Matrix of the World Economy, Dynamics of World Economy, Spatial Structure of the World Economy.

### Unit-IV

Economic Development : Globlization or Internationalization, Patterns of International Trade, A Brief introduction to World Trade Organization; WTO and Developing Countries.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

Benko, Georges and Ulf Strohmayer (2004), Human Geography, London : Arnold.

Daniels, Peter et. al. (2003), Human Geography, New delhi : Pearson

Dicken, P. (2003), Global Shift : Reshaping the Global Economic Map in the 21<sup>st</sup> Century, New Delhi : Sage Publications.

Gwynne, Robert et. al. (2003), Alternative Capitalism, London : Arnold.

Harvey, David (1982), The Limits to Capital, Oxford : Blackwell.

Harvey, David (1985), The Urbanization of Capital, Oxford Blackwell.

Harvey, David (2005), New Imperialism, Oxford University Press.

Harvey, David (2008), A Brief History of Neoliberalism, Oxford University Press.

Hudson Ray (2005), Economic Geographies, New Delhi : Sage Publications.

Johnston, R.J. et. al. (eds.) (2003), Geographies of Global Change, Oxford Blackwell.

Knox, Paul et. al. (2003), The Geography of the World Economy, London : Arnold.

Taylor, P.J. and Collin Flint (2000), Political Geography : World Economy, Nation-State and Locality, New York : Prentice Hall.

World Bank (2002), Globalization, Growth and Poverty : Building an Inclusive World Economy, New York : Oxford University Press.

**PAPER-XII REGIONAL DEVELOPMENT & PLANNING**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Conceptual framework : growth and development; development and social sciences; development and geography; Concept of regional development. Theories of Development- “Circular and Cumulative Causation” model of Myrdal, ‘Polarization and trickling down effects” model of Friedman, “Growth-Pole” model of Perroux and “Stages of growth” model of Rostow.

**Unit-II**

Process of Regional Development, factors controlling development – physical, technological, social, economic, polity. Indicators of development, measurement of regional disparities - some basic issues and techniques.

**Unit-III**

The Planning Process, Types of Planning, Geography and Regional Planning– Concepts, objectives and Principles. Techniques of Regional Planning – Analytical : Forecasting, Industrial location analysis; Procedural techniques : Threshold analysis, Cost benefit analysis.

**Unit-IV**

Planning Region – Characteristics, Hierarchy of Planning regions, Need for planning regions, the Demarcation - Principles, Criteria and Methods. Multi level Planning : Concept, Principles and Merits.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All

questions carry equal marks.

**Recommended Readings:**

1. Bhatt, L.S. (1972) Regional Planning in India, Statistical Publishing Society, Calcutta.
2. Bhatt, L.S. et. al. (eds) (1982) Regional Inequalities in India, Society for the study Regional Disparities, New Delhi.
3. Blunder. J. et. al. (1973) Regional Analysis and Development, Harper & Row, London.
4. Chand, M and V.K. Puri (1985) Regional Planning in India, Allied Pub. Pvt. Ltd. New Delhi.
5. Chandna, R.C. (2000) Regional Planning- A Comprehensive Text, Kalyani Publishers, Ludhiana.
6. Chorley, R.J. and P. Hagget (1970) Socio Economic Models in Geography, Methuen, London.
7. Coates, B.R. and R.J. Johnston (1977) Geography and Inequality, Oxford University Press, Oxford.
8. Hurst, M.E. (1972), A Geography of Economic Behaviour, Duxbury Press, Behment.
9. Kuklinsk, A.R. (ed) (1972) Growth Poles and Growth Centres in Regional Planning Monton, the Hague.
10. Misra R.P. et. al. (eds.) (1974) Regional Development Planning in India, Vikas, New Delhi.

**PAPER-XIII ENVIRONMENTAL GEOGRAPHY**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Environmental Geography-meaning, nature, scope and fundamental concepts, approaches and methods in Environmental Geography; relationship with other branches of knowledge; Concept, types and elements of factors of Environment. Ecology-meaning, scope and concepts; subdivisions and approaches in Ecology.

**Unit-II**

Ecosystem-meaning and concepts; classification (types) and components of eco-system; trophic structure, ecological pyramid, energy flow and biogeochemical cycle in eco-Agricultural Ecosystems); ecological regions of India.

**Unit-III**

Environmental degradation-nature, process, types and their causes, Environmental pollution-nature, types, sources and effects of air, water and land pollutions; Green house effect, Global warming : Environmental management- concept, methods and approaches; Ecological basis of environmental management.

**Unit-IV**

Environmental degradation and problems in India-Case studies; emerging environmental issues in India; environmental conservation and management in India; programmes, policies, acts and legislation in India; Environmental awareness and movements in India.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question

from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

### Recommended Readings:

1. Anderson J.M. (1981): Ecology for Environmental Science : Biosphere, Ecosystems and Man, Arnold, London.
2. Awasthi, N.M. and Tiwari, R.P.L. (1995) : Paryavaran Bhugool (Environmental Geopgraphy), Madhya Pradesh Hindi Granth Academy, Bhopal.
3. Goudie, Andrew (1984) : The Nature of the Environment, Oxford Katerpring Co. Ltd.
4. Nobel and Wright (1996) : Environmental Science, Prentice Hall, New York.
5. odum, E.P. (1971) : Fundamental of Ecology, W.B. Sanders, Philadelphia.
6. Saxena, H.M. (1994) : Prayavaran evn Paristhitiki Bhugool (Geography of Environment and Ecology) Rajasthan Hindi Granth Academy, Jaipur.
7. Singh, Savinder (1991) : Environmental Geography, Prayag Pustak Bhawan, Allahabad.
8. Singh, R.B. (ed.) (1989) : Environmental Geography, Heritage, New Delhi.
9. Strahler, A.N. and Strahler, A.H. (1973) : Environmental Geosciences : Interaction between natural systems and Man, John Wiley and Sons, New York.
10. Strahler, A.H. and Strahler A.N. (1977) : Geography and Mans Environment, John Wiley, New York.
11. William, M.M. and John, G. (1996) : Environmental Geography - Science, Landuse and Earth System, John Wiley and Sons, New York.

### PAPER-XIV (i) OCEANOGRAPHY

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

#### UNIT-I

Definition and scope of oceanography, growth and development of oceanography; oceanography and other sciences; distribution pattern of land and sea, origin of ocean basins : Wegner's drift hypothesis and sea floor spreading & Plate Tectonics.

#### Unit-II

Depth of ocean, hypsometric curve, ocean floor profile-continental shelf, slope, ridge & deeps, abyssal plains; submarine canyons; coral reefs-origin and distribution; ocean deposits; configuration of ocean floors of Indian and Atlantic Ocean.

#### Unit-III

Temperature of oceans; salinity in oceans; density of oceans; dynamics of ocean currents; currents of Atlantic, Pacific and Indian Ocean; tides and origin; Sunami.

#### Unit-IV

Ocean currents and their impact on climate and economy; oceans as source of food, mineral and energy resources; role of oceans in transport and trade; sea-level changes; evidences, mechanism and impact.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Sharma, R.C. and V. Vatal, (1986), Oceanography for Geographers, Chatanaya Publishing, Allahabad.
2. Denny, M., 2008 How the Ocean works : An introduction to Oceanography, Princeton University Press, New Jersey.
3. T. Garrison, 2006, Oceanography : An Invitation to Marine Science, Thomson, Brooks/ Cole.
4. S. Kerhsaw, 2004, Oceanography : An Earth Science Perspective, Routledge, UK.
5. Garrison, T., 1995, Essentials of Oceanography Wardsworth Pub. Co., London.
6. Kennel, J.P., 1982, Marine Geology, Prentice Hall, Englewood Cliff, New Jersey.
7. Shepart, F., 1969, The Earth Beneath the Sea, Athneum, Rev. ed., New York.
8. Sieboldt, E., and W.H. Berger, 1994, The Sea Floor, 2<sup>nd</sup> ed., Freeman, New York.
9. Von Arx, W.S., 1962, An Introduction to Physical Oceanography, Addison, Wesley, New York.
10. Stopmmel, H., 1987, A view of the Sea, Princeton University Press, New Jersey.

**PAPER-XIV (ii) GEOGRAPHY OF NATURAL HAZARDS AND DISASTER MANAGEMENT**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Concept of Hazards and Disaster – Risk and Vulnerability.

Types of Hazards : Tectonic Hazards – Earthquakes and Volcanoes; Hydrological Hazards – Floods and Droughts; anthropogenic hazards.

**Unit-II**

Regional Dimension of Hazards; Occurrence and Trends of Earthquakes, Volcanoes; Floods and Droughts.

**Unit-III**

Impact and consequences of disasters – Displacements and Livelihood;

Economy and Infrastructure; Health related problems.

**Unit-IV**

Preparedness, Mitigation and Management of disasters; Plans and Policies with specific reference to Seismicity, droughts and floods.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Allan, S., Adam, B. and Carter, C., (eds.), (2000), Environmental Risks and the Media. Routledge, London.
2. Ambala-Bertrand, J.M., (1993) : Political Economy of Large Natural Disasters : With Special Reference to Developing Countries, Claredon Press, Oxford.
3. Blaikie, P., Cannon, T., Davis, I., (et. al.), (1994) : At Risk : Natural Hazards, People's Vulnerability and Disasters, Routledge, London.
4. Burton, I., Kates, R.W. and White, G.F., (1993) : Environment as Hazards, 2<sup>nd</sup> edition, Guilford Press, New York.
5. Hood, C. and Jones, D.K.C. (eds.) (1996) : Accident and Design : Contemporary debates in Risk Management UCL Press, London.
6. Kasperson, J.X., Kasperson, R.E. and Turner, B.L., (1995) : Regions at Risk : Comparisons of Threatened Environments. United Nations University Press, Tokyo.
7. Mitchell, J.K. (ed.) (1999) : Crucibles of Hazards : Mega-Cities and Disasters in Transition, United Nations University Press, New York.
8. Schneider, S.K., (1995) : Flirting with Disaster : Public Management in Crisis Situations, M.E. Sharpe, New York.
9. Quarantelli, E.L. (ed.) (1998) : What is a Disaster? Perspective on the Question, Routledge, London.
10. Schneid, T. and Collins, L. (1998) : Disaster Management and Preparedness, Lewis Publishers, Washington, D.C.
11. Godschalk, D.R. (et. al.) (1999) : Natural Hazard Mitigation Recasting Disaster Policy and Planning, Island Press, Washington, D.C.
12. Smith, Keith (1996): Environmental Hazards : Assessing Risk and Reducing Disaster, Routledge, London and New York.
13. Paraswamam, S. and Umikrishnan, P.V. (2000) : India Disaster Report, Oxford University Press, New Delhi.

**PAPER-XIV (iii) WATER RESOURCES AND MANAGEMENT**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Water as a focus of geographical interest- water links natural, environment and man's activities, coalescence of physical and human geography.

Basic hydrological cycle and its components-precipitation, potential evapotranspiration, interception loss, runoff, factor affecting water resources development – climatic factors, physiographic factors, geographical factors.

**Unit-II**

Ground water and its occurrence-hydrometeorological framework of groundwater occurrence- consolidated formation, semi-consolidation formation, inconsolidated formation.

A rainbow of water-green water, blue water, white water, virtual water; some worked examples relating to the chapter (examples on evaporation, water balance, surface water resources).

**Unit-III**

Utilisation of water resources- physical and socio-economic basis of water resource utilization.

Problems of groundwater utilization - groundwater quality, groundwater salinity, waterlogging and groundwater depletion.

**Unit-IV**

Surface and Groundwater pollution; scarcity of water resources;

Water resources management - definition, function and strategies; problems of drinking water supply in urban areas; Ganga Action Plan.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Andrew A. Dzurik, (2002) Water Resources Planning, Rowman & Littlefield Publishers, Inc., Savage, Maryland.
2. Chorley, R.J. (1979) Water, Earth and Man, Methuen, London.
3. Daniel P. Loucks and E.V. Beek, (2005) Water Resources Systems Planning and Management : An introduction to Methods, Models and Applications, UNESCO. Publishing.
4. Jeet, Inder, (2005) Groundwater Resources of India- Occurrence, Utilization and Management, Mittal Publication, New Delhi.
5. Neil S. Grigg, (1996) Water Resources Management Mc Graw-Hill Book Co., New York.
6. S.L. Dingman, (2002) Physical Hydrology, Prentice-Hall Inc., New Jersey.
7. T.V. Cech, (2005) Principles of Water Resources : History, Development, Management and Policy, John Wiley & Sons, Hoboken.

**PAPER-XIV (iv) BIOGEOGRAPHY**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Biogeography - Development, field, functions and problems; Biosphere - definition, nature and composition.

**Unit-II**

Biogeochemical cycles- the hydrological cycle, the carbon cycle, the oxygen cycle, the nitrogen cycle, the phosphorous cycle and the sediment cycle.

**Unit-III**

Ecosystem - Meaning, types, components and functioning of ecosystem; Evolution of living organism and factors influencing their distribution on the earth.

**Unit-IV**

Biomes- Meaning and types, Biogeographical realms : Zoogeography and Zoogeographical realms.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Aggarwal, S.K. (1992), Fundamental of Ecology, Ashish Pub. House, New Delhi.
2. Bradshaw, M.J. (1979) Earth and Living Planet, ELBS, London.

3. Cox. C.D. and Moore, P.D. (1993), Biogeography : An Ecological and Evolutionary Approach (fifth Edition), Blackwell.
4. Huggett, R.J. (1998), Fundamentals of Biogeography, Routledge, U.S.A.
5. Illics, J. (1974), Introduction to Zoogeography, Mcmillian, London.
6. Lapedes, D.N. (ed.) (1974), Encyclopedia of Environmental Science, McGraw Hill.
7. Mathur, H.S. (1998), Essentials of Biogeography, Anuj Printers, Jaipur.

**PAPER-XV PRACTICALS : SURVEYING AND  
TOPOSHEET INTERPRETATION**

Max. Marks : 100

Time : 4 Hours

**Distribution of marks :**

**Lab work test : 60**

**Record on labwork : 20**

**Viva Voce : 20**

**UNIT-I Surveying :**

Principles of Surveying. Unit of Measurement, Scale, Character of Work, Methods of Surveying.

Survey with the help of following instruments (Two Exercise of Eah) :- Theodolite, Clinometer (Indian Pattern), Abney level, Dumpy level.

**Unit-II Toposheet Interpretation :**

Arrangement and Identification of Toposheets of India, Topographical sheet interpretation, Basic information on Topographical sheets, Preliminary information, Conventional Signs, Interpretation of Relief, Drainage, Settlements, Land-use, Vegetation and Transport network on Toposheets (at least 12 Exercises).

**Note :** The question question paper will contain six questions in all, including three questions from each unit. Candidate(s) are required to attempt three questions in all selecting atleast one question from each unit.

**Recommended Readings:**

1. Punmia, B.C. (1981), Surveying , Standard Book House, New delhi.
2. Sharma, J.P. (1996), Prayogik Bhoogol, Restogi Publications, Meerut.
3. Singh, R.L. (1979), Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. Yadav, H.L., (2000), Prayogik Bhoogol Ke Aadhar (Fundamentals of Practical Geography), Radha Publication, New Delhi.



**PAPER-XVI GEOGRAPHICAL THOUGHT-II**

End Semester Exam : 80 Marks  
 Internal Assessment : 20 Marks  
 Total : 100 Marks  
 Time : 3 Hours

**UNIT-I**

Emergence of Scientific geography and its foundations;  
 Contributions of Varenus, Humboldt, Ritter and their legacy.

**Unit-II**

A general survey of developments in Geography upto World War-II – Contributions of Ratzel, Richthofen, Heffner, Blache, Schluter, Mckinder, Sauer.

**Unit-III**

Nature and Consequences of quantitative revolution in Geography;  
 Development of 'human centred theories ; behavioral and humanistic perspectives in Geography.

**Unit-IV**

The call for Social Relavance in Geography : Liberals, Radicals, Postmodernism and Geography.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Aitken Stuart & Gill Valentine ed. (2006) Approaches to Human Geography, Sage, London.
2. Bonnet, Alastair (2008) What is Geography? Sage, New Delhi.
3. Cloke, Paul and Johnston, Ron (2005) Spaces of

Geographical Thought, Sage, London.

4. Dickinson, R.E. (1969), The Makers of Modern Geography, London.
5. Harvey, David (1990) The Condition of Postmodernity, Blackwell, London.
6. Hubbard, Phil, Rob Kitchin and Gill Valentine (2008) Key Texts in Human Geography, Sage, London.
7. James P.E. and Martin J. Geoffret (1972) All Possible Worlds, John Wiley and Sons, New York.
8. Johnston, R.J. (2004) Geography and Geographers, 6<sup>th</sup> edn., Arnold London.
9. Peet, Richard (2003) Radical Geography, (Indian Reprint), Rawat Publication, New Delhi.
10. Peet, Richard (1998) Modern Geographical Thought, Oxford Blackwell.
11. Soja, Edward W. (1997) Postmodern Geographies, Indian edn. Rawat Publications, New Delhi.
12. Unwin, Tim (1992) The place of Geography, Pearson Education Limited, Essex.

**PAPER-XVII RESEARCH METHODOLOGY**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Meaning and Purpose of Research, Types of Research; Social Science Research and Nature of Geographical Research; Identification of Research Question and Literature Surveying; Methods and Methodology in Human Geography.

**Unit-II**

Scientific Method in Human Geography; Analytical Steps of the Scientific Method; The Routes of Scientific Explanation : Deductive and Inductive forms of reference; Explanation in Geography; Some Problems.

**Unit-III**

From Quantitative to Qualitative Geography; Qualitative Data Production: Interviews (Process of Interviewing. Structure interviews and informal surveys; Depth Interviewing and Working with Groups); Observation (Participant Observation and Ethnography); Phenomenology.

**Unit-IV**

Field work in Geographical Studies; Data Creation : Census Method and Sampling Method (Random, Systematic, Stratified, Multi-Stage, Accidental and Purposive); Process of Research Report Writing.

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**Recommended Readings:**

1. Dey, Ian (1993), Quantitative Data Analysis, London : Routledge.
2. Eyles, John and David M. Smith (1988), Qualitative Methods in Human Geography, Oxford : Polity Press.
3. Harvey, David (1969), Explanation in Geography, London : Edward Arnold.
4. Hubbard, Keith et.al. (2002), Thinking Geographically, London : Continuum.
5. Hoggart, Keith et.al. (2002), Researching Human Geography, London : Arnold.
6. Johnston, R.J. and J.D. Sidaway (2004), Geography and Geographers, London : Arnold.
7. Kitchin, Rob and Nicholas J. Tate (2002), Conducting Research in Human Geography, London : Prentice Hall.
8. Limb, Melanie and Claire Dwyer (2001), Qualitative Methodologies for Geographers, London : Arnold.
9. Robinson, Guy M. (1998), Methods and Techniques in Human Geography, New York : John Wiley.
10. Scale, Clive (ed.) (2008), Social Research Methods, London : Routledge (India Edition).
11. Somekh, Bridget and Cathy Lewin (eds.) (2005), Research Methods in the Social Sciences, New Delhi : Vistaar Publications.

**PAPER-XVIII(i) AGRICULTURAL GEOGRAPHY WITH  
REFERECE TO INDIA**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Indian Agriculture : Attributes : Agricultural Inputs – Seeds, Fertilisers and Irrigation – Seed Production and deficiencies; Consumption, pricing and subsidy on Fertilisers; Major Issues in irrigation – Water availability and demand, declining investment in irrigation, gap between potential and utilisation, Irrigation water charges.

**Unit-II**

Sustainability of India's agriculture : issues and concerns;

Agro-Climatic Zone; Methods and Techniques of Agro-Climatic zonation; Agro-climatic zones of India and their problems and prospectus.

**Unit-III**

Major Agricultural and Irrigation Development Programmes/ Schemes – Intensive Agricultural Areas Programme (IAAP) High Yielding Variety Programme (HYVP) Small Farmers Development Programme (SFDP), Drought Prone Area Programme (DPAP), Backward Area Development Programme (BADP), Desert Development Programme (DDP) Whole Village Development Programme (WVDP), National Rural Employment Guarantee Act (NREGA).

**Unit-IV**

Globalisation and Indian Agriculture; New Agricultural Policy; Globalisation and cropping pattern; Issues of food security & accessibility; Rural poverty and malnutrition.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Alagh, Y.K. (2003), Globalisation and Agricultural Crisis in India, Deep and Deep Publications, New Delhi.
2. Andrae, B. (1981) Farming, Development and Space : A World Agricultural Geography, Water de Grytar, New York.
3. Bansal, P.C. (1977) Agricultural Problems of India, Vikas, New Delhi.
4. Hussain, M. (1996) Systematic Agricultural Geography, Rawat Pub. Co,
5. Memoria, C.B. and Tripathy, B.B. (2007) Agricultural Problems of India, Kitab Mahal, New Delhi.
6. Mohammad, N. (1978) Agricultural Land Use in India, A Case Study, Inter India Publications, Delhi.
7. Mohammad N. (ed.) (1980) Perspectives in Agricultural Geography (5 Vol)., Concept Publishing Co., New Delhi.
8. Morgon, W.B. and Munton, R.J.C. (1971) Agricultural Geography, Methuen Co. Ltd., London.
9. Prasad C.S. (2006) Sixty Years of Indian Agricultural Geography, Methuen Co. Ltd., London.
10. Singh, J. (1974) Agricultural Geography, Tata Mc Graw Hill Publishing Co. Ltd., New delhi.
11. Sharma, B.L. (1990) Agricultural Geography, Rawat Publication, Jaipur.

**PAPER-XVIII (ii) POLITICAL GEOGRAPHY**  
**(with ref. to India)**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Geographical Factors in India's Political History : Role of Terrain, Rivers and Sea Coasts, Independence and State's Re-Organisation, Demand for more States, Geographical Basis of India Federalism, Indian Federalism : Retrospect and Prospect, Nature of Indian state.

**Unit-II**

India as a democratic state, Challenges to Indian democracy, World Systems Theory and the Case of India, Social Cleavage Theory and the Indian Party System, Women as marginalized group in Indian Parliament, Constituencies and their evolution.

**Unit-III**

Nationalism and Indian state, India's secularity and the politics of communalism, National v/s Regional Political Parties, Emergence of Regionalism (case studies from Maharashtra and Assam), Naxalism, Inter-State Water Disputes (case of SYL canal)

**Unit-IV**

India as a regional power in South Asia, India and Geopolitics of the Indian Ocean, India as a Nuclear Power, Geographical Factors in India's Foreign Policy, Uni- polar world and Indian Foreign Policy.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain

eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Adhikari, Sudepta (2008), Political Geography of India, Allahabad, Sharda Pustak Bhawan.
2. Bose, Sugata and Ayesha Jalal (eds.) (1998), Nationalism, Democracy and Development, Delhi : Oxford University Press.
3. Brass, Paul (1992), Politics of India Since Independence, Cambridge : Cambridge University Press.
4. Dikshit, R.D. (1975), Political Geography of Federalism : An Inquiry into Origins and Stability, Delhi : Macmillan.
5. Kohli, Atul (ed.) (1988), India's Democracy, New Delhi : Orient Longman.
6. Jayal, Niraja Gopal (ed.) (2001), Democracy in India, New Delhi : Oxford University Press.
7. Panikkar, K.M. (1955), Geographical Factors in Indian History, Bombay : Bharatiya Vidya Bhawan.
8. Singh, Chandra Pal (1994), Readings in Political Geography, New Delhi : Heritage Publishers.
9. Taylor, Peter and Collin Flint (2000), Political Geography: World Economy, Nation-State and Locality, New York : Prentice Hall.
10. Vohra, Ranbir (1997), The Making of India, London : M.E. Sharpe.

**PAPER-XVIII (iii) POPULATION GEOGRAPHY**  
**(with ref. to India)**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Sources of population data in India – census, vital or civil registration system, Sample Registration System, Sample surveys with particular reference to NSSO and NFHS. Problems of their reliability and comparability.

**Unit-II**

Distribution and density of population in India; factors affecting population distribution : population growth – trends and determinants, spatial dimension of growth in population.

**Unit-III**

Population characteristics in India – age and sex composition; sex composition among children; problems of population aging, literacy, marital status, economic characteristics of population.

**Unit-IV**

Components of population change – trends and patterns in fertility and mortality levels; demographic transition in India; internal migration – nature and levels; India's Population Policy – post independence development; Reproductive and Child Health Programme.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Bhende Asha a and Kanitkar Tara (2002) Principles of Population Studies, Forteenth Edition, Himalaya Publishing House, Mumbai.
2. Chandna, R.C. (2002), Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.
3. Premi, M.K. (1991) India's Population Heading Towards a Billion, B.R. Publishing Coporation, New Delhi.
4. Hassan, M.I. (2005) Population Geography, Rawat Publication, Jaipur.

**PAPER-XVIII (iv) URBAN GEOGRAPHY****(with ref. to India)**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Definition, nature and scope of urban geography; Development of urban geography in India; Defining urban places : identification of urban places, criteria for identification of urban places, census definitions.

**Unit-II**

Origin and growth of urban centers in India—Ancient, Medieval and Modern periods (pre-independence and Post-independence periods)

**Unit-III**

Location, site and situation of towns in India; Functional Classification of Towns; Methods used by Indian Geographers; Urban Morphology : Meaning, types and factors affecting, Urban Morphology, elements and classes of Urban Morphology.

**Unit-IV**

Urbanization -meaning and processes of urbanization; patterns and trends of urbanization in India; factors affecting urbanization.

Problems of metropolitan cities in India; poverty in the Metropolitan cities of India : causes and strategies.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Bala, Raj (1986), Urbanisation in India, Rawat Publishers, Jaipur.
2. B.P. Rao and Sharma, N. (200-01), Urban Geography (Hindi Ed.) Vasundhara Prakashan, Gorakhpur.
3. S.C. Bansal, (2008), Urban Geography (Hindi Ed.) Meenakshi Prakashan, Mcesut.
4. R. Ramachandran (1989), Urbanization and Urban Systems in India, Oxford University Press, Delhi,
5. V. Nath (2007), Urbanisation, Urban Development and Metropolitan Cities in India, Concept Publishing Co. New Delhi.
6. R.B. Mandal (1999), Urban Geography : A Text Book; Concept Publishing Co., New Delhi
7. R.P. Misra and Kamlesh Misra (eds.), Millions Cities of India, vols. I & II, Sustainable Development Foundation, New Delhi.
8. Vasant Kumar Bawa (1985), Indian Metropolis, Urbanization Planning and Management, Inter - India Publication, New Delhi.
9. Pacione, Michael (2001), Urban Geography - A Global Perspective, Routledge, London.
10. Kundu, A (1992), Urban Development and Urban Research in India, Khanna Publication, New Delhi.

**PAPER-XIX (ii) INDIAN GEOMORPHOLOGY**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Introduction to Indian Geomorphology - Geological history of India, Evolution of India Sub continent, Geomorphological outlines – the relief and drainage basins, soils, Natural Vegetation and Ecological regions.

**Unit-II**

Geomorphic process and forms – Palaeo- Geomorphic processes; Endogentic processes; Exogenetic process; Laterisation in India; Fluvial, Aeolian, Glacial processes and their forms.

**Unit-III**

Geomorphological regions – Sub divisions, Macro, Meso and Micro regions; Geology, structure, processes, land forms and evolution of ----- (1) The Himalays- Western Himalayas and Eastern Himalayas; (2) North Indian Plains- Punjab plains, Ganga plains and Brahmaputra plain; (3) Peninsular Shield-Eastern & North eastern plateaus, North Deccan plateau, South Deccan Plateau and the Ghats.

**Unit-IV**

Geomorphological regions- Geology, structure, processes, landforms and evolution of ---- (4) North - Central Highlands and Aravalli Range; (5) Coastal plains - Eastern coastal, Western coastal and Gujarat plains; (6) Indian Thar Desert and (7) Indian Island, Applied Geomorphology - some case studies.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain

eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Dikshit, K.R. V.S. Kale and M.N. Kaul (1994) : India - Geomorphological Diversity, Rawat Publications, Jaipur.
2. ---- (1995) : Indian Geomorphology - Geomorphology and Resource Management, Vol-II, Rawat Publications, Jaipur.
3. Jog, S.R. (ed.) (1995) : Indian Geomorphology - Geomorphology and Resource Management, Vol-II, Rawat Publication, Jaipur.
4. Krishnan, M.S. (1982) : Geology of India and Burma, CBS Publishers, New Delhi.
5. Mathur, S.M. (1982) : Physical Geology of India, National Book Trust, India, New delhi.
6. Pal, Saroj K. (2003) : Physical Geography of India - A study in Regional Earth Sciences, Orient Longman Pvt. Ltd. Kolkata.
7. Sen, P.K., and N Prasad (2002) : An Introduction to the Geomorphology of India, Allied Publishers Pvt. Ltd., New Delhi.
8. Singh, R.L. (ed.) (1977) : India- A Regional Geography, National Geographical Society, Varanasi.

**PAPER-XIX (iii) RURAL GEOGRAPHY**  
**(with ref. to India)**

End Semester Exam : 80 Marks  
 Internal Assessment : 20 Marks  
 Total : 100 Marks  
 Time : 3 Hours

**UNIT-I**

Nature and scope of rural geography; Infrastructure in rural India : Irrigation, electrification, Roads and Housing.

**Unit-II**

**Rural House Types** : House Types based on Building Materials, Size and Shape as basis for classification, House Types based on Socio-Economic Status, Regional patterns of houses in India.

**Unit-III**

**Issues of Rural Development in India** : Land reforms, Agricultural land-use, Distribution of landholdings, Rural poverty, Rural unemployment.

**Unit-IV**

**Untouchability and Dalits in Rural India** : Some theoretical explanations, Anti Untouchability Movements : A Historical Overview; Scheduled castes in Rural India, Dalit Women and Work; Women Empowerment.

**Note** : The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Alam, S.M. et. al. (1982) Settlement System of India, Oxford and IBH Publication Co., New Delhi.

2. Chisholm, M. (1967) Rural Settlements and Land Use, John Wiley, New York.
3. Clout, H.D. (1977) Rural Settlements and Land Use, John Willy, New York.
4. Hudson, F.S. (1976) A Geography of Settlements, Mac Donald & Evans, New York.
5. Mandal. R.B. (1988) Systems of Rural Settlements in Developing Countries, Concept Publication, New Delhi.
6. Mandal, R.B. (2001) Introduction to Rural Settlements, Concept Publication, New Delhi.
7. Misra, H.N. (1987) Rural Geography, Vol. IX, Contributions to Indian Geography, Heritage Publishers, New Delhi.
8. Misra, S.K. and Puri, V.K. (2009) Indian Economy, Himalaya Publishing House, New delhi.
9. Rai, S. (2005) Kurukshetra, Ank. 12, October, Gramin Vikas Mantralaya, New Delhi.
10. Shah, G. Thorat S. et.al. (2006) Untouchability in Rural India, Sage Publication, New Delhi.
11. Singh, R.L. and K.N. Singh eds. (1975) Readings in Rural Settlements Geograpghy, NGSI, Varanasi.
12. Singh, R.L. (1976) Geographic Dimensions of Rural Settlements, NGSI, Varanasi.
13. Singh, R.Y. (1994) Geography of Settlements, Rawat Publication, New Delhi.
14. Singh, R.Y. (2005) Adhiwas Bhugol, (in Hindi) Rawat Publication, New Delhi.



**PAPER-XIX (iv) GEOGRAPHY OF HEALTH  
WITH REFERENCE TO INDIA**

End Semester Exam : 80 Marks

Internal Assessment : 20 Marks

Total : 100 Marks

Time : 3 Hours

**UNIT-I**

Ecology and etiology of diseases; Communicable diseases : Cholera, malaria, tuberculosis, hepatitis, leprosy, AIDS and STDs. Non-communicable diseases : leprosy, cardiovascular and cancer.

**Unit-II**

Diffusion of diseases and their causes. Deficiency disorders and problems of malnutrition and over-nutrition; malnutrition diseases and over nutrition diseases.

**Unit-III**

Health-care planning : National level - Government and NGOs; Health-care Planning and Policies; availability, accessibility and utilization of Health care services; International support - WHO, UNICEF, Red Cross.

**Unit-IV**

Primary health care; inequalities in health-care services in India; family welfare, immunization, national diseases eradication and "Health for All" programmes.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Akhtar Rais (1990), Environmental population and health problems, Ashish Publishers Home, New Delhi.
2. Ansari, S.H. (2005), "Spatial Organization of health care facilities in Haryana" NGJI, Vol 51, PP 3-4, 2005, P 51-61.
3. Chakrabarti, N., (1954), "Some factors influencing the mortality of cholera, Calcutta," Medical Journal, Vol. 51.
4. Misra, R.P., (2007), Geography of Health, Concept Publishing Company, New Delhi, 2007.
5. Shafi, M. (1967), "Food Production, efficiency and Nutrition in India." The Geographer, Vol. pp. 23-27.
6. Siddiqui, M.F. (1971), "Concentration of Deficiency Diseases in Uttar Pradesh." The Geographer, Vol. 18 pp 90-98.
7. Singhai, G.C. (2006), Medical Geography, Vasundhra Publication, Gorakhpur, 2006.
8. Ansari, S.H., "Pattern of Vehicular traffic in Rohtak City, Haryana, India." The Geographer, Vol. 53, No. 1, 2006 pp-55-72.
9. J. Nasir, E.F. Khanam, "Traffic Noise Pollution in National Capital region : A case study : The Geographer, Vol. 53, No. 1, 2006, pp. 73-79
10. K. Chaubey, "Epidemic of HIV/AIDS in India : A Study in Medical Geography." Annal of NAGD, Vol. XXV No.1 , 2005 pp 28-33.
11. Aikat, B.K. (1985) Tropical diseases in India, Arnold Meinemann, Delhi, 1st Edn.
12. Learmonth, A.T.A. (1985) Diseases in India, Concept Pub. Company, New Delhi, 1st Edn.
13. Egles, J. and Woods, K.J. (1983) The Social Geography of Medicine and Health, Groom Helm London, 1st Edn.

**PAPER-XX (a) REMOTE SENSING AND GIS (THEORY)**

Max. Marks: 50

Time : 3 Hours

**UNIT-I**

History and development of Photogrammetry and Remote Sensing; Aerial photographs-types, characteristics and scale, stereoscopes and stereoscopic vision; photomosaics-types and uses; Elements and principles of image interpretation; Flight planning and execution.

**Unit-II**

Remote Sensing technique- Electromagnetic radiations (EMR); Platforms-types and characteristics; Sensors- types, specifications, resolution and scale; Data acquisition system; Remote Sensing data; Applications of Remote Sensing Technique; Remote Sensing set up in India.

**Unit-III**

Geographic Information System(GIS) - Basic concepts & Components; GIS data -spatial and non spatial; Data base structures- raster and vector; Data sources; Elements/functions - data input and editing, Data base management.

**Unit-IV**

Spatial analysis operations- Introduction, buffer/ proximity analysis, overlay analysis, measurement of length and area, reclassification, query in GIS; Data output; RS and GIS integration; Application of GIS.

**Note :** The question will have five units. Each of the first four units of question paper will contain two questions from each unit of the syllabus. Candidate(s) are required to attempt one question from each unit. The unit five shall be compulsory and shall contain eight short answer type questions covering entire syllabus. All questions carry equal marks.

**Recommended Readings:**

1. Chanrda, A.M. and S.K. Ghosh (2006) Remote Sensing and Geographical Information System, Narosa Publishing House, New Delhi.
2. Chang, Kang-tsung (2002) Introduction to Geographic Information Systems, Tata McGraw Hills Publishing Company Ltd, New Delhi.
3. Chaunial, D. (2004) Remote Sensing and Geographical Information System (In Hindi), Sharda Pustak Bhawan, Allahabad.
4. Joseph, George (2003) Fundamental of Remote Sensing, University's Press (India) Pvt. Ltd., Hyderabad.
5. Lillesand, T.M. and Ralph W. Keifer (2002) Remote Sensing and Image Interpretation, John Wiley & Sons, Inc., New York.
6. Panda, B.C., (2005) Remote Sensing : Principles and Applications, Viva Books Pvt. Ltd., New Delhi.
7. Reddy, Anji, M. (2001) Textbook of Remote Sensing and Geographical Information Systems, BSP B.S. Publications, Hyderabad.
8. Siddique, M.A. (2006) Introduction to Geographical Information Systems, Sharda Pustak Bhawan, Allahabad.
9. Singh Surendra and A.N. Patel (1999) Principles of Remote Sensing, Scientific Publishers (India), Jodhpur.

**PAPER-XX (b) PHOTOGRAMMETRY AND REMOTE SENSING (PRACTICALS)**

Max. Marks: 50

Time : 4 Hours

Distribution of Marks :

Lab Work Test : 30

Record on Lab work : 10

Viva-Voce : 10

The students will be required to work on the following exercises as mentioned below :-

**UNIT-I**

1. Determination of photoscale- (Three exercise)
2. Measurement of height of an object on Aerial photograph (Two exercise)
3. Preparation of stereogram, stereotriplet and nosale (Three exercise-one each)

**Unit-II**

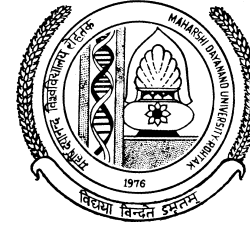
4. Preparation of Index map (One exercise)
5. Interpretation of Aerial photographs :
  - a) Identification, mapping and interpretation of Natural and Cultural features (Two exercises)
  - b) Urban studies on aerial photographs such as change detection, residential area study, enlargement and transformation of details etc. (Three exercises)
6. Interpretation of Satellite Imageries. (Two exercises)

**Note :** The question paper shall contain six questions in all including three questions from each unit. Candidates are required to attempt any three questions in all selecting at least one from each unit.

**Recommended Readings:**

1. Heywood, Ian et. Al (2002), Geographical Information Systems (Second edition), Pearson Education, Delhi.
2. Lillesand, T.M. and Kiefer, R.W. (2002), Remote Sensing and Image Interpretation, John Wiley and Sons, New York.
3. Nag. P. and Kudrat M. (1998) Digital Remote Sensing, Concept Publishing Co., New Delhi.
4. Rampal, K.K. (1999) Handbook of Aerial Photography and Interpretation, Concept Publishing Co., New Delhi.
5. Robbert, G. Reaves et.al. (1981) Manual of Remote Sensing (eds.), Fourth Edition, Vol. I & II, American Society of Photogrammetry, Falls Church, U.S.A.
6. Sabins, F.F. (1986) Remote Sensing-Principles and Interpretation, Second Edition, WH Freeman and Co., New York.
7. Sharma, J.P. (1996) Prayogic Bhoogol, Rastogi Publicatoin, Meerut.

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## Ordinance, Syllabus and Courses of Reading for M.A. (Geography)

### Semester- III & IV

Session - 2009-2010

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