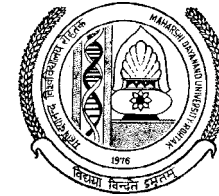


Maharshi Dayanand University Rohtak



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

Session - 2008-2009

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(i)

M.A./M.Sc. (Final) Geography, 2008-09 onwards
Scheme of Examination and Course Content

M.A. (Previous) examination in Geography shall consist of four theory papers and one practical paper. Each theory paper shall be of 100 marks including an internal assessment of 20% marks. The practical paper shall be of 100 marks. There will be no internal assessment in practical paper. All the theory papers shall be of three hours duration and the practical paper shall be of four hours duration. The fieldwork in practical paper-V shall be conducted by the Departments/College under the supervision of the teachers with provision that there will be one teacher to accompany and supervise a group of ten students. Field work is compulsory for all the students and to write a report on it. However, in some special circumstances if any student is unable to go on field trip he/she will be allowed to submit a field report based on primary data collected on the basis of local area survey. Decision about the supervision of such students will rest with Departmental Committee. The teachers engaged in this process shall be paid TA/DA as per University rules. The practical examination shall be conducted by a board of two external examiners.

The procedure of award of Internal Assessment will be as under :-

- a) Two class tests of 5 marks each. The class tests will be held in the 1st half of December i.e. before winter break and 1st half of March i.e. 5+5=10 marks.
- B) Assignments/term paper and presentation : 5 marks
- C) Attendance : 5 marks
- 65% to 75% : 1 marks
- 76% to 85% : 2 marks
- 86% to 90% : 3 marks
- 91% to 95% : 4 marks
- above 95% : 5 marks

(ii)

Paper Code	Nomenclature	Theory	Internal Assessment	Total	Time
Paper -I	Geomorphology	80	20	100	3 hrs.
Paper-II	Climatology and Biogeography	80	20	100	3 hrs.
Paper-III	Resource Geography (with special reference to India)	80	20	100	3 hrs.
Paper-IV	(any one of the following)				
	i) Population Geography	80	20	100	3 hrs.
	ii) Urban Geography	80	20	100	3 hrs.
	iii) Geography of Health	80	20	100	3 hrs.
	iv) Geography of Water Resources	80	20	100	3 hrs.
Paper-V	Practicals			100	4 hrs.
	i) Lab. Work Test			45	
	ii) Record and viva-voce on Lab work				
	Unit-I			15	
	Unit-II			15	
	Unit-III Field Report and Viva-Voce			25	

Paper-I GEOMORPHOLOGY

Theory : 80
Internal Assessment : 20
Max. Marks : 100
Time : 3 Hrs.

Unit-I

Geomorphology-Definition, nature and scope; History and development of geomorphic ideas: Fundamental Concepts-uniformitarianism, geological structure, process and stage; Recent trends in Geomorphology; Earth's Interior-structure and constitution; sources of knowledge; composition and layering system; Recent views of earth's interior.

Plate tectonics-Meaning and concept; plates, margins and boundaries; plate motion; Tectonic activities along the boundaries-Mountain building, Earthquake and Vulcancity; Distribution of plates.

Unit-II

Earth movement-Endogenetic forces; Structural Geomorphology-Faulting, folding and their geomorphic expressions. Earthquake-concept, causes, classification, intensity and magnitude; effects of earthquake; geographical distribution of earthquakes. Vulcanism concept, mechanism and causes; Volcanoes-classification, volcanic materials, Topography produced by vulcancity and geographical distributions of volcanoes.

Unit-III

The study of slopes: Main theories of slope development- Davis, King, Penck and Strahler, Exogenetic processes; concept of gradation, agents and processes of gradation; Weathering-meaning and concept; controlling factors; types and processes; geomorphic significance of weathering. Mass wasting-meaning and concept; classification and controlling factors; significance of mass wasting.

Unit-IV

Geomorphic processes-dynamics of fluvial, aeolian, glacial and karst processes and resulting landforms. Erosion surfaces-meaning, identification of erosion surfaces-a case study.

Unit-V

Applied Geomorphology-meaning, applications of geomorphology in Regional Planning, engineering projects, mineral exploration, hydrology and military operations; geomorphological mapping with a case study. Regional geomorphology of Punjab Plain, Aravalli region and Thar Desert of India.

Note :-

The question paper shall contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

1. Bloom, A.L (1992) Geomorphology, Prentice Hall of India, New Delhi.
2. Dayal. (1990) A text book of Geomorphology. Shukla Book Depot, Patna.
3. Husain Majid (2002) Fundamentals of Physical Geography, 2nd edition, Rawat Publications, Jaipur and New Delhi.
4. Singh Savindra (1993) Physical Geography, Prayag Pustak Bhawan, Allahabad
5. (1988) Geomorphology, Prayag Pustak Bhawan, Allahabad.
6. Strahler, A.N. and Strahler, A.H. (1996) Introducing Physical Geography, John Wiley and Sons, New York.
7. Strahler, A.N. (1988) Each Sciences, Harker and Row Publishers, New Delhi.
8. Thornbury, W.D. (1991) Principles of Geomorphology, John Wiley, New Delhi.
9. Wooldridge, S.W. and Morgan, R.S. (1991) An outline of Geomorphology, Orient Longmans, Calcutta.

Paper-II CLIMATOLOGY & BIO-GEOGRAPHY

Theory : 80
Internal Assessment : 20
Max. Marks : 100
Time : 3 Hrs.

Unit -I

General Climatology-Nature and scope of climatology and its relationship with meteorology; climatic controls climatic elements-atmospheric temperature, pressure moisture (humidity, evaporation, condensation, precipitation-formation types) atmospheric circulation general atmospheric circulation-planetary winds, seasonal winds, local winds, jet stream; clouds-formation and types.

Unit -II

Weather system and disturbances-air mass, fronts, cyclones, tornadoes; Ocean-atmospheric interaction-EL Nino, Southern Oscillation (ENSO) and La Nina, Monsoon winds, climate of India and its controls; western disturbances.

Unit -III

Global climatic systems-Approaches to climatic classifications; classification of climate with special references to Koppen, Thornthwaite and Trewartha (theoretical aspects only); major climates of the world-tropical, mid latitude, polar and highland.

Unit -IV

Applied Climatology: Climatic changes-evidences, possible causes, global warming and future changes in earth temperature; climate and agriculture with special reference to crop distribution, yield, phenology; atmospheric pollutants and their impact-problems or acid rain.

Unit -V

Biogeography-Nature, field and functions: biosphere -definition, nature and composition; biospheric cycles, ecosystem-concept and functioning; evolution of living organism and factors influencing their distribution on the earth; Biomass and biogeographical realms-floristic regions and zoo-geographical realms.

Note :-

The question paper shall contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

Aggarwal, S.K. (1972) Fundamentals of Ecology, Ashish Publishers, New Delhi.

Barry, R.G. and Chorley, R.J. (1982) Atmosphere, Weather and Climate, ELBS, Methuen & Co. Ltd. London.

Bhutani Smita, (2000) Our Atmosphere, Kalyani Publishers, New Delhi.

Critchfield, H.J. (1987) Climatology, Prentice Hall of India, New Delhi.

Griffith, J.E. and Driscoll, D.M. (1982) Survey of Climatology, Charles Merrill.

Lal, D.S. (1993) Climatology, Chaitanya Publishing House, Allahabad.

Pearo, N. (1977) Basic Biogeography, Langman, London.

Riehl, H (1968) Introduction to Atmosphere, Mc Graw Hill, New York.

Robinson, H (1982) Biogeography, ELBS, London.

Robinson, P.J. and Henderson-Sellers (1986) Contemporary Climatology, Longman, London.

Trewartha, G.T. (Latest edition) Introduction to Climate, Mc Graw Hill, New York.

Paper-III RESOURCE GEOGRAPHY
(With Special Reference to India)

Theory : 80
Internal Assessment : 20
Max. Marks : 100
Time : 3 Hrs.

Unit -I

Nature, scope and significance of the Geography of Resources; Definition and concept of resources, classification of resources; natural resource availability, utilization and development; models and approaches to natural resource process; problems of resource utilization; population pressure, development and resource use. Qimmermann's, Kirk's and Broo-v field's Models.

Unit -II

Use and misuse of resources: Global and Indian scenario; historical background and future prospects of natural resources-soil, water, mineral and forests (with special reference to India).

Unit -III

Conservation and Management of Natural Resources; Meaning, principles and approaches to conservation of natural resources; resource conservation and management methods. Problems and prospects of natural resource management in India.

Unit -IV

Human Resources-concept of human resources; human resource development; indicators of human resource development; education and development of human resources; occupational structure in India; structure of employment in India; human resource planning and regional disparities in human development in India.

Unit -V

Natural resource utilization and regional development some select case studies: Tribal Area Development, Hill Area Development, Drought Prone Area Development, National Capital Region, and Indra Gandhi Canal Command Area.

Note :-

The question paper will contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

Zimmermann, E. W. (1951) World Resources and Industries, Harper and Brothers, New Delhi.

Ginsburg N. (1957) "Natural Resources and Economic Development" AAAG, Vol. 47, pp 197-212.

Burton, I. and R. W. Kates (1984) Readings in Resource Management and Conservation, University of Chicago Press, Chicago.

Ramesh, A (1984) Resource Geography Vol. 5, Heritage Publishers, New Delhi.

Chand, M. and V.K. Puri (1985) Regional Planning in India, Allied Publishers, New Delhi.

Raja, M. (1989) Renewable Resources, Development, Concept Pub., New Delhi.

Bruce, Mitchell (1989) Geography and Resource Analysis, John Wiley and Sons, New York.

Negi B.S. (1990) Geography of Resources, Kedar Nath and Ram Nath, Meerut.

Guha, J.L. and P.R. Chattroj (1994) Economic Geography-A Study of Resources, The World Press, Pvt. Ltd. Calcutta.

Ansari, A.H. Imam, S. and Alamtar Ali (1996) "Ecological Impact of Indira Gandhi Project in Western Rajasthan" Asian Profile, Vol. 24 No. 6, pp. 505-510

Mahapatra, A.C. (1998) Regional Development and Planning, Rewat Pub. Jaipur.

Human Development Report (2001) Oxford University, Press.

Paper-IV (i) POPULATION GEOGRAPHY

Theory : 80
Internal Assessment : 20
Max. Marks : 100
Time : 3 Hrs.

Unit -I

Human elements in Geography and the emergence of population geography as a field of specialization; Population Geography-definition, nature and scope; Recent trends; Relations with other disciplines demography and population studies; sources of data census, vital statistics, sample surveys etc- and their level of reliability with reference to India.

Unit -II

Distribution and growth-concepts of distribution and density, its measures and mapping, world population distribution and its determinants; world growth in population- trends and patterns; regional dimension of population growth and demographic transition in India; theories of population growth-pre Malthusian views, Malthus' theory, views of social writers, optimum population theory, demographic transition model, logistic curve of population growth.

Unit -III

Components of population change-fertility, mortality and migration; concepts and measurements of fertility and mortality; determinants and consequences of fertility and mortality; fertility transition in the world; world fertility levels and patterns: theories of fertility; fertility levels and patterns in India. Trends and patterns in world mortality; mortality in India. Migration-concept and measures; migration types-international and internal migration; major international migration streams in the world; internal migration in India. Theories and models of migration.

Unit -IV

Population composition and characteristics-age and sex composition; literacy and education, material status, rural and urban composition, occupational structure; a geographical perspective of population composition in India-age, sex, marital status, literacy-male-female and rural-urban differentials in literacy, economic characteristics of population.

Unit -V

Population and development-HDI and its components; population growth and economic development; population growth and environmental quality; population policies- types of population policies-fertility influencing, mortality influencing and migration influencing population policies. Population policy in India; population and health reproductive health and right; problems of population growth in the less developed world.

Note :-

The question paper will contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

Agnihotri, SB (2000) Sex Ratio Patterns in Indian Population: A Fresh Explanation, Sage Publications, New Delhi.

Beaujeu-Garnier J (1966), Geography of Population, Longman, London.

Bhende Asha A and Kanitkar Tara (2002) Principles of Population Studies, Fourteenth Edition, Himalaya Publishing House, Mumbai.

Chandna, R.C. (2002), Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.

Clarke, JI (1972) Population Geography, Second Edition, Pergamon Press, Oxford, England.

Rubenstein, J.M. and Bacon R.S. (1990), The Cultural Landscape: An Introduction to Human Geography, Prentice-Hall of India, New Delhi.

Knox, P.L. and Marston S.A. (1988), Places and Regions in Global Context, Prentice Hall, New Jersey.

UNDP (2003), Human Development Report, Oxford University Press, Oxford.

Woods, R (1979), Population Analysis in Geography, Longman, London.

Zelinsky, W (1996), A Prologue to Population Geography, Prentice Hall, New Jersey.

Premi M.K. (1991) Indian's Population Heading Towards a Billion, B.R. Publishing Corporation, New Delhi.

Paper- IV URBAN GEOGRAPHY

Theory : 80

Internal Assessment : 20

Max. Marks : 100

Time : 3 Hrs.

Unit -I

Definition, nature and scope of urban geography; different approaches and recent trends in urban geography; levels of analysis in urban geography; evolution of urban places through historical times-nature of pre-industrial city and the modern metropolis.

Unit -II

Bases and the process of urbanization and development; definition and measures of urbanization; classification of urban settlements on the basis of size and function; urbanization in the world-experiences of developed and less developed realms of the world.

Unit -III

A study of the following aspects of urban places: location, situation and site-definition, nature and significance; ecological processes and their spatial expression; theories of city structure-concentric zone theory, sector theory, multiple nuclei theory and social area analysis land use & Population structure: attributes, and demarcation.

Unit -IV

Settlement systems: the rank-size distribution of cities, primate city distribution, central place theory of Christaller and Losch; city-region relationship.

Unit -V

Classification of urban places: non-functional and functional; Some contemporary urban issues- housing, environmental problems.

Note :-

The question paper shall contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

Bala, Raj (1986) Trends in Urbanisation in India, Rawat Publishers, Jaipur.

Cadwallader, Martin (1996) Urban Geography, Prentice Hall, New Jersey,

Carter, Harold (1995) The Study of Urban Geography (fourth edition), Arnold, London .

Dickinson, R.E. (1964) City and Region, Routledge London.

Gibbs, J.P. (1961) Urban Development and Urban Research in India, Khanna Publication New Delhi.

Mayer, H.M. and Kohn, C.F. (eds.) (1959) Readings in Urban Geography, University Chicago Press, Chicago.

Pacione, Michael (2001) Urban Geography-A Global Perspective, Routledge, London.

Ramachandran, R. (1989) Urbanisation and Urban Systems in India, Oxford, New Delhi.

Singh, K and Steinberg, F. (eds.) (1997) Urban India in Crisis, New Age International, New Delhi.

Bhatta Charya, B.,

Misra, R.P. and Misra K. (eds.) (1998) Million Cities of India.

Dutt, A.K. etal (eds.) The Asian City.

Paper- IV (iii) GEOGRAPHY OF HEALTH

Theory : 80
Internal Assessment : 20
Max. Marks : 100
Time : 3 Hrs.

Unit -I

Nature, scope and significance of Geography of Health, Development of this area of specialization; its distinction from medical science; development and status of geography of health in India.

Unit -II

Geographical factors affecting human health and diseases arising from them, viz.

- (i) Physical factors-relief, climate, soils and vegetation.
- (ii) Social factors-population density, literacy, social customs and poverty.
- (iii) Economic factors-food and nutrition, occupation and standard of living.
- (iv) Environmental factors-urbanization and congestion, water, air and noise pollution and solid waste.

Unit -III

Classification of diseases: genetic, communicable and non communicable; occupational and deficiency diseases. WHO classification of diseases, pattern of world distribution of major diseases.

Unit -IV

Ecology, etiology and transmission of major diseases: cholera, malaria, tuberculosis, hepatitis, leprosy, cardiovascular, cancer, AIDS and STDs. Diffusion of diseases and causes for the same. Deficiency disorders and problems of mal-nutrition in India.

Unit -V

Health-care planning : (i) International level-WHO, UNICEF, Red Cross.

(ii) National Level- Govt. and NGOs.

Health care Planning and Policies: availability, accessibility and utilization of health-care services; Primary Health Care, Inequalities in health-care services in India; family welfare, immunization, national disease eradication and 'Health for All' programmes.

Note :-

The question paper will contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

Ansari, S.H., (2005), "Spatial organization of Health Care Facilities in Haryana," N.G.I.I. Vol. 51, Pt. 3-4, Sept-Oct., pp. 51-62.

Banerjee, B. and Hazra J. (1980) Geo-Ecology of Cholera in West Bengal, University of Calcutta, Calcutta.

Cliff, A. and Haggett, P. (1989) Atlas of Distribution, Basil Blackwell, Oxford.

Digby, A and Stewart, L. (eds.) (1996), Gender, Health and Welfare, Routledge, New York.

Hazra, J. (ed.) (1997) Health Care Planning in Developing Countries, University of Calcutta, Calcutta.

Learmonth A.T.A. (1978) Patterns of Disease and Hunger. A study in Medical Geography, David & Charles, Victoria.

May, J.M. (1961) Studies in Disease Ecology, Hafner Pub., New York

----- (1959) Ecology of Human Diseases, M.D. Pub., New York.

----- (1970) The World Atlas of Diseases National Book Trust, New Delhi.

Mc Glashan, N.D. (1972) Medical Geography, Methuen, London.

Narayan, K.V. (1997) Health and Development-Inter-Sectoral Linkages in India, Rawat Pub., Jaipur.

Philips, D.R. (1990) Health and Health Care in Third World, Longman, London.

Pyle, G. (1979) Applied Medical Geography, Winston halsted Pess, Silver Springs, Md. USA.

Rais, A. and Learmonth, A.T.A. (London) Geographical Aspects of Health and Diseases in India.

Paper- IV GEOGRAPHY OF WATER RESOURCES

Theory : 80

Internal Assessment : 20

Max. Marks : 100

Time : 3 Hrs.

Unit -I

1. Water as a Focus of Geographical Interest-Water Links National Environment and Man's Activities, Coalescence of Physical and Human Geography; World's, Hydrological Cycle; Inventory and Distribution of World's Water Resources-Significance of World's Inventory, Distribution of World's Water Resources-Oceanic Water, Water Aloft, River Water, Inland Seas.
2. Basic Hydrological Cycle and its Components- Precipitation, Potential Evapotranspiration, Interception loss, Runoff.

Unit -II

3. Global Water Resources: An Overview.
4. Water Resource Sector in South Asia.

Unit -III

5. Water Demands-Special Reference to Agriculture, Municipal and Industrial Uses.
6. Problems of Water Resource Management- Floods: Adjustment to Floods, Non Structural Adjustment, Structural Adjustment, Flood Zoning and Evacuation; Droughts; Occurrence, Major Drought Management Strategies.

Unit -IV

7. Water Resources of India-River System, Assessment of Surface Water, Assessment of Groundwater; Factor Affecting Water Resources Development-Climatic Factors, Physiographic Factors, Geological Factors.
8. Present Utilisation of Water Resources in India- Irrigation, Domestic Requirements, Industrial uses, Hydro-electric Potentials; Problems relating to Water Resources Sector in India-Droughts, Floods, Irrigation-Waterlogging, Salinity, Alkacity, Overexploitation of Groundwater, Land Subsidence, Saline Water Intrusion in Coastal Areas, Groundwater Floride and Arsenic.

Unit -V

9. Management and Planning for the Development of Water Resources Integrated River Basin Planning, Conjunctive Use of Surface and Groundwater Resources, Watershed Management, Inter Linking of Rivers, International Indus Treaty; Inter-state River Water Disputes and Treaties- Cauvery Dispute, Sutlej-Yamuna Water Sharing Dispute.
10. Role of Remote Sensing and GIS in the Water Resource Management.

Note :-

The question paper will contain ten questions in all, including two questions from each unit. Candidate shall attempt five questions in all selecting at least one question from each unit. All questions carry equal marks.

Select Readings :

1. Agarwal, Anil and Sunita Narain, (1997),: Dying Wisdom: Rise, Fall and Potential of India's Traditional Water Harvesting System, Centre for Science and Environment, New Delhi.
2. Athavale, R.N., (2003),: Water Harvesting and Sustainable Supply in India, Rawat Publications, Jaipur.
3. Chopra, K., Rao, C.H. Hanumantha and Sengupta, P., (2003), Water Resources, Sustainable Livelihoods and Eco-System Services, Indian Society for Ecological Economics, Concept Publishing Company, New Delhi.
4. Chorley, R.J., (1979), Water, Earth and Man, Methuen, London.
5. Dhuruva Narayana, V.V., Sastry, G, Patnaik, U.S., (1997), Watershed Management, Indian Council of Agricultural Research, New Delhi.
6. Economic and Social Commission for Asia and the Pacific United Nations, (1989), Guidelines for the Preparation of National Master Water Plans.
7. Garg, S.K., (1987), Hydrology and Water Resources Engineering, Khanna Publishers, Delhi.
8. Government of India, Ministry of Energy and Irrigation, (1980), Rashtriya Barh Avog (Report-National Commission on Floods), Vol. I & II, New Delhi.
9. Gulhati, N.D., (1972), Development of Inter-State Rivers: Law and Practice in India, Allied Publications, Bombay.
10. Jeet, Inder, (2005), Groundwater Resources of India, Mittal Publication, New Delhi.

Paper- V PRACTICALS

Max. Marks : 100
Time : 3 Hrs.

Distribution of Marks

1.	Lab. work test	45 Marks
2.	Record and Viva-Voce on lab work	
	Unit -I	15 Marks
	Unit-II	15 Marks
	Unit-III Field Report and Viva-Voce	25 Marks

Unit -I Morphometric Analysis

Analysis of drainage basin-its geographical significance; basin morphometry of fluvially originated drainage basin-liner aspects (stream ordering based on Horton and Strahler); areal aspects (geometry of basin shape, basin perimeter, length and area, stream frequency and drainage density), relief aspects: Hypsometric analysis (hypsometric curve), clinographic analysis, altimetric analysis; slope analysis (Wentworth's and Smith's methods), profile analysis (longitudinal profile). [10 exercises].

Unit -II Thematic Cartography

Significance of cartography in Geography; trends in the development of cartographic techniques for descriptive, analytical and prescriptive aspects in the use of maps; Computer aided cartography and GIS.

Quantitative distribution maps-chorochromatic maps and choroschematic maps (theoretical aspects only); drawing of bar diagram, line graph, pie diagram and scatter diagram through computer software (MS-Excel); preparation of a thematic atlas along with interpretation of each plate. [4 exercises+6 plates].

Unit -III Field Work and Report Writing

Significance of field work in geography; methods of data collection; qualitative methods-observation, participant observation and focus

group discussion; quantitative methods-sample data in geography, the sampling frame-sample size and sampling and non-sampling error; questionnaire and interviews Processing of data and tabulation; report writing.

Note :

- (i) The lab work test shall consist of six questions including two questions from each unit. Candidates are required to attempt three questions in all, selecting at least one question from each unit. All questions carry equal marks.
- (ii) Candidates shall produce their lab work record (based on morphometric analysis and thematic cartography) and field report before the external examiners for evaluation at the time of their viva-voce examination.

Select Readings :

Burrough, P.A. and R MacDonell (1998) Principles of Geographical Information System, Oxford University Press, Oxford.

Kraak, Mennon-Jan and Ferjan Ormeling (2003) Cartography, Pearson, New Delhi.

Longley, P.M. Goodchild, Maguire and D Rhind (ed.) (1999) Geographic Information Systems, John Wiley, New York.

Monkhouse, FJ and HR Wilkinson (1980) Maps and Diagrams, B I Publications, Bombay.

Robinson AH et al (1995) Elements of Cartography John Wiley, New Delhi.

Singh, RL (1979) Elements of Practical Geography, Kalyan Publishers, New Delhi.

Singh, S (1997) Geomorphology, Prayag Pustak Bhawan Allahabad.