

M.A./M.Sc. Geography
Semester I: Theory Paper (4 credits)

GCT1: Geomorphology

Unit	Teaching / Learning Points	Periods
I	A) Nature and Scope of Geomorphology: Definition of Geomorphology, Fundamental Concepts in Geomorphology, B) Basic Theories in Geomorphology: Wegener's Continental Drift, Plate Tectonics, W M Davis's Concept of Geomorphic Cycle	18
II	A) Endogenic Forces: Epiorogenic and Orogenic Movements, Compression, Tension, Folds, Faults B) Denudational Processes: Weathering, Mass Movement, Erosion and Comparison of these processes	18
III	Land Forms: Associated with Fluvial, Glacial, Arid and Coastal processes	18
IV	A) Slope Morphology: Slope Forms and Processes B) Application in Geomorphology: Human activities and Geomorphology	18
Total		72

Reference Books:

1. Thornbury, W. D. (1960): Principles of Geomorphology, John Wiley and Sons, New York.
2. Chorley, R. J., Schumm, S. A. and Sugden, D. E. (1984): Geomorphology, Methuen, London.
3. Kale, V. S. and Gupta, A. (2001): Introduction to Geomorphology, Orient Longman, Calcutta.
4. Savindra Singh (2002): Geomorphology, Prayag Pustak Bhawan, Allahabad
5. Spark B. W. (1972): Geomorphology, Longman, New York
6. Steers, A. (1958). The Unstable Earth, Methuen, London
7. Ollier, C. D. (1981) Tectonics and Landforms, Longman, London
8. Strahler A. H and Strahler, A. N. (1992) : Modern Physical Geography, John Wiley, New York
9. Wooldridge and Morgan: Geomorphology
10. Holmes: Physical Geology
11. Fairbridge, R. W. (1968): Encyclopedia of Geomorphology, Reinholdts, New York.

M.A./M.Sc. Geography
Semester II: Theory Paper (4 credits)
GCT2: Population Geography

Unit	Teaching / Learning Points	Periods
I	Basic Concepts: Population Growth, Birth rate, Death rate, Crude Birth rate, Crude Death Rate, Infant Mortality rate, Fertility, Mortality, Migration, Age, Sex ratio, Age and Sex Pyramid, Density	18
II	Population Growth and Distribution: A) Influencing Factors 1. Terrain, 2. Climate, 3. Soil, 4. Water Bodies, 5. Mineral Resources, 6. Industries, 7. Transport, 8. Urbanization 9. Socio-economic and Cultural, 10. Political Peace and Violence B) World and India	18
III	Theory and Model: Basic Concept, Scope, Applications and Relevance of 1. Malthus' Theory of Population Growth and 2. Demographic Transition Model	18
IV	Population as a Resource: A) Concepts: 1. Over, 2. Optimum and 3. Under Population B) Various aspects: 1. Size, 2. Growth, 3. Age, 4. Education and 5. Health C) Population-Resource Regions	18
Grand Total		72

Reference Books:

1. Beaujeu Garnier J. – Geography of Population, Longman Group Ltd.
 2. Chandna R. C. (2000) – A Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi
 3. Bhende Asha and Kanitkar T. – Principles of Population Studies, Himalaya Publishing House, Bombay, 1993.
 4. Clark J. I. Geography of Population Approaches and Applications, Pergamon Press Ltd., Oxford
- Clark J. I. (1973) – Population Geography, Pergamon Press Ltd., Oxford.

M.A./M.Sc. Geography
Semester I: Theory Paper (04 credits)

GGT1: Fundamentals of GIS and GPS

Unit	Teaching / Learning Points	Periods
I	Introduction to GIS: Definition of GIS Introduction and Development of GIS Components of GIS GIS Diversity GIS Workflow	18
II	Data, Model and Processes of GIS: Spatial and Non-Spatial Data Raster Data and Vector Data, Advantages and Disadvantages Processes of GIS Applications of GIS DMS (Database Management System)	18
III	Introduction to GPS: Definition of GPS Introduction and Development of GPS Advantages and Disadvantages of GPS DGP	18
IV	Technology and Processes: Segments of GPS Technology Ephemeris data Trilateration Process Applications of GPS	18
Total		72

Reference Books:

1. George Joseph (2003) Fundamentals of Remote sensing University press, Hyderabad.
2. Chang Kang tsug (2002) Introduction to GIS, Tata MCGRAW Hill, New Delhi.
3. Burrough P.A. and R. A. MC Donnecl (2000), Principles of Geographical Information system, Oxford University, Press.

4. C.P. Lo and Albert K. W. Yeung Concepts and Techniques of Geographical Information System – 2002. Prentice – Hall, India.

M.A./M.Sc. Geography
Semester I: Practical Paper (4 credits)

GGP1: Basic Practicals in GIS and GPS

Unit	List of Experiments (Cover at least 75 per cent practicals sequentially from each sub-unit)	Practicals
I	<p>Cover at least</p> <p>A) GIS (Theoretical Practicals):</p> <ol style="list-style-type: none"> 1. To understand the various types of GIS Softwares (List and their Features etc) 2. To enlist and compare various Cartographical Tools and GIS 3. To study the various elements of basics of Maps and GIS maps <p>B) GIS (Computer/ Software based Practicals):</p> <ol style="list-style-type: none"> 1. To apply Geo-referencing method in GIS (at least 2 examples) 2. To prepare Base Layer Map (Digitization) 3. To use Mozacking tools 4. To use GPS points Create contour map 5. To use DEM data Create 3D map 6. To use point interpolation technique (IDW Krigging) 7. To use Google Earth image for measuring area, length etc) 8. To use Google Earth pro make 3D modeling map 	51
II	<p>GPS:</p> <ol style="list-style-type: none"> 1. To study the GPS equipment 2. To identify point locations (Wax-Point) 3. To apply tracking tool 4. To measure and compare elevation of various locations 	21
Total		72

Reference Books:

1. George Joseph (2003) Fundamentals of Remote sensing University press, Hyderabad.
2. Chang Kang tsug (2002) Introduction to GIS, Tata MCGRAW Hill, New Delhi.
3. Burrough P.A. and R. A. MC Donnecl (2000), Principles of Geographical Information system, Oxford University, Press.
4. C.P. Lo and Albert K. W. Yeung Concepts and Techniques of Geographical Information System – 2002. Prentice – Hall, India.

M.A./M.Sc. Geography
Semester I: Practical Paper (4 credits)

GCPI: Practical In Physical Geography and Human Geography

Unit	List of Experiments (Cover at least 75 per cent practicals sequentially from each sub-unit)	Practicals
I	<p>Drainage basin</p> <p>Basin relief analysis Relief analysis (for a 3 to 5 order drainage basin; based on grid method)</p> <ol style="list-style-type: none"> 1. Absolute relief map 2. Relative relief map 3. Slope map (degrees) 4. Dissection indeed map 5. Hypsometric integral 6. Basin cross profiles 7. Block Diagram (multiple section) 	36
II	<p>Population Geography Indices and Projection</p> <ol style="list-style-type: none"> 1. Age-sex pyramid 2. Child-women ratio 3. Dependency ratio 4. Infant mortality rate 5. Age specific mortality 6. Population growth rate 7. Population projection <p>Computer Application Data Analysis by Computer Use of data.</p>	36
Total		72

Reference Books:

1. Monkhouse F.J. and Wilkinson, H. R. (1962): Maps and Diagrams, Methuen and Company Ltd. London.
2. Raisz, E. (1962) : Principles of Cartography. McGraw Hill Books company, Inc. , New York.
3. Singh, R. L. and Singh, Rana P. B. (1993): Elements of Practical Geography. Kalyani Publishers, Ludhiana and New Delhi. (English and Hindi Editions)

M.A./M.Sc. Geography
Semester I: Service Course (4 credits)

GGSCT1: Disaster Management

Unit	Teaching / Learning Points	Periods
I	Meaning of disaster, calamity, Hazards, Major characteristics of disasters. Physical and cultural disasters. Major regions of the world of such disasters and loss of life and property. Cyclo	18
II	Hazards-cyclone, Hurricanes Tornado, Typhoons, causes for the formation of cyclones. Regions of the cyclones. Precautions before the arrival of cyclones. Effect of cyclonic hazards. Thunder storm, lightening, hail storms and cloud burst calamities.	18
III	Flood disaster. Reasons and types of flood disasters. Wet draught areas. Consequences of floods. Major rivers of heavy floods, measures of flood controls.	18
IV	Disaster warning system. Rehabilitations, Prevention, Social Response measures for disasters.	18
Total		72

Reference Books:

1. Dhara S : Natural disaster, Minimizing Risks the Hindu survey of Environment (2001)
2. Daoglas I and Spencer T : Environmental change and Tropical Geomorphology (Edited) George Allen and Unwin London (1985)
3. Embleton C: Natural Hazards and Global change, ITC Journal 1989 ¾ pp 169-175, Erickson S. L and King B. J. Fundamental of Environmental Management wiley New York (1999)
4. Gupta H. K. Dons and Earthquakes Elsevier Amsterdam (1976)
5. Press F. Need for Action Reduction copying with Natural Hazards, UNESCO (1993)
6. Sinha D. K. towards Basic of Natural disasters, University of Calcutta (1990)
7. Verstappen H. T. Geomorphology, Natural disaster and Global disaster. Proceeding of the symposium sept- 14-16 1989, Enschede Netherlands PP 159- 164.

