

11. Singh, R.L. : *Elements of Practical Geography*, Kalyani Publishers, New Delhi, 1979
12. Stoddard, R.H. : *Field Techniques and Research Methods in Geography*, Kendal Hunt, Publ., Dabaque, 1982.
13. R.P. Misra: *Fundamentals of Cartography*, Prasaranga, University of Mysore, 1969



GG :H 610 P Cartography- IV

100 Marks

- Unit I: Dumpy level for preparation of road profile and contouring and theodolite for measurement of heights and distances. 20 marks
- Unit II: Remote sensing : orientation of areal photographs under mirror stereoscope , determination of photo scale, identification of objects from the aerial photographs, preparation of base map from the aerial photographs, visual interpretation of satellite imagery for drainage and land use mapping.; Introduction to GIS and GPS. 25 marks
- Unit III: Field work and field report under the guidance of teachers: select any area near the institution or elsewhere, collect topo sheets of the area 1:50,000 scale or satellite image , visit the area and identify the land forms , settlement , land use features and compare the same with the topo sheets and / or satellite image , draw sketches and maps of the selected area; conduct field survey and prepare field report. 40 marks
- Record book 7 marks
- Viva -voce 8 marks

Note: Questions are to be set according to the marks allotted to units at the time of examination.

Suggested Readings:

1. American Society of Photogrammetry : *Manual of remote Sensing*, ASP, Falls Church, V.A. 1983.
2. Barrett E.C. and Curtis : *Fundamental of Remote Sensing and Air Photo Interpretation*, McMillan, New York, 1992.
3. Jeffreys, S and John E. : *Geographic Information System – An Introduction*, prentice Hall, New Jersey, 1990.
4. Jones,P.A: *Field Work in Geography*, Longman, London, 1968
5. Luder D : *Aerial Photography Interpretation : Principles and Application*, McGraw Hill, New York, 1959.
6. Monk house, F.J. : *Maps and Diagrams*, Methuen, London, 1967.
7. Nag.P. : *Thematic Cartography and Remote-Sensing*, Concept publication, New Delhi, 1953.
8. Raize I. : *Principals of Cartography* : Me Graw Hill, New ork, 1982.
9. Kanitkar,T.P.: *Surveying and Leveling*, Roorkee University, Roorkee, 1965
10. Robinson A.H. and sale R.D. : *Elements of Cartography*, John Wiley, New Jersey, 1953.

17. Lee, R. And Wills J. : *Geographies of Economies*, Arnold, London, 1997.
 18. Leong G. C. and Nmorgen, G.C: *Human and Economic Geography*, Oxford University Press, London, 1982.

GG: H-609 : World Regional Geography

Marks: 100

- Unit I: Asia-Terrain, pattern, drainage, climate, natural vegetation, soils, sp distribution of population and economic base of the continent in general. Regional studies of south and south-east Asia. 35 marks
- Unit II : Europe- Physical, economic and demographic characteristics of the continent. Regional studies of British isles and European Union. 20 marks
- Unit III: North and North America- Physical, economic and demographic setup; Regional studies of USA and Brazil. 15 marks
- Unit IV: Australia and Newzealand and Pacific islands- Physical, economic and demographic set up. 15 marks
- Unit V : Africa- Physical , economic and demographic setup. 15 marks

Suggested Readings :

1. Cole, J.: *A Geography of the World's Major Regions*, Routledge, London, 1996.
 2. Cole, J.P. : *Latin America-Economic and Social Geography*, Butterworth USA, 1975.
 3. DeBlij, H.J. : *Geography : Regions and Concepts*, John Wiley, New York, 1994.
 4. Dickenson, J.P. et al.: *The Geography of the Third World*, Routledge, London, 1996.
 5. Dourou, P. : *The Tropical World*, Longman, London, 1980.
 6. Jackson, R.H. and Hudman, L.E.: *World Regional Geography: Issues for Today*, John Wiley, New York, 1991.
 7. Kolh, A.: *East Asia-Geography of a Cultural Region*. Mathuen, London, 1977.
 8. Minshull, G.N. : *Western Europe*, Hoddard & Stoughton, New York, 1984.
 9. Patterson, J.H.: *Geography of Canada and the United States*, Oxford University Press, 1985.
 10. Songquiao, Z.: *Geography of China*, John Wiley, New York, 1994.
 11. Ward, P.W. and Miller, A. : *World Regional Geography : A Question of Place*, John Wiley, New York, 1989.
- Note: Internet sources may be used for the areas for which books are not available.*



BA/BSc 3rd Year
Sixth Semester

GG:H608 Economic Geography

100 Marks

Unit-I	Definition, nature, scope and recent trends in Economic Geography, its relations with economics and allied subjects, sectors of economy –primary, secondary, tertiary and quaternary.	20 marks
Unit-II	Natural resources : Renewable and non-renewable, biotic and abiotic, conservation of resources; Agriculture-- factors of crop production, major food crops and cash crops of the world.	20 marks
Unit-III	Minerals and Industries : classification of minerals and their world distribution; Industries : factors of localization; Major industries – iron and steel, textile, chemicals, cement, paper, ship building, small scale and cottage industries.	20 marks
Unit-IV	Trade and Transport : geographical factors in their development, water, land and air transport, internal and international trade.	20 marks
Unit-V	Global distribution and concentration of quaternary activities; Disparity between developed and developing countries; India's position in quaternary sector, Impact of globalization and India's economy, role of multinational companies and rise of IT industry in India.	20 marks

Suggested Readings :

1. Boesch, H.: *A Geography of World Economy*, D.Van Nostrand Co., New York, 1964.
2. Chapman, J.D.: *Geography and Energy*, Longman, London, 1989.
3. Gregor, H.F.: *Geography of Agriculture*, Prentice Hall, New Jersey, USA, 1970
4. Griggs, D.B.: *The Agricultural Systems of the World*, Cambridge University Press, New York, 1974.
5. Gordon L. Clark, Maryann, P.F. and Meric, S.G. : *The Oxford Handbook of Economic Geography*, Oxford University Press, New York, 2000.
6. Hartshorne, T.N. and Alexander, J.W.: *Economic Geography*, Prentice Hall, New Delhi, 1986.
7. Ones, C.F. and Darkenwald, G.G.: *Economic Geography*, McMillan Co., New York, 1975.
8. Millar E.: *Geography of Manufacturing*, Prentice Hall, New York, 1962.
9. Raza. M and Agrawal, Y.: *Transport Geography of India*, Concept, New Delhi, 1986.
10. Smith, D.M. : *Industrial Location – An Economic Geographical analysis*, John Wiley, New York, 1971.
11. Thomas, R.S.: *The Geography of Economic Activities*, McGraw Hill, New York 1962.
12. Alexander, J.W.: *Economic Geography*, Prentice hall, 1974.
13. Berry, B.J.L, et at. : *Global Economy*, Prentice hall Englewood Cliffs, New Jersey, 1993.
14. Boesch, H: *A Geography of World Economy*, D.Van Nostrand Co., New York, 1964.
15. Cryson, J. Henry, N., Keeble D. and Martin, R.: *The Economic Geography Reader*, John Wiley & Sons Ltd., Chichester, 2004.
16. Jones, C.F. and Darkenwald, G.G.: *Economic Geography*, Mc Milan Co., New York, 1975.

GG:H507 P Cartography -III

Unit I:	Preparation of cross and longitudinal profiles of streams; preparation of slope map, block diagram, area height curve, hypsometric curve and frequency and density map.	100
Unit II:	Interpretation of geological maps and drawing of geological section the sequence and relationships of structure with relief.	20
Unit III:	Basic principles of land surveying (i) chain and tape, (ii) prismatic compass, (iii) plane table surveying- radiation, intersection and three point problem.	15 marks
Unit IV:	Map projection: general principles, classification; Draw graticules following projections by graphical / mathematical methods with suitable maps and their properties and uses : Zenithal orthographic, Stereographic area and Equidistant projections.	20 marks
Unit V:	Map projection : Conical - Bond's, Polyconic and International projections, Cylindrical-Mercator's, Gall's and Mollweide projections (construct suitable outline maps by graphical/mathematical methods and properties of the projections).	15 marks
	Record book	15 marks
	Viva-voce	7 marks
	Note: Questions are to be set according to the marks allotted to units at the time of examination.	8 marks

Suggested Reading :

1. Monk house, F.J. : *Maps and Diagrams*, Methuen & Co Ltd. , London, 1971.
2. Nag.P. : *Thematic Cartography and Remote-Sensing*, concept publication, New Delhi, 1953.
3. Raize, Erwin. : *Principals of Cartography* : Mc Graw Hill, Newyork, 1982.
4. Robinson A.H. and Sale R.D. : *Elements of Cartography*, John Wiley and sons, New Jersey, 1985
5. Singh, R.L. : *Elements of Practical Geography*, Kalyani Publishers, New Delhi, 1979
6. R.P. Misra: *Fundamentals of Cartography*, Prasaraanga, University of Mysore, 1969
7. Gopal Singh: *Map Work and Practical Geography*, Vikas Publishing House Pvt. Ltd., New Delhi, 1996
8. Pal, S.K. : *Statistics for geoscientists - Techniques and Applications*, Concept, New Delhi, 1998.
7. Steers, J.A.: *Map Projections.*, University of London Press, London.



GG:H506 Geography of India

100 Marks

- Unit-I** India in the context of south and south east Asia; India: a land of unity and diversity; Structure and relief, drainage, climate and vegetation, natural regions. 20 Marks
- Unit-II** Agriculture and agricultural development planning, mineral and power resources, the status of their use and need for conservation; Location and distribution of iron and steel, textile, petrochemical, cement and forest based industries. 20 Marks
- Unit-III** Transport and communication, trade and commerce, basis of regional divisions of India – macro, meso and micro – regions of India and planning. 20 Marks
- Unit-IV** North East India : structure and relief, climate soils and natural vegetation, resource utilization, population structure and settlement patterns. 20 Marks
- Unit-V** Manipur : structure and relief, drainage, climate, soils and natural vegetation, agriculture, mineral and power resources, population, tribes, settlements 20 Marks

Suggested Readings :

20 Marks

1. Deshpande C.D: *India-A Regional Interpretation*, Northern Book Centre, New Delhi, 1992.
2. Farmer, B.H.: *An Introduction to South Asia*, Methuen, London, 1983.
3. Govt. of India: *India-Reference Annual*, 2001 Pub. Div. New Delhi 2001.
4. Govt. of India: *National Atlas of India*, NATMO Publication Division, New Delhi. 1965.
5. Govt. of India: *The Gazetteer of India*. Vol. I & III, Publication division, New Delhi. 1965.
6. Learmonth. A.T.A. et.al(ed): *Man and Land of South Asia*, Concept, New Delhi.
7. Mitra, A.: *Levels of Regional Development India*, Census of India, Vol.I, Part I-A(i) and (ii) New Delhi, 1967.
8. P.Nag and P.Roy : *Geography of India*, Concept Publication, New Delhi 1998.
9. Shafi, M. : *Geography of South Asia*, McMillan & Co., Calcutta, 2000.
10. Singh, R.L(ed): *India : A Regional Geography*, National Geographical Society. India, Varanasi, 1971.
11. Spate, O.H.K. and Lear month, A.R.A.: *India and Pakistan: Land, People and Economy*, Methuen & Co., London, 1967.
12. Valdiya, K.S.: *Dynamic Himalaya*, University Press, Hyderabad, 1998.
13. Wadia, D.N.: *Geology of India*, McMillan & Co., London, 1967.
14. Kullar, D.: *India- A Comprehensive Geography*, Kalyani Publishers, New Delhi, 2000
15. Singh, R.P.: *Geography of Manipur*, NBT, New Delhi
16. Taher, M & Ahmed, P.; *Geography of North East India*, Mani-Manil Prakash, Guwahati, 2000.
17. Ansari S.A: *Economic Geography of Manipur*, Trio Book House, Imphal

GG:H505 Geomorphology

- Unit-I The nature, scope and concepts of geomorphology; geomorphology with other branches of earth sciences; Geological time scale. 100 Marks
- Unit-II Earth's interior, Wegener's theory of Continental drift, Plate Tectonic movements – orogenic and epeirogenic; Types of folds and faults, earthquakes and volcanoes, types of mountains. 20 Marks
- Unit-III Rocks and minerals – origin and composition of rocks, classification of rocks; Weathering, formation of regolith and soils, rocks and relief. 20 Marks
- Unit-IV Geomorphic agents and processes, erosion, transportation and deposition; land erosion; wasting; Evolution of landscape; Concept of cycle of erosion, interruption of cycle of erosion, fluvial, arid, glacial, karst and coastal landscapes. 20 Marks
- Unit-V Applied geomorphology : settlements, transport, land-use, mining, resource evaluation, environmental and assessment. 20 Marks

Suggested Readings :

1. Dayal, P.: *A Text book of Geomorphology*, Shukla Book depot, Patna, 1996.
2. Dury, G.H. : essays in Geomorphology, Heinmann, London, 1966.
3. Ernst, W.G.: *Earth systems – Process and Issues*, Combridge University Press, 2000.
4. ICSSR : *A Survey of Research in Physical Geography*, Concept, New Delhi, 1983.
5. Kale V. and Gupta, A : *Element of Geomorphology*, Oxford University Press, Calcutta, 2001.
6. Monkhouse, F.J.: *Principles of Physical geography*, Hodder and Stoughton, London, 1960.
7. Pitty. A. : *Introduction of Geomorphology*, Methuen, London, 1974.
8. Sharma, H.S. : *Tropical Geomorphology*, Concept, New Delhi, 1987.
9. Singh, S. : *Geomorphology*, Prayag Pustak Bhawan, Allahabad, 1998.
10. Small, R.J. : *The Study of Landforms*, Mc Graw Hill, New York, 1985.
11. Sparks, B.W.: *Geomorphology*, Longmans, London, 1960.
12. Steers, J.A.: *The Unstable Earth. Some Recent Views in Geography*, Kalyani Publishers, New Delhi, 1964.
13. Strahler, A.N. : *Environmental Geo-Science*, Hamilton Publishing, Santa Barbara, 1973.
14. Strahler, A.N. and Strahler, A.H.: *Modern Physical Geography*, John Wiley & Sons, revised edition 1992.
15. Su mmerfield, M.A. : *Global Geomorphology*, Longman, 1991.
16. Thornbury, W.D. : *Principles of Geomorphology*, Wiley Eastern, 1969.
17. Wooldridge, S.W. and Morgan, R.S. : *The Physical Basis of Geography – An Outline of Geomorphology*, Longman Green & Co., London, 1959.
18. Wooldrige, S.W.: *The Geographer as Scientist*, Thomas Nelson and Sons Ltd. London, 1956.
19. Holmes, A.: *Principles of Physical Geology*, ELBS/VanNostrand Reinhold, 1978 (third edition)



GG : E404(ii)P

Cartography-II

50 Marks

Unit I: Cartographic symbols and their uses: points-dots, proportional circles and spheres, lines- isopleths and flow lines, areas- choropleth.

Use of line and bar graphs for representing population, agriculture, industry and transport data. 15 marks

Unit II: Mean, median, mode, standard deviation, correlation coefficient.

10 marks

Unit III: Representation of population distribution, density and growth, land use, cropping pattern, industries and transport by cartographic techniques other than line and bar graphs. Interpretation of Survey of India (SOI) topo-sheets of an area in respect of (i) relief, (ii) drainage, (iii) settlement and (iv) communication pattern.

15 marks

Record book

05 marks

Viva-voce

05 marks

Note: Questions are to be set according to the marks allotted to units at the time of examination.

Suggested Readings :

1. Monk house, F.J. : *Maps and Diagrams*, Methun & Co Ltd. , London, 1971.
2. Raize, Erwin. : *Principals of Cartography* : Me Graw Hill, New York, 1982.
3. Elhance, D.N. : *Fundamental of Statistics*, Kitab Mahal, Allahabad, 1972.
4. Robinson A.H. and Sale R.D. : *Elements of Cartography*, John Wiley, New Jersey, 1953. 5. Singh, R.L. : *Elements of Practical Geography*, Kalyani Publishers, New Delhi, 1979.
6. Birch, T.W. : *Maps : Topographical and Statistical*, Clarendon Press, Oxford, 1949.
7. R.P. Misra : *Fundamentals of Cartography*, Prasaranga, University of Mysore, 1969.
8. Aslam Md. : *Statistical Method in Geographical Studies*, Rajesh Publication, New Delhi, 1976.
9. Pal, S.K. : *Statistics for geoscientists – Techniques and Applications*, Concept, New Delhi, 1998.
10. Gregory S. : *Statistical Methods and the Geographer*, Longman S. London, 1963.



GG:E404(i) Population and Settlement Geography

50 Marks

- Unit-I Nature and scope of population geography, world population growth, density and distribution; Composition of population: age and sex, rural and urban, economic composition, fertility and mortality with reference to India; Migration – internal and international; Population problems and policies with reference to India. 25 marks
- Unit-II Nature and scope of settlement geography, evolution of settlements, spatial distribution and associated factors; Settlements of rural and urban. 10 Marks
- Unit-III Types and patterns of rural settlements, distribution of rural settlements; Growth of urban settlements, morphology, urbanization trends in the world, functional classification of towns, urban problems and planning. 15 Marks

Suggested Readings :

1. Bose Ashish et al : *Population in India's Development* (1947-2000), Vikas, New Delhi, 1974.
2. Chandna R.C.: *Geography of Population*, Kalyani Pub, New Delhi, 2000.
3. Chandna R.C.: *Geography of Population: Concept, Determinants and Patterns*, Kalyani, New Delhi, 2000.
4. Clarke John I : *Population Geography*, Pergamon Press, Oxford 1973.
5. Crook, Nigel : *Principles of Population and Development*, Pergamon Press, N.Y. 1977.
6. Garnier B.J. : *Geography of Population*, Longman, London 1970.
7. Mamoria C.B.: *India's Population Problem*, Kitab Mahal, New Delhi 1981.
8. Mitra Ashok: *India's Population: Heading Towards a Billion*, B.R. Publ. Corp. 1991.
9. Srinivasan K. and M.B. Vlassoff : *Population Development Nexus in India : Challenges for the Millenium*, Tata McGraw Hill, New Delhi 2001.
10. Sundaram K.V. and Sudesh Nangia (Ed): *Population Geography*, Heritage, Delhi 1986.
11. UNDP : *Human Development Report*, Oxford University Press, Oxford 2000.
12. Wood R. : *Population Analysis in Geography*, Longman, London, 1979.
13. Carter H. : *The Study of Urban Geography*, Edward Arnold, London, 1972.
14. Rao, VLSP: *Urbanization in India: Spatial Dimensions*, Concept Publication. New Delhi. 1996
15. Singh, R.L. & Singh, K.N. (eds): *Readings in Rural Settlement*, BHU, Varanasi.
16. Singh, R.Y: *Geography of Settlements*, Rawat, Jaipur, 1998
17. Singh, R.L. & Singh, K.N. (eds): *Readings in Rural Settlement*, BHU, Varanasi.



GG:E303(ii)P Cartography-I

50 Marks

Unit I:

Scale: representative fraction, plain linear, diagonal and comparative ;
Identification of rocks and minerals, fibers and crops. 10 marks

Unit II:

Methods of showing relief-hachure, shading, contours and layer tints;
Representation of different landforms by contours; Drawing of profiles-cross
and long profiles, superimposed, projected and composite profiles and their
relevance in landform mapping and analysis. 15 marks

Unit III:

Representation of temperature and rainfall data by line and bar graphs. Drawing
of climograph and hythergraph and their interpretation; Interpretation of Indian
weather maps for July and January months; Reading of meteorological
instruments- maximum & minimum thermometers, wet & dry thermometers, rain
gauge, barometer, wind vane and anemometer. 15 marks

Record book 05 marks

Viva -voce 05 marks

Note: Questions are to be set according to the marks allotted to units at the time of
examination.

Suggested Readings :

1. Lawrence, G.R.P. : *Cartographic Methods*, Methuen, London, 1968.
2. Monkhouse, F.J. & Wilkinson, H.R.: *Maps and Diagrams*, Methuen, London, 1994.
3. Robinson A.H.: *Elements of Cartography*, John Wiley & Sons, Newyork, 1998(fifth edition).
4. Singh, R.L. : *Elements of Practical Geography*, Kalyani Pub., New Delhi.1969.
5. R.P. Misra: *Fundamentals of Cartography*, Prasaranga, University of Mysore, 1969
6. Raisz, Erwin: *Principles of Cartography*, Mc Graw-Hill, Newyork, 1962.