

BIR TIKENDRAJIT UNIVERSITY
Syllabus for B.A./B.Sc. Geography

| Paper Code | Title of Paper | Internal Assessment | Annual Exam | Total Marks |
|----------------------------|-------------------------------------|----------------------------|--------------------|--------------------|
| 1st Year | | | | |
| GEG:101 | Introduction to Geography | 30 | 70 | 100 |
| GEG:102 | Physical Geography | 30 | 70 | 100 |
| 2nd Year | | | | |
| GEG:103 | Human Geography | 15 | 35 | 50 |
| GEG:103(P) | Cartography I | | 50 | 50 |
| GEG:104 | Population and Settlement Geography | 15 | 35 | 50 |
| GEG:104(P) | Cartography II | | 50 | 50 |
| 3rd Year | | | | |
| GEG: 105 | Geomorphology | 30 | 70 | 100 |
| GEG:106 | Geography of India | 30 | 70 | 100 |
| GEG: 107(P) | Cartography III | | 100 | 100 |
| GEG: 108 | Economic Geography | 30 | 70 | 100 |
| GEG: 109 | World Regional Geography | 30 | 70 | 100 |
| GEG: 110(P) | Cartography IV | | 100 | 100 |
| Total | | | | 1000 |

1st Year:

GG:101 : Introduction to Geography

100 Marks

- Unit - I Meaning, Scope and Nature of geography, emergence of geography as a subject, geography and other disciplines. 20 marks
- Unit-II Contributions of Greek and Arab geographers, contribution of German and French geographers. 20 marks
- Unit-III Geography as the study of environment, man-environment relationship, determinism, possibilism, neo-determinism; Dualism in geography – systematic-regional, physical-human, branches of geography. 20 marks
- Unit-IV Geography as human ecology; Areal differentiation and spatial organization; Concept of region - macro, meso and micro; Recent trends of study geography in India. 20 marks
- Unit-V Cartography and its history; Importance of quantitative techniques; Remote sensing and GIS, field works - physical and socio economic surveys in geography. 20 marks

Suggested Readings :

- Abler. Rona.Sd.F. et.a! Geography's Inner Worlds : Pervasive themes in Conlempomty American Geography, Routledge New Jersey, 1992 (Z)
- Dikshit R.D.: The Arts, Science o f Geography Integrated Readings, Prentice Hall of India, New Delhi, 1994.
- Dikshit R.D.: Geographical Thought - A Contextual History o f Ideas, Prentice Hall of India Pvt. Ltd: 2000.
- Dohrs,. F.E. and Sommers, L.W.(eds.) Introduction to Geography. Thomas Y. Crowell Co., New York, 1967.
- Hartshorne, Richard : Perspective on the Nature o f Geography, Rand McNally and Co., Chicago, 1959.
- Harvey, David: Explanation in Geography, Edward-Arnold, London, 1972.
- Holt-Jensen, A.: Geography: Its History and Concepts, Longmans, 1980.
- Hnsain, Majid: Evolution o f Geographical Thought, Rawat Publicantions, Jaipur, 1984.
- James, P.F..All Possible Worlds: A History o f Geographical Ideas, Sachin Publication, Jaipur, 1980.
- Johnston, R.J. and Claval, P. (eds.) : Geography Since the Second World War, Croom Helm, London/Bernes and Bable, N.J., 1984.
- Jones, P.A.: Fieldwork in Geography, Longmans, 1968.
- Lownsborg, J.F. and Aldrich, F.T.: Introduction to Geographical Methods and Techniques, Charles Marrill, Columbus, 1979.

Minshull, R.: The Changing Nature of Geography, Hutchinson University Library, London. 1970.

Wooldridge, S.W. : The Geographer As Scientist, Thomas Nelson and sons Ltd.. London, 1956..

Singh. R.L. : Elements of Practical Geography, Kalyani Pub., New Delhi.1969.

R.P. Misra: Fundamentals of Cartography, Prasaranga, University of Mysore, 1969

Barrett E.C. and Curtis : Fundamental of Remote Sensing and Air Photo Interpretation, McMillan, New York, 1992

GEG: 202 Physical Geography

100 Marks

Unit-1 The Solar system and origin of earth; Rocks - their origin and classification: Interior of the earth; Earth movements - organic and epeirogenic; Earthquakes and volcanoes, major land forms.

20 Mark

Unit-II Weathering, factors affecting weathering; Concept of cycle of erosion;works of running water, wind and glaciers; Karst and coastal regions; Drainage patterns, lakes and islands.

20 Marks

Unit-III Elements of weather and climate; Composition and structure of the atmosphere; Insolation, heat budget, vertical, horizontal and seasonal distribution of temperature.

20 Marks

Unit-IV Atmospheric pressure and winds, planetary, periodic and local winds, evaporation, condensation and precipitation;Cyclones and anticyclones;Climatic types and their association with major natural regions.

20 Marks

Unit-V Configuration of ocean floor; Temperature and salinity distribution of ocean water; Ocean currents, marine deposits. Corals and atolls; Global distribution of major plant and animal communities; Concept of ecosystem and food chain. 20 Marks

Suggested Reading :

1. Ahmed Enyat : Geomorphology, Kalyani Publishers, New Delhi, 2001.
2. Blomm A.L: Geomorphology-A Systematic Analysis of Late Canezoic landforms, Prentice Hall Englewood Cliffs, N.J. 1978.
3. Dayal, P. A textbook of Geomorphology, Sukla Book Deport, Patna 1996.
4. Critchfield, H.: General Climatology\ Prentice-Hall, New York, 1975.
5. IMonkhouse. F.J.: Principles of Physical geography
6. Sharma, R.C. and Vatal, M. : Oceanography for Geographers
7. Strahler, A.N. & Strahler A.H : Modern Physical Geography, John Wiley & Sons revised edition, 1992.

8. Kale. V.S. and Gupta, A. : Introduction to Geomorphology, Orient Longman. Kolkata. 2001.
9. Thornbury. W.D.: Principles of Geomorphology, Wiley Eastern, 1969
10. Wooldridge, S. W. and Morgan, R.S. : An Outline of Geomorphology : The Physical Basis of Geography- An Outline of Geomorphology. Longman Green &Co.. London 1959. .

2nd Year

GEG 103: Human Geography

50 Marks

Unit-I Meaning, Nature and scope of human geography, branches of human geography. approaches to the study of human geography :Primitive life style of mankind and subsequent migration.

15 Marks

Unit-II Division of mankind : spatial distribution of racial and linguistic groups; Human adaptation to the environment (i) cold region - Eskimo, (ii) hot region - Bushman (iii) plateau - Gonds, (iv) mountain - Gujjars, nomads and (v) natural hazards.

20 Marks

Unit-III Economic activities of mankind: food gathering, hunting, fishing, vegetation shifting cultivation; Economic activities in modern society - industry, transport and agriculture, trade and commerce.

15 Marks

Suggested Readings :

1. Bergman, Edward E: Human Geography; Culture, Connections and landscape, Prentice-Hall, New Jersey, 1995.
2. Carr, M. : Patterns, Process and Change in Human Geography, MacMillan Education, London, ... 1987.
3. Felman, J.L. : Human Geography-Landscapes of Human Activities, Brown and Benchmark Pub.. U.S.A. 1997
4. DeBlij H.J.: Human Geography, Culture Society and Space, John Wiley, New York, 1996.
5. Johnston, R.J. (ed ito r): Dictionary of Human Geography, Blackwell, Oxford, 1994.
6. Me Bride, P.J. : Human Geography Systems, Patterns and Change in Human Geography, Nelson, U.K. and Canada, 1996.
7. Michael, Can: New Patterns: Process and Change in Human Geography Nelson, 1997.
8. Peter Daniels, Michael B. Denis S. and James, S: Human Geography, Pearson Education, Delhi. 2003.
9. Rubenstein, J.H. and Bacon R.S.: The cultural Landscape-an Introduction to Human Geograp v. Prentice hall, India, New Delhi, 1990.
10. Singh, K.N.: People of India, An introduction, Seagull Books, 1992.
11. .Majid Husain : Human Geography, Rawat Publication. Jaipur, 2003
12. UNDP: Human Development Report, Oxford University Press,2001

GEG: 103(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 o f Cartography, Prasaranga, University of Mysore, 1969 .
6. Raisz, Erwin: Principles o f Cartography, Me Graw-Hill, Newyork, 1962.

GEG 104: Population and Settlement Geography

50 Marks

Unit-I Meaning, 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. Gamier 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, V.L.S.P: 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.

GEG 104(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. : Principles of Cartography : McGraw 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.

3rd Year

GEG 105: Geomorphology

100 Marks

Unit-I Meaning, nature and scope; Fundamental concepts of geomorphology; Relationship of geomorphology with other branches of earth sciences; Geological time scale.

20 Marks

Unit-II Earth's interior, Wegener's theory of Continental drift, Plate Tectonics; Earth movements - orogenic and epeirogenic; Types of folds and faults, isostasy. earthquakes and volcanoes, type's 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; Mass wasting; Evolution of landscape; Concept of cycle of erosion, interruption to 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. Daval, P: A Text book of Geomorphology, Shukla Book depot, Patna, 1990.
2. Dury, G.H. : *essays in Geomorphology*. Heinmann. London. 1966.
3. Ernst, W.G.: *Earth systems - Process and Issues*, Cambridge 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*, McGraw 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. Wooldridge, S.W.: *The Geographer as Scientist*, Thomas Nelson and Sons Ltd. London, 1956.
19. Holmes, .*Principles of Physical Geology* ELBS/VanNostrand Reinhold, 1978 (third edition).

GEG106: 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 :

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 Learmonth, 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

GEG107(P) Cartography –III**100 Marks**

- Unit I: Preparation of cross and longitudinal profiles of streams; preparation of average slope map, block diagram, area height curve, hypsometric curve and drainage frequency and density map. 20 marks
- Unit II: Interpretation of geological maps and drawing of geological sections to show the sequence and relationships of structure with relief. 15 marks
- Unit III: Basic principles of land surveying (i) chain and tape, (ii) prismatic compass and (iv) plane table surveying- radiation, intersection and three point problem. 20 marks
- Unit IV: Map projection: general principles, classification; Draw graticules on the following projections by graphical / mathematical methods with suitable outline maps and their properties and uses : Zenithal orthographic, Stereographic, Equal area and Equidistant projections. 15 marks
- Unit V: Map projection : Conical -Bond's, Polyconic and International projections ; Cylindrical-Mercator's, Gall's and Mollweide projections (construction of suitable outline maps by graphical/mathematical methods and properties and uses of the projections). 15 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 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. : Principles of Cartography : McGraw Hill, New York, 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, Prasaranga, 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.
9. Steers, J.A.: Map Projections., University of London Press, London.

GEG 108: 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 mark

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,
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.
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.

GEG109: World Regional Geography

Marks: 100

Unit I: Asia-Terrain, pattern, drainage, climate, natural vegetation, soils, spatial distribution of population and economic base of the continent in general; Regional studies of south and south-east Asia. 20 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 US A and Brazil. 20 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. 20 marks

Suggested Readings :

1. Cole, J.: A Geography o f 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 at.: The Geography of the Third World, Routledge, London, 1996.
5. Dourou^E.: The Tropical World, Longman, London, 1980.
6. Jackson, R.H. and Hudman, L.E.: World Regional Geography. Issues for Today, John Willey, New York, 1991.
7. Kolh, A.: East Asia-Geography o f a Cultural Region. Mathuen, London, 1977.
8. Mjnshull, G.N. : Western Europe., Hoddard & Stoughton, New York, 1984.
9. Patterson, H.H: Geography o f Canada and the United States, Oxford University Press, 1985.
10. Songquiao, Z.: Geography o f 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.

GEG 110 (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 o f remote Sensing, ASP, Falls Church. V.A. 1983.
2. Barrett E.C. and Curtis : Fundamental o f Remote Sensing and Air Photo Interpretation. McMillan, New York, 1992. ' ^ ' "
3. Jefreys, 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, b9^9.
6. Monk house, F.J. : Maps and Diagrams, Methuen, London, 1967. V7<
7. Nag.P. :Thematic Cartography and Remote-Sensing, Concept publication. New Delhi, 1953.
8. Raize I. : Principals o f 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** o f Cartography, John Wiley, New Jersy, 1953