MAHAKAUSHAL UNIVERSITY, JABALPUR

As per model syllabus of U.G.C. New Delhi, drafted by Central Board of Studies and Approved by Higher Education and the Governor M.P.

SYLLABUS

कला एवं समाज विज्ञान संकाय

Faculty of Art & Social Science

Syllabus & Prescribed Books

Subject-Geography

B.A. Semester Examination

Major

(B.A)

BGOG0101-T **Physical Geography** **5-1-0-6**

UNIT 1

Meaning, Scope and Branches of Physical Geography, Origin of Universe, Solar system and Earth. Geological Time Scale, Theories of Laplace, Chamberlin, James Jeans, Jeffreys, and Hoyle & Lyttleton, Interior of the earth, Rocks: origin and classification

UNIT 2

Origin of continents and ocean basins: Continental drift and convectional current theories, Plate Tectonics, Isostasy, Earth movements, Endogenetic forces,

landforms: Mountains, Plateau and Plains, Gradational processes, Weathering and Erosion, normal cycle of erosion, Arid, Glacial, Marine and Karst topographies, Vulcanicity and Earthquakes.

UNIT 3

Soil as a basic component of environment, Soil profile (Soil horizon): Characteristics and Significance, Processes and factors of soil formation. Biodiversity and Biosphere, Biotic succession, Biomes and their types, Zoogeographical regions of the world. Biodiversity conservation.

UNIT 4

Composition and structure of atmosphere, Insolation, Vertical and Horizontal Distribution of temperature, Pressure and pressure belts, Winds: Planetary, Periodic and Local. Humidity, Clouds and Precipitation, Cyclones and Anticyclones.

UNIT 5

Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents,

Tides and Coral reefs.

References:

1. Barry, R.G. and Chorley, R.J. (1998). Atmosphere, Weather and Climate. Routledge, London.

2. Bryant, H. Richard (2001). Physical Geography Made Simple. Rupa and Co., New Delhi

3. Bunnett, R.B. (2003). Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.

4. Garrison T (1998). Oceanography. Wordsworth Cp, Bedmont.

5. Lake, P. (1979). Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.

6. Monkhouse, F I (1979). Physical Geography, Methuen, London.

7. Singh, S. (2003). Physical Geography (English and Hindi Editions) Prayag Pustak Bhawan, Allahabad.

8. Singh, M.B. (2001) Bhoutik Bhoogol, Tara Book Agency, Varanasi.

9. Strahler, A.N. and Strahler A.M. (1992). Modern Physical Geography, John Wiley and Sons, New York

10. Wooldridge, S.W. and Morgan, R.S. (1959). The Physical Basis of Geography: An Outline of Geomorphology.Longman, London.

BGOG0201-T Human Geography 5-1-0-6

UNIT 1

Definition and scope of Human Geography; human versus physical geography; branches of Human Geography; Development of Human Geography; Contributions of German and French Geographers. Contribution of Indian Geographers

UNIT 2

Schools: Determinism, possibilism, welfare or humanistic and positivism; Approaches: ecological, landscape, locational, welfare and humanistic.

UNIT 3

Elements of environment; physical and human environment; constraints and opportunities of the environment; impact of environment on man; impact of man

on environment; environmental problems; pollution, natural hazards, and climate change.

UNIT 4

Evolution of man: Classification of races, Characteristics of races and their world distribution, Human adaptation to the environment: Eskimo, Bushman and Masai.

Tribes of India; habitat, economy and culture with special reference to Naga, Bhil, Santhal, Gaddi, Bhotia, and Tharu tribes.

UNIT 5

Human Settlements: Origin, types and patterns (Rural and Urban) characteristics, House types and their distribution with special reference to India.

References:

1. Singh, L.R. (2005). Fundamentals of Human Geography. Sharda Pustak Bhawan, Allahabad.

2. DeBlij, H.J. Human Geography: Culture, Society and Space. John Wiley, New York.

3. Haggett, P. (2004). Geography: A Modern Synthesis. Harper & Row, New York

4. Hussain, M. (1994): Human Geography. Rawat Publication, Jaipur.

5. Kaushik, S.D.& Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Pub. Meerut.

6. Norton W. (1995). Human Geography. Oxford University Press, New York.

7. Singh, K. N. & Singh J. (2001). Manviya Bhoogol. Gyanodaya Prakashan, Gorakhpur.

BGOG0301-T Tourism Geography 5-1-0-6

UNIT 1

Concept of Leisure and Tourism; Development of Tourism; Types of Tourism; Definition, Scope and Significance of Geography of Tourism; Geographical Basis of Tourism; Resources and Infrastructure for Tourism: Transportation, Accommodation and Basic Infrastructure.

UNIT 2

Impact of Tourism: Physical, Economic, Social and Cultural Impacts; Concept of Ecotourism; New Emerging Trends in Tourism. Statistics of tourism and data collection.

UNIT 3

Tourism Marketing: Marketing Concepts and Marketing in Tourism; The Tourist Product; Segmentation- A Priori Segmentation; Tourism Circuits; Tour Agencies. Components of a Tourism Plan, The Tourism Planning Process.

UNIT 4

Globalization and Tourism; Tourism in India; Resource and Growth; National Tourism Policy in India; Tourism Organizations. Role of WTO, IATA, UPTAA, AI, IATO, etc. in promotion and development of tourism

UNIT 5

Sustainable Tourism Development in Uttarakhand: Policies and Planning for Tourism Development; Tourism Carrying Capacity and Limits of Acceptable Change; Pro-Poor Tourism (PPT); Environmental, Cultural, Social and Historical Attractions with special reference to Uttarakhand Himalaya; Framework for Monitoring Sustainability of Tourism in Uttarakhand.

References:

BGOG0401-T Regional Planning and Development 5-1-0-6

UNIT 1

Regional concept in geography: Concept, Scope & purpose of regional planning, Types of regions: Formal and functional; uniform and nodal, single purpose and composite region.

UNIT 2

Regional Planning: Planning process - sectoral, temporal and spatial dimensions; short-term and long-term perspective planning, Indicators of development and their data sources, measuring levels for regional development and disparities, Planning for regional development and multiregional planning in national context

UNIT 3

Regional development strategies: Concentration vs. dispersal, Case studies for plans of developed and developing countries, Regional planning and development in India through Five year plans, problems and prospects, Regional disparities: causes and consequences.

UNIT 4

Concept of Multi-level planning: Decentralized planning; peoples participation in the planning process, Concept and approaches of urban development, Landscape ecology and sustainable urban development, Application of remote sensing and Geographic Information System in Development Planning.

UNIT 5

Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.

References:

1. Chitambar, J.B. (1993) Introductory Rural Sociology, Wiley Eastern, New Delhi.

2. Goomen, M.A. and Datta, A. (1995) Panchayats and their Finance, Rawat Pub. Co., New Delhi.

3. Matthews G. (editor) (1995) Status of Panchayati Raj: 1994, Institute of Social Sciences / Rawat Pub. Co., New Delhi.

4. Matthews A. (1994) Panchayati Raj: From Legislation to Movements, Rawat Pub. Co., New Delhi:

5. Misra, H.M. (ed) (1987) Contributions to Indian Geography, Volume 9: New Delhi.

6. De Blij, H.J. and Muller, P.O. (1997) Geography: R.R.C, 8th edition, J. W. & S. Ltd., NewYork.

7. Dickinson, J., Gould, B., Clarke, C., Mather, S., Prothero, M., Siddle, D., Smith, C. and Thomas-Hope, E. (1996) A Geography of the Third World, 2nd edition, Routledge, London

8. Bhat, L.S. (1972) Regional Planning in India, Indian Statistical Institute, Calcutta.

9. Bhat, L.S. (2003) Micro Planning: A Case Study of Karnal Area, KB Publications, New Delhi.

10. Chand, M. and Puri, V.K. (2004) Regional planning in India; Allied Publishers, New Delhi.

11. Chandana, R. C. (2005) Regional Development and Planning. Kalyani Publishers, New Delhi.

BGOG0501-T **Geography of India** **5-1-0-6**

UNIT 1

India- A subcontinent, Physical features, Geologic structure, Drainage system, Climate, Natural vegetation, Soils, Natural regions.

UNIT 2

Agriculture, Crops (Food, plantation and commercial), Agriculture production, Agriculture regions, Irrigation, Livestock raising and Fishery.

UNIT 3

Industries: Metallurgical, Textile, Engineering, Chemical, Food, Leather, Forest and Agro-industries, Industrial regions, Minerals and Power resources.

UNIT 4

Population (density, distribution and urbanization), Multipurpose projects. Regional development and planning, Regional disparities, Five-year plans, Integrated rural development programme, Panchayati raj, Command area and watershed management

UNIT 5

Transportation: Roads and railways, air transportation and pipeline transportation. Trade: Internal and External (Trend, composition and direction); SEZ (Special Economic Zones).

References:

1. Chauhan B.S. & Gautam Alka (2011) Bharat (Geography of India), Rastogi Publication, Meerut.

2. Chauhan B.S.& Gautam Alka (2013) Bharatvarsh kaVistrat Bhogool, Rastogi Publication, Meerut.

3. Hussain, Majid (2015) Geography of India, McGraw Hill Education, New Delhi.

4. Mamoria, C.B. (2007) Bharat Ka Bhoogol. Sahitya Bahwan, Agra.

5. Sharma,Y.K.(2009)Geography of India, Lakshmi Narayan, Agra.

6. Sharma, M.L.& Sharma H.S. (2011) Bharatka Bhogool, Rastogi Publication, Meerut.

7. Sharma, J.K.& Kalwar,S.C.(2011)Bharat ka Bhogool, Rastogi Publication, Meerut.

8. Singh R. L. (1993) Regional Geography of India, National Geographic Society of India, Varanasi.

BGOG0601-T **Economic Geography** **5-1-0-6**

UNIT 1

Meaning, aim and scope of economic geography, Resources: Meaning, classification, conservation and concepts, Economic landscapes.

UNIT 2

Primary production, Vegetation & forest economy, Soil resources, Mineral resources (Iron ore and bauxite), Power resources (Coal, Petroleum and Hydroelectricity), Resource conservation.

UNIT 3

Main crops in the world: Wheat, paddy, sugarcane, coffee and tea. industries: Iron & steel, textiles, petro-chemical and sugar.

UNIT 4

Theory of industrial location: Weber and Losch, Industrial regions of India and World.

UNIT 5

World transportation: trans-continental railways, sea and air routes, international trade, patterns and trends, trade blocks: NAFTA, EEC, ASEAN, G7 and G20, Globalization and developing countries.

References:

Suggested Reading:

1. Alexander, I W (1988) Economic Geography. Prentice Hall, New Delhi.

2. Boesch, H (1964) A Geography of World Economy. Von Nostrand, New York.

3. Gautam, A (2006) Arthik Bhugol ke Mool Tatve. Sharda Pustak Bhawan, Allahabad.

4. Hartshorne, TA & Alaxender IW (1988) Economic Geograohy. Englewood Cliff, New Jersey.

5. Singh, KN and Singh I (2003) Arthik Bhugol ke Mool Tatve.Gyanodaya Prakashan,Gorakhpur.

BGOG0701-T **Basics of Remote Sensing and GIS** **5-1-0-6**

UNIT 1

Remote Sensing: Components of Remote Sensing, Thermal and Radar Remote Sensing; Image Processing Techniques: Visual and Digital, Classification: Supervised and Unsupervised.

UNIT 2

GIS: Geographic Data Types; Spatial and Non-Spatial Data; Raster and Vector Data, Linkages and Matching, Principal Functions of GIS; Data Capture; Geographic Analysis; Scanning System; Data Conversion, Data Base Management System (DBMS), Data Base and Spatial Data Management; Geo- Relational Data Model; Topological Data Structure; Attribute Data Management; Relational Database-Concepts & Model, Digital Elevation Model (DEM): Process, Derivatives and applications.

UNIT 3

Geo-Referencing and Its Importance. Spatial Data Integration (Digitization) – Point, Line, Polygon. Map Design or Layout, Map Production. Import And Export of Map in Various Formats.

UNIT 4

Satellite Data and its type. Downloading Sources of Satellite Data (Google Earth, USGS, GLCF Etc.). Download Process Satellite Imagery. Remote Sensing data

download from open sources.

UNIT 5

GIS Software (Including Open-Source Softwares). Creation of Shape files in GIS Softwares. Geo-Referencing and Digitization in GIS Software. Attribute Data Entry, Manipulation of Fields and Attribute Data.

References:

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London

2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System (in Hindi), Sharda Pustak Bhawan, Allahabad

3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London.

4. Curran, P.J. (1985): Principles of Remote Sensing. Longman, London.

BGOG0801-T **Agricultural Geography** **5-1-0-6**

UNIT 1

Nature, scope, significance and development of Agriculture Geography, Approaches to the study of Agricultural Geography: Commodity, systematic,regional, behavioral and recent approaches etc., Origin and dispersal of agriculture.

UNIT 2

Determinants of agricultural land use: Physical, economic, social and technological factors, Land holding and land tenure systems in India, Land useand land capability.

UNIT 3

Agricultural efficiency Concepts, Techniques and Methods of measurements; Methods of delimiting crop combination region, cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization.

UNIT 4

Theories of Agriculture Geography, Von Thunen's theory (model) of agricultural location and its recent modifications, Demarcation of Agricultural regions, Whittlesey's classification of agricultural regions

UNIT 5

Regional pattern of productivity in India, Green Revolution, White Revolution, Food deficit and food surplus regions; World pattern of Agriculture: Subsistence agriculture, Commercial farming, Plantation agriculture, Mixed agriculture, State, collective and cooperative farming.

References:

1. Bhalla, G.S. and Alagh, Y.K. (1979). Performance of Indian Agriculture: A District-wise Study, Sterling,

New Delhi.

2. Das,M.M. (1982) Peasant Agriculture in Assam, Inter India, New Delhi.

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4. Hussain, M. (1979) Agricultural Geography, Inter India, New Delhi.

5. Mergra, W.B. & Munton, R.J.C. (1971) Agricultural Geography, Methuen, London.

6. Mitchel, P. (1979) Agro-ecosystem, Inter India Publication, New Delhi.

7. Shafi, M. (1984) Agricultural productivity and regional imbalance, concept, New Delhi.

8. Singh J. and Dhillon, S.S. (1985) Agricultural Geography, Tata McGraw Hill, New Delhi.

9. Singh, J. (1974) Agricultural Atlas of India: A Geographical perspective, Vishal Publications,

Kurukshetra.

10. Kumar, Pramila, Krishi Bhoogol, Madhya Pradesh Hindi Granth Academi, Bhopal,MP.

Minor

BGOG0102-T **Physical Geography** **5-1-0-6**

UNIT 1

Meaning, Scope and Branches of Physical Geography, Origin of Universe, Solar system and Earth. Geological Time Scale, Theories of Laplace, Chamberlin, James Jeans, Jeffreys, and Hoyle & Lyttleton, Interior of the earth, Rocks: origin and classification

UNIT 2

Origin of continents and ocean basins: Continental drift and convectional current theories, Plate Tectonics, Isostasy, Earth movements, Endogenetic forces,

landforms: Mountains, Plateau and Plains, Gradational processes, Weathering and Erosion, normal cycle of erosion, Arid, Glacial, Marine and Karst topographies, Vulcanicity and Earthquakes.

UNIT 3

Soil as a basic component of environment, Soil profile (Soil horizon): Characteristics and Significance, Processes and factors of soil formation. Biodiversity and Biosphere, Biotic succession, Biomes and their types, Zoogeographical regions of the world. Biodiversity conservation.

UNIT 4

Composition and structure of atmosphere, Insolation, Vertical and Horizontal Distribution of temperature, Pressure and pressure belts, Winds: Planetary, Periodic and Local. Humidity, Clouds and Precipitation, Cyclones and Anticyclones.

UNIT 5

Ocean bottom topography, Ocean deposits, Salinity, Temperature, Ocean currents,

Tides and Coral reefs.

References:

1. Barry, R.G. and Chorley, R.J. (1998). Atmosphere, Weather and Climate. Routledge, London.

2. Bryant, H. Richard (2001). Physical Geography Made Simple. Rupa and Co., New Delhi.

3. Bunnett, R.B. (2003). Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Pvt Ltd.

4. Garrison T (1998). Oceanography. Wordsworth Cp, Bedmont.

5. Lake, P. (1979). Physical Geography (English & Hindi Edition) Cambridge Univ. Press, Cambridge.

6. Monkhouse, F I (1979). Physical Geography, Methuen, London.

7. Singh, S. (2003). Physical Geography (English and Hindi Editions) Prayag Pustak Bhawan, Allahabad.

8. Singh, M.B. (2001) Bhoutik Bhoogol, Tara Book Agency, Varanasi.

9. Strahler, A.N. and Strahler A.M. (1992). Modern Physical Geography, John Wiley and Sons, New York

10. Wooldridge, S.W. and Morgan, R.S. (1959). The Physical Basis of Geography: An Outline of Geomorphology.Longman, London.

BGOG0202-T Human Geography 5-1-0-6

UNIT 1

Definition and scope of Human Geography; human versus physical geography; branches of Human Geography; Development of Human Geography; Contributions of German and French Geographers. Contribution of Indian Geographers

UNIT 2

Schools: Determinism, possibilism, welfare or humanistic and positivism; Approaches: ecological, landscape, locational, welfare and humanistic.

UNIT 3

Elements of environment; physical and human environment; constraints and opportunities of the environment; impact of environment on man; impact of man

on environment; environmental problems; pollution, natural hazards, and climate change.

UNIT 4

Evolution of man: Classification of races, Characteristics of races and their world distribution, Human adaptation to the environment: Eskimo, Bushman and Masai.

Tribes of India; habitat, economy and culture with special reference to Naga, Bhil, Santhal, Gaddi, Bhotia, and Tharu tribes.

UNIT 5

Human Settlements: Origin, types and patterns (Rural and Urban) characteristics, House types and their distribution with special reference to India.

References:

1. Singh, L.R. (2005). Fundamentals of Human Geography. Sharda Pustak Bhawan, Allahabad.

2. DeBlij, H.J. Human Geography: Culture, Society and Space. John Wiley, New York.

3. Haggett, P. (2004). Geography: A Modern Synthesis. Harper & Row, New York

4. Hussain, M. (1994): Human Geography. Rawat Publication, Jaipur.

5. Kaushik, S.D.& Sharma, A.K. (1996): Principles of Human Geography (in Hindi), Rastogi Pub. Meerut.

6. Norton W. (1995). Human Geography. Oxford University Press, New York.

7. Singh, K. N. & Singh J. (2001). Manviya Bhoogol. Gyanodaya Prakashan, Gorakhpur.

BGOG0302-T Tourism Geography 5-1-0-6

UNIT 1

Concept of Leisure and Tourism; Development of Tourism; Types of Tourism; Definition, Scope and Significance of Geography of Tourism; Geographical Basis of Tourism; Resources and Infrastructure for Tourism: Transportation, Accommodation and Basic Infrastructure.

UNIT 2

Impact of Tourism: Physical, Economic, Social and Cultural Impacts; Concept of Ecotourism; New Emerging Trends in Tourism. Statistics of tourism and data collection.

UNIT 3

Tourism Marketing: Marketing Concepts and Marketing in Tourism; The Tourist Product; Segmentation- A Priori Segmentation; Tourism Circuits; Tour Agencies. Components of a Tourism Plan, The Tourism Planning Process.

UNIT 4

Globalization and Tourism; Tourism in India; Resource and Growth; National Tourism Policy in India; Tourism Organizations. Role of WTO, IATA, UPTAA, AI, IATO, etc. in promotion and development of tourism

UNIT 5

Sustainable Tourism Development in Uttarakhand: Policies and Planning for Tourism Development; Tourism Carrying Capacity and Limits of Acceptable Change; Pro-Poor Tourism (PPT); Environmental, Cultural, Social and Historical Attractions with special reference to Uttarakhand Himalaya; Framework for Monitoring Sustainability of Tourism in Uttarakhand.

References:

BGOG0402-T Regional Planning and Development 5-1-0-6

UNIT 1

Regional concept in geography: Concept, Scope & purpose of regional planning, Types of regions: Formal and functional; uniform and nodal, single purpose and composite region.

UNIT 2

Regional Planning: Planning process - sectoral, temporal and spatial dimensions; short-term and long-term perspective planning, Indicators of development and their data sources, measuring levels for regional development and disparities, Planning for regional development and multiregional planning in national context

UNIT 3

Regional development strategies: Concentration vs. dispersal, Case studies for plans of developed and developing countries, Regional planning and development in India through Five year plans, problems and prospects, Regional disparities: causes and consequences.

UNIT 4

Concept of Multi-level planning: Decentralized planning; peoples participation in the planning process, Concept and approaches of urban development, Landscape ecology and sustainable urban development, Application of remote sensing and Geographic Information System in Development Planning.

UNIT 5

Theories and Models for Regional Planning: Growth Pole Model of Perroux; Myrdal, Hirschman, Rostow and Friedmann.

References:

1. Chitambar, J.B. (1993) Introductory Rural Sociology, Wiley Eastern, New Delhi.

2. Goomen, M.A. and Datta, A. (1995) Panchayats and their Finance, Rawat Pub. Co., New Delhi.

3. Matthews G. (editor) (1995) Status of Panchayati Raj: 1994, Institute of Social Sciences / Rawat Pub. Co., New Delhi.

4. Matthews A. (1994) Panchayati Raj: From Legislation to Movements, Rawat Pub. Co., New Delhi:

5. Misra, H.M. (ed) (1987) Contributions to Indian Geography, Volume 9: New Delhi.

6. De Blij, H.J. and Muller, P.O. (1997) Geography: R.R.C, 8th edition, J. W. & S. Ltd., NewYork.

7. Dickinson, J., Gould, B., Clarke, C., Mather, S., Prothero, M., Siddle, D., Smith, C. and Thomas-Hope, E. (1996) A Geography of the Third World, 2nd edition, Routledge, London

8. Bhat, L.S. (1972) Regional Planning in India, Indian Statistical Institute, Calcutta.

9. Bhat, L.S. (2003) Micro Planning: A Case Study of Karnal Area, KB Publications, New Delhi.

10. Chand, M. and Puri, V.K. (2004) Regional planning in India; Allied Publishers, New Delhi.

11. Chandana, R. C. (2005) Regional Development and Planning. Kalyani Publishers, New Delhi.

BGOG0502-T **Geography of India** **5-1-0-6**

UNIT 1

India- A subcontinent, Physical features, Geologic structure, Drainage system, Climate, Natural vegetation, Soils, Natural regions.

UNIT 2

Agriculture, Crops (Food, plantation and commercial), Agriculture production, Agriculture regions, Irrigation, Livestock raising and Fishery.

UNIT 3

Industries: Metallurgical, Textile, Engineering, Chemical, Food, Leather, Forest and Agro-industries, Industrial regions, Minerals and Power resources.

UNIT 4

Population (density, distribution and urbanization), Multipurpose projects. Regional development and planning, Regional disparities, Five-year plans, Integrated rural development programme, Panchayati raj, Command area and watershed management

UNIT 5

Transportation: Roads and railways, air transportation and pipeline transportation. Trade: Internal and External (Trend, composition and direction); SEZ (Special Economic Zones).

References:

1. Chauhan B.S. & Gautam Alka (2011) Bharat (Geography of India), Rastogi Publication, Meerut.

2. Chauhan B.S.& Gautam Alka (2013) Bharatvarsh kaVistrat Bhogool, Rastogi Publication, Meerut.

3. Hussain, Majid (2015) Geography of India, McGraw Hill Education, New Delhi.

4. Mamoria, C.B. (2007) Bharat Ka Bhoogol. Sahitya Bahwan, Agra.

5. Sharma,Y.K.(2009)Geography of India, Lakshmi Narayan, Agra.

6. Sharma, M.L.& Sharma H.S. (2011) Bharatka Bhogool, Rastogi Publication, Meerut.

7. Sharma, J.K.& Kalwar,S.C.(2011)Bharat ka Bhogool, Rastogi Publication, Meerut.

8. Singh R. L. (1993) Regional Geography of India, National Geographic Society of India, Varanasi.

BGOG0602-T **Economic Geography** **5-1-0-6**

UNIT 1

Meaning, aim and scope of economic geography, Resources: Meaning, classification, conservation and concepts, Economic landscapes.

UNIT 2

Primary production, Vegetation & forest economy, Soil resources, Mineral resources (Iron ore and bauxite), Power resources (Coal, Petroleum and Hydroelectricity), Resource conservation.

UNIT 3

Main crops in the world: Wheat, paddy, sugarcane, coffee and tea. industries: Iron & steel, textiles, petro-chemical and sugar.

UNIT 4

Theory of industrial location: Weber and Losch, Industrial regions of India and World.

UNIT 5

World transportation: trans-continental railways, sea and air routes, international trade, patterns and trends, trade blocks: NAFTA, EEC, ASEAN, G7 and G20, Globalization and developing countries.

References:

Suggested Reading:

1. Alexander, I W (1988) Economic Geography. Prentice Hall, New Delhi.

2. Boesch, H (1964) A Geography of World Economy. Von Nostrand, New York.

3. Gautam, A (2006) Arthik Bhugol ke Mool Tatve. Sharda Pustak Bhawan, Allahabad.

4. Hartshorne, TA & Alaxender IW (1988) Economic Geograohy. Englewood Cliff, New Jersey.

5. Singh, KN and Singh I (2003) Arthik Bhugol ke Mool Tatve.Gyanodaya Prakashan,Gorakhpur.

BGOG0702-T **Basics of Remote Sensing and GIS** **5-1-0-6**

UNIT 1

Remote Sensing: Components of Remote Sensing, Thermal and Radar Remote Sensing; Image Processing Techniques: Visual and Digital, Classification: Supervised and Unsupervised.

UNIT 2

GIS: Geographic Data Types; Spatial and Non-Spatial Data; Raster and Vector Data, Linkages and Matching, Principal Functions of GIS; Data Capture; Geographic Analysis; Scanning System; Data Conversion, Data Base Management System (DBMS), Data Base and Spatial Data Management; Geo- Relational Data Model; Topological Data Structure; Attribute Data Management; Relational Database-Concepts & Model, Digital Elevation Model (DEM): Process, Derivatives and applications.

UNIT 3

Geo-Referencing and Its Importance. Spatial Data Integration (Digitization) – Point, Line, Polygon. Map Design or Layout, Map Production. Import And Export of Map in Various Formats.

UNIT 4

Satellite Data and its type. Downloading Sources of Satellite Data (Google Earth, USGS, GLCF Etc.). Download Process Satellite Imagery. Remote Sensing data

download from open sources.

UNIT 5

GIS Software (Including Open-Source Softwares). Creation of Shape files in GIS Softwares. Geo-Referencing and Digitization in GIS Software. Attribute Data Entry, Manipulation of Fields and Attribute Data.

References:

1. Curran, P.J. (1985): Principles of Remote Sensing, Longman, London

2. Chaunial, D. D. (2004): Remote Sensing and Geographical Information System (in Hindi), Sharda Pustak Bhawan, Allahabad

3. Cracknell, A. and Ladson, H. (1990): Remote Sensing Year Book. Taylor and Francis, London.

4. Curran, P.J. (1985): Principles of Remote Sensing. Longman, London.

BGOG0802-T **Agricultural Geography** **5-1-0-6**

UNIT 1

Nature, scope, significance and development of Agriculture Geography, Approaches to the study of Agricultural Geography: Commodity, systematic,regional, behavioral and recent approaches etc., Origin and dispersal of agriculture.

UNIT 2

Determinants of agricultural land use: Physical, economic, social and technological factors, Land holding and land tenure systems in India, Land useand land capability.

UNIT 3

Agricultural efficiency Concepts, Techniques and Methods of measurements; Methods of delimiting crop combination region, cropping pattern, crop concentration, intensity of cropping, degree of commercialization, diversification and specialization.

UNIT 4

Theories of Agriculture Geography, Von Thunen's theory (model) of agricultural location and its recent modifications, Demarcation of Agricultural regions, Whittlesey's classification of agricultural regions

UNIT 5

Regional pattern of productivity in India, Green Revolution, White Revolution, Food deficit and food surplus regions; World pattern of Agriculture: Subsistence agriculture, Commercial farming, Plantation agriculture, Mixed agriculture, State, collective and cooperative farming.

References:

1. Bhalla, G.S. and Alagh, Y.K. (1979). Performance of Indian Agriculture: A District-wise Study, Sterling,

New Delhi.

2. Das,M.M. (1982) Peasant Agriculture in Assam, Inter India, New Delhi.

3. Gobind, N. (1986) Regional perspective in agriculture, concept, New Delhi.

4. Hussain, M. (1979) Agricultural Geography, Inter India, New Delhi.

5. Mergra, W.B. & Munton, R.J.C. (1971) Agricultural Geography, Methuen, London.

6. Mitchel, P. (1979) Agro-ecosystem, Inter India Publication, New Delhi.

7. Shafi, M. (1984) Agricultural productivity and regional imbalance, concept, New Delhi.

8. Singh J. and Dhillon, S.S. (1985) Agricultural Geography, Tata McGraw Hill, New Delhi.

9. Singh, J. (1974) Agricultural Atlas of India: A Geographical perspective, Vishal Publications,

Kurukshetra.

10. Kumar, Pramila, Krishi Bhoogol, Madhya Pradesh Hindi Granth Academi, Bhopal,MP.

DSE

DSE-I

BGOG0101D-T

Fundamentals of Natural Disasters

Syllabus: Fundamentals of Natural Disasters

Course Objectives:

To understand the basic concepts, causes, and effects of natural disasters.

To learn about disaster management, mitigation, and preparedness strategies.

To study case studies of major global and Indian disasters.

To understand the role of government and international agencies in disaster risk reduction.

UNIT – I: Introduction to Natural Disasters

Definition and classification of disasters (Natural and Man-made)

Characteristics and impacts of natural disasters

Global and regional disaster trends

Concept of hazard, risk, vulnerability, and capacity

Disaster management cycle (Prevention, Preparedness, Response, Recovery)

References:

Gupta, H.K. (2003). *Disaster Management*. University Press.

Carter, W. Nick. (1991). *Disaster Management: A Disaster Manager's Handbook.* Asian Development Bank.

UNIT – II: Geological and Geophysical Disasters

Earthquakes: causes, effects, measurement (Richter & Mercalli scales)

Volcanoes: types, distribution, and effects

Tsunamis: causes, early warning systems, mitigation

Landslides: causes, types, prevention and control measures

References:

Bolt, B.A. (1999). *Earthquakes*. W.H. Freeman & Company.

Bryant, E. (2005). *Natural Hazards*. Cambridge University Press.

UNIT – III: Hydrometeorological Disasters

Floods: causes, effects, control and mitigation

Droughts: types, causes, impacts, and management strategies

Cyclones, hurricanes, and typhoons: formation, impacts, forecasting, and early warning

Cloudbursts and hailstorms

References:

Kates, R.W. & Burton, I. (1986). *Geography of Natural Hazards*. University of Chicago Press.

Sah, N.M. (2013). *Disaster Management*. Rawat Publications.

UNIT – IV: Environmental and Biological Disasters

Topics:

Forest fires: causes, effects, control measures

Epidemics and pandemics (COVID-19, Ebola, Cholera)

Desertification and soil erosion

Climate change and its role in increasing disaster risks

References:

Smith, K. (2013). *Environmental Hazards: Assessing Risk and Reducing Disaster*. Routledge.

Alexander, D. (1993). *Natural Disasters*. Springer.

UNIT – V: Disaster Management and Mitigation

Disaster management in India: NDMA, SDMA, and NDRF

Community-based disaster risk management (CBDRM)

Role of NGOs, media, and international organizations (UNDRR, WHO, etc.)

Disaster preparedness, early warning systems, and resilience building

Case studies: Bhuj earthquake, Odisha super cyclone, Kerala floods, etc.

References:

Government of India (2019). *National Disaster Management Policy*. NDMA.

Shaw, R. & Krishnamurthy, R. (2009). *Disaster Management: Global Challenges and Local Solutions*. Universities Press.

B.A. Geography DSE Syllabus

BGOG0102D-T: Urban Geography and City System

Unit I: Foundations of Urban Geography

- Definition, scope and approaches of Urban Geography
- Urbanization: concepts, processes and trends
- Origins and evolution of cities
- Urban growth in developed and developing countries

Unit II: Urban Morphology and Structure

- Models of urban structure: Burgess, Hoyt, Harris & Ullman
- Land use models
- CBD and functional zones
- Urban sprawl and peri-urban growth

Unit III: City Systems and Hierarchy

- Concepts of city systems
- Rank–size rule and primate city
- Central Place Theory
- Urban hierarchy and networks

Unit IV: Urban Functions and Planning

- Functional classification of towns
- Urban services and infrastructure
- Smart cities and sustainable urban planning
- Urban governance

Unit V: Urban Problems and Policies

- Slums and informal settlements
- Housing and transport issues
- Pollution and urban environment
- Urban policy and reforms

References

- Knox, P. & McCarthy, L. — *Urbanization: An Introduction to Urban Geography*
- Pacione, M. — *Urban Geography*
- Hall, T. — *Urban Geography*
- Carter, H. — *The Study of Urban Geography*

DES-II

BGOG0103D-T

Introduction to Climatology

Syllabus: Introduction to Climatology

Course Objectives

To understand the structure and composition of the atmosphere.

To study various elements and controls of climate.

To learn about atmospheric circulation, weather systems, and global climatic patterns.

To examine climate classification, variability, and change.

To understand human impacts on the global climate system.

UNIT – I: Introduction to Climatology

Meaning, nature, and scope of climatology

Difference between weather and climate

Importance of climatology in geographical studies

Composition and structure of the atmosphere

Insolation: solar radiation, heat balance, and factors controlling temperature distribution

References:

Critchfield, H.J. (2002). *General Climatology*. Pearson Education.

Lal, D.S. (2012). *Climatology*. Sharda Pustak Bhawan, Allahabad.

UNIT – II: Atmospheric Pressure and Winds

Atmospheric pressure: vertical and horizontal distribution

Pressure belts of the world

Winds: planetary, periodic, and local winds (Trade winds, Monsoon, Land & Sea Breezes, Foehn, Loo, etc.)

Jet streams and general circulation of the atmosphere

References:

Barry, R.G. & Chorley, R.J. (2009). *Atmosphere, Weather and Climate*. Routledge.

Lutgens, F.K. & Tarbuck, E.J. (2016). *The Atmosphere: An Introduction to Meteorology*. Pearson.

UNIT – III: Humidity, Clouds, and Precipitation

Humidity: concepts of absolute, relative, and specific humidity

Condensation and forms of precipitation (rain, snow, hail, drizzle, sleet)

Types and classification of clouds

Hydrological cycle and distribution of rainfall on the globe

References:

Critchfield, H.J. (2002). *General Climatology*. Pearson Education.

Lal, D.S. (2012). *Climatology*. Sharda Pustak Bhawan.

UNIT – IV: Air Masses, Fronts, and Weather Systems

Air masses: classification, characteristics, and distribution

Fronts: types and associated weather

Cyclones and anticyclones – tropical and temperate systems

Monsoon systems of the world and the Indian monsoon

References:

Strahler, A.N. & Strahler, A.H. (1997). *Physical Geography: Science and Systems of the Human Environment*. John Wiley & Sons.

Trewartha, G.T. & Horn, L.H. (1980). *An Introduction to Climate*. McGraw-Hill.

UNIT – V: Climate Classification and Climate Change

Classification of climate: Köppen and Thornthwaite systems

Major world climatic regions

Global climate change: causes and consequences

Greenhouse effect, global warming, and ozone depletion

Human impacts on climate and international efforts (IPCC, UNFCCC)

References:

Oliver, J.E. & Hidore, J.J. (2003). *Climatology: An Atmospheric Science*. Pearson Education.

Barry, R.G. & Chorley, R.J. (2009). *Atmosphere, Weather and Climate*. Routledge.

Lal, D.S. (2012). *Climatology*. Sharda Pustak Bhawan.

BGOG0104-T DSE: Water Resource Management and Geography

Unit I: Hydrological Cycle and Water Resources

- Hydrological cycle
- Global water distribution
- Surface and groundwater resources
- Water balance

Unit II: River Basins and Watersheds

- Drainage basin concepts
- Watershed management
- River basin planning
- Flood and drought management

Unit III: Water Resource Assessment

- Methods of water resource assessment
- Remote sensing and GIS in water studies
- Groundwater mapping
- Water quality assessment

Unit IV: Water Management Strategies

- Irrigation systems
- Rainwater harvesting
- Watershed development programmes
- Integrated Water Resource Management (IWRM)

Unit V: Water Issues and Sustainability

- Water scarcity and conflicts

- Urban water supply
- Climate change and water
- Sustainable water governance

References

- Todd, D.K. — *Groundwater Hydrology*
- Mays, L. — *Water Resources Engineering*
- Singh, V.P. — *Water Resources Planning*
- Gleick, P. — *Water in Crisis*

BGOG0105D-T: Climate Change, Vulnerability and Adaptation

Unit I: Climate System and Change

- Climate system components
- Evidence of climate change
- Natural vs anthropogenic causes
- Greenhouse effect

Unit II: Impacts of Climate Change

- Impacts on agriculture, water, health
- Sea level rise
- Extreme events
- Regional impacts

Unit III: Vulnerability Concepts

- Exposure, sensitivity, adaptive capacity
- Social and environmental vulnerability
- Vulnerability assessment models

Unit IV: Adaptation Strategies

- Adaptation vs mitigation
- Community-based adaptation
- Sectoral adaptation planning
- Climate-resilient development

Unit V: Policy and Governance

- IPCC framework
- International agreements

- National Action Plans
- Climate justice

References

- IPCC Assessment Reports
- Adger, W.N. — *Adaptation to Climate Change*
- Smith, J. — *Climate Change and Vulnerability*
- Huggett, R. — *Global Environmental Change*

BGOG0106D-T: Geography of Health and Well Being

Unit I: Scope and Concepts

- Health geography: nature and scope
- Disease ecology
- Determinants of health
- Measures of health

Unit II: Spatial Patterns of Disease

- Communicable diseases
- Non-communicable diseases
- Epidemiological transition
- Mapping disease patterns

Unit III: Environment and Health

- Climate and health
- Pollution and disease
- Nutrition and health geography
- Urban health

Unit IV: Health Care Systems

- Health care accessibility
- Health infrastructure
- Rural vs urban health services
- Health indicators

Unit V: Health Planning and GIS

- GIS in health mapping

- Health risk assessment
- Public health planning
- Well-being indices

References

- Meade, M. & Emch, M. — *Medical Geography*
- Cliff, A. & Haggett, P. — *Atlas of Disease Distributions*
- Jones, K. — *Health and Medical Geography*
- Gatrell, A. — *Geographies of Health*

BGOG0107D-T: Advances in Geomorphology

Unit I: Modern Geomorphology

- Concepts and approaches
- Systems approach
- Process geomorphology
- Dynamic equilibrium

Unit II: Tectonic and Structural Geomorphology

- Plate tectonics and landforms
- Neotectonics
- Structural controls
- Mountain building

Unit III: Fluvial and Coastal Advances

- River processes modeling
- Channel morphology
- Coastal geomorphology
- Sea level change

Unit IV: Applied Geomorphology

- Geomorphology and hazards
- Landslides and earthquakes
- Environmental geomorphology
- Landform management

Unit V: Techniques and Tools

- Remote sensing in geomorphology

- GIS applications
- Digital elevation models
- Geomorphological mapping

References

- Ritter, D. — *Process Geomorphology*
- Huggett, R. — *Fundamentals of Geomorphology*
- Summerfield, M. — *Global Geomorphology*
- Thornbury, W. — *Principles of Geomorphology*

BGOG0108D-T: Political Geography and Geopolitics

Unit I: Political Geography Foundations

- Scope and evolution
- State, nation and territory
- Boundaries and frontiers
- Core-periphery concept

Unit II: Geopolitical Theories

- Mackinder, Spykman, Mahan
- Heartland and Rimland
- Critical geopolitics
- Modern geopolitical thought

Unit III: Electoral and Internal Politics

- Electoral geography
- Voting behavior
- Federalism and regionalism
- Identity and territory

Unit IV: Global Geopolitics

- Power blocs
- Resource geopolitics
- Maritime geopolitics
- Geopolitics of energy

Unit V: Contemporary Issues

- Borders and conflicts

- Geopolitics of South Asia
- Geopolitics and globalization
- Security and strategy

References

- Agnew, J. — *Geopolitics: Re-visioning World Politics*
- Taylor, P.J. — *Political Geography*
- Flint, C. — *Introduction to Geopolitics*
- Dikshit, R.D. — *Political Geography*

SKILL BASED

Skill Based

BGOG0101SB-T

Traditional Knowledge System in Resource Management

Syllabus: Traditional Knowledge System in Resource Management

Course Objectives

To understand the concept, nature, and significance of traditional (indigenous) knowledge systems.

To study the role of traditional knowledge in sustainable resource management.

To examine case studies of traditional practices in agriculture, water, forest, and biodiversity management.

To appreciate the integration of traditional and modern scientific approaches.

To understand policies, protection, and documentation of traditional knowledge.

UNIT – I: Introduction to Traditional Knowledge Systems

Definition, meaning, and characteristics of traditional/indigenous knowledge

Historical evolution of traditional knowledge systems in India and the world

Difference between traditional and modern scientific knowledge

Role of culture, belief, and community practices in resource management

Importance of indigenous knowledge in sustainable development

References:

Berkes, F. (2012). *Sacred Ecology*. Routledge.

Agrawal, A. (1995). "Dismantling the Divide between Indigenous and Scientific Knowledge." *Development and Change*, 26(3).

UNIT – II: Traditional Knowledge and Natural Resource Management

Indigenous practices in agriculture and soil conservation

Traditional water harvesting and irrigation systems (e.g., johads, tanks, stepwells, ahars, pynes)

Forest and wildlife management through community participation

Biodiversity conservation and sacred groves

Traditional knowledge in fisheries and grazing systems

References:

Gadgil, M. & Berkes, F. (1991). "Traditional Resource Management Systems." *Resource Management and Optimization*, 18(3–4).

Gadgil, M. & Guha, R. (1992). *This Fissured Land: An Ecological History of India*. Oxford University Press.

UNIT – III: Traditional Knowledge in Disaster and Climate Management

Indigenous weather forecasting and early warning systems

Traditional building design and materials for climate resilience

Community-based disaster risk reduction practices

Role of traditional knowledge in climate change adaptation

References:

Mercer, J., Kelman, I., Taranis, L., & Suchet-Pearson, S. (2010). "Framework for Integrating Indigenous and Scientific Knowledge for Disaster Risk Reduction." *Disasters*, 34(1).

Raza, M. & Ahmad, A. (2012). *Environment and Traditional Knowledge in India.* Concept Publishing Company.

UNIT – IV: Documentation, Protection, and Legal Aspects of Traditional Knowledge

Documentation and preservation of indigenous knowledge systems

Intellectual Property Rights (IPR) and Traditional Knowledge Digital Library (TKDL)

Role of UNESCO, WIPO, and national policies

Challenges of biopiracy and benefit-sharing

Ethical issues in using traditional knowledge

References:

Gupta, A.K. (2016). *Grassroots Innovation: Minds on the Margin are not Marginal Minds*. Penguin Books.

World Intellectual Property Organization (WIPO). *Traditional Knowledge and Intellectual Property: Policy Questions and Answers*.

UNIT – V: Integration of Traditional and Modern Knowledge

Combining traditional and scientific approaches in sustainable resource management

Participatory rural appraisal (PRA) and community-based resource management

Case studies:

Chipko Movement (forest management)

Pani Panchayat, Maharashtra (water management)

Zabo System, Nagaland (integrated farming)

Apatani Valley, Arunachal Pradesh (sustainable land use)

Role of NGOs, local institutions, and government programs (e.g., National Biodiversity Authority, NABARD)

References:

Pande, R. & Pathak, G. (2005). *Traditional Knowledge System for Sustainable Development*. Concept Publishing.

Sinha, R.K. (2008). *Traditional Knowledge for Sustainable Development in India*. NBT India.

Syllabus: Environmental Geography and Sustainable Development

Course Objectives

To understand the relationship between environment and human society.

To study the spatial aspects of environmental issues and their management.

To examine the concepts, principles, and indicators of sustainable development.

To explore environmental policies and global initiatives for sustainability.

To develop awareness of sustainable resource management practices.

UNIT – I: Introduction to Environmental Geography

Meaning, nature, scope, and significance of Environmental Geography

Man–Environment relationship: determinism, possibilism, and neo-determinism

Components of environment: physical, biological, and socio-cultural

Ecosystem: structure, function, energy flow, and biogeochemical cycles

Environmental degradation: causes and consequences

References:

Singh, Savindra. (2009). *Environmental Geography*. Prayag Pustak Bhawan, Allahabad.

Strahler, A.N. & Strahler, A.H. (1997). *Physical Geography: Science and Systems of the Human Environment*. John Wiley & Sons.

UNIT – II: Environmental Issues and Challenges

Major environmental problems: deforestation, desertification, soil erosion, and loss of biodiversity

Air, water, noise, and land pollution — causes, effects, and control

Global environmental issues: global warming, ozone depletion, acid rain, and climate change

Environmental hazards and disasters (natural and human-induced)

Case studies: Ganga pollution, Bhopal gas tragedy, Amazon deforestation

References:

Saxena, H.M. (2014). *Environmental Geography*. Rawat Publications.

Miller, G.T. & Spoolman, S.E. (2015). *Environmental Science: Systems and Solutions*. Cengage Learning.

UNIT – III: Concept and Principles of Sustainable Development

Meaning, concept, and origin of sustainable development

Historical evolution: Stockholm Conference (1972), Brundtland Report (1987), Earth Summit (1992)

Principles and pillars of sustainability: economic, social, and environmental

Indicators and measurement of sustainable development (HDI, ESI, SDGs)

Environmental ethics and sustainable lifestyles

References:

Adams, W.M. (2009). *Green Development: Environment and Sustainability in a Developing World*. Routledge.

Pearce, D., Barbier, E., & Markandya, A. (1990). *Sustainable Development: Economics and Environment in the Third World*. Earthscan.

UNIT – IV: Resource Management and Environmental Planning

Concept of natural resources and their classification

Sustainable management of land, water, forest, mineral, and energy resources

Integrated watershed management

Environmental impact assessment (EIA) and environmental management systems (EMS)

Remote sensing and GIS applications in environmental monitoring

References:

Gupta, K.R. & Gupta, A. (2008). *Natural Resources and Sustainable Development.* Atlantic Publishers.

Nath, V., & Sharma, P. (2010). *Environmental Education and Sustainable Development.* Anmol Publications.

UNIT – V: Policies, Programmes, and Global Initiatives

Environmental policies and acts in India (EPA 1986, Forest Act, Biodiversity Act, etc.)

National Environmental Policy (2006) and National Action Plan on Climate Change (NAPCC)

United Nations Sustainable Development Goals (SDGs – 2030 Agenda)

Role of NGOs, local communities, and international organizations (UNEP, IPCC, WWF)

Case studies of sustainable development projects (Chipko Movement, Ralegan Siddhi, Sikkim organic farming)

References:

Sharma, P.D. (2017). *Ecology and Environment.* Rastogi Publications.

UNDP (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development.* United Nations.

Gupta, K. & Pande, K. (2010). *Environmental Studies.* New Age International.

Skill Based

BGOG0103SB-T: Remote Sensing and GIS Applications in Geography

Unit I: Fundamentals of Remote Sensing

- Principles and components of remote sensing
- Electromagnetic spectrum and energy interactions
- Platforms and sensors (satellites, drones, aerial photography)
- Types of resolution (spatial, spectral, temporal, radiometric)

Unit II: Image Processing and Interpretation

- Visual image interpretation techniques
- Digital image processing basics
- Image classification methods
- Ground truthing and accuracy assessment

Unit III: Basics of GIS

- Concepts and components of GIS
- Spatial and attribute data
- Raster and vector data models
- Map projections and coordinate systems

Unit IV: GIS Operations and Mapping

- Data input and database creation
- Georeferencing and digitization
- Spatial analysis and overlay
- Thematic mapping and layout design

Unit V: Applications in Geography

- Applications in urban, agriculture and environment studies
- Disaster management mapping
- Land use/land cover mapping
- Introduction to open-source GIS software (QGIS) practicals

References

- Lillesand, T., Kiefer, R. & Chipman, J. — *Remote Sensing and Image Interpretation*
- Jensen, J.R. — *Introductory Digital Image Processing*
- Chang, K.T. — *Introduction to Geographic Information Systems*
- Burrough, P. & McDonnell, R. — *Principles of Geographical Information Systems*

BGOG0104SB-T: Field Survey Methods and Report Writing in Geography

Unit I: Field Work in Geography

- Importance and objectives of field work
- Types of field surveys (physical & human)
- Planning and designing field surveys
- Ethics and safety in field work

Unit II: Survey Techniques and Tools

- Sampling methods
- Questionnaire and schedule design
- Use of GPS and mobile survey apps
- Basic surveying instruments

Unit III: Data Collection Methods

- Physical geography field methods
- Socio-economic surveys
- Observation and measurement techniques
- Participatory rural appraisal (PRA) tools

Unit IV: Data Processing and Analysis

- Data tabulation and coding
- Basic statistical techniques
- Graphs, diagrams and mapping
- Use of spreadsheets and GIS in field data

Unit V: Report Writing and Presentation

- Structure of field report

- Writing methodology and findings
- Referencing and citation methods
- Preparation of maps, charts and photographs
- Presentation and viva skills

References

- Robinson, A. — *Elements of Cartography*
- Kothari, C.R. — *Research Methodology*
- Hay, I. — *Qualitative Research Methods in Human Geography*
- Clifford, N., French, S. & Valentine, G. — *Key Methods in Geography*

BGOG0105SB-T:: Geo-Spatial Technology in Geography / Summer Internship

Unit I: Introduction to Geospatial Technology

- Meaning and scope of geospatial technology
- Components: RS, GIS, GPS and GNSS
- Emerging trends in geospatial industry
- Career opportunities and skill requirements

Unit II: GPS and Mobile Mapping Skills

- Principles of GPS surveying
- Coordinate collection and waypoint mapping
- Mobile-based data collection tools
- Field-to-GIS data integration

Unit III: Spatial Data Handling

- Sources of spatial data
- Open data portals and satellite data download
- Data cleaning and management
- Metadata preparation

Unit IV: Applied Geospatial Skills

- Project-based mapping exercises
- Urban and environmental mapping
- Web mapping basics
- Dashboard and story map preparation

Unit V: Summer Internship / Project Work

- Internship in GIS/Planning/Survey organizations (4–6 weeks)
- Project proposal and objectives
- Field data collection and mapping output
- Project report submission and presentation
- Skill assessment and portfolio development

References

- Heywood, I., Cornelius, S. & Carver, S. — *An Introduction to Geographical Information Systems*
- Longley, P. et al. — *Geographic Information Systems and Science*
- Campbell, J. & Wynne, R. — *Introduction to Remote Sensing*
- Bolstad, P. — *GIS Fundamentals*
