

# Sem4 CC4 (G) Th

5.7 Ge-5-CC-4-MTH - Cartography - 60 Marks, 4 Credits

## Unit I: Scale and Projections

1. Maps: Classification and types. Scales: Types, significance, and applications [3]
2. Coordinate systems: Polar and rectangular. Bearing: Magnetic and true, whole-circle and reduced [3]
3. Map projections: Classification, properties and uses. Concept and significance of UTM projection [8]

## Unit II: Topographic and Thematic Maps

4. Survey of India topographical maps: Reference scheme of old and open series. Information on the margin of maps [4]
5. Representation of data by dots and proportional circles [4]
6. Representation of data by isopleth and choropleth [4]
7. Principal national agencies producing thematic maps in India: GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform [5]

## Unit III: Remote Sensing and Geographical Information System

8. Basics of Remote Sensing: Types of satellites, sensors, bands, and resolutions with special reference to the ISRO missions [10]
9. Principles of preparing standard FCCs and classified raster images [5]
10. Principles of Geographical Information System: Concepts of vector types, attribute tables, buffers, and overlay analysis [6]

## Unit IV: Surveying

11. Basic concepts of surveying and survey equipment: Prismatic compass [6]
12. Basic concepts of surveying and survey equipment: Dumpy level [6]

## References

### BOOKS:

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bhatta, B. 2011. Remote Sensing and GIS, 2nd ed, Oxford Univ. Press.
- Joseph, G. and Jegannathan, C. 2018. Fundamentals of Remote Sensing, 3rd ed, Universities Press.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. 2011. Map Use: Reading, Analysis, Interpretation, 7th ed, Esri Press.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

### 5.3 GEO-G-CC-2-02-TH – Environmental Geography ✦ 60 Marks / 4 Credits

## Sem 2 CC2(G) Th

#### Unit I: Climatology

1. Insolation and Heat Budget. Horizontal and vertical distribution of atmospheric temperature and pressure [5]
2. Overview of planetary wind systems. Indian Monsoons: Mechanisms and controls [6]
3. Atmospheric disturbances: Tropical and temperate cyclones. Thunderstorms [7]
4. Overview of global climatic change: Greenhouse effect. Ozone depletion [5]
5. Scheme of world climatic classification by Köppen [2]

#### Unit II: Soil Geography

6. Factors of soil formation [4]
7. Soil profile development under different climatic conditions: Laterite, Podsol, and Chernozem [6]
8. Physical and chemical properties of soils: Texture, structure, pH, salinity, and NPK status [6]
9. USDA classification of soils. Soil erosion and its management [4]

#### Unit III: Biogeography

10. Ecosystem and Biomes. Distribution and characteristics of tropical rainforest; Savannah, and hot desert biomes [6]
11. Plant types, occurrence and ecological adaptations: Halophytes, xerophytes, hydrophytes, and mesophytes [5]
12. Biodiversity: Types, threats and management with special reference to India [4]

#### References

##### Books:

- Ahrens, C.D. 2012. *Essentials of Meteorology: An Invitation to the Atmosphere*. 9th Ed, Cengage Learning.
- Barry, R.G, Chorley R.J. 2009. *Atmosphere Weather and Climate*, 9th Ed, Routledge.
- Chapman J.L., Reiz, M.J. 1993. *Ecology: Principle and Applications*, Cambridge University Press.
- Cox, B., Moore, P.D., Ladle, R. 2016. *Biogeography: An Ecological and Evolutionary Approach*, 9th ed, Wiley-Blackwell.
- Daji, J.A., Kadam, J.R., Patil, N.D. 1996. *A Textbook of Soil Science*, Media Promoters and Publishers Pvt Ltd.
- Dash, M.C., 2001. *Fundamental of Ecology*, 2nd edition, Tata McGraw-Hill, New Delhi
- Dey, N. K., Ghosh. P. 1993. *India: A Study in Soil Geography*, Sribhumi Publishing Company.
- Lal, D.S. 2012. *Climatology*. Sharda Pustak Bhawan.
- Lutgens, F.K., Tarbuck, E.J., Tasa, D.G. 2015. *The Atmosphere: An Introduction to Meteorology*, 13th Ed, Pearson

## 5.8 GEO-G-CC-4-04-P – Cartography Lab ✧ 30 Marks / 2 Credits

A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.

1. Graphical construction of scales: Plain and comparative [10]
2. Construction of projections: Simple Conic with one standard parallel, Cylindrical Equal Area,, and Polar Zenithal Stereographic [20]
3. Construction of thematic maps: Proportional squares, proportional circles, choropleths, and isopleths [20]
4. Preparation of annotated thematic overlays from satellite standard FCCs of 1:50k [10]
5. Viva-voce based on laboratory notebook (5 Marks)

References

# Sem 4 CC4(G) Prac

Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.

Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.

Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guphill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.

Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.

Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.

Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press



# Sem 4 CC10 (H) Th

HOURS COURSE: CORE SUBJECTS

## 2.19 GEO-A-CC-4-10-TH – Soil and Biogeography ✧ 60 Marks / 4 Credits

### Unit I: Soil Geography

1. Factors of soil formation. Man as an active agent of soil transformation [4] *Rh*
2. Soil profile. Origin and profile characteristics of lateritic, podzol and chernozem soils [6] *Ph*
3. ✓ Definition and significance of soil properties: Texture, structure and moisture [5] *PSH*
4. ✓ Definition and significance of soil properties: pH, organic matter and NPK [5] *RC*
5. Soil erosion and degradation: Factors, processes and mitigation measures [4] *SM*
6. ✓ Principles of soil classification: Genetic and USDA. Concept of land capability and its classification [6] *PSH*

### Unit II: Biogeography

7. ✓ Concepts of biosphere, ecosystem, biome, ecotone, community and ecology [5] *Rh*
8. ✓ Concepts of trophic structure, food chain and food web. Energy flow in ecosystems [5] *Rh*
9. Classification of world biomes (Whittaker). Geographical extent and characteristics of tropical rain forest, savanna, hot desert, taiga and coral reef biomes [8] *RC*
10. Bio-geochemical cycles with special reference to carbon dioxide and nitrogen [4] *SM*
11. Deforestation: Causes, consequences and management [4] *Rh*
12. ✓ Biodiversity: Definition, types, threats and conservation measures [4] *PSH*

### References

- Chapman J.L., Reiz, M.J. 1993. Ecology: Principle and Applications, Cambridge University Press.
- Chiras, D.D., Reganold, J.P. 2009. Natural Resource Conservation: Management for a Sustainable Future, 10th ed, Pearson.
- Cox, B., Moore, P.D., Ladle, R. 2016. Biogeography: An Ecological and Evolutionary Approach, 9th ed, Wiley-Blackwell.
- Daji, J.A., Kadam, J.R., Patil, N.D. 1996. A Textbook of Soil Science, Media Promoters and Publishers.
- Dash, M.C., 2001. Fundamental of Ecology, 2nd edition, Tata McGrawHill, New Delhi
- Dey, N. K., Ghosh. P. 1993. India: A Study in Soil Geography, Sribhumi Publishing Company.
- Franzmeier, D.P., McFee, W.W., Graveel, J.G., Kohnke, H. 2016. Soil Science Simplified, 5th ed, Waveland Press.
- Huggett, R. 1998. Fundamentals of Biogeography, Routledge, London:
- Lomolino, M.V., Riddle, B.R., Whittaker, R.J. 2016. Biogeography, 5th ed, Oxford University Press.
- MacDonald, G. 2001. Biogeography: Introduction to Space, Time, and Life, Wiley
- Morgan, R.P.C. 1995. Soil Erosion and Conservation, 2nd edition, Longman.
- Santra. A. 2006. Handbook on Wild and Zoo Animals, International Book Distributing Co.

# Sem 4 CC10 (H) Prac

## 2.20 GEO-A-CC-4-10-P – Soil and Biogeography Lab ✧ 30 Marks / 2 Credits

- ✓ 1. Determination of soil reaction (pH) and salinity using field kit [15] PH
- ✓ 2. Determination of soil type by ternary diagram textural plotting [15] PSH
3. Plant species diversity determination by matrix method [10] PH
- ✓ 4. Time series analysis of biogeography data [20] RLH
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- USDA: United States Department of Agriculture. 2014. Soil Survey and Laboratory Methods Manual, Soil Survey Investigations Report No. 51.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Xiao, M. 2009. Soil Testing Laboratory Manual, Bent Tree Press.

# Sem 4 CC8 (H) Prac

2.16 GEO-A-CC-4-08-P – Economic Geography Lab ✧ 30 Marks / 2 Credits

1. Choropleth mapping of state-wise variation in GDP [10] *PSH*
2. State-wise variation in occupational structure by proportional divided circles [15] *PSH*
3. Time series analysis of industrial production (India and West Bengal) [20] *Rh*
4. Transport network analysis by detour index and shortest path analysis [15] *DB*
5. Viva-voce based on laboratory notebook (5 Marks)

## References

### BOOKS:

- Khullar, D.R. 2011. India: A Comprehensive Geography, Kalyani Publishers
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata
- Sharma, T.C. 2012. Economic Geography of India, Rawat Publications.
- Saxena, H.M. 2005. Transport Geography, Rawat Publications.

### WEBSITES:

- Open Government of India Data Platform: [data.gov.in](http://data.gov.in)
- Planning Commission (West Bengal Development Report 2010):  
[planningcommission.nic.in/plans/stateplan/sdr/sdr\\_wb1909.pdf](http://planningcommission.nic.in/plans/stateplan/sdr/sdr_wb1909.pdf)
- Trending Economics (India's industrial production):  
[tradingeconomics.com/india/industrial-production](http://tradingeconomics.com/india/industrial-production)
- Wikipedia (Hierarchy of states):  
[en.wikipedia.org/wiki/List\\_of\\_Indian\\_states\\_and\\_union\\_territories\\_by\\_GDP\\_per\\_capita](http://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP_per_capita)



- Aoyama, Y., Murphy, J.T., Hanson, S. 2010. Key Concepts in Economic Geography, Sage.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Wheeler, J.O., Muller, P.O., Thrall, G.J., Fik, T.J. 1998. Economic Geography, 3rd ed, Wiley.
- Willington D. E., 2008: Economic Geography, Husband Press.
- Wood, A., Roberts, A. 2010. Economic Geography: Places, Networks and Flows, Routledge.

## Sem 4 CC9 (H) prac

### 2.18 GEO-A-CC-4-09-P – Regional Planning and Development Lab ✧ 30 Marks / 2 Credits

1. Delineation of formal regions by weighted index method [15] DB
2. Delineation of functional regions by breaking point analysis [15] DB
3. Measurement of inequality by location quotient [15] P.G
4. Measuring regional disparity by Sopher index [15] DB
5. Viva-voce based on laboratory notebook (5 Marks)

#### References

- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Knowles, R, Wareing, J. 1990. Economic and Social Geography, Made Simple Books, Rupa.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.

# Sem 4 CC9 (H) Th

2.17 GEO-A-CC-4-09-TH – Regional Planning and Development ✧ 60 Marks / 4 Credits

## Unit I: Regional Planning

1. Concept of regions: Types of regions and their delineation [4] DB
2. Regional Planning: Types, principles, objectives, tools and techniques [6] DB
3. Regional planning and multi-level planning in India [6] DB
4. Metropolitan concept and urban agglomerations [4] DB

## Unit I: Regional Development

5. Concepts of growth and development, growth versus development [6] RC
6. Indicators of development: Economic, social and environmental [6] RC
7. Human development: Concept and measurement [4] SM
8. Theories and models for regional development: Cumulative causation (Myrdal) [4] SM
9. Theories and models for regional development: Stages of development (Rostow), growth pole model (Perroux) [6] DB
10. Concept and causes of underdevelopment [4] RH
11. Regional development in India: Disparity and diversity [5] RH
12. Need and measures for balanced development in India [5] RH

## References

- Bhargava, G. 2001. Development of India's Urban, Rural, and Regional Planning in 21st Century: Policy Perspective, Gyan Publishing House.
- Chand, M., Puri, V.K. 2000. Regional Planning In India, Allied Publishers Ltd.
- Chandana, R.C. 2016. Regional Planning and Development, 6th ed, Kalyani Publishers.
- Glasson, J. 2017. Contemporary Issues in Regional Planning, Routledge.
- Gore, C. 2011. Regions in Question: Space, Development Theory, and Regional Policy, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Hall, P., Tewdwr-Jones, M. 2010. Urban and Regional Planning, Routledge.
- Higgins, B., Savoie, D.J. 2017. Regional Development: Theories and Their Application, Routledge.
- Kulshetra, S.K. 2012. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.
- Kulshetra, S.K. 2012. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.
- Kumar, A., Meshram, D.S., Gowda, K. (Eds) 2016. Urban and Regional Planning in India: A Handbook for Professional Practitioners, Sage Publication.



# Sem 2 CC4(H) Prac

2.8 GEO-A-CC-2-04-P – Thematic Mapping and Surveying Lab ✧ 30 Marks / 2 Cre

1. Traverse survey using prismatic compass [10] SM
2. Profile survey using dumpy Level [12] RC
3. Height determination of base accessible and inaccessible (same vertical plane method) objects by theodolite [18] Ph
4. Interpretation of geological maps with uniclinal structure, folds, unconformity, and intrusions [20] Ph (R-G)
5. Viva-voce based on laboratory notebook (5 Marks)

## References

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bolton. T. 2009 (reprint). Geological Maps: Their Solution and Interpretation, Cambridge University Press.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press

# Sem 4 CC8(H) Th

2.15 GEO-A-CC-4-08-TH – Economic Geography ✧ 60 Marks / 4 Credits

## Unit I: Concepts

- ✓ 1. Meaning and approaches to economic geography [4] Psh
- ✓ 2. Concepts in economic geography: Goods and services, production, exchange and consumption [6] Psh
3. Concept of economic man, theories of choices [6] Psh
4. Economic distance and transport costs [4] Psh

## Unit II: Economic Activities

5. Concept and classification of economic activities [4] Rh
- ✓ 6. Factors affecting location of economic activity with special reference to agriculture (von Thünen), and industry (Weber) [6] Rh
7. Primary activities: Agriculture, forestry, fishing and mining [6] Rh
8. Secondary activities: Classification of manufacturing, concept of manufacturing regions, special economic zones and technology parks [6] Rh
9. Tertiary activities: Transport, trade and services [6] Psh
10. Transnational sea-routes, railways and highways with reference to India [4] Psh
11. International trade and economic blocs [4] Rh
12. WTO and BRICS: Evolution, structure and functions [4] Rh

## References

### BOOKS:

- Aoyama, Y., Murphy, J.T., Hanson, S. 2010. Key Concepts in Economic Geography, Sage.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Wheeler, J.O., Muller, P.O., Thrall, G.I., Fik, T.J. 1998. Economic Geography, 3rd ed, Wiley.
- Willington D. E., 2008: Economic Geography, Husband Press.
- Wood, A., Roberts, A. 2010. Economic Geography: Places, Networks and Flows, Routledge.

### WEBSITES:

- BRICS: [www.brics2017.org/English](http://www.brics2017.org/English) & [www.brics2016.gov.in](http://www.brics2016.gov.in)
- World Trade Organisation: [www.wto.org](http://www.wto.org)

HONOURS COURSE: CORE SUBJECT

# Sem-2 CC3 (H) Prac

## 2.6 GEO-A-CC-2-03-P – Human Geography Lab ✧ 30 Marks / 2 Credits

1. Spatial variation in continent- or country-level religious composition by divided proportional circles [12] Psh
2. Measuring arithmetic growth rate of population comparing two decadal datasets [15] Psh
3. Types of Age-Sex pyramids (progressive, regressive, intermediate and stationary): Graphical representation and analysis [20] Psh
4. Nearest neighbour analysis from Survey of India 1:50k topographical maps (5' x 5') [13] Rh
5. Viva-voce based on laboratory notebook (5 Marks)

### References

- Hassan, M.I. 2005. Population Geography, Rawat publications.
- Knowles, R and Wareing, J. 1990. Economic and Social Geography, Made Simple Books.
- Mahmood, A. 1998. Statistical Methods in Geographical Studies, Rajesh Publication.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.



# Sem 2 CC4 (H) Th

HONOURS COURSE CORE SUBJECTS

## 2.7 GEO-A-CC-2-04-TH – Thematic Mapping and Surveying ✦ 60 Marks / 4 Credits

1. Concepts of rounding, scientific notation. Logarithm and anti-logarithm. Natural and log scales [4] *Ph*
2. Concept of diagrammatic representation of data [2] *DB*
3. Preparation and interpretation of geological maps [5] *Ph*
4. Preparation and interpretation of weather maps [5] *Ph*
5. Preparation and interpretation land use land cover maps [5] *DB*
6. Preparation and interpretation of socio-economic maps [5] *DB*
7. Principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, NRSC / Bhuvan, etc. [5] *DB*
8. Basic concepts of surveying and survey equipment: Prismatic compass [5] *SM*
9. Basic concepts of surveying and survey equipment: Dumpy level [7] *RC*
10. Basic concepts of surveying and survey equipment: Theodolite [7] *Ph*
11. Basic concepts of surveying and survey equipment: Abney level [5] *Ph*
12. Basic concepts of surveying and survey equipment: Laser distance measurer [5] *Ph*

### References

#### Books:

- Basak, N.N. 2017. Surveying and Levelling, 2nd ed, McGraw Hill Education.
- Bolton. T. 2009 (reprint). Geological Maps: Their Solution and Interpretation, Cambridge Univ. Press.
- Kanetkar, T.P., Kulkatni, S.V. 1988. Surveying and Levelling, Part I, Pune Vidyarthi Griha Prakashan.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, Wiley.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- Subramanian, R. 2012. Surveying and Levelling, 2nd ed, Oxford University Press

#### WEBSITES:

- Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)
- Indian Naval Hydrographic Department: [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)
- National Bureau of Soil Survey and Land Use planning: [www.nbsslup.in](http://www.nbsslup.in)
- Survey of India: [www.surveyofindia.gov.in](http://www.surveyofindia.gov.in)
- ISRO Bhuvan 2D Platform: [bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php](http://bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php)
- National Remote Sensing Centre: [www.nrsc.gov.in](http://www.nrsc.gov.in)

## Sem 2-CC3 (H) Th

## 2.5 GEO-A-CC-2-03-TH – Human Geography ♦ 60 Marks / 4 Credits

## Unit I: Nature and Principles

- ✓ 1. Nature, scope and recent trends. Elements of human geography [4] PSh
- ✓ 2. Approaches to Human Geography: Resource, locational, landscape, environment [6] PSh
- ✓ 3. Concept and classification of race. Ethnicity [5] PSh
4. Space, society and cultural regions (language and religion) [5] PSh

## Unit II: Society, Demography and Ekistics

- ✓ 5. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming and industrial society [6] RC
- ✓ 6. Human adaptation to environment: Case studies of Eskimo, Masai and Maori [4] RC
- ✓ 7. Population growth and distribution, composition; demographic transition [5] RC
8. Population-resource regions (Ackerman) [5] RC
9. Development-environment conflict [5] RC
- ✓ 10. Types and patterns of rural settlements [5] RC
- ✓ 11. Rural house types in India [5] RC
12. Morphology and hierarchy of urban settlements [5] RC

## References

- Chandna, R.C. 2016. Geography of Population: Concepts, Determinants and Patterns, Kalyani Publishers.
- Fouberg, E.H., Murphy, A.B., de Blij H.J. 2015. Human Geography: People, Place, and Culture, 11th ed, Wiley.
- Ghosh, S. 1998. Introduction to Settlement Geography, Sangam Books Ltd.
- Gould, W.T.S. 2015. Population and Development, Routledge.
- Gregory, D., Johnston, R., Pratt, G., Watts., Whatmore, S. (Eds) 2009. The Dictionary of Human Geography, 5th ed, Wiley.
- Knox, P.L., Marston, S.A. 2014. Human Geography: Places and Regions in Global Context, 6th ed, Pearson Education Limited.
- Knox, P.L., McCarthy, L.M. 2011. Urbanization: An Introduction to Urban Geography, 3rd ed, Pearson Education Ltd.
- Mandal, R.B. 2001. Introduction to Rural Settlement, 2nd ed, Concept Publishing Company.
- Moseley, W.G., Perramond, E., Hapke, H.M., Laris, P. 2013. An Introduction to Human-Environment Geography: Local Dynamics and Global Processes, Wiley-Blackwell.
- Norton, W. 2014. Human Geography, 8th ed, Oxford University Press.
- Pickering K. and Owen A. A. (1997): An Introduction to Global Environmental Issues, 2nd edition, Routledge, London.
- Rubenstein, J.M. 2016. The Cultural Landscape: An Introduction to Human Geography, 12th ed, Pearson Education Limited.

#### 5.4 GEO-G-CC-2-02-P – Environmental Geography Lab ✧ 30 Marks / 2 Credits

*A laboratory notebook, comprising class assignments of the following, is to be prepared and submitted. The exercises are to be drawn in pencil with photocopied representation of source materials where necessary. All texts are to be handwritten.*

1. Interpretation of daily weather map of India (any one): Pre-Monsoon or Monsoon or Post-Monsoon [20]
2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) [20]
3. Determination of soil type by ternary diagram textural plotting [10]
4. Preparation of peoples' biodiversity register [10]
5. Viva-voce based on laboratory notebook (5 Marks)

#### References Sem2 CC2(G) Prac

- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3rd ed (2017 reprint), Alphaneumera-Kolkata.
- Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan.
- Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
- USDA: United States Department of Agriculture. 2014. Soil Survey and Laboratory Methods Manual, Soil Survey Investigations Report No. 51.