

Punyashlok Ahilyadevi Holkar Solapur University, Solapur



NAAC Accredited-2022
'B+' Grade (CGPA 2.96)

Name of the Faculty: Science & Technology

CHOICE BASED CREDIT SYSTEM

Syllabus: Geography

Name of the Course: B.Sc. II (Sem.– III & IV)

(Syllabus to be implemented from June 2023)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Choice Based Credit System(CBCS)

Subject – Geography (Optional)

Course Structure

Nameofthe Paper	Category	PaperNo	Per Week			Total Marks	UA	CA	Credit
			L	T	P				
B. Sc. II Semester-III									
Climatology	C 5	V	3	-	-	50	40	10	4
Geography of India		VI	3	-	-	50	40	10	
B. Sc. II Semester-IV									
Economic Geography	C 8	VII	3	-	-	50	40	10	4
Environmental Geography		VIII	3	-	-	50	40	10	
Statistical Methods in Geography	C 5	Practical III	-	-	4	50	40	10	4
Field Work and Research Methodology	C 8	Practical IV	-	-	4	50	40	10	

* Practical examination will be held at the end of the year.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. Sc. II Semester III

Subject–Geography

Paper No- V (Geography C 5)

Title of the Paper-Climatology

Total Lectures: 45

Objectives:

- To make the students familiar with new terms and concept of climatology.
- To know the constituents of atmosphere and its dynamic nature
- To know the contribution of atmosphere in the making of earth habitable.

Unit I: Atmospheric Composition and Structure 10

- 1.1 Climatology – Meaning and Definition
- 1.2 Elements of Weather and climate
- 1.3 Atmospheric Composition
- 1.4 Atmospheric Structure

Unit II: Insolation and Temperature 10

- 2.1 Factors affecting on Insolation
- 2.2 Distribution of Insolation
- 2.3 Heat Budget
- 2.4 Temperature- Factors, Distribution and Inversion

Unit III: Atmospheric Pressure and Winds 10

- 3.1 Atmospheric Pressure Belt
- 3.2 Planetary Winds
- 3.3 Forces affecting on Winds
- 3.4 Jet Stream

Unit IV: Atmospheric Moisture and Monsoon 15

- 4.1 Concept of Evaporation and Condensation
- 4.2 Humidity and Precipitation
- 4.3 Climatic Classification of Koppen
- 4.4 Monsoon –Origin and Mechanism

References:

1. Barry R.G. and Carleton A.M., 2001: *Synoptic and Dynamic Climatology*, Routledge, UK.
2. Barry .G. and Corley R.J., 1998: *Atmosphere, Weather and Climate*, Routledge, New York.
3. Critchfield H.J., 1987: *General Climatology*, Prentice-Hall of India, New Delhi
4. Lutgens F.K., Tarbuck E.J. and Tasa D., 2009: *The Atmosphere: An Introduction to Meteorology*, Prentice-Hall, Englewood Cliffs, New Jersey.
5. Oliver J.E. and Hidore J.J., 2002: *Climatology: An Atmospheric Science*, Pearson Education, New Delhi.
6. Trewartha G. T. and Horne L.H., 1980: *An Introduction to Climate*, McGraw-Hill.
7. Gupta L.S. (2000): *Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya*, Delhi Vishwa Vidhyalaya, Delhi
8. Lal, D.S. (2006): *Jalvayu Vigyan*, Prayag Pustak Bhavan, Allahabad
9. Vatal, M. (1986): *Bhautik Bhugol*, Central Book Depot, Allahabad
10. Singh, S. (2009): *Jalvayu Vigyan*, Prayag Pustak Bhawan, Allahabad
11. Singh, S.: *Climatology*, Prayag Pustak Bhawan, Allahabad

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. Sc. II Semester III

Subject–Geography

Paper No- VI (Geography C 5)

Title of the Paper- Geography of India

Total Lectures: 45

Objectives:

- To synthesize students with various geographical facts of India viz. Physiography, Climate, Soil, Vegetation and Resources
- To synthesize students with various facts of India viz. Agriculture, Industries, Population, Social and Regionalization of India

Unit I: Physical Set-up 15

- 1.1 Location and Physiographic division of India
- 1.2 General climatic regions
- 1.3 Types of Soil
- 1.4 Types of Natural Vegetation

Unit II: Population 10

- 2.1 Growth of Population
- 2.2 Factors affecting on the distribution of Population
- 2.3 Distribution of Population
- 2.4 Structure of Population - Age and Sex composition

Unit III : Resources and Economic Activities 10

- 3.1 Mineral Resource :Distribution and production of Iron ore
- 3.2 Power resources :Distribution and production of Coal and Petroleum
- 3.3 Agriculture production and distribution –Rice and Sugaercane
- 3.4 Industrial development –Information Technology

Unit IV: Social Structure and Regionalization of India 10

- 4.1 Distribution of Population by-Religion, Language and Tribes
- 4.2 Regionalization of India- Physiographic (R. L. Singh) and Economic (Sengupta)

References:

1. Deshpande C.D., 1992: *India: A Regional Interpretation*, ICSSR, New Delhi.
2. Johnson, B.L.C., ed. 2001. *Geographical Dictionary of India*. Vision Books, New Delhi.

3. Mandal R.B. (ed.), 1990: *Patterns of Regional Geography – An International Perspective. Vol. 3 – Indian Perspective.*
4. Sdya Suk Galina and P Sengupta (1967): *Economic Regionalisation of India*, Census of India
5. Sharma, T.C. 2003: *India – Economic and Commercial Geography*. Vikas Publ., New Delhi.
6. Singh R.L., 1971: *India: A Regional Geography*, National Geographical Society of India.
7. Singh, Jagdish 2003: *India – A Comprehensive & Systematic Geography*, Gyanodaya Prakashan, Gorakhpur.
8. Spate O.H.K. and Learmonth A.T.A., 1967: *India and Pakistan: A General and Regional Geography*, Methuen.
9. Tirtha, Ranjit 2002: *Geography of India*, Rawat Pubs., Jaipur & New Delhi.
10. Pathak, C.R. 2003: *Spatial Structure and Processes of Development in India*. Regional Science Assoc., Kolkata.
11. Tiwari, R.C. (2007) *Geography of India*. Prayag Pustak Bhawan, Allahabad
12. Sharma, T.C. (2013) *Economic Geography of India*. Rawat Publication, Jaipur

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. Sc. II Semester IV

Subject–Geography

Paper No- VII (Geography C 8)

Title of the Paper-Economic Geography

Total Lectures:45

Objectives:

- To acquaint the students with economic activities i.e. Agriculture, Manufacturing, Transport, Trade and Services.
- To acquaint the students with the economic activity models.

Unit I: Introduction of Economic Geography 15

- 1.1 Meaning and Definition of Economic Geography
- 1.2 Nature and Scope of Economic Geography
- 1.3 Branches of Economic Geography
- 1.4 Importance of Economic Geography

Unit II: Primary Activities 10

- 2.1 Subsistence and Commercial Agriculture
- 2.2 Agriculture Landuse Model - Von Thunen
- 2.3 Forestry
- 2.4 Fishing and Mining

Unit III: Secondary Activities 10

- 3.1 Industrial Location Theory - Alfred Weber
- 3.2 Manufacturing – Cotton Textile and Iron and Steel
- 3.3 Concept of Manufacturing Regions
- 3.4 Special Economic Zones and Technology Parks

Unit IV: Tertiary Activities 10

- 4.1 Mode of Transportation
- 4.2 Trade and its organization - WTO and OPEC
- 4.3 Services

Reference:

1. Alexander J.W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Coe N.M., Kelly P.F. and Yeung H.W., 2007: *Economic Geography: A Contemporary Introduction*

oduction, Wiley-Blackwell.

3. HodderB.W. and LeeRoger,1974: *Economic Geography*,TaylorandFrancis.
4. CombesP.,MayerT.andThisseJ.F.,2008:*EconomicGeography:TheIntegrationof Regions and Nations*, PrincetonUniversityPress.
5. WheelerJ.O.,1998:*EconomicGeography*,Wiley..
6. Durand L.,1961:*EconomicGeography*,Crowell.
7. Bagchi-SenS.andSmithH.L.,2006:*EconomicGeography:Past,PresentandFuture*,Taylor andFrancis.
8. WillingtonD.E.,2008:*EconomicGeography*,HusbandPress.
9. Clark,Gordon L.;Feldman,M.P.andGertler,M.S.,eds.2000:*TheOx*

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. Sc. II Semester IV

Subject–Geography

Paper No-VIII (Geography C 8)

Title of the Paper-Environmental Geography

Total Lectures:45

Objectives:

- To acquaint students with concept of environmental geography.
- To study the relation between human and environment.
- To introduce the students with environmental problems, programmes and policies.

Unit I: Introduction of Environmental Geography 10

- 1.1 Meaning and Definition of Environmental Geography
- 1.2 Nature and Scope of Environmental Geography
- 1.3 Importance of Environmental Geography

Unit II: Man and Environment Relationships 10

- 2.1 Approaches to the study of Man and Environment Relationships
- 2.2 Meaning and Concept of Biomes
- 2.3 Major Biomes in world

Unit III: Ecosystem 10

- 3.1 Concept and Structure of Ecosystem
- 3.2 Functions of Ecosystem
- 3.3 Types of Ecosystems

Unit IV: Environmental Problems and Laws 15

- 4.1 Environmental Problems – Pollution, Climate Change, Global Warming and Acid rain
- 4.2 Environmental Programmes and Policies –Global, National and Local levels
- 4.3 Environmental Laws – Environmental Protection Act (1986) and Wildlife Act (2006)

References:

1. Chandna R.C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
2. Cunningham W. P. and Cunningham M. A., 2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: *The Nature of the Environment*, Blackwell, Oxford.

4. Singh, R.B. (Eds.) (2009) *Biogeography and Biodiversity*. Rawat Publication, Jaipur
5. Miller G.T., 2004: *Environmental Science: Working with the Earth*, Thomson Brooks Cole, Singapore.
6. MoEF, 2006: *National Environmental Policy-2006*, Ministry of Environment and Forests, Government of India.
7. Singh, R.B. and Hietala, R. (Eds.) (2014) *Livelihood security in Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India*. *Advances in Geographical and Environmental Studies*, Springer
8. Odum, E.P. et al., 2005: *Fundamentals of Ecology*, Cengage Learning India.
9. Singh S., 1997: *Environmental Geography*, Prayag Pustak Bhawan, Allahabad.
10. UNEP, 2007: *Global Environment Outlook: GEO4: Environment For Development*, United Nations Environment Programme.
11. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) *Climate change and biodiversity: Proceedings of IGURohtak Conference, Volume 1*. *Advances in Geographical and Environmental Studies*, Springer
12. Singh, R.B. (1998) *Ecological Techniques and Approaches to Vulnerable Environment*, New Delhi, Oxford & IBH Pub..
13. Singh, Savindra 2001. *Paryavaran Bhugol*, Prayag Pustak Bhawan, Allahabad. (in Hind)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Subject–Geography

Practical Paper No-III (GeographyC5)

Title of the Paper-Statistical Methods in Geography

B

Total Lectures: 60

.

S

- To introduce the students about statistical data and tabulations.
- Acquaint the student with statistical techniques.

Unit I : Statistical Data **10**

- 1.1 Significance of Statistical Methods in Geography
- 1.2 Sources of Data
- 1.3 Scales of Measurement -Nominal, Ordinal, Interval and Ratio

Unit II: Tabulation and Descriptive Statistics **20**

- 2.1 Measures of Central Tendency- Mean, Median and Mode
- 2.2 Measures of Dispersion –Mean Deviation, Standard Deviation and Quartile Deviation

Unit III: Sampling **20**

- 3.1 Types of sampling
- 3.2 Theoretical Distribution- Probability and Normal Distribution

Unit IV: Association and Correlation **10**

- 4.1 Rank Correlation - Spearman's
- 4.2 Product Moment Correlation – Carl Pearson's
- 4.3 Simple Regression

Class Record: Each student will submit a record containing five exercises:

1. Construct a data matrix of about (10 x 10) with each row representing an aerial unit (districts or villages or towns)and about10 columns of relevant

Attributes of the areal units.

2. Based on the above table, a frequency table, measures of central tendency and dispersion would be computed and interpreted for any two attributes.
3. Histograms and frequency curve would be prepared **on the entire data set** and attempt to fit a normal curve and interpreted for one or two variables.
4. From the data matrix a sample set (20 Percent) would be drawn using, random - systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used.
5. Based on of the sample set and using two relevant attributes, a scatter and regression line would be plotted and residual from regression would be mapped with a short interpretation.

References:

1. Berry B.J.L. and Marble D.F. (eds.): *Spatial Analysis – A Reader in Geography*.
2. Ebdon D., 1977: *Statistics in Geography: A Practical Approach*.
3. Hammond P. and McCullagh P. S., 1978: *Quantitative Techniques in Geography: An Introduction*, Oxford University Press.
4. King L.S., 1969: *Statistical Analysis in Geography*, Prentice-Hall.
5. Mahmood A., 1977: *Statistical Methods in Geographical Studies*, Concept.
6. Pal S.K., 1998: *Statistics for Geoscientists*, Tata McGraw Hill, New Delhi.
7. Sarkar, A. (2013) *Quantitative geography: techniques and presentations*. Orient Black Swan Private Ltd., New Delhi
8. Silk J., 1979: *Statistical Concepts in Geography*, Allen and Unwin, London.
9. Spiegel M.R.: *Statistics, Schaum's Outline Series*.
10. Yeates M., 1974: *An Introduction to Quantitative Analysis in Human Geography*, McGraw Hill, New York.
11. Shinha, Indira (2007) *Sankhyiki bhugol*. Discovery Publishing House, New Delhi

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

B. Sc. II

Subject–Geography

Practical Paper No-IV (Geography C8)

Title of the Paper- Field Work and Research Methodology

Total Lectures:60

Objectives:

- To introduce the students about field techniques and tools.
- To introduce the students to design the field report
- Acquaint the student with writing of project report.

Unit I: Field Work and Identifying the Case Study 10

1.1 Field Work – Role, Value, Ethics and Importance

1.2 Identifying the Case Study - Rural/Urban/Physical/Human/Environmental

Unit II: Methods of Data Collection 10

2.1 Collection of Primary Data- Observation, Questionnaires, Interview and Schedules

2.2 Collection of Secondary Data

Unit III: Field Survey 20

Collection of Material / data for Physical and Socio-Economic Surveys

Unit IV: Designing the Field Report 20

4.1 Aims and Objectives

4.2 Methodology

4.3 Analysis

4.5 Interpretation / Result

4.6 Conclusion

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The duration of the fieldwork should not exceed 10 days.
3. The word count of the report should be about **8000 to 12,000** excluding figures, tables, photographs, maps, references and appendices.
4. One copy of the report on A4 size paper should be submitted in hard copy at the time of university examination.

References:

1. Creswell J., 1994: *Research Design: Qualitative and Quantitative Approaches* Sage Publications.
2. Dikshit, R.D. 2003. *The Art and Science of Geography: Integrated Readings*. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in *Qualitative Methods in Human Geography*, eds. J. Eyles and D. Smith, Polity.
4. Mukherjee, Neela 1993. *Participatory Rural Appraisal: Methodology and Application*. Concept Pubs. Co., New Delhi.
5. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Pubs. Co., New Delhi
6. Robinson A., 1998: "Thinking Straight and Writing That Way", in *Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences*, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).
8. Stoddard R.H., 1982: *Field Technique and Research Methods in Geography*, Kendall/Hunt
10. Wolcott, H. 1995. *The Art of Fieldwork*. Alta Mira Press, Walnut Creek, CA.