



Shri Sangameshwar Education Society's
Sangameshwar College, Solapur [Autonomous]
 (Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur)
 Kannada Linguistic Minority Institute
NAAC Accredited with 'A' Grade (III Cycle CGPA 3.39)

Academic Council 3(3.3)
10th August, 2021

UG Science Programme: B.Sc.-II To be implemented from A.Y. 2021-2022

System: Choice Based Credit System (CBCS) with SGPA and CGPA

B.O.S. in*: **Geography**

Syllabus for: Discipline Specific Core Courses (DSC-C and DSC-D)

Structure of Teaching Scheme and Examination for: Discipline Specific Core Courses (DSC-C and DSC-D)

Table-3

Semester	Course		Teaching Scheme/week			
			Course Code	Hours	Lectures	Credits
III	DSC-1C	Theory Paper-V: Climatology	2131315	4.8	6	4
		Theory Paper-VI: Physical Geography of India	2131316			
		Practical-II: Statistical Methods in Geography	2131426	6.4	8	4
	SEC-1	Theory Paper-I: Soil Health Management	2131320	4.8	6	2
IV	AECC-C	ENVIRONMENTAL STUDIES	2131315	3.2	4	4
	DSC-1D	Theory Paper-VII: Economic Geography	2131415	4.8	6	4
		Theory Paper-VIII: Economic and Demographic Geography of India	2131416			
		Practical-III: Field Work and Research Methodology	2131426	6.4	8	4
	SEC-2	Theory Paper-II: Soil Health Management	2131429	4.8	6	2

Table-4

Semester	Course	EXAMINATION	Credits
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			Marks			
			CA	SEE	Total	
III	DSC-1C	Theory Paper-V: Climatology	15	35	50	2
		Theory Paper-VI: Physical Geography of India	15	35	50	2
	SEC-1	Theory Paper-II: Soil Health Management	15	35	50	2
IV	AECC-C	ENVIRONMENTAL STUDIES	15	35	50	4
	DSC-1D	Theory Paper-VII: Economic Geography	15	35	50	2
		Theory Paper-VIII: Economic and Demographic Geography of India	15	35	50	2
	SEC-2	Theory Paper-II: Soil Health Management	15	35	50	2
	DSC-1C & DSC-1D	Practical-II and III: Statistical Methods in Geography, Research Methodology, Field Work	60	140	200	8

CA: Continuous Assessment SEE: Semester End Examination

Note: -

The above structure (Table-3 and Table-4) is for Sem-III and Sem-IV of the undergraduate B.Sc.-II programmes* under science faculty.

***B.Sc.-II** Select any three DSC from the four core courses opted at B.Sc.- I.

DSC: Discipline Specific Core Course **AECC:** Ability Enhancement Compulsory Course

SEC: Skill Enhancement Course

Passing in each course is compulsory including Environment Studies course.

SGPA/CGPA and Total Marks will be calculated excluding AECC course.

Passing in each course is compulsory. SGPA/CGPA and Total Marks will be calculated excluding AECC course.

B. Sc. II Geography (CBCS Pattern)

Discipline Specific Core Courses (DSC-C)

SEM III

Academic Council 3(3.3)
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DSC-C Theory-I GEOGRAPHY-V(2131315)

Title: Climatology

Credit:2 Marks: 50

Lectures: 36 Hours

· Learning Objectives:

- To make the students familiar with new terms and concepts of climatology.
- To know the constituents of atmosphere and its dynamic nature.

- To know the contribution of atmosphere in the making of earth habitable.

Outcomes:

- Students will demonstrate knowledge of the atmosphere.
- Learn the interaction between the atmosphere and the earth surface.
- Student will recognize the significance of atmospheric concepts for understanding socio- economic progress.

Unit I: Atmospheric Composition and Structure⁰⁹

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

Unit II: Insolation and Temperature⁰⁹

- 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 Winds⁰⁹

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

Unit IV: Atmospheric Moisture

09

- 4.1 Concept of Evaporation and Condensation
- 4.2 Types of Humidity and Precipitation
- 4.3 Climatic Regions of Koppen and Triwartha

References:

1. Barry R. G. and Carleton A. M., 2001: *Synoptic and Dynamic Climatology*, Routledge, UK.
2. Barry R. 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, PrayagPustakBhavan,Allahabad
9. Vatal, M (1986): BhautikBhugol, Central Book Depot,Allahabad
10. Singh, S (2009): Jalvayu Vigyan, PrayagPustakBhawan,Allahabad
11. Singh, S : Climatology, PrayagPustakBhawan,Allahabad

B. Sc. II Geography (CBCS Pattern)

Discipline Specific Core Courses (DSC-C)

SEM III

Academic Council 3(3.3)
10th August, 2021

DSC-C Theory-II GEOGRAPHY-VI (2131316)

Title: Physical Geography of India

Credit:2 Marks: 50

Lectures: 36 Hours

· Learning Objectives:

- To familiarize the students with Physiography.
- To know the drainage and climate of India.
- To understand the students soil Vegetation and resource of India.

Outcome:

- Understand the physical profile of the country.
- Understand the climatic variation of India.
- Study the spatial distribution and utilization of resource for sustainable development.

Unit: I Physiography of India

09

1.1 Location

1.2 Physiography

1.3 Drainage

Unit: II Climate

09

2.1 Factors affecting on Indian Climate.

2.2 Seasons

2.3 Mechanism of Indian Monsoon

2.4 Distribution of Rainfall

Unit: III Soil and Vegetation

09

3.1 Types and Distribution of Soil

3.2 Degradation and Conservation of Soil

3.3 Types and Distribution of Vegetation

3.4 Degradation and Conservation of Vegetation

Unit: IV Resources

09

4.1 Minerals- Iron ore, Manages and Bauxite

4.2 Power- Coal, Petrol, Hydroelectricity and Hydel power

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. Indian Perspective*.
4. Sdyasuk 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*, GyanodayaPrakashan, 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*. PrayagPustak Bhawan, Allahabad
12. Sharma, T.C. (2013) *Economic Geography of India*. Rawat Publication, Jaipur

B. Sc. II Geography (CBCS Pattern)

Discipline Specific Core Courses (DSC-D)

SEM IV

Academic Council 3(3.3)
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DSC-D Theory-I GEOGRAPHY-VII(2131415)

Title: Economic Geography

Credit:2

Marks: 50

Lectures: 36 Hours

· Learning Objectives:

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

Outcome:

- Distinguish different types of economic activities and their utilities.
- Understand the factors responsible for the location and distribution of activities.
- Examine the trend of world economic development.

Unit I: Introduction

09

- 1.1 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: Economic Activities

09

- 2.1 Concept of Economic Activities
- 2.2 Primary Economic Activities – Types of Agriculture
- 2.3 Secondary Economic Activities- Cotton Textile and Iron and Steel
- 2.4 Tertiary Economic Activities- Transport (Worlds major roads, Railway, Waterways, and Airways) and Types of Trade

Unit III: Models in Economic Geography

09

- 3.1 Factors Affecting location of Industries
- 3.2 Agriculture Land use Model- Von Thunes
- 3.3 Industrial Location Theory- Alfred Weber

Unit IV: World Economic Development

09

- 4.1 Special Economic Zones and Technology Parks
- 4.2 Economic Organization- WTO, OPEC, SAARC

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*, Wiley-Blackwell.
3. Hodder B. W. and Lee Roger, 1974: *Economic Geography*, Taylor and Francis.
4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Wheeler J. O., 1998: *Economic Geography*, Wiley..
6. Durand L., 1961: *Economic Geography*, Crowell.
7. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*,

Taylor and Francis.

8. Willington D. E., 2008: *Economic Geography*, HusbandPress.
9. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. 2000: *TheOxford*

B. Sc. II Geography (CBCS Pattern)

Discipline Specific Core Courses (DSC-D)

SEM IV

Academic Council 3(3.3)
10th August, 2021

DSC-D Theory-II GEOGRAPHY-VIII (2131416)

Title: Economic and Demographic Geography of India

Marks: 50

Credit:2

Lectures: 36 Hours

Learning Objectives:

- To familiarize the students with agriculture in India.
- To know transport and communication and industries in India.
- To acquaint the student with the population of India.

Outcome

- Understand the agricultural profile of country.
- Study the Types, spatial distribution and utilization of economic factors for development.
- Student will examine population dynamics and characteristics with contemporary issues in India.

Unit I: Agriculture

09

- 1.1 Role of Agriculture in Indian Economy
- 1.2 Agriculture Infrastructure – Irrigation and Fertilizers
- 1.3 Green Revolution
- 1.4 Support Service- Animal husbandry and Fisheries

Unit II: Transport, Communication and Trade

09

- 2.1 Modes of transportation – Land, Air and Water
- 2.2 Development in Communication and Information technology
- 2.3 Types of trade

Unit III: Industries

09

- 3.1 Major Industries - Cotton, Iron and Steel, Automobile and Fertilizers
- 3.2 New Industrial policies
- 3.3 Special Economic Zones (SEZ)

- 4.1 Growth and Distribution
- 4.2 Composition- Sex ratio and Literacy
- 4.3 Problem and Policy

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. Indian Perspective*.
4. Sdyasuk 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*, GyanodayaPrakashan, Gorakhpur.
8. Spate O. H. K. and Learmonth A. T. A., 1967: *India and Pakistan: A General and Regional Geography*, Methuen.
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12. Sharma, T.C. (2013) *Economic Geography of India*. Rawat Publication, Jaipur

B.Sc.–II-Geography (CBCS Pattern)**SEM –IV**

**Academic Council 3(3.3)
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Title: Statistical Methods in Geography

Credit:4Marks: 100

Lectures: 36 Hours

Learning Objectives:

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

Outcome:

- Understand quantitative techniques in Geography
- Acquire knowledge about different types sampling
- Understand the statistical application and interpretation

Unit I: Statistical Data

- 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

- 2.1 Frequencies - Deciles and Quartiles
- 2.2 Measures of Central Tendency - Mean, Median and Mode
- 2.3 Measures of Dispersion –Mean Deviation, Standard Deviation

Unit III: Sampling and Theoretical Distribution

- 3.1 Types of sampling- Purposive, Random, Systematic and Stratified
- 3.2 Theoretical Distribution-Probability and Normal Distribution

Unit IV: Association and Correlation

- 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 about 10 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) *Sankhyikibhugol*. Discovery Publishing House, New Delhi

B.Sc.–II-Geography (CBCS Pattern)

SEM –IV

Academic Council 3(3.3)
10th August, 2021

DSC-C Practical-II GEOGRAPHY PRACTICAL-II AND III (2131426)

Title: Field Work and Research Methodology

Credit:4

Marks: 100

Lectures: 36 Hours

Learning 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

Outcome:

- Conduct proper field work for the collection of primary data to bring out grassroots realities
- Make use of proper tools and surveying methods for measurement in context of collection and processing of data
- Know to prepare a project report based on data

Unit I: Field Work and Identifying the Case Study

1.1 Field Work—Role, Value, Data and Ethics

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

Unit II: Field Techniques

2.1 Merits and Demerits

2.2 Selection of the Appropriate Technique:

2.2.1 Observation (Participant / Non-Participant),

2.2.2 Questionnaires (Open/ Closed / Structured / Non-Structured),

2.2.3 Interview with Special Focus on Focused Group Discussions

2.2.4 Space Survey (Transects and Quadrants, Constructing a Sketch)

Unit III: Field Survey

Collection of Material for Physical and Socio-Economic Surveys

Unit IV: Designing the Field Report

4.1 Introduction, Objectives

4.2 Sources of Data and Methodology

4.3 Analysis of data

4.4 Interpretation

4.5 Writing the Report

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during fieldwork.
2. The duration of the field work 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 A 4 size paper should be submitted in soft binding.

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, NewDelhi.

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 Publs. Co., NewDelhi.
5. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Publs. Co., NewDelhi
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: LosAngeles.
7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2(2001).
8. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.
10. Wolcott, H. 1995. *The Art of Fieldwork*. Alta Mira Press, Walnut Creek, CA.

Chairman
BOS in Geography

