Punyashlok Ahilyadevi Holkar Solapur University, Solapur

NAACReAccredited2022'B^{+}
$^{+}$'Grade(CGPA2.96)

Name of the Faculty: Science & Technology

(As Per National Education Policy2020)

Syllabus: Geography

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

(Syllabus to be implemented from June 2025)

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

National Education Policy 2020

Subject: Geography

Course Structure

B. Sc. II (Geography) Semester III & IV

Syllabus Structure (June 2025)

Level	**Semester**	**Discipline**	**Paper**	**Title of the Paper**	Lecture per week		Total Marks	Credits
					Theory	Practical		
5.0	III	Major	DSC1-3 (T)	Climatology-I	2		50	2
			DSC1-3 (P)	Statistical Methods in Geography-I		2	25	1
			DSC1-4 (T)	Climatology-II	2		50	2
			DSC1-4 (P)	Statistical Methods In Geography-II		2	25	1
		Minor	DSC2-3 (T) Minor	Geography of India -I	2		50	2
			DSC2-3 (P) Minor	Cartographic Techniques-I		2	25	1
			DSC2-4 (P) Minor	Geography of India-II	2		50	2
			DSC2-4 (T) Minor	Cartographic Techniques-II		2	25	1
		GE/OE	GE3/OE3(T)	Tourism Geography	2		50	2
		VSC	VSC1(P)	Map Scale		4	50	2
			VSC2 (P)	Remote Sensing		4	50	2
	IV	Major	DSC1-5 (T)	Oceanography	2		50	2
			DSC1-5 (P)	Weather Map Interpretation		2	25	1
			DSC1-6 (T)	Settlement Geography	2		50	2
			DSC1-6 (P)	SOI Toposheet		2	25	1

		Minor	DSC2-5 (T) Minor	Economic Geography	2		50	2
			DSC2-5 (T) Minor	Land Surveying		2	25	1
			DSC2-6 (P) Minor	Population Geography	2		50	2
			DSC2-6 (T) Minor	Map Projection		2	25	1
		GE/OE	GE4/OE4 (T)	Resource Geography of Maharashtra	2		50	2
		VSC	VSC3(P)	Introduction of GIS and GPS		4	50	2
			VSC4(P)	Representation of Statistical Data		4	50	2
		FP	FP1	Field Project in Geography		4	50	2

T–Theory, P- Practical 2credits of Theory=2 Hours of teaching per week 1 Credits of Practical =2 Hours per week
DSC-Discipline Specific Course
SEC- Skill Enhance Course
OE/GE – Open Elective/ Generic Elective
*Practical examination will be held at the end of the Semester.

Punyashlok Ahilyadevi Holkar Solapur University, Solapur
Faculty of Science and Technology

NEP Choice Based Credit System (CBCS)(W.e.f.2025)

Title of the Course: B.Sc. Part-II Subject: Geography

PreambleoftheProgram:

The purpose of higher education is to develop an integrated personality of the individual learner and the educational system. This program is to provide Geographical knowledge and skills to the learner. Geography is an important scientific discipline which involves dynamics and evolutionaryprocess operating at atmosphere of theEarth. It also includes composition of the atmosphere and climatic as well as Oceanic events. Geography is a comprehensive and dynamic program designed to provide students with a deep understanding of the latest concept of Geography also to provide practical skills to learner. The B. Sc. Geography program is for two years, with each year offering a progressively advanced curriculum designed to build a strong foundation in Geography. The syllabus is structured around several key components:

1. **Majorand Minor Course(DisciplineSpecific Course):**

   This is a core course form the backbone of the program, providing in-depth knowledge and understanding of essential Geographical concepts and different climatic condition and events to the students. It will help to engage the students with topics ranging from nature and scope of climatology and structure, composition of atmosphere. Oceanography includes

   Studentshavetheopportunitytochoosefor third semester DSC1-3 (T)- Climatology-I, DSC1-3 (P) - Statistical Methods inGeography-IasaMajorSubject.And DSC1-3 (P) Statistical Methods inGeography-I, DSC1-4 (P) Statistical Methods inGeography-II. As well as students choose the Minor subject such as Geographyof India –I, DSC2-3,Cartographic Techniques-I, DSC2-4 (P),Geography of India-IIDSC2-4 (T)Cartographic Techniques-II.

   For the forth semester students choose the Major subject such as - DSC1-5 (T) - Oceanography, DSC1-5 (P) - Weather MapInterpretation, DSC1-6 (T)- Settlement Geography, and Minor subject such as DSC2-5 (T)Economic Geography, DSC2-5 (P) Land Surveying, DSC2-6 (T), Population Geography, DSC2-6 (P), Map Projection

2. **OpenElectives/GeneralElectives:**

   Theprogram encourages intellectual exploration beyond the core disciplineby offeringa wide range of elective courses. These electives enable students to pursue their interests in diverse subjects, fostering creativity, and a well-rounded educational experience. For the third semester students are choose the subject GE3/OE3 (T) - Tourism Geography and for the forth semester students choose the GE4/OE4 (T) Resource Geography of Maharashtra.

3. **SkillEnhancement Courses SEC/ VSC**

Practical and field based skills are essential to the learner and technical knowledge is integral to the program. Skill enhancement course is to providing hands-on experience in area of practical Geography, These courses are designed to prepare students for acquiring knowledge about Skill enhancement course of VSC1 (P) - Map Scale and VSC2 (P)- Remote Sensing. And for next semester VSC3 (P) Introduction of GIS andGPS, VSC4(P) Representation ofStatistical Data

4. **Field Projects/Internships/Apprenticeships/Community Engagement Projects/On-Job Training:**

To bridge the gap between theoretical knowledge and real-world applications, the program includes opportunities for field projects, internships, apprenticeships, and community engagement. These experiences provide students with practical insights, problem-solving abilities, and exposure to professional environments, enhancing their readiness for careers in Geography and related fields

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

Faculty of Science &Technology

NEP2020 Compliant Curriculum B.Sc II

Geography)

ProgramOutcomes(PO)

ProgramOutcomes

- ## Majorand Minor Course(DisciplineSpecific Course):

PO1: Understandthe fundamental conceptsof Climatology and basics of statistical methods, Cartographic techniques in Geography.

PO2: UnderstandtheClimate and Physiography of India.

PO3: Learn andunderstand thedifferent settlements pattern and types.

PO4: Learn different processes, configuration and behavior of the Ocean.

PO5: Understandand preparedifferent kindsof weather and topographical maps.

PO6: Understand the growth and structure of population.

PO7: Developmentofobservationskillsandresearch aptitude among the students in the field of Geography

- ## OpenElectives/GeneralElectives:

PO8: Haveknowledgeabout the nature, types and significance of tourism.

PO9: Haveknowledgeaboutthedifferenttypes, production and distribution of reassures.

- ## SkillEnhancement Course:

PO10: Acquiringknowledgeof Map Scale.

PO11: Acquiringknowledgeabout basic application of representation of statistical data in Geography.

PO12: Acquiringknowledgeabout basicGIS and GPS and Remote Sensing

- ## Field Projects/Internship/Apprenticeship/Community Engagement Projects/ On Job Training/ Internship/Apprenticeship:

PO13: Apply theoretical knowledge to real-world situations through field projects, internships, community engagement and on job Training for gaining practical experience and problem-solving skills.

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Solapur Faculty of Science & Technology Nep 2020
Compliant Curriculum B. Sc (Geography)

ProgramSpecificOutcomes(PSOs)

PSO 1 -Student will gain the knowledge of elements of weather and climate, composition and structure of the atmosphere, Heat budget and insolation.

PSO2–Acquiringknowledgeand Understandthe Climate and Physiographic division of India.

PSO3– Student will gain the knowledge of different tapes of settlements pattern and types

PSO4– Student willlearn different processes, configuration and behaviour of the Ocean.

PSO5-Haveknowledgeaboutthedifferenttypesofweather and topographical maps.

PO6: Student will gain knowledge and understand the growth and structure of population.

PO7: Students will aware and learn research aptitude in the field survey.

PO8: Learners to get the knowledge and understanding of the overall phenomena of Travel and Tourism, by defining, understanding meaning, concept and historical developments and introducing various types and forms of Tourism.

PO9: Students get knowledgeaboutthedifferenttypes, production and distribution of reassures.

PO10: Students are able toacquiringknowledgeof Map Scale.

PO11: Students are acquiringknowledgeabout basic application of representation of statistical data

PO12: Students are able to learn advanced techniques in Geography likeGIS, GPS and Remote Sensing

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II (Semester –III)
Title of the Paper- CLIMATOLOGY-I

Paper Code: DSC1-3 (T) Total Lectures: 30

No. of Credit: 02 Total Marks: 50

Preamble:

The Course on Climatology has been incorporated a Core Course in the syllabus of B.Sc. II. The logical extension of geographical knowledge shall be Climatology, which is the second important branch of Physical Geography. As Physical Geography is the base of all other sub-branches, it is necessary for students to learn the basic processes operating in earth's atmosphere before venturing into higher studies. This course is also important to make students aware about earth's climate change crisis.

Objective:

1. Tomakethestudentsfamiliarwith newtermsand conceptofclimatology.
2. Toknowtheconstituents ofatmosphere anditsdynamicnature
3. Toknowthecontributionofatmospherein themakingofearth habitable

Outcome:

1. Student will gain the knowledge of elements of weather and climate, composition and structure of the atmosphere,
2. Students learn Heat budget and incoming solar radiation and terrestrial radiation.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Climatology** 1.1 Meaning and definition of Climatology 1.2 Nature and Scope of Climatology 1.3 Importance of Climatology 1.4 Climate and Weather- Elements 1.5 Atmosphere: Composition and Structure	15	1
2	**Insolation and Temperature** 2.1 Insolation 2.2 Factor affecting on temperature distribution 2.3 Distribution of Insolation 2.4 Heat Budget 2.5 Temperature-factor, distribution, Inversion	15	1

References:

1. Ahrens, DC (2009). Meteorology Today, 9th Edition. Engage Learning
2. Critchfield, HJ (2008). General Climatology, Prentice Hall of India, New Delhi
3. Lal, DS (2011) Climatology, Sharda PustakBhawan,Allahabad
4. Renneboog, Richard (2018). Principles of Climatology. Salem Press
5. Singh, Savindra (2006) Climatology, PrayagPustakBhawan,Allahabad

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II (Semester –III)
Title of the Paper- STATISTICAL METHODS IN GEOGRAPHY-I

Paper Code: DSC1-3 (P) Total Lectures: 30

No. of Credit: 01 Total Marks: 25

Preamble:

This course is to study and practice of collecting, analysing and presenting data that has a geographic or areal dimension, such as census or demographics data. It uses techniques from spatial analysis, but also encompasses geographical activities such as the defining and naming of geographical regions for statistical purposes. It includes central tendency.

Course Objective:

1. Tointroducethestudentsaboutstatistical dataandtabulations.
2. Acquaintthestudentwithstatisticaltechniques.

Course Outcome:

1. Students understandthe fundamental conceptsof statistical methods,

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Central Tendency** i. Mean ii. Median iii. Mode	30	1

References:

1. Richa Mehta (2012) Quantitative Geography, Shishti Book Distributors, New Delhi.
2. Rana Sing P.B. & Sing R. L. (2009) Elements of Practical Geography, Kalyani Publishers, Ludhiana.
3. ZamirAlvi (1995) Statistical Geography, Rawat Publication,, New Delhi

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II (Semester –III)
Title of the Paper- CLIMATOLOGY-II

Paper Code: DSC1-4 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble:

The Course on Climatology has been incorporated a Core Course in the syllabus of B.Sc. II. The logical extension of geographical knowledge shall be Climatology, which is the second important branch of Physical Geography. As Physical Geography is the base of all other sub-branches, it is necessary for students to learn the basic processes operating in earth's atmosphere before venturing into higher studies. This course is also important to make students aware about earth's climate change crisis.

Objective:

1. Tomakethestudentsfamiliarwith newtermsand conceptofclimatology.
2. Toknowtheconstituents of atmospheric moisture andCycle.

Outcome:

1. Students are acquiringknowledge and understandtheatmospheric moisture and air masses.
2. Acquiringknowledge of different types of cyclones and atmospheric phenomena.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Atmospheric Moisture** i. Evaporation ii. Humidity iii. Condensation iv. Fog and Clouds v. Precipitation vi. Air Mass	15	1
2	**Atmospheric Cyclones** i. Cyclone ii. Anti-cyclone iii. Tornado	15	1

References:

1. Critchfield, HJ (2008). General Climatology, Prentice Hall of India, New Delhi
2. Lal, DS (2011) Climatology, Sharda PustakBhawan,Allahabad
3. Renneboog, Richard (2018). Principles of Climatology. Salem Press
4. Singh, Savindra (2006) Climatology, PrayagPustakBhawan,Allahabad

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II (Semester –III)
Title of the Paper- STATISTICAL METHODS IN GEOGRAPHY-II

Paper Code: DSC1-4 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble:

This course is to study and practice of collecting, analysing and presenting data that has a geographic or areal dimension, such as census or demographics data. It uses techniques from spatial analysis, but also encompasses geographical activities such as the defining and naming of geographical regions for statistical purposes. It includes measures of dispersion.

Objective:

1. Tointroducethestudentsaboutstatistical dataandtabulations.
2. Acquaintthestudentwithstatisticaltechniques.

Outcome:

1. Students understandthe fundamental concepts of statistical methods.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Measures of Dispersion** i. Mean Deviation ii. Quartile Deviation iii. Standard Deviation	30	1

References:

1. Richa Mehta (2012) Quantitative Geography, Shishti Book Distributors, New Delhi.
2. Rana Sing P.B. & Sing R. L. (2009) Elements of Practical Geography, Kalyani Publishers, Ludhiana.
3.ZamirAlvi (1995) Statistical Geography, Rawat Publication,, New Delhi

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B. Sc. Part- II (Semester –III)

Title of the Paper GEOGRAPHY OF INIDA -I

Paper Code: DSC2-3 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble

This course is to designfor the students tounderstand the physical setting of India. Knowledge of Geography of India is too pre-requisite and it is vital to the understanding of development of Indian regional disparities. Having a sound knowledge of Geography of India, thus, shall be helpful to the students to understand general climatic region, type of soil natural vegetation and its conservation. This also prepares students for various competitive examinations, wherein Geography of India is an essential component.

Objective:

1. TosynthesizestudentswithvariousgeographicalfactsofIndiaviz. Physiography, Climate, Soil, and Vegetation.

Outcome:

1. Students understandthe Physical Setting of the India.
2. Students acquiring knowledge of soil types, kinds of natural vegetation and Forest Conservation.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Physical Setting** 1.1 LocationandPhysiographicdivisionof India 1.2 Generalclimatic regions 1.3 Climate- Season and Indian Monsoons	15	1
2	**Soil and Natural Vegetation** 1.1 TypesofSoil 1.2 Soil Conservation 1.3 TypesofNaturalVegetation 1.4 Forest Conservation	15	1

References:

1. Deshpande C D 1992:India: A Regional Interpretation, ICSSR New Delhi.
2. Johnson B L C 2001.Geographical Dictionary of India .Vision Books, New Delhi.
3. Singh R.L 1971: India: A Regional Geography, National Geographical Society of India.
4. Tirtha, Ranjit 2002:Geography of India,RawatPubls., Jaipur &NewDelhi.
5. Tiwari R.C. 2007: Geography ofIndia. PrayagPustakBhawan, Allahabad

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B.Sc. Part- II (Semester –III)
Title of the Paper - CARTOGRAPHIC TECHNIQUES-I

Paper Code: DSC2-3 (P) Total Lectures: 30

No. of Credit: 01 Total Marks: 25

Preamble

It is a discipline that combines science, aesthetics, and techniqueCartography is the art and science of graphically representing a geographical area, usually on a flat surface such as a map or chart.Cartography has evolved over time to include societal and cultural aspects of mapping. It has been important to students for centuries because it provides a visual representation of physical terrain.

Objective:

1.1. TointroducethestudentsaboutCartography.

2. AcquaintthestudentwithCartography.

Outcome:

1. Student will understandCartographic techniques and, its history.
2. Student learn Classification of maps projection and its Uses.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Cartography** **Definition, Classification of Projections:** 1.Based on Method of Construction: perspective and non-perspective 2.Based on Developable Surface used: Conical, Cylindrical, Zenithal, and Conventional. 3.Based on Position of Tangent Surfaces: Polar, Equatorial (normal), Oblique. 4.Based on Position of view point or light: Gnomonic, Stereographic, Orthographic **Graphical Construction of the Projections with Properties and Use:** 1.Zenithal Polar Gnomonic Projection 2.Zenithal Polar Equal Area Projection	30	1

References:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial, London 1964.
2. Khan MD. ZulfequarAhmad : Text Book of Practical Geography, Concept Publishing Company, New Delhi, 1998
3. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
3.Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
4.Negi., Dr. Balbir Singh : Practical Geography, KedarNath Ram Nath, Meerut, Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B.Sc. Part- II (Semester –III)
Title of the Paper - GEOGRAPHY OF INIDA-II

Paper Code: DSC2-4 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble

This course is to designfor the students to understand the physical setting of India. Knowledge of Geography of India is too pre-requisite and it is vital to the understanding of development of Indian regional disparities. Having a sound knowledge of Geography of India, thus, shall be helpful to the students to understand general climatic region, type of soil natural vegetation and its conservation. This also prepares students for various competitive examinations, wherein Geography of India is an essential component.

Objective:

1. TosynthesizestudentswithvariousfactsofIndiaviz.Agriculture,Industries, Population, Social and Regionalization of India

Outcome:

1. Student will learn about growth,structure, distribution of population,
2. Students gain knowledge aboutmineral resources, power resources, agriculture production and its distribution.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Population** 1.1 Growthof Population 1.2 Factorsaffectingon the distributionofPopulation 1.3 Distributionof Population 1.4 StructureofPopulation - AgeandSexcomposition	15	1
2	**Resources and EconomicActivities** 2.1 MineralResource:Distribution andproductionofIronore 2.2 Powerresources:Distribution andproductionof Coal andPetroleum 2.3 Agricultureproduction and distribution –Riceand Sugarcane 2.4 Industrialdevelopment–Information Technology	15	1

References:

1. Deshpande C.D.,1992:*India: A Regional Interpretation*, ICSSR, New Delhi.
2. Johnson,B.L.C..2001.*GeographicalDictionaryofIndia*.VisionBooks,NewDelhi
3. SdyasukGalinaandPSengupta(1967):*EconomicRegionalisationofIndia*,CensusofIndia
4. Sharma,T.C.2003:India-EconomicandCommercialGeography.VikasPubl.,NewDelhi.
5. SinghR.L.,1971:*India:ARegionalGeography*,NationalGeographicalSocietyofIndia.
6. Tirtha,Ranjit2002:*GeographyofIndia,*RawatPubls.,Jaipur&NewDelhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B.Sc. Part- II (Semester –III)
Title of the Paper - CARTOGRAPHIC TECHNIQUES-II

Paper Code: DSC2-4 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble

It is a discipline that combines science, aesthetics, and technique Cartography is the art and science of graphically representing a geographical area, usually on a flat surface such as a map or chart. Cartography has evolved over time to include societal and cultural aspects of mapping. It has been important to students for centuries because it provides a visual representation of physical terrain.

Objective:

1. To introduce students with various facts of Diagram and Bar viz. Line, Bar, Pie, Flow.

Outcome:

2. Student will learn application of graphs and diagram.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Diagram and Graph** 1.1 Line – Simple and Multiple 1.2 Bar – Simple and Multiple 1.3 Combined Line and Bar Graph 1.4 Divided Rectangular Diagram 1.5 Pie Diagram 1.6 Flow Maps	30	1

References:

1. Aher A. B., Chodhari A. P. &Bharambe S. N. Techniques of Spatial Analysis Prashant Publication Jalgaon 2015
2. Maurice Yeats, An Introduction to Quantitative Analysis in Human Geography, McGraw Hill, New York, 1974.
3. P. Saha and P. Basu (2006): Advanced Practical Geography, Books and Allied Publication,Kolkata, India.
4. Khullar, Essentials of Practical Geography, New Academic Publishing Co, India.
5. Singh L R (2011): Fundamentals of Practical Geography
6. Robinson Rep. (2010): Elements of Cartography

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –III

Title of the Paper TOURISM GEOGRAPHY

Paper Code: OE/GE- 3 (T) Total Lectures: 30

No. of Credit: 02 Total Marks: 50

Preamble

Tourism is one of the world's largest industries. It has now become the subject of a specific sub-discipline of Geography. The specific characteristics of tourism as a partially industrialized form of temporary mobility have encouraged geographers to examine issues of demand and supply for tourism with particular focus on the patterns of tourism production and consumption, the spatial fixity of tourism product and the role of seasonality in tourism.

Objective:

1. To introduce students with Tourism Geography
2. TosynthesizestudentswithvariousfactsofTourism.

Outcome:

1. Student will learn about nature, scope and Significance of tourism.
2. Students gain knowledge of types of tourism, marketing in tourism, tour agencies, tourism plan, and tour planning process.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction to Tourism Geography** 1.1 Definition 1.2 Nature and scope 1.3 Significance of tourism geography 1.4 Ecotourism 1.4 Impact of tourism: Physical, Economic, Social and Cultural	15	1
2	**Tourism Types and Marketing** 2.1 Types: Nature Tourism, Cultural Tourism, Medical Tourism, PilgrimageTourism 2.2 Marketing: Concepts and Marketing in Tourism Tourism circuits Tour agencies Components of a Tourism Plan The tourism planning process	15	1

References:

1. Burkarl,A.J. (1974). Tourism, Past, present and future Heineman London.
2. Pande, G.C. and D.C. Pandey (1999). Environmental Development and Management: Strategies andPolicies, New Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II,
Semester –III
Title of the Paper - MAP SCALE

Paper Code: VSC 1(P) Total Lectures: 60
No. of Credit: 02 Total Marks: 50

Preamble:

Map scale is an important because it helps people to understand the distance and size of geographical areas on a map. It's a fundamental aspect of cartography and is essential for creating and interpreting accurate maps. Map scale is useful for planning and managing construction projects. It helps designers and supervisors determine the length, width. Map scale helps people navigate by showing the actual distance between places.

Objective:

1. To acquaint students about map scale.
2. To introduce the students with the importance of map making and map Interpretation.

Outcome:

1. In depth understanding the map, concept of scale.
2. Students will learn basics of map scale.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction to Map Scale** 1.1 Map – Concept and Definition. 1.2 Elements of Map 1.3 Classification of Map based on purpose and scale	30	1
2	**Conversion and Construction of Scale** 2.1 Methods of Representation of scale - Verbal, Numerical and Graphical. 2.2 Scale Conversion 2.3 Construction of Graphical Scale –i) Simple (Plane Scale) ii) Time and Distance Scale	30	1

References:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial, London 1964.
2. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept Publishing Company, New Delhi, 1998
3. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
4. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
5. Negi., Dr. Balbir Singh : Practical Geography, KedarNath Ram Nath, Meerut, Delhi.

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II,
Semester –III
Title of the Paper - REMOTE SENSING

Paper Code: VSC 2 (P) Total Lectures: 60
No. of Credit: 02 Total Marks: 50

Preamble

Remote sensing course are designed to the students for understanding of advanced techniques in the Geography. Remote sensing is the process of detecting and monitoring the physical characteristics of an area by measuring its reflected and emitted radiation at a distance (typically from satellite or aircraft). Special cameras collect remotely sensed images, which help researchers "sense" things about the Earth.

Objective:

1. To acquaint students about map scale.
2. To introduce the students with the importance of map making and map Interpretation.

Outcome:

3. In depth understanding the map, concept of scale.
4. Students will learn basics of map scale.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Fundamental of Remote Sensing** 1.1 Concept and Definition. 1.2 Components and Development of Remote Sensing. 1.3 Principles of Remote Sensing: EMR, Sensors and Platforms. 1.4 Application of Remote Sensing in Geography	30	1
2	**Aerial photographs and Satellite Imagery** 2.1 Definition, types 2.2 Identification of Physical and cultural features from Aerial Photographs or SatelliteImagery. 2.3 BHUVAN – Creating Account and downloading satellite imageries.	30	1

References:

6. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial, London 1964.
7. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept Publishing Company, New Delhi, 1998
8. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
9. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
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New Structure of Syllabus (NEP 2020)

Class: B. Sc. Part- II

Semester –IV

Title of the Paper - OCEANOGRAPHY

Paper Code: DSC1-5 (T) Total Lectures: 30

No. of Credit: 02 Total Marks: 50

Preamble

Earth's physical environment consists of the three spheres of land, air and water, i.e., Lithosphere, Atmosphere and Hydrosphere. These spheres not only co-exist, but are also closely inter-related. A complete understanding of earth's physical processes, therefore, needs knowledge of ocean processes. The course on oceanography completes the study of all spheres of earth as students have studied Geomorphology and Climatology in previous semesters. This course also aims at sensitizing students about the crisis of world climate change.

Objective:

1. Acquire in-depth knowledge of basic concepts in oceanography
2. Understand the global oceanic circulation and its causes.

Objective:

1. The students will be able to know the nature and scope of Oceanography.
2. The students will be able to know the Configuration of Oceans and circulations.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Oceanography** 1.1 Definition and meaning 1.2 Nature and Scope 1.3 Importance of the Oceans 1.4 Branches of Oceanography	15	1
2	**Ocean Circulation** 2.1 Configuration of Oceans 2.2 Factors affecting on ocean currents, 2.3 Ocean Currents In the Pacific Ocean 2.4 Ocean Currents In the Indian Ocean	15	1

References:

1. Chorley R.J.(1967): Introduction to Geographical Hydrology, Methuen, London.

2. Joseph, w. & Howard, P: Introductory oceanography, McGraw Hill. Kogakusha, Ltd., New Delhi. (International Student Education)

3. Lal D S (2015) Oceanography, ShradhaPustakBhavan, Allahabad.

3. Peter K.W. (1970): Oceanography: An Introduction to the marine Environment, John Wiley & Sons Inc, New York.

4. Sharma R.C. (1970): Oceanography for Geographers, Chaitanya publishing house, Allahabad.

5. Negi B.S (1994-95): Climatology and oceanography Kedarnath, RamanathMeerat, NewDelhi.

6. Savinder Singh (1999) Physical Geography, PrayagPustakBhavan, Allahabad.

7. Siddhartha K. (1999): Oceanography A Brief Introduction. Kaisalya Pub Pvt. Ltd. New Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B. Sc. Part- II

Semester –IV

Title of the Paper - WEATHER MAP INTERPRETATION

Paper Code: DSC1-5 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble:

The weather map is a symbolic representation of the atmospheric conditions of an area at a given time. On a weather map, we will find isobars and symbols related to pressure, direction and velocity of winds, clouds, precipitation and sea condition on a base map with political boundaries. These details are recorded at different weather stations at specified time.

Objective:

1. To give basic information to the students about I.M.D. weather Reports.
2. To develop the skill of map Interpretation among the students.

Outcome:

1. The students are deeply aware about basic information to the students about I.M.D. weather reports and obtained the skills about map interpretation

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Weather Maps of India** 1.1 Sing and Symbols used in Weather Map of India 1.2 Interpretation of Weather Map – Summer, Rainy and winter	15	1

References:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial, London 1964.
2. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept PublishingCompany, New Delhi, 1998
3. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
4. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
5. Negi., Dr. Balbir Singh : Practical Geography, KedarNath Ram Nath, Meerut, Delhi.
6. Raisz, E.: Principals of Cartography, McGraw Hill Book Com., Inc, New York, 1962.
7. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, NewYork, 1969.

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B. Sc. Part- II,

Semester –IV

Title of the Paper - SETTLEMENT GEOGRAPHY

Paper Code: DSC1-6 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble

Settlement geography is a branch of geography that focuses on the study of human populations and their settlement patterns. It explores the relationship between population dynamics and the physical, social, and economic environment. Settlement geography is concerned with the distribution, composition, and characteristics of human populations. It also examines the spatial patterns of human settlements, such as urbanization, rural-urban migration, and suburbanization.

Objective:

1. To introduce students with Settlement Geography.
2. To introduce students with various facts of Settlement Geography.

Outcome:

1. Students will acquire knowledge of Settlement Geography.
2. Students will learn of problems and processes of urbanization and Policy.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Settlement Geography** 1.1 Meaning and scope of Settlement Geography 1.2 Evolution and types of Settlements 1.3 Rural Settlements - Types and Patterns 1.4 Urban Settlements - Types and Patterns 1.5 Classification of Towns	15	1
2	**Urbanization** 2.1 Urbanization Processes 2.2 Trends of Urbanization in India 2.3 Problems of Urbanization in India 2.4 Urban Slums and Urban Pollution in India 2.5 Problems and Planning of Urban Settlement	15	1

References:

1. Carter, H. (1995). The Study of Urban Geography. HodderArnold Publisher.
2. Ghosh, Sumita (1998). Settlement Geography. Orient Blackswan. New Delhi
3. Singh, Surender and Saroha, Jitender (2021). Urban Geography. Pearson, New Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B. Sc. Part- II

Semester –IV

Title of the Paper - INTERPRETATION OF TOPOGRAPHICAL MAPS (SOI)

Paper Code: DSC1-6 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble

Topographical maps are detailed graphic representations of the Earth's surface. They show both natural and man-made features, such as mountains, rivers, roads, and cities.The responsibility for producing, maintaining and disseminating the topographic map database of the whole country, which is the foundation of all spatial data vests with the Survey of India (SOI). Recently, SOI has been mandated to take a leadership role in liberalizing access of spatial data to user groups without jeopardizing national security.

Objective:

1.To give basic information to the students about S.O.I. maps.
2. To develop the skill of map Interpretation among the students.

Outcome:

1. The students are deeply aware about basic information to thestudents about S.O.I. toposheets and obtained the skills about map interpretation.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Topographical Map** 1.1 Gridding of Topographical Map 1.2 Conventional Sings and Symbols 1.3 Interpretation of Topographical Map	15	1

References:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial, London 1964.
2. Khan MD. Zulfequar Ahmad : Text Book of Practical Geography, Concept PublishingCompany, New Delhi, 1998
3. Mishra, R.P. and Ramesh A. : Fundamentals of Cartography, Concept Publishing Company, New Delhi, 2000
4. Monkhouse F.J. and Wilkison, H.R.: Maps and Diagrams, Mathuen. London, 1971.
5. Negi., Dr. Balbir Singh : Practical Geography, KedarNath Ram Nath, Meerut, Delhi.
6. Raisz, E.: Principals of Cartography, McGraw Hill Book Com., Inc, New York, 1962.
7. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, NewYork, 1969.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper - ECONOMIC GEOGRAPHY

Paper Code: DSC2-5 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble

Economic geography is the study of how human economic activities – production, consumption, and exchange – vary across space, with a focus on resource endowments, international trade and commerce, population growth, settlements, development, interaction and interdependencies, and regional supply and demand. The study of man and his economic actions in a variety of conditions in economic geography.

Objectives:

1. Toacquaintthestudentswith economic geography and its economicactivitiesi.e.Agriculture,Manufacturing, Transport, Trade and Services.
2. To acquaint the students with economic activities i.e. Agriculture, Manufacturing, Transport,Tradeand Services.

Outcome:

1. Students will familiarize thestudentswitheconomic activity.
2. Students learn basics of economic Geography

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Economic Geography** 1.1 Definition and Meaning of Economic Geography 1.2 Nature and scope of Economic Geography 1.3 Importance of Economic Geography 1.4 Branches of Economic Geography	15	1
2	**Resources** 2.1 Meaning and Classification 2.2 Mineral resources - Iron ore and Bauxite 2.3 Power resources – Coal and Petroleum 2.4 Resource conservation	15	1

References:

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. Hanink D. M. 1997. Principles and Applications of Economic Geography, John Wiley, New York
4. Hartshorne, TA&Alaxender IW (1988) Economic Geograohy. Englewood Cliff, New Jersey

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper – Land Surveying

Paper Code: DSC2-5 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble

Survey is an essential research method in Geography which accumulates data places, fragmented landscapes, people and other phenomena. This paper has attempted to describe some of the important field survey methods such as Plane Table Surveying, Prismatic Compass and GPS.

Objective:

1. Understand the importance of surveying in Geography.
2. To know the importance of fieldwork and survey in Geography.

Outcome:

1. Learn to make basic maps of any space using methods like plane table survey, prismatic compass and Abney level.
2. Developed surveying skills to the students.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Fundamentals of Surveying** 1.1 Objects and classification of Surveying 1.2 Plane Table Surveying: Radiation, Intersection, Open Traverse 1.3 Prismatic Compass: Radiation, Intersection and Open Traverse 1.4 GPSOR Abney Level survey	15	1

References:

1. Dent, B. D., Torguson, J. S., and Holder, T. W. (2008) Cartography: Thematic Map Design (6th Edition). Mcgraw-Hill Higher Education.
2. Gupta, K. K. and Tyagi, V. C. (1992) Working with Maps. Survey of India, DST, New Delhi.
3. Monkhouse, F.J. & Wilkinson, F.J. (1985) Maps and Diagrams. Methues, London
4. Kraak, Menno-Jan &Ormeling, Ferjan (2003) Cartography: Visualization of Geospatial Data. Prentice Hall, New Jersey.
5. Mishra, R. P. and Ramesh, A. (1989) Fundamentals of Cartography. Concept Publishing Company, New Delhi.
6. Sharma J. P. (2010) PrayogicBhugol. Rastogi Publishers, Meerut.
7. Singh, R.L. and Singh, Rana P.B. (2005) Elements of Practical Geography (Revised Edition). Kalyani Publishers, New Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper - POPULATION GEOGRAPHY

Paper Code: DSC2-6 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble:

This curriculum focuses on the understanding of core and fundamental branches of the discipline. This paper is specially designed to learn the role of demography and population studies as a distinct field of human geography. It encompasses sound knowledge of key concept, different components of population. The curriculum has been carefully designed to include conceptual, basic themes, population dynamics and characteristic with contemporary issues.

Objectives:

1. To study the basics of population geography.
2. To study the population growth trends and its distribution.
3. To study the population dynamics and various theories of population.

Outcomes:

1. This paper would bring an understanding of population geography along with relevance of demographic data.
2. The students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population concepts.
3. The students would get an understanding of the dynamics of population.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Introduction of Population Geography** 1.1 Definition and Meaning of Importance Geography 1.2 Nature and scope of Population Geography 1.3 Importance of Importance Geography 1.4 Approaches of Population Geography 1.5 Population and other Social Sciences	15	1
2	**Distribution and Density of Population** 2.1 Factors affecting on distribution and density of Population 2.2 Distribution of Population 2.3 Density of Population	15	1

References:

1. Chandra R C (2008): Geography of Population Concepts, Determinants and Patterns.
2. Hussan M I. (2008): Population Geography, Rawat Publications, New Delhi.
3. Singh K.P. (2011): Population and Settlement Geography, Axis Publication, New Delhi.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper - MAP PROJECTION

Paper Code: DSC2-6 (P) Total Lectures:30

No. of Credit: 01 Total Marks: 25

Preamble:

Practical Work is the most important part of Geography. Map is an indispensable tool in Geographical Studies & Research activities. The present syllabus of this paper includes study of maps and their types, Map Projections.

Objective:

1. Understand the need of projection for representing curved surface on plane paper.
2. Know about different types of projection.
3. Understand the concepts like equal area, equidistant and know which to use when.

Outcomes

1. In depth understanding the map, concept of scale andprojection.

2. Learn the construction of different projections based on the need and necessity.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	1.1 Meaning and definition of Projection 1.2 Classification of Projections 1.3 Need of Projection 1.4 The Construction of Map Projection i. Zenithal Polar Gnomonic Projection ii. Zenithal Polar Equidistant Projection iii. Zenithal Polar Equal Area Projection	15	1

References:

1. Monkhouse, F.J. & Wilkinson, F.J. (1985): Maps and Diagrams. Methues, London
2. Raisz, E (1962): General Cartography. John Wiley &Sons, New York.
3. Sharma, J.P. (2001): PrayogikBhoogol. Rastogi Pub, Meerut.
4. Singh R.L. & Singh, Rana P B (1993): Elements of Practical Geography (Hindi & English Edi-tions), Kalyani Publishers, New Delhi.
5. Singh, LR (2006): Fundamentals of Practical Geography. Sharda PustakBhawan,Allahabad.

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper - RESOURCE GEOGRAPHY OF MAHARASHTRA

Paper Code: OE4/GE4 (T) Total Lectures:30

No. of Credit: 02 Total Marks: 50

Preamble:

Resource Geography is a major and developing branch of Economic Geography. The world countries are trying to make overall development with blindly utilizing different resources. The growing population exerts its pressure on present resources which generates various problems in front of countryside. It includes major biotic resources and human resources.

Objectives:

1. To understand the concept of biotic and human resources.
2. To examine the major resources with their distribution,utilization and problems.

Outcomes:

1. The students were known the importance of Resources.
2. The students were familiar with distribution, utilization and problems of resources.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Biotic Resources in Maharashtra** 1.1 Definition and Concept of Biotic Resources 1.2 Forest Resources: Importance, types, distribution, and conservation 1.3 Fisheries**:** Fisheries and economic development, types (Coastal and Inland), Fish Production.	15	1
2	**Human Resources in Maharashtra** 2.1 Population as a Resources 2.2 Distribution of Population 2.3 Growth of Population 2.4 Migration of Population 2.5 Human Resource development in Maharashtra	15	1

References:

1. C D Deshpande: Geography of Maharashtra, National Book Trust of India,
2. Bruce Mithal: Geography and Resource Analysis, Johawilly and Sons, New York.

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR

New Structure of Syllabus (NEP 2020)

Class: B.Sc. Part- II

Semester –IV

Title of the Paper - INTRODUCTION OF GIS AND GPS

Paper Code: VSC 3 (P) Total Lectures: 60

No. of Credit: 02 Total Marks: 50

Preamble:

Modern science & technology have gained momentum. In the process of development of science and technology, the changing nature of subject of Geography will make aware to the students about the advanced techniques such as GIS and GPS. The present syllabus of this paper includes concept of GIS, Elements, Development of GIS technology,Data Analysis and Application of GIS.

Objective:

1. Understand the meaning and importance of GIS and GPS.
2. Learn the method and use of Supervised and Unsupervised classification.

Outcomes:

1. The students are deeply familiar with GIS, GPS.
2. Learn to map making by using GIS and GPS.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**GIS:** 1.1 Definition and meaning of GIS 1.2 Elements of GIS 1.3 Development of GIS technology 1.4 GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure 1.5 GIS Data Analysis 1.6 Application of GIS: Land Use Mapping, Urban Sprawl Analysis, Forests Monitoring etc.	30	1
2	**GPS:** 2.1 Overview of Global Positioning System 2.2 GPS Receivers, Satellite Constellations, Segments, Antennas 2.3 Signal Codes and errors 2.4 Accuracy of GPS measurements 2.5 Application of GPS	30	1

References:

1. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, NewYork, 1969.
2. Saha, Pijushkanti and BasuPartha : Advanced Practical Geography – A LaboratoryManual Books and Allied (P) Ltd, Kolkata. 2010.
3. Sarkar, Ashis : Practical Geography: A systematic Approach, Orient Longman limited,Calcutta, 1997.
4. Singh, Gopal : Map work and Practical Geography Vikas Publishing House Pvt.Ltd.New Delhi, 1996.
5. Singh, R and Kanaujia, L.R.S.: Map Work and Practical Geography, Central Book Depot,Allahabad.
6. Singh, R. L. and Rana P.B. : Elements of Practical Geography, Kalyani Publishers, NewDelhi – Ludhiana, 1998.
7. Aher A. B., Chodhari A. P. &Bharambe S. N. Techniques of Spatial Analysis PrashantPublication Jalgaon 2015

PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II
Semester –IV
Title of the Paper - REPRESENTATION OF STATISTICAL DATA

Paper Code: VSC4 (P) Total Lectures:60

No. of Credit: 02 Total Marks: 50

Preamble

This is the study and practice of collecting, analysing and presenting of statistical data that has a geographic or areal dimension. This course is to provide guidelines about how students should prepare their data. It consist of graphs and diagram as well as thematic mapping techniques.

Objective:

1. To know the knowledge about Graphs and diagram.
2. To know the basic idea about map elements.

Outcomes

1. Students are enable to compare figures at a glance.
2. Students learn different thematic mapping techniques.
3. Students are known to analyse the data and draw inference easily.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Graphs and Diagrams** 1.1 Diagrammatic Data Presentation: i) Climograph, ii) Hythergraph iii) Ergograph (Crop Calendar)	30	1
2	**Thematic Mapping Techniques**: 2.1 Proportional Circle and Sphere 2.2 Choropleth Map 2.3 Dot Map 2.4 Isopleths 2.5 Star Diagram	30	1

References:

1. Robinson, A.H. and Sale, S.D.: Elements of Cartography, John Witey and Sons, Inc, NewYork, 1969.
2. Saha, Pijushkanti and BasuPartha : Advanced Practical Geography – A LaboratoryManual Books and Allied (P) Ltd, Kolkata. 2010.
3. Sarkar, Ashis : Practical Geography: A systematic Approach, Orient Longman limited,Calcutta, 1997.
4. Singh, Gopal : Map work and Practical Geography Vikas Publishing House Pvt.Ltd.New Delhi, 1996.
5. Singh, R and Kanaujia, L.R.S.: Map Work and Practical Geography, Central Book Depot,Allahabad.
6. Singh, R. L. and Rana P.B. : Elements of Practical Geography, Kalyani Publishers, NewDelhi – Ludhiana, 1998.

7. Aher A. B., Chodhari A. P. &Bharambe S. N. Techniques of Spatial Analysis PrashantPublication Jalgaon 2015
8. Maurice Yeats, An Introduction to Quantitative Analysis in Human Geography, McGrawHill, New York, 1974.

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PUNYASHLOK AHILYADEVI HOLKAR SOLAPUR UNIVERSITY, SOLAPUR
New Structure of Syllabus (NEP 2020)
Class: B. Sc. Part- II
Semester –IV
Title of the Paper - FIELD PROJECT IN GEOGRAPHY

Paper Code:FP1 Total Lectures:60
No. of Credit: 02 Total Marks: 50

Preamble

In the field project students are to collect data, analyze it, and use it to create maps and understand the region. Field projects help geographers understand the physical, biological, and human aspects of a region.

Objective:

1. Tointroducethestudentsaboutfield techniquesand tools.
2. Tointroducethestudentsto designthefield report
3. Acquaint thestudentwithwritingofproject report.

Outcome:

1. It is first-hand knowledge for a student to learn the basis of research techniques
2. To provide a general idea about a how to write research project.

Topic No	Name of Topic and Details	No. of Lectures	No of Credits
1	**Field Work and Data** 1.1 FieldWork– Role,Value, EthicsandImportance 1.2 IdentifyingtheCaseStudy 1.3 Sources of the Data	30	1
2	**DesigningtheFieldReport** 4.1 Introduction 4.2 Aimsand Objectives 4.3 Review of Literature 4.4 Methodology 4.5 Sampling/ Survey 4.6 Interpretation/ Result 4.7 Conclusion	30	1

PracticalRecord

1. Eachstudentwillprepareanindividualreportbasedonprimaryandsecondary data collected during field work.
2. Thedurationofthe fieldworkshould notexceed10 days.
3. Thewordcountofthereportshouldbeabout**8000to12,000**excludingfigures, tables, photographs, maps, references and appendices.
4. OnecopyofthereportonA4sizepapershouldbesubmittedin hardcopyatthetime 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. EvansM.,1988:"ParticipantObservation:TheResearcherasResearchTool"in Qualitative Methods in Human Geography, eds.J.Eylesand 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. C nceptPubls. Co., New Delhi
6. SpecialIssueon “DoingFieldwork” The Geographical Review91:1-2(2001).
7. StoddardR.H.,1982:FieldTechniquesandResearchMethodsinGeography, Kendall/Hunt
10. Wolcott, H.1995.TheArtofFieldwork.AltaMiraPress,WalnutCreek,CA.

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