Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce, and Science College, Ahmednagar (Autonomous)

(Affiliated to Savitribai Phule Pune University, Pune)

National Education Policy (NEP)
Choice Based Credit System (CBCS)

Programme Skeleton and Syllabus of
M.Sc. Geography

Implemented from

Academic Year 2023-24

9.2 Distribution of credits

Type of Courses	Total Credits	Credits/ Semester
Discipline-Specific Core Courses (DSC)	54	14 /12
Discipline Specific Elective Courses (DSE)	16	04
Research Methodology (RM)	04	Semester I only
On-Job Training/ Internship (OJT/I	04	Semester II only
Project (PR)	10	Semesters III and IV only
Total	88	22

9.3 Master of Science (M.Sc.) Course Distribution

Class	Semester	Subjects	Courses	DSC		DSE		RM/OJT/ Internship etc.		Project *	Total Credits
				T	P	T	P	T	P		
M. Sc. I	I	01	09	03	03	01	01	01*		00	22
M. Sc. I	II	01	09	03	03	01	01	00	01	00	22
M. Sc. II	III	01	07	02	02	01	01	00	00	01	22
M. Sc. II	IV	01	07	02	02	01	01	00	00	01	22

* RM: Theory and Practical credits in RM paper shall be decided by the Department. The final marks/grade point shall be calculated by considering theory and practical marks.

9.4 Master of Science (M. Sc.) Credit Distribution

Class	Semester	Subjects	Courses	DSC		DSE		RM/OJT/ Internship etc.		Project *	Total Credits
				T	P	T	P	T	P		
M. Sc. I	I	01	09	08	06	02	02	04*		00	22
M. Sc. I	II	01	09	08	06	02	02	00	04	00	22
Exit Option: PG Diploma											
M. Sc. II	III	01	07	08	06	02	02	00	00	04	22
M. Sc. II	IV	01	07	08	04	02	02	00	00	06	22
				32	**20**	**08**	**08**	**02**	**06**	**12**	**88**

9.5 Master of Science (M. Sc.) Distribution of Courses

Class	Semester	Course and their credits in the bracket			
		DSC	DSE	RM/OJT/ Internship etc.	Project *
M. Sc. I	I	DSC -01 (03)	DSE -01 (02)	RM-01(04)	NA
M. Sc. I	I	DSC -02 (03)	DSE -02 (02)		
M. Sc. I	I	DSC -03 (02)			
M. Sc. I	I	DSC -04 (02)			
M. Sc. I	I	DSC -05 (02)			
M. Sc. I	I	DSC -06 (02)			
M. Sc. I	II	DSC -07 (03)	DSE -03 (02)	OJT-01 (04)	NA
M. Sc. I	II	DSC -08 (03)	DSE -04 (02)		
M. Sc. I	II	DSC -09 (02)			
M. Sc. I	II	DSC -10 (02)			
M. Sc. I	II	DSC -11 (02)			
M. Sc. I	II	DSC -12 (02)			
M. Sc. II	III	DSC -13 (04)	DSE -05 (02)	NA	PR-01(04)
M. Sc. II	III	DSC -14 (04)	DSE -06 (02)		
M. Sc. II	III	DSC -15 (03)			
M. Sc. II	III	DSC -16 (03)			
M. Sc. II	IV	DSC -17 (04)	DSE -05 (02)	NA	PR-02(06)
M. Sc. II	IV	DSC -18(04)	DSE -06 (02)		
M. Sc. II	IV	DSC -19 (02)			
M. Sc. II	IV	DSC -20 (02)			

Programme Framework (Courses and Credits): M. Sc. Geography

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
1.	I	I	6.0	DSC-01	MS-GO111T	Principles of Geomorphology	03
2.	I	I	6.0	DSC-02	MS-GO112T	Principles of Climatology	03
3.	I	I	6.0	DSC-03	MS-GO113T	Principles of Population Geography	02
4.	I	I	6.0	DSC-04	MS-GO114P	Practicals in Geomorphology	02
5.	I	I	6.0	DSC-05	MS-GO115P	Practicals in Climatology	02
6.	I	I	6.0	DSC-06	MS-GO116P	Practicals in Population Geography	02

7.	I	I	6.0	DSE-01	MS-GO117T (A)	Principles of Settlement Geography	02
8.	I	I	6.0	DSE-02	MS-GO117T (B)	Agricultural Geography	02
9.	I	I	6.0	DSE-03	MS-GO118P (A)	Practicals in Settlement Geography	02
10.	I	I	6.0	DSE-04	MS-GO118P (B)	Practicals in Agricultural Geography	02
11.	I	I	6.0	RM-01	MS-GO119T	Research Methodology	04
12.	I	II	6.0	DSC-07	MS-GO121T	Principles of Economic Geography	03
13.	I	II	6.0	DSC-08	MS-GO122T	Population Geography	03
14.	I	II	6.0	DSC-09	MS-GO123T	Geography of Rural Settlement	02
15.	I	II	6.0	DSC-10	MS-GO124P	Practicals in Economic Geography	02
16.	I	II	6.0	DSC-11	MS-GO125P	Practicals in Surveying	02
17.	I	II	6.0	DSC-12	MS-GO126P	Practicals in Map Projection	02
18.	I	II	6.0	DSE-05	MS-GO127T (A)	Geoinformatics - I	02
19.	I	II	6.0	DSE-06	MS-GO127T (B)	Coastal Geomorphology	02
20.	I	II	6.0	DSE-07	MS-GO128P (A)	Practicals in Geoinformatics - I	02
21.	I	II	6.0	DSE-08	MS-GO128P (B)	Practicals in Coastal Geomorphology	02
22.	I	II	6.0	OJT-01	MS-GO129P	On Job Training	04
23.	II	III	6.5	DSC-13	MS-GO231T	Geography of India	04
24.	II	III	6.5	DSC-14	MS-GO232T	Geographical Thoughts	04
25.	II	III	6.5	DSC-15	MS-GO233P	Practicals in Statistical techniques in Geography – I	03
26.	II	III	6.5	DSC-16	MS-GO234P	Interpretation of Topographical Maps and GPS Survey	03

27.	II	III	6.5	DSE-09	MS-GO235T (A)	Geoinformatics - II	02
28.	II	III	6.5	DSE-10	MS-GO235T (B)	Fluvial Geomorphology	02
29.	II	III	6.5	DSE-11	MS-GO236P (A)	Practicals in Geoinformatics - II	02
30.	II	III	6.5	DSE-12	MS-GO236P (B)	Practicals in Fluvial Geomorphology	02
31.	II	III	6.5	PR-01	MS-GO237PR	Project	04
32.	II	IV	6.5	DSC-17	MS-GO241T	Political Geography	04
33.	II	IV	6.5	DSC-18	MS-GO242T	Urban Geography	04
34.	II	IV	6.5	DSC-19	MS-GO243P	Practicals in Statistical techniques in Geography – II	02
35.	II	IV	6.5	DSC-20	MS-GO244P	Practicals in Remote sensing and GIS	02
36.	II	IV	6.5	DSE-13	MS-GO245T (A)	Watershed Management	02
37.	II	IV	6.5	DSE-14	MS-GO245T (B)	Tropical Geomorphology	02
38.	II	IV	6.5	DSE-15	MS-GO246P (A)	Practicals in Watershed Analysis	02
39.	II	IV	6.5	DSE-16	MS-GO246P (B)	Practicals in Terrain Analysis	02
40.	II	IV	6.5	PR-02	MS-GO247PR	Project	06

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar (Autonomous)

Board of Studies in Geography

Sr. No.	Name	Designation
1.	Dr.Anand P. Pandit	Chairman
2.	Prof. Bhagwan N. Kumbhar	Member
3.	Dr. Yogesh G. Kadam	Member
4.	Professor Dr. Sachin J. Deore	Academic Council Nominee
5.	Dr.Pandurang P. Chaudhari	Academic Council Nominee
6.	Prof. Sandip N. Deshmukh	Vice-Chancellor Nominee
7.	Dr. Asaram S. Jadhav	Alumni
8.	Mr. Vinit T. Bitla	Industry Expert
9.	Dr.Satish D.Kulakrni	Member (co-opt)
10.	Dr. Digambar D. Ahire	Member (co-opt)

1. Prologue/ Introduction of the programme:

A ‘Master's Degree in Geography’ will strengthen the knowledge and skills you need to begin a variety of rewarding careers. Geographers work as urban planners, GIS technicians and analysts, disaster preparedness planners, teachers, environmental scientists, remote sensing analysts, transportation planners, demographers, hydrologists and in a variety of other areas. Students who complete a Master's Degree in Geography will examine the spatial organization of physical features and human activities at a variety of spatial scales from local to global. Students will be able to locate features on the surface of the earth, able to explain why they are located where they are and describe how places are similar and/or different. Students will also examine human interactions with the environment and describe how physical landscapes and cultural scenarios change through time. Students completing physical geography courses will be able to describe the processes that drive the earth's climate, create landforms, and govern the distribution of plants and animals. Students completing human geography will analyze and describe cultural phenomena such as population, development, agriculture, language, and religion. Students will able to use recent advanced techniques like GIS, RS, GPS, GNSS, Total station and Drone for surveying, mapping and geographical analysis.

2. Programme Outcomes (POs)

1. Conduct Social Survey Project: Students will be competent in conducting a social survey project, which is necessary for the assessment of the development status of a particular group or section of society.

2. Individual and teamwork: Students will be able to work effectively as an individual and as a member or leaders in diverse teams and multidisciplinary settings.

3. Application of modern instruments: Students will be able to apply various modern instruments for data collection and field surveys.

4. Application of GIS and modern Geographical Map Making Techniques: Students will learn to prepare maps based on GIS by using modern geographical map-making techniques.

5. Development of Observation Power: As a student of Geography, they will be capable to develop their observation power through field experience and in future, they will be able to identify the socio-environmental problems of a locality.

6. Development of Communication Skills and Interaction Power: After the completion of the course, students will be efficient in their communication skills as well as the power of social interaction.

7. Presentation Skill: Students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.

8. Understand Environmental Ethics and Sustainability: Understand the impact of the acquired knowledge in societal and environmental contexts and demonstrate the knowledge of the need for sustainable development.

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Principles of Geomorphology								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-1	MS-GO111T	03	00	03	45	30	70	100

Learning Objectives:

1. To understand basic concepts and the history of geomorphology.
2. To analyze the theories and processes of landform development.
3. To make students able to evaluate different types of geomorphic processes.
4. To make students well aware of folds, faults and associated landforms.
5. To make students able to analyze the processes of erosion, transportation and deposition and resulting landforms.

Course Outcomes (COs):

After completion of this course students will

1. Understand basic concepts and the history of geomorphology.
2. Analyze the theories and processes of landform development.
3. Able to evaluate different types of geomorphic processes.
4. Well aware of folds, faults and associated landforms.
5. Analyze the processes of erosion, transportation and deposition and resulting landforms.

Detailed Syllabus:

Unit I: Introduction to Geomorphology (08)

a. Definitions, Nature and Scope of Geomorphology

b. History of Geomorphology

c. Geologic time scale

Unit II: Geomorphology and Tectonics (12)

a. Internal structure of the Earth: Layers based on physical and chemical properties

b. Seismic waves and types

c. Wegener's Continental Drift Theory

d. Theory of Plate Tectonics

e. Isostasy

f. Folds: Types and landforms

g. Faults: Types and landforms

Unit III: Weathering and Mass Movement Processes (05)

a. Weathering: Types

b. Mass Movement: Types of mass movement

Unit IV: Geomorphic Agents and Landforms (20)

a. River processes: Erosion, Transportation and Deposition

b. Fluvial landforms: Erosional and Depositional

c. Glacial processes: erosion, transportation and deposition

d. Glacial landforms: erosional and depositional

e. Coastal processes: Erosion, Transportation and Deposition

f. Coastal landforms: erosional and depositional

g. Wind processes: erosion, transportation and deposition

h. Arid landforms: erosional and depositional

Suggested Readings/Material:

1. Bloom, A.L. (2012): Geomorphology- A Systematic Analysis of Late Cenozoic Landforms, Prentice-Hall of India, New Delhi

2. Chorley, R.J., Schumm, S. A. and Sugden, D. E. (1984): Geomorphology, Methuen, London.

3. Gregory, K.J. and Goudie, A.S. (2014): The SAGE Handbook of Geomorphology, SAGE, London.

4. Christiansen E.H. and Hamblin, W.K. (2008): The Earths dynamic systems Macmillan, New York and Collier Macmillan London.

5. Holmes, (1944): Principles of Physical Geology, Thomas Nelson and Sons Ltd, London.

6. Huggett, R.J. (2008): Fundamentals of Geomorphology, Routledge, London and New York.

7. Goudie A.S. (2004): Encyclopedia of Geomorphology, Routledge, London and New York.

8. Kale, V.S. (2014): Landscapes and Landforms of India, Springer, London/New York.

9. Kale, V.S. and Gupta, A. (2010): Introduction to Geomorphology, Universities Press, Hyderabad

10. Migon, P. (2010): Geomorphological Landscapes of the World, Springer, London/New York.

11. Ollier, C.D. (1981): Tectonics and Landforms, Longman, London.

12. Singh, S. (2011): Geomorphology, Prayag Pustak Bhawan, Allahabad.

13. Siddhartha, K. (2001): The Earth's dynamic surface, Kisalaya, Delhi.

14. Spark, B.W. (1972): Geomorphology, Longman, New York.

15. Steers, A. (1958): The Unstable Earth, Methuen, London.

16. Strahler, A.H. and Strahler, A.N. (1992): Modern Physical Geography, John Wiley, New York.

17. https://www.pmfias.com/category/geography-upsc-ias/

18. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
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Syllabus
M.Sc. Geography

Title of the Course: Principles of Climatology								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-2	MS-GO112T	03	00	03	45	30	70	100

Learning Objectives:

1. To understand concepts, development and branches of climatology.
2. To recognize evolution, structure, composition and importance of atmosphere.
3. To understand the insolation, mechanism of heat transfer, lapse rate and inversion of temperature.
4. To recognize atmospheric pressure, pressure belts and their relation with wind system.
5. To understand concepts of atmospheric moisture and atmospheric stability, air masses and air fronts.

Course Outcomes (COs):

After completion of this course students will

1. Understand concepts, development and branches of climatology.
2. Recognize evolution, structure, composition and the importance of atmosphere.
3. Understand the insolation, mechanism of heat transfer, lapse rate and inversion of temperature.
4. Recognize atmospheric pressure, pressure belts and their relation with the wind system.
5. Understand concepts of atmospheric moisture and atmospheric stability, air masses and air fronts.

Detailed Syllabus:

Unit I: Introduction **(05)**

a. Meteorology and Climatology

b. Nature and Scope of Climatology

c. Tropical Climatology

Unit II: Earth's Atmosphere **(08)**

a. Evolution of atmosphere

b. Structure and composition of atmosphere

c. Lapse Rate and Temperature Inversion: Concepts and Types

d. Ozone layer: Importance and ozone layer depletion

Unit III: Insolation **(08)**

a. Electromagnetic spectrum

b. Insolation: Concept and Factors affecting insolation

c. Latitudinal and seasonal variation

d. Solar radiation, terrestrial radiation and greenhouse effect

e. Mechanisms of heat transfer and Heat Budget

Unit IV: Atmospheric Pressure and Winds **(08)**

a. Atmospheric Pressure: Measurement, distribution and affecting factors

b. Wind: Measurement, Factors affecting and types

c. Jet stream

d. Cyclones and Anticyclones

e. Models of the general circulation of the atmosphere

Unit V: Atmospheric Moisture **(06)**

a. Atmospheric Moisture

b. Hydrologic Cycle

c. Forms of Precipitation

d. Types of Rainfall

Unit VI: Atmospheric Stability **(06)**

a. Stable and unstable air

b. Absolute stability

c. Absolute instability

d. Conditional instability

Unit VII: Air Masses and Fronts **(04)**

a. Introduction to air masses and fronts

b. Types of air masses

c. Types of fronts

Suggested Readings/Material:

1. Critchfield, H.J. (Rep. 2010): General Climatology. Prentice Hall, New Delhi.

2. Lal, D.S. (1998): Climatology, Chaitanya Publishing House, Allahabad.

3. Lutgens, Frederic K. & Tarbuck, Edward J. (2010): 'The Atmosphere: An Introduction to Meteorology', Pearson Prentice Hall, New Jersey.

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

5. Savindra Singh (2005): Climatology, Prayag Pustak Bhawan, Allahabad.

6. Trewartha, G. T (1937): Introduction to Weather and Climate, McGraw-Hill, London.

7. Richard Rennebog (2018): Principles of Climatology, Salem Press, a division of EBSCO Information Service, Incorporated.

8. Salvador Poole (2019): Callisto Reference.

9. More, Pagar, Thorat (2014): Elements of Climatology & Oceanography, Atharv Publication, Pune.

10. https://mausam.imd.gov.in/

11. https://www.pmfias.com/category/geography-upsc-ias/

12. https://www.ncdc.noaa.gov/cdo-web/

13. https://worldweather.wmo.int/en/home.html

14. https://climate.nasa.gov/vital-signs/global-temperatur

15. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
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Syllabus
M.Sc. Geography

Title of the Course: Principles of Population Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-3	MS-GO113T	02	00	02	30	15	35	50

Learning Objectives:

1. To understand basic concepts in population geography.
2. To make students well aware of population distribution, density and its factors influencing.
3. To understand the concepts, components and theories of population growth.
4. To analyze the structure and composition of a population.
5. To evaluate basic measures of fertility and mortality.

Course Outcomes (COs):

After completion of this course students will

1. Understand basic concepts in population geography.
2. Well aware of population distribution, density and its factors influencing.
3. Understand the concepts, components and theories of population growth.
4. Analyze the structure and composition of a population.
5. Evaluate basic measures of fertility and mortality.

Detailed Syllabus:

Unit I: Introduction to Population Geography **(06)**

a. Definitions of Population Geography

b. Nature and scope of Population Geography

c. Development of Population Studies

Unit II: Population Distribution **(06)**

a. World Population Distribution

b. Population Density: Definition and Types

c. Factors influencing Population Distribution and Density

d. Population Density in India

Unit III: Population Growth and Trend (06)

a. Concept and Components of Population Growth

b. Theory of Demographic Transition

c. Malthus' Theory of Population

d. The trend of population growth in India

Unit IV: Population Structure and Characteristics (06)

a. Age and Sex Structure in India

b. Concept: Aging of population and Dependant population

c. Occupational Structure in India

d. Literacy in India

e. Religious and Linguistic Composition in India

Unit V: Fertility and Mortality (06)

a. Concepts: fertility, fecundity, sterility, cohort

b. Crude Birth Rate, Age-specific fertility rate and Total Fertility Rate

c. Concept of baby boom

d. Concepts: mortality and morbidity

e. Crude Death Rate, Age-Specific Death Rate and Infant mortality rate

Suggested Readings/Material:

1. Bhende, A. and Kanitkar, T. (2011): Principles of Population Studies, Himalaya Publishing House, Bombay.

2. Beaujeu, G. J. (1966): Geography of Population, Longman Group Ltd.

3. Chandna, R.C. (Rep.2010): Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.

4. Clark, J. I. (1973): Population Geography, Pergamon Press Ltd., Oxford.

5. Clark, J.I. (1984): Geography and Population: Approaches and Applications, Pergamon Press Ltd., Oxford.

6. Hudson, (1970): Geography of Settlement, Macdonald & Evans Ltd., London.

7. Khullar, D. R. (2011): India A Comprehensive Geography, Kalyani Publication, New Delhi.

8. Michel Chisholm (1973): Studies in Human Geography, London.

9. Mishra, R.S. (1975): Economics of Growth and Development, Somaiya Publication Pvt.

Ltd.

10. Singh R.Y. (Rep. 2010): Geography of Settlements, Rawat Publication.

11. Musmade Arjun, Sonawane Amit and Jyotiram More, (2015): Population & Settlement Geography, Diamond Publication Pune.

12. https://censusindia.gov.in/

13. https://mahades.maharashtra.gov.in/publications.do?pubId=DSA

14. https://ahmednagar.nic.in/document-category/dsa/

15. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Geomeorphology								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-4	MS-GO114P	00	02	02	60	15	35	50

Learning Objectives:

1. To make students able to draw drainage network maps using methods of stream ordering.
2. To draw and use the various drainage basin analysis methods.
3. To identify geographical landforms through observation.

Course Outcomes (COs):

After completion of this course students will

1. Able to prepare a drainage network map using methods of stream ordering.
2. Able to draw and use the various drainage basin analysis methods.
3. Able to identify geographical landforms through observation.

Detailed syllabus:

Unit I: Drainage Network **(20)**

Stream ordering and Bifurcation ratio

a. Strahler's Method

b. Horton's Method

Unit II: Drainage Basin Relief Analysis **(30)**

Relief analysis (for 3 to 5 order drainage basin; based on grid method)

a. Absolute relief map

b. Relative relief map

c. Hypsometric analysis

d. Basin cross profiles

e. Block diagram (multiple sections)

Unit III: Field Visit **(10)**

a. Visit to a geographical place and identification of landforms

Suggested Readings/Material:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.

3. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.

4. Hudson F.S. (1976): Geography of Settlements, Estover, Macdonald & amp; Evans, England.

5. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.

6. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.

7. Michael, E. and Hurse, E. (1974): Transportation Geography, McGraw-Hill, New York.

8. Pollard, A.H. and Farhat Yusu. (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

9. Singh, J. and Dhillon, (1984): Agricultural Geography, Tata McGraw-Hill Publishing Company Limited, New Delhi.

10. Yeats, M.H. (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill, New York.

11. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Climatology								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-5	MS-GO115P	00	02	02	60	15	35	50

Learning Objectives:

1. To measure weather elements using weather instruments.
2. To represent climatic data using appropriate methods.
3. To classify climate using Koppen's and Thornthwaite's methods.
4. To collect weather data and represent it using appropriate techniques.

Course Outcomes (COs):

After completion of this course students will

1. Able to measure weather elements using weather instruments.
2. Able to represent climatic data using appropriate methods.
3. Classify climate using Koppen's and Thornthwaite's methods.
4. Able to collect weather data and represent it using appropriate techniques.

Detailed syllabus:

Unit I: Weather Elements **(10)**

a. Instruments and measurement techniques of weather elements

Unit II: Representation of Climatic Data **(20)**

a. Climatograph

b. Climograph

c. Simple wind rose

d. Hythergraph

Unit III: Climatic Classification **(20)**

a. Koppen's classification

b. Thornthwaite's Classification

Unit IV: Data Collection **(10)**

a. Collection of weather data and representation using an appropriate method

Suggested Readings/Material:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.

3. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.

4. Hudson F.S. (1976): Geography of Settlements, Estover, Macdonald & amp; Evans, England.

5. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.

6. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.

7. Michael, E. and Hurse, E. (1974): Transportation Geography, McGraw-Hill, New York.

8. Pollard, A.H. and Farhat Yusu. (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

9. Singh, J. and Dhillon, (1984): Agricultural Geography, Tata McGraw-Hill Publishing Company Limited, New Delhi.

10. Yeats, M.H. (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill, New York.

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13. https://www.ncdc.noaa.gov/cdo-web/

14. https://worldweather.wmo.int/en/home.html

15. https://climate.nasa.gov/vital-signs/global-temperature/

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Population Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-6	MS-GO116P	00	02	02	60	15	35	50

Learning Objectives:

1. To calculate various population indices.
2. To compute population growth and population projection.
3. To collect and graphically represent the population data.

Course Outcomes (COs):

After completion of this course students will

1. Able to calculate various population indices
2. Able to compute population growth and population projection
3. Able to collect and graphically represent the population data

Detailed syllabus:

Unit I: Population Indices **(30)**

a. Age-Sex pyramid

b. Dependency Ratio

c. Child-Women Ratio

d. Infant Mortality Rate

e. Mean Age at Marriage and Infant Mortality Relationship

Unit II: Demographic Transition and Population Projection **(20)**

a. Population Growth Rate

b. Population Projection

c. Testing of Demographic Transition Theory

Unit III: Population Data Collection **(10)**

a. Preparation of Questionnaire for population data collection

b. Collection of Population Data and representation

Suggested Readings/Material:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.

3. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.

4. Hudson F.S. (1976): Geography of Settlements, Eastover, Macdonald & amp; Evans, England.

5. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.

6. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.

7. Michael, E. and Hurse, E. (1974): Transportation Geography, McGraw-Hill, New York.

8. Pollard, A.H. and Farhat Yusu. (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

9. Singh, J. and Dhillon, (1984): Agricultural Geography, Tata McGraw-Hill Publishing Company Limited, New Delhi.

10. Yeats, M.H. (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill, New York.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
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Syllabus
M.Sc. Geography

Title of the Course: Principles of Settlement Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-1	MS-GO117T (A)	02	00	02	30	15	35	50

Learning Objectives:

1. To understand basic concepts of settlement geography
2. To understand the classification of settlements on various basis
3. To make students aware of the site, types and factors of rural settlements
4. To understand concepts and models related to urban settlements

Course Outcomes (COs):

After completion of this course students will

1. Understand basic concepts of settlement geography
2. Understand the classification of settlements
3. Well aware of the site, types and factors of rural settlements
4. Understand concepts and models related to urban settlements

Detailed syllabus:

Unit I: Introduction to Settlement Geography (06)

a. Definition, Nature and Scope of Settlement Geography

b. Development of Settlement of Geography

c. Approaches: Genetic, Spatial and Ecological

Unit II: Classification of Settlements (08)

a. Classification of Settlement: Urban and Rural

b. Site and Situation aspect in settlement

c. Types: Compact, Semi-Compact, Hamleted and Dispersed

d. Patterns of Settlements

Unit III: Rural Settlements **(08)**

a. Village: Definition and Classification

b. Size and Spacing of villages

c. Nearest Neighbor Analysis

d. Dispersion and Nucleation: Concepts and Factors Influencing

Unit IV: Urban Settlements **(08)**

a. Concepts: Urban Place, Urban Agglomeration, Urban Sprawl

b. Stages of Urbanization

c. Urban-rural fringe: Concept and Characteristics

d. Rank Size Rule

e. Central Business District (CBD): Concept and Characteristics

Suggested Readings/Material:

1. Bhende, A. and Kanitkar, T. (2011): Principles of Population Studies, Himalaya Publishing House, Bombay.

2. Beaujeu, G. J. (1966): Geography of Population, Longman Group Ltd.

3. Chandna, R.C. (Rep.2010): Geography of Population, Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi.

4. Clark, J. I. (1973): Population Geography, Pergamon Press Ltd., Oxford.

5. Clark, J.I. (1984): Geography and Population: Approaches and Applications, Pergamon Press Ltd., Oxford.

6. Hudson, (1970): Geography of Settlement, Macdonald & Evans Ltd., London.

7. Khullar, D. R. (2011): India A Comprehensive Geography, Kalyani Publication, New Delhi.

8. Michel Chisholm (1973): Studies in Human Geography, London.

9. Mishra, R.S. (1975): Economics of Growth and Development, Somaiya Publication Pvt. Ltd.

10. Singh R.Y. (Rep. 2010): Geography of Settlements, Rawat Publication.

11. Musmade Arjun, Sonawane Amit and Jyotiram More, (2015): Population & Settlement Geography, Diamond Publication Pune.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Agricultural Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-2	MS-GO117T (B)	02	00	02	30	15	35	50

Learning Objectives:

1. To make students well aware of recent trends in agriculture geography.
2. To understand the importance of agriculture in the Indian economy.
3. To recognize the determinants of agriculture.
4. To understand the techniques of crop combination and agricultural efficiency.
5. To know about the characteristics of Indian agriculture.

Course Outcomes (COs):

After completion of this course students will

1. Well aware of recent trends in agriculture geography.
2. Understand the importance of agriculture in the Indian economy.
3. Recognize the determinants of agriculture.
4. Understand the techniques of crop combination and agricultural efficiency.
5. Know about the characteristics of Indian agriculture.

Detailed Syllabus:

Unit I: Introduction to Agricultural Geography **(03)**

a. Definition, nature, scope and significance

b. Recent Trends in Agriculture Geography

Unit II: Significance of Agriculture **(03)**

a. Significance of agriculture in the world

b. Importance of agriculture in the Indian economy

c. Role of agro-based industry in regional development

Unit III: Determinants of Agriculture **(04)**

a. Physical factors

b. Economic factors

c. Social factor

d. Technological factors

Unit IV: Agricultural regionalization **(05)**

a. Definition and concept

b. Views of Baker and Whittlesey

c. Crop combination techniques: Weaver and Thomas method

d. Agricultural efficiency: Kendall's ranking coefficient, Bhatia's method

Unit V: Agricultural Types **(10)**

a. Subsistence Agriculture: Definition, Types and Characteristics

b. Shifting cultivation

c. Dryland farming

d. Intensive subsistence agriculture

e. Commercial farming: Definition, Types and Characteristics

f. Commercial grain farming

g. Mixed farming

h. Horticulture

i. Plantation agriculture

Unit VI: Problems and Prospects of Agriculture **(05)**

a. Problems and prospects concerning India

b. Role of irrigation in agriculture development

c. Green revolution in India: Characteristics and problems

Suggested Readings/Material:

1. Aiyer, A.K.Y.N. (1949): Agricultural and Allied Arts in Vedic India.

2. Bayliss Smith, T.P. (1987): The Ecology of Agricultural Systems. Cambridge University Press, London.

3. Berry, B.J.L. et. al. (1976): The Geography of Economic Systems. Prentice Hall, New York.

4. Brown, L.R. (1990): The Changing World Food Prospects - The Nineties and Beyond World Watch Institute, Washington D.C.

5. Dyson, T. (1996): Population and Food, Global Trends and Future Prospects. Routledge, London.

6. Gregor, H.P. (1970): Geography of Agriculture. Prentice Hall, New York.

7. Grigg, D.B. (1974): The Agricultural Systems of the World. Cambridge University Press, New York.

8. Grigg. D.G. (1974): The Agricultural Systems of the world An Evolutionary Approach.

9. Hartshorn, T.N. and Alexander, J.W. (1988): Economic Geography. Prentice Hall, New Delhi.

10. Illbery, B.W. (1985): Agricultural Geography, Social & Economic Analysis, Oxford University Press.

11. Mannion, A.M. (1995): Agriculture and Environment Change. John Wiley, London.

12. Morgan, W.B. (1987): Agriculture in the Third World - A Spatial Analysis. Westview Press, Boulder.

13. Morgan. W.B. and Monton, S.C. (1971): Agricultural Geography Methuen, London.

14. Patil S. G., Suryawanshi R. S., Pacharne S. and Choudhar A. H. (2014): Economic Geography, Atharav Prakashan, Pune.

15. Pagar S. D., More J. C. & Thorat A. M. (2015): Agricultural Geography, Atharva Publication, Pune.

16. Randhawa, M.S. (1980): An History of Agriculture in India Vols. I, II, III, IV, ICAR, New Delhi.

17. Saptarshi P.G., More J.C., Ugale V.R., Musmade A.H. (2009): India A Geographical Analysis, Diamond, Pune.

18. Sauer, C.O. (1969): Agricultural Origins and Dispersals. M.I.T. Press, Mass, U.S.A.

19. Singh, J. and Dhillon, S.S. (1988): Agricultural Geography, 2nd edition, Tata McGraw Hill, New Delhi.

20. Singh, J. and Dhillon, S.S. (1994): Agricultural Geography, Tata McGraw Hill, Publishing.

21. Symons, Leslie (1970): Agricultural Geography, G. Belt and Sons Ltd., London.

22. Tarrent, J.R. (1970): Agricultural Geography, David and Charles, Newton Abbot.

23. Wigley, G. (1981): Tropical Agriculture: The Development of Production, 4th edition, Arnold, London.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

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Syllabus
M.Sc. Geography

Title of the Course: Practicals in Settlement Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-3	MS-GO118P (A)	00	02	02	60	15	35	50

Learning Objectives:

1. To calculate measures of nucleation and dispersion
2. To analyze hierarchy and interaction among settlements
3. To understand the developmental aspects of settlement

Course Outcomes (COs):

After completion of this course students will

1. Able to calculate measures of nucleation and dispersion.
2. Able to analyze the hierarchy of and interaction among settlements.
3. Understand the developmental aspects of settlement.

Detailed Syllabus:

Unit I: Measures of Nucleation and Dispersion **(15)**

a. Nearest Neighbour Analysis

b. Calculation of Centrality

Unit II: Hierarchy and Interaction of Settlements **(25)**

a. Gravity model by W.J.Reilly and Zipf

b. Rank Size Rule

c. Stages according to Urbanization Curve

d. Gini's Index

Unit III: Developmental Aspects of Settlements **(20)**

a. Relation between Basic/Non-Basic Ratio and Development of Settlement

b. Relationship between Land Value and Land Use

Suggested Readings:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.

3. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.

4. Hudson F.S. (1976): Geography of Settlements, Eastover, Macdonald & amp; Evans, England.

5. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.

6. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.

7. Michael, E. and Hurse, E. (1974): Transportation Geography, McGraw-Hill, New York.

8. Pollard, A.H. and Farhat Yusu. (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

9. Singh, J. and Dhillon, (1984): Agricultural Geography, Tata McGraw-Hill Publishing Company Limited, New Delhi.

10. Yeats, M.H. (1974): An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill, New York.

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New Arts, Commerce and Science College, Ahmednagar
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M.Sc. Geography

Title of the Course: Practicals in Agricultural Geography								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-4	MS-GO118P (B)	00	02	02	60	15	35	50

Learning Objectives:

1. To calculate the level and index of agricultural productivity.
2. To calculate crop combinations using various methods.
3. To calculate agricultural efficiency.

Course Outcomes (COs):

After completion of this course students will

1. Able to calculate the level and index of agricultural productivity
2. Able to calculate crop combination using various methods
3. Able to calculate agricultural efficiency

Detailed Syllabus:

Unit I: Crop Concentration and Diversification (25)

a. Levels in agricultural productivity – crop yield and concentration indices ranking coefficient (Jasbir Singh)

b. Enyedi's productivity index of agriculture

Unit II: Crop Combination Methods (25)

a. Weaver's method

b. Jasbir Singh

Unit III: Measurement of Agricultural Efficiency (10)

a. Kendall's Method

Suggested Readings:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Carter, H. (1977): The study of Urban Geography, Edward Arnold, London.

3. Hans, R. (1978): Fundamentals of Demography, Surjeet, Delhi.

4. Hudson F.S. (1976): Geography of Settlements, Eastover, Macdonald & amp; Evans, England.

5. Liendsor, J.M. (1997): Techniques in Human Geography, Routledge.

6. Lloyd, P. and Dicken, B. (1972): Location in Space - A theoretical approach to economic geography, Harper and Row, New York.

7. Michael, E. and Hurse, E. (1974): Transportation Geography, McGraw-Hill, New York.

8. Pollard, A.H. and Farhat Yusu. (1974): Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.

9. http://mospi.nic.in/agriculture-statistics

10. https://www.indiastat.com/data/agriculture

11. http://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Research Methodology								
Year: I				**Semester: I**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
RM-1	MS-GO119T	04	00	04	60	30	70	100

Learning Objectives:

1. To understand the meaning of research and research methodology.
2. To make students well aware of the concept of a research problem and research design.
3. To understand the methods of data collection.
4. To understand the types of research reports and components of a research project.
5. To know research ethics and plagiarism and statistical techniques for data analysis.

Course Outcomes (COs):

After completion of this course students will

1. Understand the meaning of research and research methodology.
2. Well aware about research design and sampling design.
3. Understand the concept of research problem.
4. Understand the research variables and types of hypothesis.
5. Know about research ethics and plagiarism.

Detailed Syllabus:

Unit I: Introduction to Research and Research Methodology (12)

a. Meaning of Research

b. Objectives of Research

c. Characteristics of Research

d. Types of Research

e. Various steps in research process

f. Research Methods versus Research Methodology

Unit II: Research Problem **(08)**

a. Definition of Research Problem

b. Identification of Research Problem

c. Techniques involved in defining research Problem

Unit III: Research Design **(08)**

a. Research Design - Definition

b. Purpose of Research Design

c. Characteristics of Good Research Design

Unit IV: Sampling Design **(08)**

a. Definition of Population, Sample, Sampling Design

b. Characteristics of good sample

c. Types or methods of sampling

d. Advantages and Disadvantages of Sampling

Unit V: Methods of Data Collection **(06)**

A] Primary Data

a. Questionnaire Method

b. Interview Method

c. Observation Method/ Field Work Method

B] Secondary Data

Unit VI: Data Analysis **(06)**

a. Variables and their types

b. Hypothesis- definition and types

c. Testing of hypothesis

d. Data Analysis Techniques- Meaning and Uses

i. Measure for Central Tendency and Dispersion

ii. Correlation and Regression Analysis

iii. Time series analysis

iv. T test, Z test, Chi-square test

Unit VI: Literature Review and Research Writing **(06)**

A] Types of Research Reports

a. Research Paper

b. Research Project

c. Dissertation and Thesis

C] Review of Literature

B] Components of Research Project

Title and Cover Page, Abstract, Introduction and Statement of the Problem/Research Question, Limitations of the Study, Literature Review, Data Collection, Methods of Analysis, Results, Discussion, Conclusion and Suggestions, References/Bibliography.

Unit VII: Research Ethics and Plagiarism (06)

a. Research Ethics

b. Plagiarism

c. Plagiarism Detection Softwares

d. Research Opportunities and Funding Agencies

e. Concept related to Research Publication

i. Google Scholar

ii. Impact Factor

iii. h – Index

iv. i10-Index

v. DOI

Suggested Readings:

1. Gaum, Carl G., Graves, Harod F., and Hoffman, Lyne, S.S., (1950): Report Writing, 3rd ed., New York: Prentice-Hall.
2. Kothari, C.R. (2004): Research Methodology: Methods and Techniques, New Age International (P) Ltd.,New Delhi – 110002.
3. Kothari, C.R., (1984): Quantitative Techniques, 2nd ed., New Delhi: Vikas Publishing House Pvt. Ltd.
4. Mishra Shanti Bhushan and Shashi A. (2011): Handbook of Research Methodology,Educreation Publishing, New Delhi – 110075.
5. Pandey, P. and Pandey, M.M. (2015): Research Methodology: Tools and Techniques,Bridge Center, Romania, European Union.
6. Tandon, B.C., (1979): Research Methodology in Social Sciences. Allahabad, Chaitanya Publishing House.
7. Ullman, Neil R. (1978): Elementary Statistics, New York: John Wiley & Sons, Inc.
8. Yamane, T., Statistics (1973): An Introductory Analysis, 3rd ed., New York: Harper and Row.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
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Syllabus
M.Sc. Geography

Title of the Course: Principles Economic Geography								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-7	MS-GO121T	03	00	03	45	30	70	100

Learning Objectives:

1. To understand basic concepts and recent trends in economic geography.
2. To know economic activities, their factors and models of location.
3. To recognize the types and importance of resources.
4. To gain knowledge of concepts, measures and models of economic development.
5. To understand fundamental concepts related to transportation, communication urbanization, privatization and economic development.

Course Outcomes (COs):

After completion of this course students will

1. Understand basic concepts and recent trends in economic geography.
2. Know economic activities, their factors and models of location.
3. Recognize the types and importance of resources.
4. Gain knowledge of concepts, measures and models of economic development.
5. Understand fundamental concepts related to transportation, communication urbanization, privatization and economic development.

Detailed Syllabus:

Unit I: Introduction to Economic Geography **(08)**

a. Definition, Nature and Scope

b. Approaches: Traditional and Modern

c. Recent Trends in Economic Geography

Unit II: Economic Activities **(13)**

a. Definition and Classification of Economic Activities

b. Factors of Location of Economic Activities: Physical, Social, Economic and Technical

c. Location of economic activities: Weber's and Von Thunen's model

Unit III: Economic Development (08)

a. Definition and concept of Economic development

b. Measures of Economic development

c. Classification of Countries based on Economic Development

d. Rostow's and Myrdal's model

Unit IV: Trade, Transport and Communication (08)

a. Definition and Types of Trade

b. Various Modes of Transportation

c. Various Means of Communication

d. Problems and prospects of international trade concerning India

Unit V: Economic Development in India (08)

a. Pre and Post-Independence Economic Development in India

b. Concept of globalization and privatization.

c. Regional Disparities in India and Maharashtra

Suggested Readings:

1. Alexander, J.W. (1977): Economic Geography, Prentice Hall of India Pvt. Ltd., New.

2. Lloyd, P. and Dicken, B. (1972): Location in Space: A Theoretical Approach to Economic Geography, Harper and Row, New York Methuen.

3. Mitra, A. (2002): Resource Studies, Sreedhar publishers, Kolkata.

4. Ray, P.K. (1997): Economic Geography, (P) Ltd., Calcutta. Reference Books:

5. Alexander, J.W. (1977): Economic Geography, Prentice Hall of India Pvt. Ltd., New.

6. Kanan Chatterjee (2015): Basics of Economic Geography.

7. Patil, S.G., Suryawanshi, R.S., Pacharne, S. and Choudhar, A.H. (2014): Economic Geography, Atharav Prakashan, Pune.

8. Ray, P.K. (1997): Economic Geography, New Central Book Agency (P) Ltd., Calcutta.

9. Prithwish Roy (2006): Resource Studies, New Central Book Agency (P) Ltd., Calcutta.

10. K. Siddhartha (2018): Economic Geography, Kisalaya publications PVT.LTD

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar

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Syllabus

M.Sc. Geography

Title of the Course: Population Geography								
Year: I					**Semester: II**			
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-8	MS-GO122T	03	00	03	45	30	70	100

Learning Objectives:

1. To understand basic concepts in population geography.
2. To comprehend the theories in population geography.
3. To understand the dynamics of the population and its role in population policies.
4. To recognize the causes of change in fertility, mortality and migration.
5. To apply knowledge of population geography in population planning.

Course Outcomes (COs):

After completion of this course students will

1. Students will understand basic concepts in population geography.
2. Students will comprehend the theories in population geography.
3. Students will understand the dynamics of the population and its role in population policies.
4. Students will recognize causes of change in fertility, mortality and migration
5. Students will be able to apply knowledge of population geography in population planning.

Detailed Syllabus:

Unit I: Introduction and Population Distribution (10)

a. Definitions of Population Geography

b. Sources of Population Data: Census, National Sample Survey, Sample Registration The survey, NFHS, DLHS data

c. Population Distribution and Density in the world

d. Determinants of Population Distribution and Density

Unit II: Theories of Population **(07)**

a. Malthus' Theory of Population

b. Optimum Population Theory

c. Demographic Transition Model

d. Liebenstein's model of fertility decline

Unit III: Fertility and Mortality **(08)**

a. Concept of Nuptiality, Fertility, Mortality and Morbidity

b. Basic Measures of Fertility and Mortality

c. Determinants of Fertility

Unit IV: Migration **(12)**

a. Definition and Types (Internal and International)

b. Determinants and Consequences of Migration

c. Lee's Theory of Migration,

d. Ravenstein's Laws of Migration

e. Push-pull factors of Migration

Unit V: Population Development and Policies **(08)**

a. Human Development Index (HDI)

b. Current Population Policy of India

c. Relation between Population Growth and Development

Suggested Readings/Material:

1. Agarwala, S.N. (1977): India's population Problems, Tata McGraw Hill publishing Co. Ltd., New Delhi.

2. Bose Ashis et.al. (1974): Population in India's Development Vikas Publishing House, New Delhi, 1974.

3. Chandna R.C. (1986): Geography of Population concepts, Determinants and Patterns, Kalyani Publishers, New Delhi

4. Clarke J.I (1973): Population Geography, Pergamon Press, Oxford.

5. Clarke J.I. (1984): Geography and Population, Approaches and Applications, Pergamon Press, Oxford.

6. Crook Nigel (1997): Principles of Population and Development, Pergamon Press New York.

7. Garnier B.J. (1970): Geography of Population, Longman, London.

8. Pathak, K.B. and F. Ram, (1992): Techniques of Demographic analysis, Himalaya Publishing House, Bombay.

9. Sundaram K.V. and Sudesh Nangia (1986): Population Geography, Heritage Publications, Delhi

10. U N D P (2002): Human Development Report, Oxford.

11. Woods R. (1970): Population Analysis in Geography, Longman, London

12. Zelinsky Wilbur (1966): A Prologue to Population Geography Prentice Hall

13. Musmade Arjun, Sonawane Amit and Jyotiram More, (2015): Population & Settlement Geography, Diamond Publication, Pune.

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Syllabus
M.Sc. Geography

Title of the Course: Geography of Rural Settlement								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-9	MS-GO123T	02	00	02	30	15	35	50

Learning Objectives:

1. To make students well aware of the historical evolution of settlements and their impact on place names.
2. To understand factors affecting settlements and methods of measuring the degree of dispersion and system of land division.
3. To understand theories of rural land use.
4. To make students well aware of the morphogenesis of rural settlements and their transformation.
5. To recognize types of houses in rural settlements.

Course Outcomes (COs):

After completion of this course students will

1. Well aware of the historical evolution of settlements and its impact on place names.
2. Understand factors affecting settlements and methods of measuring the degree of dispersion and system of land division.
3. Understand the theories of rural land use.
4. Well aware of the morphogenesis of rural settlements and their transformation.
5. Recognize the types of houses in rural settlements.

Detailed Syllabus:

Unit I: Introduction to Geography of Rural Settlements (04)

a. Definition and Evolution of settlements

b. Historical, cultural and geographical aspects of settlements reflected in place names

Unit II: Growth and Distribution (06)

a. Site, situation, location and factors influencing

b. Dispersion and nucleation and factors influencing on it

Unit III: Theories of Rural Land Use (06)

a. Intensity of land use

b. Labour cost

c. Marketing of product

d. Von Thunen Theory

e. Ricardo Theory

Unit IV: Rural Economic Activities (06)

a. Basic concepts: Central place, complementary region, range, threshold and hierarchy

b. Centrality and Hierarchy of rural service centres

c. Central Place Theory

Unit V: Morphogenesis of Rural Settlements and Transformation (04)

a. Morphogenesis: Social, Cultural, and Economic organization within villages

b. Functional Growth and Socio-economic Transformation in rural areas

Unit VI: Rural House Types (04)

a. Primitive, vernacular and modern high rise

b. Physical, social, cultural and economic factors influencing rural house types

Suggested Readings/Material:

1. Alam, S.M. et.al. (1982): Settlement System of India, Oxford and IBH Publication Co., New Delhi.

2. Chisholm M. (1967): Rural Settlement and Land use. John Wiley, New York.

3. Clout, H.D. (1977): Rural Geography, Pergamon, Oxford.

4. Doniel, P. and Hopkinson, M. (1986): The Geography of settlement Oliver &Byod, Edinburgh.

5. Grover, N. (1985): Rural Settlement: A Cultural Geographical Analysis. Inter India Publication, Delhi.

6. Hudson, F.S. (1976): A Geography of Settlements, Macdonald and Evans, New York.

7. Ramchandran, H. (1985): Village clusters and Rural Development. Concept Publication, New Delhi.

8. Rao R. N. (1986): Strategy for Integrated Rural Development. B.R. Publication, Delhi.

9. Sen, L.K. (1972): Readings in Micro-level Planning and Rural Growth Centers,

National Institute of Community Development, Hyderabad.

10. Srinivas M.N. (1968): Village India, Asia Publication House, Bombay.

11. Wanmati S. (1983): Service Centers in Rural India, B.R. Publication Corporation, Delhi.

12. Musmade A.H., Sonawane AE, More JC, (2015): Population & Settlement Geography, (Marathi), Diamond Publication, Pune.

13. https://censusindia.gov.in/

14. https://mahades.maharashtra.gov.in/publications.do?pubId=DSA

15. https://ahmednagar.nic.in/document-category/dsa/

16. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Economic Geography								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-10	MS-GO124P	00	02	02	60	15	35	50

Learning Objectives:

1. To calculate crop combination using Jasbir Singh's method
2. To measure agriculture efficiency using Kendall's method.
3. To calculate levels of agricultural productivity.
4. To use various techniques in industrial and transport geography.

Course Outcomes (COs):

After completion of this course students will

1. Able to calculate crop combination using Jasbir Singh's method
2. Able to measure agriculture efficiency using Kendall's method.
3. Able to calculate levels of agricultural productivity.
4. Able to use various techniques in industrial and transport geography.

Detailed syllabus:

Unit I: Techniques in Agricultural Geography (25)

a. Crop-combination techniques - Jasbir Singh

b. Measurement of Agriculture efficiency-Kendall

c. Levels in agricultural productivity -crop yield and concentration indices ranking coefficient

(Jasbir Singh) with map.

d. Enyedi's productivity index of agriculture.

Unit II: Techniques in Industrial Geography (20)

a. Location Quotient

b. Lorenz Curve

c. Von Thunean Model

Unit III: Techniques in Transport Geography (10)

a. Graph theoretical measures of transport network indices

b. Gravity potential population surface.

c. Breaking point theory - Trade area delimitation, Law of retail trade gravitation.

Unit IV: Case study (05)

a. A case study of one local agro-based industry: Economic analysis, problems and prospects (Sugar factory/ winery/ agro-tourist centre etc.)

Suggested Readings/Material:

1. Singh, J. and Dhillon, S. S. (1994): Agricultural Geography, Tata McGraw Hills, New Delhi

2. Yeats, M. H. (1978): An introduction to quantitative analysis in human geography

3. Monkhouse, F. J. and Wilkison, H. R. (1976): Map and Diagrams, Methuen and Co.

4. Kansky, N. T. (1965): Structure of Transport Network.

5. https://studymaterial.unipune.ac.in/

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar

(Autonomous)

Syllabus

M.Sc. Geography

Title of the Course: Practicals in Surveying								
Year: I					**Semester: II**			
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-11	MS-GO125P	00	02	02	60	15	35	50

Learning Objectives:

1. To understand methods and important concepts of surveying.
2. To make students well aware of components of dumpy level and will able to use it for surveying.
3. To make students well aware of components of theodolite and will able to use it for surveying.
4. To make students well aware of components of the total station and will able to use it for Surveying.

Course Outcomes (COs):

After completion of this course students will

1. Understand methods and important concepts of surveying.
2. Well aware of components of dumpy level and will be able to use it for surveying.
3. Well aware of the components of theodolite and will be able to use it for surveying.
4. Well aware of the components of the total station and will be able to use it for Surveying.

Detailed Syllabus:

Unit I: Introduction to Surveying (10)

a. Definitions and methods

b. Benchmarks

c. Spot heights

d. Reduced levels

e. Interpolation and contouring

Unit II: Dumpy/Auto level **(10)**

a. Various components and common terms used in dumpy level survey

b. Collimation method and Rise and Fall method

c. Profile drawing and block contouring

Unit III: Transit Theodolite **(15)**

a. Various components and common terms used in Theodolite

b. Intersection method and Tachometric method

Unit IV: Total Station **(15)**

a. Various components and common terms used in Total Station

b. Area and profile drawing

Unit V: Field Visit **(10)**

a. Dumpy level/Theodolite /Total Station Survey of a Beach, River Profiles and Slope

Suggested Readings:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Duggal, S.K. (2013): Surveying Vol. 2, McGraw Hill Publication, New York.

3. Kanetkar, T.P. and Kulkarni, S.V. (2010): Surveying and Leveling Vol. II, Pune Vidyarthi Publication, Pune.

4. Maslov, AV., Gordeev, A.V. and Batrakov, Yu.G. (1984): Geodetic surveying, Mir Publishers, Moscow.

5. Rangwala, S.C. (2011): Surveying and Leveling, Charotar Publishing House Pvt. Ltd. Anand.

6. Punmia, B.C., Jain A. and Jain A. (2011): Surveying, Vol. II. and III, Laxmi Publication -New Delhi.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Map Projection								
Year: I					**Semester: II**			
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSC-12	MS-GO126P	00	02	02	60	15	35	50

Learning Objectives:

1. To understand the concept of map projection, types of map projection and their properties.
2. To construct various types of map projections.
3. To choose map projection according to need.

Course Outcomes (COs):

After completion of this course students will

1. Understand the concept of map projection, types of map projection and their properties.
2. Able to construct various types of map projections.
3. Able to choose map projections according to need.

Detailed Syllabus:

Unit I: Map projections **(15)**

a. Definition and necessity of projections

b. Types- Perspective and non-perspective, conventional

c. Classification based on

d. Developable surfaces used

e. Position of a source of light

f. Properties

Unit II: Zenithal Projections **(10)**

a. Zenithal Polar Gnomonic Projection

b. Zenithal Polar Stereographic Projection

Unit III: Conical Projections **(10)**

a. Polyconic Projection

b. Bonne's Projection

Unit IV: Cylindrical Projections **(10)**

a. UTM Projection

b. Cylindrical Equal Area Projection

Unit V: Conventional Map Projections **(15)**

a. Mollweide Projection

b. Sinusoidal Projection

Graphical construction, properties and uses of these projections (2 exercises of each)

Suggested Readings/Material:

1. Asis Sarkar (2015): Practical Geography, A Systematic Approach, Orient Black Swan

2. Maling, DH. (1973): Coordinate systems and map projections, George Philip, London.

3. Richardus, P. and Adler Ron, K. (1972): Map projections, North Holland publ. Co.,

Amsterdam.

4. Saha, P. and Basu, P. (2007): Advanced Practical Geography, Books and Allied (P) Ltd.Kolkatta.

5. Steers, J.A. (1970): An Introduction to Study of Map Projections. University of London Press Ltd., London.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Geoinformatics -I								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-5	MS-GO127T (A)	02	00	02	30	15	35	50

Learning Objectives:

1. To understand the fundamentals of Geographical Information Systems.
2. To understand the structuring of spatial data and data analysis methods in GIS.
3. To understand database and data models in GIS.
4. To make students aware of applications of Geoinformatics.

Course Outcomes (COs):

After completion of this course students will

1. Understand the fundamentals of Geographical Information System.
2. Understand the structuring of spatial data and data analysis methods in GIS.
3. Understand databases and data models in GIS.
4. Aware of applications of Geoinformatics.

Detailed Syllabus:

Unit I: Introduction to GIS **(05)**

a. Definition, the potential of GIS

b. History of GIS

c. Objectives of GIS

d. Elements of GIS, hardware & software requirements

e. GIS Applications

e. GIS Tasks- input, manipulation, management, query &analysis, visualization

Unit II: Geographic Data (Spatial and Non-Spatial Data) **(05)**

a. Data Sources – Topographical Maps, GPS, Surveying and Satellite images

b. Spatial: spatial relationship, functional relationship, logical relationship

c. Non-spatial: nominal, ordinal, ratio and cyclic

Unit III: Data Models (06)

a. Spatial: Geometric primitives, Raster, Vector, Quadtree tessellation, comparative overview of raster and vector models, layers and coverage

b. Non-spatial: DBMS- Advantages, hierarchical database structure, Network database structure, Relational database structure

Unit IV: Structuring of Spatial Data (06)

i. Digitizers: manual, semi-automatic & automatic

ii. Editing error: detection & correction, topology building - Connectivity, Containment,

Contiguity

Unit V: Data Analysis (08)

i. Attribute databases: operations from algebraic theory

ii. Operations from set theory SQL: attribute query

iii. Spatial Databases: Grid operation in map algebra: Local, Focal

iv. SQL: spatial query

v. Multilayer data analysis

Suggested Readings:

1. Burroughs, P. A. and Mc Donnell, R.A. (2002): Principles of Geographical Information System, Oxford University Press.

2. George J. (2004): Fundamentals of Remote Sensing, Universities Press Pvt. Ltd., Hyderabad.

3. Jensen, J. R. (2003): Remote Sensing of Environment, An Earth Resource Perspective, Pearson Education Pvt. Ltd., New Delhi.

4. Kang- Tsung-Chang (2002): Introduction to Geographical Information System, McGraw Hill, London,

5. Lillesand, T. M. and Kiefer R. W. (2002): Remote Sensing and Image Interpretation, John Wiley and Sons, New Delhi.

6. Lo C. P. and Yeung, A.K.W. (2002): Concepts and Techniques of Geographic Information System, Prentice Hall, India.

7. Paul A. Lonfley, Michel F. Goodchild, D J. Maguire and D W. Rhind, (2002): Introduction to Geographic Information Systems and Science, John Wiley and Sons Ltd.

8.https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/resource/tutor/fundam/pdf/fundamentals_e.pdf

9. www.iirs.gov.in

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Coastal Geomorphology								
Year: I					**Semester: II**			
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-6	MS-GO127T(B)	00	02	02	60	15	35	50

Learning Objectives:

1. To understand components and classification of coastal geomorphology.
2. To make students well aware of coastal processes.
3. To understand the mechanism of coastal sediment.
4. To recognize characteristics of the coastal environment.

Course Outcomes (COs):

After completion of this course students will

1. Understand the components and classification of coastal geomorphology.
2. Well aware of coastal processes.
3. Understand the mechanism of coastal sediment.
4. Recognize the characteristics of the coastal environment.

Detailed syllabus:

Unit I: Introduction **(03)**

a. Components of coastal systems processes, sediment transport Morphology, Stratigraphy

b. Coastal classification – Genetic and Morphological

Unit II: Coastal Processes **(07)**

a. Waves: Definition, Types of waves, Process of shoaling, wave breakers – spilling, plunging and surging, reflection, diffraction and refraction of waves

b. Currents: Types of Currents, characteristics of currents

c. Tides: Equilibrium Theory of tides, semidiurnal, diurnal, spring, and neap tides, Amphidromic point, co–tidal lines, coastal tides, tides in bays and estuaries Tide and coastal landforms

Unit III: Sea level Mechanism **(06)**

a. Transgression, Regression, Relative and eustatic sea-level change

b. Causes and consequences of sea level change Pleistocene Sea levels, glacial eustasy, Staircase theory

c. Holocene transgression

d. Future Sea levels

e. Indicators of former sea levels: Fossil beach ridges, beach rocks, abandoned cliffs, Caves, raised features, shore platforms

Unit IV: Coastal sediments **(04)**

Properties, types and Movement

a. Clastic and biogenic sediments

b. Grain size characteristics

c. Sources sediment Coastline erosion and sea floor

d. Pathways of sediments transport: Factors affecting Transport, sediments traps and sinks

Unit V: Coastal environments **(06)**

a. Fluvial-dominated landforms

b. Wave-dominated landforms

c. Tide-dominated landforms

d. Biotic environments – Mangrove swamps and salt marshes

e. Corals and coral reefs

Unit VI: Applied Coastal Geomorphology **(04)**

a. Current coastal issues - i. Sea level rise ii. Storm hazard management iii. Coastal erosion

b. Wetlands, Kharlands, Estuarine reclamation

c. Salt intrusion and subsidence of coastal aquifers

Suggested Readings:

1. Davis J L (1980): Geographical variation in coastal development, Longman, New York

2. Embelton and Thornes (1979): Process in geomorphology, Arnold, London

3. Hails J and Carr A (1975): Nearshore sediment dynamics and sedimentation, Wiley, London

4. Karlekar Shrikant (1993): Coastal geomorphology of Konkan, Aparna Publication, Pune

5. Masselink G, Hughes M G (2003): Introduction to coastal processes and geomorphology, Arnold, London

6. Pethick John (1984): An Introduction to coastal geomorphology, Arnold Heinemann, London

7. Tooley M M and Shennan I (1987): Sea level changes, Basil Blackwell, Oxford, UK

8. Bird, E. (2000): Coastal Geomorphology. An Introduction, John Wiley and Sons , Chichester.

9. Kale, V.S. and Gupta, A. (2001): Introduction to Geomorphology, Orient Longman, Calcutta.

10. Jog S. R. and Suryawanshi R.S. (2004): Costal Landscape, Global Scientific, Pune

11. Karlekar Shrikant (2009) : Coastal processes and landforms, Diamond publication, Pune

12. BIRD (2009) Coastal Geomorphology: An Introduction

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: Practicals in Geoinformatics -I								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-7	MS-GO128P(A)	02	00	02	30	15	35	50

Learning Objectives:

1. To understand the basics of aerial photography.
2. To make students able to interpret satellite images.
3. To understand raster and vector data.

Course Outcomes (COs):

After completion of this course students will

1. Understand the basics of aerial photography.
2. Able to interpret satellite images.
3. Understand raster and vector data.

Detailed syllabus:

Unit I: Aerial Photography **(15)**

Measurements and Interpretation

a. Scale and height (using parallax bar)

b. Visual Interpretation of single aerial photograph

c. Interpretation of stereo pair using Stereoscope

Unit II: Satellite Images **(10)**

a. Visual interpretation of LISS, PAN, WiFS

b. Cartosat Data, IKONOS and Quick Bird

Unit III: Spatial Database **(20)**

Layer Generation

a. Raster: Full Grid, Chain Codes and Run Length Codes

b. Vector: Manual Digitization, Digitization, Errors and Topology Building

Unit IV: GIS operations (15)

a. Raster and vector overlay, map algebra (AND, OR) from a toposheet quadrant

b. Spatial interpolation from a toposheet quadrant

Suggested Readings:

1. P. A. Burrough and R. A. McDonnell, (2000): Principles of Geographical Information System, Oxford University Press.

2. C. P. Lo and Albert, K. W. Yeung (2002): Concepts and Techniques of Geographic Information System, 2002Prentice –Hall, India.

3. Paul A. Lonfley, Michel F. Goodchild, D J. Maguire and D.W. Rhind (2002): Introduction to Geographic Information Systems and Science, John Wiley and Sons Ltd.

4. Kang – Tsung – Chang, (2002): Introduction to Geographical Information System, McGraw Hill.

5. George Joseph, (2004): Fundamentals of Remote Sensing, Universities Press Pvt. Ltd., Hyderabad.

6. J. R. Jensen, (2003): Remote Sensing of Environment, An Earth Resource Perspective, Pearson Education Pvt. Ltd., New Delhi.

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar

(Autonomous)

Syllabus

M.Sc. Geography

Title of the Course:Practicals in Coastal Geomorphology								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
DSE-8	MS-GO128P(B)	00	02	02	60	15	35	50

Learning Objectives:

1. To identify coastal features using toposheets and satellite images.
2. To make students able to analyze wave and tide data.
3 To make students able to draw cross profiles of coastal features.
4. To make students able to analyze coastal sediments.

Course Outcomes (COs)

After completion of this course students will

1. Able to identify coastal features using toposheets and satellite images.
2. Able to analyze wave and tide data.
3. Able to draw cross profiles of coastal features.
4. Able to analyze coastal sediments.

Detailed syllabus:

Unit I: Identification of landforms **(05)**

a. Identification of coastal features using topographical maps/ satellite images

Unit II: Wave and Tide data analysis **(15)**

a. Monitoring of wave parameters in the surf zone and tide levels.

b. Wave and tide level data analysis.

Unit III: Planimetric and cross profiles **(15)**

a. Beach

b. Dune

c. Sand Bar

Unit IV: Coastal Sediment **(10)**

a. Sample collection and analysis of coastal sediments

Unit V: Mapping **(15)**

a. Geomorphic mapping of coastal features

b. Observation and recording of Human activities in coastal areas.

Suggested Readings:

1. Bloom, A. L. (2002): Geomorphology: A Systematic Analysis of Late Cenozoic, Landforms,

Prentice-Hall of India, New Delhi

2. Carter, R. W. G. (1988): Coastal Environments, Academic press ltd., London

3. Dackombe, R. V. and Gardiner, V. (1983): Geomorphological Field Manual, George Allen and Unwin, London

4. Goudie, A. (1990): Geomorphological Techniques, Routledge, London

5. King, C. A. M. (1972): Beaches and Coasts, Edward Arnold, London

6. Pethick, J. (1984): An Introduction to Coastal Geomorphology, Arnold-Heinemann, London

7. Smith, M. J., Paron, P. and Griffiths, J. (2011): Geomorphological Mapping, Elsevier, Amsterdam

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Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

New Arts, Commerce and Science College, Ahmednagar
(Autonomous)
Syllabus
M.Sc. Geography

Title of the Course: On Job Training								
Year: I				**Semester: II**				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
OJT-1	MS-GO129P	00	04	04	120	30	70	100

Detailed Syllabus:

Detailed guidelines of the On Job Training (OJT) will be decided by centrally.