

DOMBIVLI SHIKSHAN PRASARAK MANDAL'S
K. V. PENDHARKAR COLLEGE OF ARTS, SCIENCE
AND COMMERCE (AUTONOMOUS), DOMBIVLI EAST

Affiliated to University of Mumbai

Faculty of Arts

DEPARTMENT OF GEOGRAPHY

Programme: Bachelor of Arts (B.A.)

F.Y.B.A. SYLLABUS

Choice Based Credit System with effect from the academic year 2023-24

**DSPM'S K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE AND COMMERCE, DOMBIVLI
(EAST), DIST. THANE
(AUTONOMOUS)**

Affiliated to University of Mumbai

CONTENT

Sr. No.	Course	SEM	Code	Credits	No. of Lectures
1	Settlement Geography	II	GE23201MM	04	60
2	Geography of Environment	II	GE23202MM	02	30
3.	Geography of Environment	II	GE23203MN	02	30
4.	DISASTER MANAGEMENT AND MITIGATION	II	GE23204OE	03	45
5.	GEOSPATIAL TECHNOLOGY	II	GE23205VS	04	60
6.	Cartographic Techniques and Computer Applications-II	II	GE23206SE	04	60
7.	Environmental Studies-II	II	GE23207VE	02	30

**DSPM'S K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE AND
COMMERCE, DOMBIVLI (EAST), (AUTONOMOUS)**

**F.Y.B.A. Semester- II
Settlement Geography**

COURSE CODE: **GE23201MM**

Credits- **04**

Objectives:

1. To introduce the nature of the settlement Geography
2. To analyze the Changing patterns of settlements.
3. To understand the regional variations and morphology of settlement.
4. To understand the models and hierarchy of settlement.

UNIT – I: Introduction of Settlement Geography		No. of Lectures (60)
1.1	Settlement geography: definitions, nature and scope	12
1.2	Settlement types, their characteristics and differences	
1.3	Factors influencing growth and distribution of settlements	
UNIT – II: Geography of Rural Settlements		12
2.1	Origin and growth of settlements - evolution of rural settlements	
2.2	Site and situation of rural settlements	
2.3	Classification of rural settlements on the basis of spacing, functions, population and patterns	
UNIT – III: Rural Settlements in India		12
3.1	Distribution and density of rural settlements in India	
3.2	Structure of house and building materials in India	
3.3	Regional variations in rural settlement patterns in India	
UNIT – IV: Urban Settlements		12
4.1	Origin and growth of urban settlements	
4.2	Classification of urban settlements on the basis of culture and functions	
4.3	Urban problems in Indian cities	
UNIT – V: Urban Settlements in India (with internal assessment)		12
5.1	Morphology of urban settlements in India (With reference to a port and inland city)	
5.2	Hierarchy of urban Settlement: rank size rule	
5.3	Smart city: Concept, need and implementation in India	

REFERENCES:

- ❑ Deshpande, C. D. (2005): “Cities: A Geographical Study”, Translated by V. G. Amrite, Manan Prakashan, Mumbai
- ❑ Gharpure, V. (2013): “Nagari Bhugol”, (Marathi) Pimpalpure and Company Publishers, Nagpur
- ❑ Gharpure, V. (2013): “Vasti Bhugol”, (Marathi) Pimpalpure and Company Publishers, Nagpur
- ❑ Gharpure, V. (2017): “Manavi Bhugol”, (Marathi) Pimpalpure and Company Publishers, Nagpur
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- ❑ Jyptirmoy Sen (2007): A Text Book of Social and Cultural Geography,” Kalyani Publsiher, New Delhi.
- ❑ Knowles, R and Wareing, J. (1996): “Economic and Social Geography”, the Made Simple Series, Rupa & Co., Calcutta
- ❑ Leong, Goh-Cheng and Morgan, G. (1994): “Human and Economic Geography”, Oxford University Press, Oxford
- ❑ Noble, A. (1998): “Using Descriptive Models to Understand South Asian Cities”, *Education About Asia*, Vol. 3, No. 3, Downloaded from <http://aas2.asian-studies.org/EAA/EAA-Archives/3/3/205.pdf>
- ❑ Siddhartha, K and Mukherjee, S. (2016): “Cities, Urbanisation and Urban Systems (Settlement Geography)”, KitabMahal, Allahabad
- ❑ Singh, L. R. (2009): “Fundamentals of Human Geography”, Sharda Pustak Bhawan, Allahabad
- ❑ Singh, R. Y. (2012): “Geography of Settlements”, Rawat Publications, Jaipur
- ❑ Tiwari, R. C. (2016): “Geography of India”, Pravalika Publications, Allahabad
- ❑ Thakur S. A. and others – “Settlement Geography”/ *Vasti Bhugol*- Konkan Geographers, Publication (2012)
- ❑ साळिंत प्रकाळ (१९९८) नागरी भूगोर, फडके प्रकाळन, कोल्हाप

**DSPM'S K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE AND COMMERCE,
DOMBIVLI (EAST), (AUTONOMOUS)**

**F.Y.B.A. Semester- II
Geography of Environment-II**

COURSE CODE: GE23202MM

Credits- 02

Objectives:

1. To create awareness about the dynamic environment among the students.
2. To make students aware about the problems of the environment, its utilization and conservation.
3. To develop the skill of map filling and interpreting
4. The fundamental issues and debates that circulate around the intersection of geography and environmental science, with a particular focus on how humans affect and are affected by modifications of the physical environment.

Sr. No.	Modules/Units	Lectures (30)
UNIT: I	Natural Resources and Biodiversity	10
1.1	Natural resources - meaning, definitions and importance.	
1.2	Types of Natural Resources	
1.3	Causes of depletion and methods/measures of natural resources conservation.	
UNIT -II	Contemporary Environmental Issues	10
2.1	Pollution - Air and Water Pollution - causes, effects and remedial	
2.2	measures Land and Noise Pollution - causes, effects and remedial	
2.3	measures	
	Major environmental issues – Global warming, Ozone depletion and Acid rain	
UNIT: III	Map Filling and Construction of Cartograph (with Internal Assessment)	10
3.1	Interpretation or question answer on thematic maps drawn with techniques - Choropleth Maps, Isopleth, Dot Maps and Flow Maps.	
3.2	Project on any Environmental Issues.	

Course Outcome:

1. Students will be able to understand the different resources & its threat & develop the measures for resource conservation.
2. Students will be able to think critically on environmental problems and need measures for it.
3. Students will be able to develop the skill of map filling of world and India map & map reading too

Learner Space:

1. Students will participate in co-operative learning strategies for different environmental issues.
2. Students will discuss natural ecosystems and biodiversity.
3. Students will prepare the assignment on different topics which are included in their syllabus, it will help them to collect and explain more information about various environmental; aspects.
4. Students will develop their skills in map filling of the world and also indicate the natural parks and sanctuaries in India.

References:

- Asolekar S, Gopichandran R. 2005, 'Preventive Environmental Management -anIndianperspective', CEE, Ahmedabad, Foundation Books Pvt Ltd, Daryaganj
- Chambers N., Simons C., Wackernagel M., 2006, 'Sharing Nature's Interest – Ecological Footprint As an indicator of sustainability'.
- Cunningham W., Cunningham M., 2003, 'Principles of Environmental Science –InquiryandApplications', Tata McGraw Hill Publication Company Ltd, New Delhi.
- Doniwal H. K., 'Urban Geography', GNOSIS, Delhi, 2009.
- Dresner S., 2005, 'The principles of sustainability', Earthscan publication Ltd, London.
- Gandotra V., Patel S., 2008, 'Environmental problems and strategies', SerialsPublication, NewDelhi
- Global Environment Outlook 3 -2002, 'Past, present and future perspectives', UNEP,Earthscanpublications Ltd, London, Sterling VA.
- Hulse J. H., 2007, 'Sustainable Development at risk -Ignoring the past', CambridgeUniversity PressIndia Pvt Ltd., New Delhi.
- Mohanta R., Sen A., Singh M.P., 2009, 'Environmental Education -Vol. 1', APHpublishingCorporation New Delhi.
- Nellison N., Straaten J. Van D. &Klinkers L., 2001, 'Classics in Environmental Studies –anoverview of texts in Environmental Studies', Kusum Publishing, Delhi
- Perumal M., Veerasekaran R., Suresh M., Asaithambi M., 2008, 'Environmental andEcologicalissues in India', Abhijeet Publication, Delhi
- Singh, R.B. (Eds.) (2009) Biogeography and Biodiversity. Rawat Publication, Jaipur
- Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies, Springer

Information and Communication Technology Backup:

1. <https://patnawomenscollege.in/upload/geographypdf/Meaning%20Scope%20of%20Environment%20Geography%20.pdf>
2. <https://www.uv.mx/personal/fpanico/files/2011/04/AA.-VV.-Environmental-geography>
3. <https://www.conserve-energy-future.com/what-is-an-ecosystem.php>
4. <https://www.yourarticlelibrary.com/environment/ecosystem/ecosystems-concept-structure-and-functions-of-ecosystems-with-diagram/28211>
5. <https://www.yourarticlelibrary.com/notes/ecosystems-meaning-and-types-of-ecosystem/39406>
6. https://www.youtube.com/watch?v=nRi-ooLzybg&ab_channel=VEDANTUNEETMADEEJEE
7. <https://www.gktoday.in/topics/biodiversity/>
8. https://www.youtube.com/watch?v=1ISFMMCfFSY&ab_channel=PrakashHajare
9. https://www.youtube.com/watch?v=Je1UDic1qn8&ab_channel=AVBhaiya

Universities which were referred to modify syllabi in fresh autonomy:

1. Bangalore University, Department Of Geography Jnana Bharathi, Bengaluru-56
2. Doctor Harisingh Gour Vishwavidyalaya (A Central University) Sagar (M. P.)
3. University of Calcutta
4. Savitribai Phule Pune University

PEDAGOGY for F.Y.B.A. (Geography of Environmental-I)- Sem-II

UNIT - I: NATURAL RESOURCES AND BIODIVERSITY

We can use Power Point Presentation, Documentaries, charts, case studies, e-sources.

UNIT - II: CONTEMPORARY ENVIRONMENTAL ISSUES

We can explain with the help of case studies, charts, brain storming, discussion, articles, documentaries, short films, projects, PPT, photographs, co-operative learning methods, reports published by Govt. and NGOs, preparation of article based on different reports, e-sources.

UNIT-III: MAP FILLING AND CONSTRUCTION OF CARTOGRAPH (with Internal Assessment)

It will develop the skill of understanding different cartographic techniques and interpretation of data which is presented on the map in various way.

Project will help to investigation and solution of problems and frequently the use and manipulate of physical and Man-made materials.

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**F.Y.B.A. Semester- II
Geography of Environment-II**

COURSE CODE: **GE23203MN**

Credits- **02**

Objectives:

5. To create awareness about the dynamic environment among the students.
6. To make students aware about the problems of the environment, its utilization and conservation.
7. To develop the skill of map filling and interpreting
8. The fundamental issues and debates that circulate around the intersection of geography and environmental science, with a particular focus on how humans affect and are affected by modifications of the physical environment.

Sr. No.	Modules/Units	Lectures (30)
UNIT: I	Natural Resources and Biodiversity	10
1.1	Natural resources - meaning, definitions and importance.	
1.2	Types of Natural Resources	
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UNIT -II	Contemporary Environmental Issues	10
2.1	Pollution - Air and Water Pollution - causes, effects and remedial	
2.2	measures Land and Noise Pollution - causes, effects and remedial	
2.3	measures	
	Major environmental issues – Global warming, Ozone depletion and Acid rain	
UNIT: III	Map Filling and Construction of Cartograph (with Internal Assessment)	10
3.1	Interpretation or question answer on thematic maps drawn with techniques - Choropleth Maps, Isopleth, Dot Maps and Flow Maps.	
3.2	Project on any Environmental Issues.	

Course Outcome:

1. Students will be able to understand the different resources & its threat & develop the measures for resource conservation.
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Learner Space:

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2. <https://www.uv.mx/personal/fpanico/files/2011/04/AA.-VV.-Environmental-geography>
3. <https://www.conserve-energy-future.com/what-is-an-ecosystem.php>
4. <https://www.yourarticlelibrary.com/environment/ecosystem/ecosystems-concept-structure-and-functions-of-ecosystems-with-diagram/28211>
5. <https://www.yourarticlelibrary.com/notes/ecosystems-meaning-and-types-of-ecosystem/39406>
6. https://www.youtube.com/watch?v=nRi-ooLzybg&ab_channel=VEDANTUNEETMADEEJEE
7. <https://www.gktoday.in/topics/biodiversity/>
8. https://www.youtube.com/watch?v=11SFMMCfFSY&ab_channel=PrakashHajare
9. https://www.youtube.com/watch?v=Je1UDic1qn8&ab_channel=AVBhaiya

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**F.Y.B.Com./B.Sc. OPEN ELECTIVES
DISASTER MANAGEMENT AND MITIGATION
SEMESTER-II**

COURSE CODE: GE23204OE

CREDIT-02

Objectives:

1. To Identify and note the disasters occurring in the World
2. To manage the risks occurring because of the Disasters
3. To understand the scenarios of Deluge and work on with the mitigation and management
4. To deliberate the process of adaptation to the situation and suggest Do's and Don'ts
5. To suggest the recovery process and means of practicing it.

UNIT - I	Disaster Management: Methods & Approaches	15
1.1	Disaster Management: Historical Perspective, Methods & Approaches	
1.2	Pre-Disaster Stage of Management	
1.3	Post-Disaster Stage of Management	
1.4	Role of Geospatial Technology in Disaster Management	
UNIT - II	Natural Disaster and Anthropogenic Disaster: Management in India	15
2.1	Earthquake & Tsunami, Flood: Distribution, Causes, Effects, Management	
2.2	Cyclone & Famine: Distribution, Causes, Effects, Management	
2.3	Industrial Hazards, Terrorism, Wildfire & Accidents: Types, Causes, effects and management	
2.4	Case study of Recent Natural Disaster and Anthropogenic Disaster	

Learning Outcome:

Upon successful completion of the course, the students:

- Will understand various types of disasters and their pathways
- Will get in-depth knowledge about how to act in these situations
- Will be able to critically analyze the current events and adhere to the mitigation measures
- will familiarize students with the concepts management of disasters and use of technology in the campaigns
- Will be able to demonstrate skills on the job trainings

Learner Space:

Students should read, observe, and analyze the disastrous situations, keep a check on the various current events and develop clues about the work process for the mitigation strategies. They should also be able to learn the Managerial skills for Disastrous situations and act as per the requirements of the same.

References:

1. Coppola, D.P. (2011): Introduction to International Disaster Management. Elsevier, Butterworth- Heinemann
2. Dasgupta R. (2007): Disaster Management and Rehabilitation, Mittal Publications. New Delhi
3. Govt. Of India: Disaster Management in India, Ministry of Home Affairs, New Delhi
4. Murthy, D.B.N. (2008): Disaster Management, Deep & Deep Publications Pvt. Ltd., New Delhi
5. Singh, Savindra and Singh, Jeetendra (2016): Disaster Management, Pravalika Publications, Allahabad
6. ग डब ले, मराठे: आपत्ती व्यवस्थापन सिंकल्पना, डायमिंड पब्ललके शन्स, पुणे.
7. पठारे सिंभाजी, अजय चाकाने: आपत्ती ब्नराकरण, डायमिंड पब्ललके शन्स, पुणे.
8. म रे ज तीराम, अजुुन मुसमाडे: आपत्ती व्यवस्थापनाचा भूग ल, डायमिंड पब्ललके शन्स, पुणे.

University referred to modify the syllabus:

1. NDRF
2. NIDM
3. TIFR
4. INSARAG
5. UNCTAD

Pedagogy:

The Paper will help in developing an understanding and nourish the idea of Disaster Mitigation and Management. How technological developments have occurred in this field for the better management of difficult situations. Paper highlights the ways of organizations and their role in acting for the better cause in the Disaster situations.

Job-Oriented/Entrepreneurship development:

- Disaster management
- Fire Departments
- Planning Departments
- UPSC
- MPSC
- Other Competitive exams
- Policy makers

MOOC units:

- Disaster Management by NIDM, NDRF, NPTEL, SWAYAM, Coursera and Unacademy

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F.Y.B.A. VOCATIONAL SKILLS COURSE
SEMESTER-II**

SUBJECT TITLE: GEOSPATIAL TECHNOLOGY

COURSE CODE: GE23205VS

CREDIT-02

Objectives:

1. The aim of this course is to apprise the students of various aspects of Remote Sensing.
2. Also introduce Remote Sensing and GIS.
3. It will teach about the important elements of Geospatial technology.
4. It gives the technical knowledge of satellite systems and open source software.

UNIT - I	Remote Sensing, I	15
1.1	Geospatial Technology: Concept and Components	
1.2	Remote Sensing: Concept, Process and Geographical Applications	
1.3	Electromagnetic Energy, Electromagnetic Radiation, and Electromagnetic Spectrum	
1.4	Spectral Reflectance and Spectral Signature, Platform, Sensor and Resolutions	
UNIT - II	Remote Sensing II	15
2.1	Elements of Visual Image Interpretation - Mapping of Thematic Layers and Visual Image Interpretation of Physical and Manmade Features	
2.2	Digital image analysis: land use and landform classification,	
2.3	3D views of Digital Elevation Model(DEM) and interpretation	
2.4	Advanced Remote Sensing Technology - Use of the Bhuvan website	

Learning Outcome:

1. Students will demonstrate knowledge of the foundations and theories of GIS and use the tools and methods of GIS.
2. Students will demonstrate their knowledge of physical geography and the methods and techniques for observing, measuring, recording and reporting on geographic phenomena.
3. Students will demonstrate their competence to work individually and as a team to develop and present a client-driven GIS solution.
4. Students will be familiar with modern techniques in Geography.
5. Students will be prepared to apply their skills in professional careers.

Learner Space:

Students can explore the subject with a positive outlook towards Geographical expanse and vastness of subject just by drawing manual and digital maps, charts, mental maps and noting the locations manually. With that, using various online platforms and applications (Google Earth, Bhuvan App, QGIS, MapIT GIS) students can correct their geographical knowledge and explore the real essence of Geographical features.

References:

1. कार्लेकर, श्रीकांत(२००६)भौगोलिक माहिती प्रणाली, डायमंड प्रकाशन, पुणे.
2. कार्लेकर, श्रीकांत(२०१२)दूर संवेदन, डायमंड प्रकाशन, पुणे.
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4. Anson, R. W. and Ormeling, F. J., (Ed.) (1993): Basic Cartography for Students and Technicians, Vol.I, International Cartographic Association and Elseiver Applied Science Publishers, London.
5. American Society of Photogrammetry (1983): Manual of Remote Sensing, ASP PalisChurch, V.A.
6. Agrawal, N.K.(2006), Essentials of GPS (Second Edition), Book Selection Centre, Hyderabad
7. Bhatia (2016): Remote Sensing and GIS, Oxford University Press, New Delhi.
8. Bhatia, S. C. (2008): Fundamentals of Remote Sensing, Atlantic Publishers and Distributors (P) Limited, New Delhi.
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10. Barrett, E.G. and Curtis, L.F. (1992): Fundamentals of Remote Sensing in Air Photo-interpretation, McMillan, New York. 7.
11. Bernhardsen, Tor (2002): Geographical Information Systems: An Introduction, Third Edition, John Wiley & Sons, Inc., New York.
12. Burrough, Peter A and McDonnell, R.A. (1998): Principles of Geographical Information Systems, Oxford University Press, Mumbai.
13. Campbell. J. (1989): Introduction to Remote Sensing, Guilford, New York.
14. Clarke, Keith C. (1998): Getting Started with Geographic Information Systems, Prentice-Hall Series in Geogl. Info. Science, Prentice-Hall, Inc. N.J.
15. Central Board of Secondary Education (New Delhi): Geospatial Technology Textbook, Class XI and XII
16. Chaisman, N. 1992: Exploring Geographical Information Systems, John Wiley and Sons Inc., New York. Lillesand, T.M. and Kiefer, R. W. 1994: Remote Sensing and Image Interpretation, 3rd edition, John Wiley and Sons, New York.
17. Dickinson, G. C. (1977) Statistical Mapping and the Presentation of Statistics, Edward Arnold Ltd., London.
18. George B and Kolte P. E. (2010): The GIS Book, Cengage Learning India Private Limited, New Delhi.
19. George Joseph (2013): Fundamentals of Remote Sensing, Second Edition, Universities Press (India) Private Limited, Himayatnagar, Hyderabad.

20. Heywood, I. et al (2002): An Introduction to Geological Systems, Pearson Education Limited,
21. New Delhi.
22. Iliffe, J.C (2006), Datums and Map Projections for Remote Sensing, GIS and Surveying, Whittles Publishing, New York.
23. Jonson. R. J. (2003): Remote Sensing of the Environment-An Earth Resources Perspective
24. Kang-Tsang Chang (2010): Introduction to Geographic Information Systems, Tata McGraw Hill Edition, New Delhi.
25. Lillesand and Keifer (2010) Remote Sensing and Image Interpretation, Fourth Edition, Wiley.
26. Pearson Education Series in Geographical Information Science, Keith C. Clarke (Series editor) Pearson Educators Private Limited. (Singapore), New Delhi.
27. Monkhouse, F. J. and H. R. Wilkinson, (1971): Maps and Diagrams, Methuen & Co. Ltd., London.
28. Robinson, A. H. and Others (1995): Elements of Cartography, VI Edition, John Wiley & Sons, New York.
29. Sudhakar S (1993) : Forest Type and Density Mapping in Meghalaya through Digital Image Processing of Indian Remote Sensing Satellite Data, Collaborative project report by Meghalaya State Forest Dept. and RRSSC, Kharagpur.
30. Thomson O and Frank S (2000): Time Integrative Geographic Information System, Springer, New York.
31. Training Module of Capacity Building Training Programme in Geospatial Technology sponsored by Department of Science and Technology, Government of India in collaboration with Himachal Pradesh University.

ITC:

1. National Bureau of Soil Survey and Land Use planning: www.nbsslup.in
2. Survey of India: www.surveyofindia.gov.in
3. ISRO Bhuvan 2D Platform: bhuvan.nrsc.gov.in/map/bhuvan/bhuvan2d.php
4. Tutorials from the - <http://dst-iget.in/tutorials>
5. <https://www.iirs.gov.in/>
6. <https://www.isro.gov.in>

University referred to modify the syllabus:

1. Delhi University
2. Savitribai Phule Pune University
3. University of Calcutta
1. Jaipur University

Pedagogy:

It will be introduced with help of, Maps, Charts, Photographs, Population census, Brainstorming, Comparative Study, Discussion, Lecture method, PPT, Models, Digital sources, Problem-solving method, Research papers, E-Resources, Case study, Documentaries, location-based/ geo-tagging method,

simulation and role-play, field observation/ visit, and Experiential learning and digital learning etc.

Job-Oriented/Entrepreneurship Development:

GIS analytics

GIS Surveyor

GIS Executive

Map Developer

MOOC:

<https://www.esri.com/training/mooc/>

<https://www.coursera.org/>

<https://www.gislounge.com/learn-gis-for-free/>

<https://isat.iirs.gov.in/mooc.php>

**DSPM'S K.V. PENDHARKAR COLLEGE OF ARTS, SCIENCE AND
COMMERCE, DOMBIVLI (EAST), (AUTONOMOUS)
NEP 2020**

Skill Enhancement Course (SEC)

F.Y.B.A. Sem II Cartographic Techniques and Computer Applications-II

COURSE CODE: GE23206SE Credit –02

Objectives:

- To acquaint students with various tools used in Geography for Analysis
- To create a sense of Geographical techniques and their spatial outcome
- To understand the basics of mapping, use of toposheets and creation of maps
- To inculcate the principles of map reading
- To understand the practical usage of Mapping techniques

Sr. No.	Modules/Units	Lectures
Unit-I	Map Reading and Interpretation	15
1.1	World-Reading, Marking and Interpretation	
1.2	India-Reading, Marking and Interpretation	
1.3	Maharashtra-Reading, Marking and Interpretation	
1.4	Mumbai and Konkan-Reading, Marking and Interpretation	
Unit-II	Computer Applications in Geography using Microsoft Excel	15
2.1	Construction of Frequency Table, Drawing Tally Marks and Histogram	
2.2	Central Tendencies-Mean, Mode Median	
2.3	Quartile Deviation	
2.4	Standard Deviation	

Course Outcome:

- Will get in-depth knowledge about Tools and Techniques in Geography
- Will be able to critically analyze the techniques in Geography
- will familiarize students with the maps and their usages
- will acquire basic skills used in cartography
- Will be able to demonstrate skills in constructive analysis

Learner Space:

Students should observe and understand the tools and techniques of Geography. They will also explore the maps and its types for easy access. Learn various techniques for easy access and development. They should analyze various geographical aspects and incorporate their own innovative ideas in various fields which will help to build a scientific and jubilant environment.

References:

- Karlekar Shrikant- Bhoogol shastratil Sanshodhan Paddhati,
- Mornkhouse F.J. - Maps & Diagrams, Methuen and Co., London, 1971 (3rd Edition, Revised).
- NCERT - Textbook for Class-12, Practical Work in Geography Part II
- Peter A. Rogerson - Statistical Methods for Geography, Sege Publishers - 2001
- Robinson
- A.H. - Elements of Cartography, Wiley
- Sarkar Ashis - Practical Geography, Orient Black Swan 2015

- Sarkar Ashis Quantitative Geography, Orient Black Swan 2013
- Singh R.L. & Singh P. B. - Elements of Practical Geography, Kalyani Publishers 2005
- Stoddard Robert Field techniques and research methods in geography, Geography faculty publication <http://digitalcommons.unl.edu/geographyfacpub/26>

Thakur S. A. - , Konkan Geographer s publication (2016)

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Value Education Course (VEC)
F.Y.B. Com Semester- II
Environmental Studies-II
COURSE CODE: **GE23207VE** Credit –**02**

Objectives:

1. To introduce students to the concepts of Solid waste management, agricultural and industrial development, and environmental management.
2. To increase participation of students in environment protection activities

Sr. No.	Modules/Units	Lectures
Unit-I	Solid Waste Management for Sustainable Society	15
1.1	Classification of solid wastes – Types and Sources of Solid Waste	
1.2	Effects of Solid Waste Pollution- Health hazards, Environmental Impacts;	
1.3	Solid Waste Management-Solid waste management in Mumbai	
1.4	Schemes and initiatives run by MCGM, Role of citizens in waste management in Mumbai	
Unit-II	Agriculture and Industrial Development	15
2.1	Environmental Problems Associated with Agriculture: Loss of Productivity, Land Degradation, desertification	
2.2	Uneven Food Production – Hunger, Malnutrition and Food Security Sustainable Agricultural practices	
2.3	Environmental Problems Associated with Industries – pollution -Global warming, Ozone Layer Depletion, Acid rain	
2.4	Sustainable Industrial practices – Green Business and Green Consumerism, Corporate Social Responsibility	

Course Outcome:

1. This course will empower the students who are environmentally sensitive to teach the society the values of environment and enact positively for the betterment of the society.
2. This course will create new thinking systems to balance the environment and human activities.

Learners Space:

1. Documentary on waste disposal areas
2. Model on Waste management
3. Analysis of waste management techniques
4. Group activity on our role
5. Report collection and discussion in groups about problems associated with agriculture
6. Models on pollution
7. Charts and posters on Global Warming, Ozone layer depletion and Acid rain
8. Group activity on Sustainable agricultural and industrial practices
9. Chart and, maps on Tourism
10. Discussion on impacts of tourism
11. Brainstorming on tourism policy of today and tomorrow
12. Role plays on Ecotourism
13. Documentaries on environmental movements
14. Chart and PPT related to environmental management
15. Preparation of report on environment protection
16. Skill of map reading and map filling
17. Games related to environmental features in different areas of Konkan and Mumbai

References:

1. Dr. Dipesh Karmarkar (2018-19), Environmental Studies, Vipul Publication
2. Amrite, Chakraboti, (2019), Environmental Studies, Manan Publication
3. Dr. H.M.Pednekar, P.G.Shinde, Environmental Studies, Sheth Publication
4. Ms. Dhobale Shital, Mr. Kailas Sabale, Environmental Studies, Nirali Publication

Information and Communication Technology Backup:

1. https://www.youtube.com/watch?v=T_pIJiZ8JYI : : Solid Waste Management
2. <https://www.youtube.com/watch?v=wI0jcdtOreo> : Agriculture and Industrial Development
3. <https://www.youtube.com/watch?v=6oUwPRGkvrM> : Tourism and Environment
4. <https://www.youtube.com/watch?v=7U0J4IPUTZY> : Environmental Movements and Management

Pedagogy for SEM – II : Environmental Studies

Unit – I: Solid Waste Management for Sustainable Society

It can be elaborate with photographs, models, PPT, documentaries, cross questioning, articles and reports published by Govt. offices and NGOs, field visit, cooperative learning methods

Unit – II: Agriculture and Industrial Development

We will use PowerPoint Presentation, Documentaries, charts, case studies, essay competition, case studies, field visit and survey, Industrial visit, project, interviews. We need to be encouraged to identify the problems and motivate ourselves to find preventive measures.