



**Anekant Education Society's**

**Tuljaram Chaturchand College, Baramati**

**(Autonomous)**

**Four Year B.A. Degree Program in Geography**

**(Faculty of Science & Technology)**

**CBCS Syllabus**

**FYBA (Geography) Semester -II**

**For Department of Geography**

**TuljaramChaturchand College, Baramati**

**Choice Based Credit System Syllabus (2023 Pattern)**

**(As Per NEP 2020)**

**To be implemented from Academic Year 2023-2024**

**Title of the Programme: FYBA (Geography)****Preamble**

AES's Tuljaram Chaturchand College has made the decision to change the syllabus of across various faculties from June, 2023 by incorporating the guidelines and provisions outlined in the National Education Policy (NEP), 2020. The NEP envisions making education more holistic and effective and to lay emphasis on the integration of general (academic) education, vocational education and experiential learning. The NEP introduces holistic and multidisciplinary education that would help to develop intellectual, scientific, social, physical, emotional, ethical and moral capacities of the students. The NEP 2020 envisages flexible curricular structures and learning based outcome approach for the development of the students. By establishing a nationally accepted and internationally comparable credit structure and courses framework, the NEP 2020 aims to promote educational excellence, facilitate seamless academic mobility, and enhance the global competitiveness of Indian students. It fosters a system where educational achievements can be recognized and valued not only within the country but also in the international arena, expanding opportunities and opening doors for students to pursue their aspirations on a global scale.

In response to the rapid advancements in science and technology and the evolving approaches in various domains of Geography and related subjects, the Board of Studies in Geography at Tuljaram Chaturchand College, Baramati - Pune, has developed the curriculum for the first semester of FYBA Geography, which goes beyond traditional academic boundaries. The syllabus is aligned with the NEP 2020 guidelines to ensure that students receive an education that prepares them for the challenges and opportunities of the 21st century. This syllabus has been designed under the framework of the Choice Based Credit System (CBCS), taking into consideration the guidelines set forth by the National Education Policy (NEP) 2020, LOCF (UGC), NCrF, NHEQF, Prof. R.D. Kulkarni's Report, Government of Maharashtra's General Resolution dated 20th April and 16th May 2023, and the Circular issued by SPPU, Pune on 31st May 2023.

A Geography degree equips students with the knowledge and skills necessary for a diverse range of fulfilling career paths. Graduates in Geography find opportunities in various fields, including urban planning, GIS analysis, disaster preparedness, teaching, environmental science, remote sensing analysis, transportation planning, demography, hydrology, and many other domains. Throughout their three-year degree program, students explore the spatial

organization of both natural and human phenomena across different scales, from local to global. They learn to identify and analyze features on the Earth's surface, understand their spatial patterns, and compare similarities and differences between different places. The curriculum also delves into the intricate relationship between humans and the environment, examining how physical and cultural landscapes evolve over time. Students specializing in physical geography gain an understanding of the processes that shape Earth's climate, create landforms, and influence the distribution of plant and animal life. By acquiring these comprehensive skills and knowledge, graduates are well-prepared to embark on rewarding careers that contribute to a better understanding of our world and address the challenges of our ever-changing planet.

Overall, revising the Geography syllabus in accordance with the NEP 2020 ensures that students receive an education that is relevant, comprehensive, and prepares them to navigate the dynamic and interconnected world of today. It equips them with the knowledge, skills, and competencies needed to contribute meaningfully to society and pursue their academic and professional goals in a rapidly changing global landscape.

## Programme Specific Outcomes (PSOs)

- PSO1. Problem Analysis:** Demonstrate the ability to analyze physical and cultural problems in both rural and urban environments and propose effective solutions.
- PSO2. Socio-economic Survey Project:** Possess the skills necessary to conduct socio-economic survey projects, enabling them to assess the development status of specific social groups or sections of society.
- PSO3. Individual and Teamwork:** Effectively collaborate as individuals and as members or leaders in diverse teams and multidisciplinary settings.
- PSO4. Application of Modern Instruments:** Apply various modern instruments for data collection and field surveys.
- PSO5. GIS and Geographical Map Making:** Learn to utilize GIS and modern techniques for creating geographically-based maps.
- PSO6. Critical Thinking:** Demonstrate the ability to understand and address critical issues in physical and cultural environments.
- PSO7. Development of Observation Skills:** Through field experiences, students will develop strong observational skills and the ability to identify socio-environmental problems in localities.
- PSO8. Human perception and behaviour:** Learning human perception and behaviour to acquire the geographical knowledge over time, is essential to improve decision making process.
- PSO9. Effective Citizenship:** Exhibit empathetic social concern, an equity-centered approach to national development, and actively engage in civic life through volunteering.
- PSO10. Management Skills:** Understand and apply management principles to their work, functioning effectively as individuals and as members or leaders in diverse, multidisciplinary teams.
- PSO.11 Ethics:** Recognize different value systems, including their own, understand the moral dimensions of their decisions, and take responsibility for their actions.
- PSO12. Environmental Ethics and Sustainability:** Comprehend the societal and environmental impact of their knowledge and exhibit an understanding of the need for sustainable development.
- PSO13. Identification of critical problems and issues:** Detection and identification of the critical problems and spatial issues are essential for sustainable development.

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**Board of Studies (BOS) in Geography**

From 2022-23 to 2024-25

Sr.No.	Name	Designation
1.	<b>Dr. Arun S. Magar</b>	Chairman
2.	<b>Dr. Asaram S. Jadhav</b>	Member
3.	<b>Mr. Vinayak D. Chavan</b>	Member
4.	<b>Ms. Aysha A. Mulani</b>	Member
5.	<b>Ms. Sayali B. Pawar</b>	Member
6.	<b>Ms. Aisha S. Tamboli</b>	Member
7.	<b>Dr. Santosh Lagad</b>	Vice-Chancellor Nominee
8.	<b>Dr. Pravin Kokane</b>	Expert from other University
9.	<b>Dr. T. P. Shinde</b>	Expert from other University
10.	<b>Dr. Babaji Maskare</b>	Industry Expert
11.	<b>Mr. Ganesh Ghanawat</b>	Meritorious Alumni
12.	<b>Ms. Kadam Radhika</b>	Student Representative
13.	<b>Ms. Harshada Saste</b>	Student Representative

### Credit Distribution Structure for F.Y.B.A.-2023-2024 (Geography)

Level	Semester	Major		Minor	OE	VSC, SEC, (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr/Sem	Degree/Cum.Cr.
		Mandatory	Electives							
4.5	I	GEO-101-MJM: Physical Geography (4 credits)	--	--	GEO-116-OE: Principles of Remote Sensing-I (2 credits)	GEO-121-VSC: Land Surveying & Measurement (2 credits)	ENG-131-AEC Functional English-I (2 credit)	CC1 (2 credit)	22	UG Certificate 44 credits
		GEO-102-MJM: Practical in Physical Geography (2 credits)			GEO-117-OE: Principles of Geoinformatics-I (2 credits)	GEO-126-SEC: Fundamentals of Google Earth (2 credits)	GEO-135-VEC: Environmental Pollution and Value Education (2 credits)			
						GEO-137-IKS: Ancient Indian Geographical Thoughts (2 credits)				
	II	GEO-151-MJM: Human Geography (4 credits)	--	GEO-161-MN: Fundamentals of Geography (2 credits)	GEO-166-OE: Geography of India (2 credits Theory)	GEO-171-VSC: Map Making in ARC GIS (2 credits)	ENG-181-AEC Functional English-II (2 credit)	CC2 (2 credit)	22	
GEO-152-MJM: Practical in Human Geography (2 credits)			GEO-167-OE: Cartographic Techniques for Data Representation (2 Cr. Practical)	GEO-176-SEC Fundamentals of Google Map (2 credits)	GEO-185-VEC: Save The Earth (2 credits)					
Cum Cr.		<b>12</b>	--	2	8	8	10	4	44	

### Course Structure for F.Y.B.A. Geography (2023 Pattern)

Sem	Course Type	Course Code	Course Name	Theory / Practical	Credits
<b>I</b>	Major Mandatory	GEO-101-MJM	Physical Geography	Theory	04
	Major Mandatory	GEO-102-MJM	Practical in Physical Geography	Practical	02
	Open Elective (OE)	GEO-116-OE	Principles of Remote Sensing-I	Theory	02
	Open Elective (OE)	GEO-117-OE	Principles of Geoinformatics-I	Theory	02
	Vocational Skill Course (VSC)	GEO-121-VSC	Land Surveying and Measurement	Theory	02
	Skill Enhancement Course (SEC)	GEO-126-SEC	Fundamentals of Google Earth	Theory	02
	Ability Enhancement Course (AEC)	ENG-131-AEC	Functional English-I	Theory	02
	Value Education Course (VEC)	GEO-135-VEC	Environmental Pollution and Value Education	Theory	02
	Indian Knowledge System (IKS)	GEO-137-IKS	Ancient Indian Geographical Thoughts	Theory	02
	Co-curricular Course (CC)	--	To be selected from the Basket	Theory	02
<b>Total Credits Semester-I</b>					<b>22</b>
<b>II</b>	Major Mandatory	GEO-151-MJM	Human Geography	Theory	04
	Major Mandatory	GEO-152-MJM	Practical in Human Geography	Practical	02
	Minor	GEO-161-MN	Fundamentals of Geography	Theory	02
	Open Elective (OE)	GEO-166-OE	Geography of India	Theory	02
	Open Elective (OE)	GEO-167-OE	Cartographic Techniques For Data Representation	Practical	02
	Vocational Skill Course (VSC)	GEO-171-VSC	Map Making in GIS	Theory	02
	Skill Enhancement Course (SEC)	GEO-176-SEC	Fundamentals of Google Map	Theory	02
	Ability Enhancement Course (AEC)	ENG-181-AEC	Functional English-II	Theory	02
	Value Education Course (VEC)	GEO-185-VEC	Save The Earth	Theory	02
	Co-curricular Course (CC)	--	To be selected from the Basket	Theory	02
<b>Total Credits Semester II</b>					<b>22</b>
<b>Cumulative Credits Semester I and II</b>					<b>44</b>

**CBCS Syllabus as per NEP 2020 for FYBA  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: I
<b>Course Type</b>	: Major Mandatory (Theory)
<b>Course Code</b>	: GEO-151- MJM
<b>Course Title</b>	: Human Geography
<b>No. of Credits</b>	: 04
<b>No. of Lectures</b>	: 60

**Course Objectives:**

1. To make students well aware of the basic concepts of human geography.
2. To understand the Demographic Transition Theory and basic concepts related to the population with special reference to India.
3. To acquaint the knowledge of types and patterns of rural settlement.
4. To recognize the concept of urbanization with special reference to Maharashtra and India.
5. To understand economic sector available in India.
6. To recognize factors affecting location of industries.
7. To understand the types and factors affecting agriculture and recognize the problems of Indian agriculture.

**Course Outcomes:**

**By the end of the course, students will be able to:**

- CO1.** Well aware of the basic concepts of human geography.
- CO2.** Understand the Demographic Transition Theory and basic concepts related to the population with special reference to India.
- CO3.** Acquaint with the knowledge of types and patterns of rural settlement.
- CO4.** Recognize the concept of urbanization with special reference to Maharashtra and India.
- CO5.** Understand economic sector available in India.
- CO6.** Recognize factors affecting location of industries.
- CO7.** Understand the types and factors affecting agriculture and recognize the problems of



Indian agriculture.

### Topics and Learning points

<b>Unit 1: Introduction to Human Geography</b>	<b>Teaching Hours</b>
1.1 Definitions	<b>12</b>
1.2 Nature and Scope	
1.3 Branches	
1.4 Importance	
 <b>Unit 2: Population</b>	 <b>12</b>
2.1 Factors affecting on distribution and density of the population	
2.2 Concepts of Birth Rate, Death Rate, Growth Rate and Migration	
2.3 Demographic Transition Theory	
2.4 Composition of Indian Population: Age and Gender	
 <b>Unit 3: Settlements</b>	 <b>12</b>
3.1 Types and Patterns of Rural Settlements	
3.2 Concept of Urbanization	
3.3 Urbanization in India	
 <b>Unit 4: Industry</b>	 <b>12</b>
4.1 Sectors of Economy- Primary, Secondary and Tertiary with examples	
4.2 Factors affecting on Industrial Location	
4.3 Major Industries- Iron ore, Cotton, Automobile etc.	
 <b>Unit 5: Agriculture</b>	 <b>12</b>
5.1 Type of Agriculture	
5.2 Factors Affecting on Agriculture	
5.3 Problems of Indian Agriculture	

**Reference:**

1. Bhende & Kanitkar (2011): Principles of Population studies, Himalaya Publishing House.
2. Chandana R.C. (1988): Geography of Population, Kalyani Pub. Ludhiana.
3. Chandna, R.C. (2010): Population Geography, Kalyani Publisher.
4. Daniel, P.A. and Hopkinson, M.F. (1989): The Geography of Settlement, Oliver & Boyd, London.
5. Ghosh B.N. (1985): Fundamentals of Population Geography, Sterling Publishers.
6. Hassan Mohammad, (2005): Population Geography, Rawat Publication.
7. Hassan, M.I. (2005): Population Geography, Rawat Publications, Jaipur.
8. Hussain M. (2018): Human Geography, Rawat Publication
9. K. Sidhartha, (2006): Economic Geography, Kishalaya Publication Delhi.

**CBCS Syllabus as per NEP 2020 for FYBA  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: II
<b>Course Type</b>	: Major Mandatory (Practical)
<b>Course Name</b>	: Practical in Human Geography
<b>Course Code</b>	: GEO-152- MJM
<b>No. of Lectures</b>	: 60
<b>No. of Credits</b>	: 02

**Course Objectives:**

1. To enable the students to use various techniques of calculating rates.
2. To acquaint the students with crop combination methods.
3. To familiar the students' different theories related to human geography.
4. To make awareness about dependency ratio and growth of population.
5. To intimate gender scenario of different countries.
6. To make knowledge about future population and age structure of different countries.
7. To make knowledge about nucleation and dispersion of settlement.

**Course Outcomes:**

After the completion of the course,

- CO1.** Students can understand calculation techniques of growth rates.
- CO2.** Student can able to calculate rates and apply to various state of India.
- CO3.** Study in crop combination to give knowledge of society.
- CO4.** Students can able to apply various theories in human geography to their society.
- CO5.** Students understood the dynamics of population and its role in population policies
- CO6.** Student can understand about population structure and characteristics of different countries, they can also predict future population scenario of the country.
- CO7.** Student can understand population growth of different countries, they can also predict future population setting of the country.

## Topics / Contents:

<b>Unit 1: Population Indices</b>	<b>Teaching Hours</b>
1.1 Population growth rate	<b>20</b>
1.2 Decadal growth rate	
1.3 Dependency ratio	
1.4 Fertility	
1.5 Mortality	
<b>Unit 2: Measures of Nucleation and Dispersion of Settlement</b>	<b>20</b>
2.1 Rank size rule	
2.2 Nearest neighbor analysis	
2.3 Gravity Model	
<b>Unit 3: Crop Combination and field visit</b>	<b>20</b>
3.1 Weaver's method	
3.2 Jasbir Singh	
3.3 study tour of geographical interest places anywhere in the country and excursion report	

### Reference Books & Websites:

1. **Carter, H. (1977):** The study of Urban Geography, Edward Arnold, London.
2. **Hans, R. (1978):** Fundamentals of Demography, Surjeet, Delhi.
3. **Hudson F.S. (1976):** Geography of Settlements, Estover, Macdonald & Evans, England.
4. **Liendsor, J.M. (1997):** Techniques in Human Geography, Routledge.
5. **Lloyd, P. and Dicken, B. (1972):** Location in Space - A theoretical approach to economic geography, Harper and Row, New York.
6. **Michael, E. and Hurse, E. (1974):** Transportation Geography, McGraw-Hill, New York.
7. **Pollard, A.H. and Farhat Yusu, (1974):** Demographic Techniques, Rushcutters Bay, N.S.W., Pergamon Press, Australia.
8. **Singh, J. and Dhillon, (1984):** Agricultural Geography, Tata McGraw-Hill Publishing Company Limited, New Delhi.
9. **Yeats, M.H. (1974):** An Introduction to Quantitative Analysis in Human Geography, McGraw-Hill, New York.

**CBCS Syllabus as per NEP 2020 for FYBA Geography  
(2023 Pattern)**

<b>Name of the Programme</b>	: B.A Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: F.Y.B.A.
<b>Semester</b>	: II
<b>Course Type</b>	: Minor (Theory)
<b>Course Code</b>	: GEO-161-MN
<b>Course Title</b>	: Fundamentals of Geography
<b>No. of Credits</b>	: 02
<b>No. of Lectures</b>	: 30

**Course Objectives:**

1. To make students well aware of the basic concepts of geography.
2. To understand theories related to evolution of earth.
3. To acquaint the knowledge of solar system.
4. To understand important of geography in day to day life.
5. To understand the geological time scale.
6. To study major types of time zones in world.
7. To understand different ocean currents and El-nino , La-Nina

**Course Outcomes:**

**By the end of the course, students will be able to:**

- CO1.** Aware of the basic concepts of geography
- CO2.** Understand how the earth and spheres evolved and its evolution theories
- CO3.** Aware about the solar system, planet, satellite, asteroid their rotation and revolution
- CO4.** Understand the value geography in day to day life.
- CO5.** Aware about geological time scale
- CO6.** Understand the international day and date time and local and global time.
- CO7.** Understand the El-Niño La-Nina their occurrence and impact on Indian Monsoon.

### Topics and Learning points

<b>Unit 1: Introduction to Geography</b>	<b>Teaching Hours</b>
1.1 Meaning, Concept and definition	<b>08</b>
1.2 Branches	
1.3 Nature and scope	
1.4 Importance	
1.5 Recent trend and new technologies in Geography	
<b>Unit 2: Universe and Solar System</b>	<b>12</b>
2.1 Concept of universe and its evolution	
2.2 Solar system	
2.2 Evolution of earth and its Spheres	
2.3 Geological time scale	
2.5 Rotation, revolution and its Impact (Equinox, Solstice)	
<b>Unit 3: Basic concepts in geography</b>	<b>10</b>
3.1 Hemisphere, Latitude, Longitude	
3.2 international Day and date Line and Time (Local, Global)	
3.3 Eclipse and its types	
3.4 Directions	
3.5 Tides, Ocean Currents and El-Nino, LA-Nina	

### Reference:

1. Conserva H. T., 2004: Illustrated Dictionary of Physical Geography, Author House, USA.
2. Gabler R. E., Petersen J. F. and Trapasso, L. M., 2007: Essentials of Physical Geography (8th Edition), Thompson, Brooks/Cole, USA.
3. Garrett N., 2000: Advanced Geography, Oxford University Press.
4. Goudie, A., 1984: The Nature of the Environment: An Advanced Physical Geography, Basil Blackwell Publishers, Oxford.
5. Hamblin, W. K., 1995: Earth's Dynamic System, Prentice Hall, N.J.
6. Husain M., 2002: Fundamentals of Physical Geography, Rawat Publications, Jaipur.

7. Monkhouse, F. J. 2009: Principles of Physical Geography, Platinum Publishers, Kolkata.
8. Strahler A. N. and Strahler A. H., 2008: Modern Physical Geography, John Wiley & Sons, New York

**CBCS Syllabus as per NEP 2020 for FYBA  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: II
<b>Course Type</b>	: Open Elective (Theory)
<b>Course Code</b>	: GEO-166- OE
<b>Course Title</b>	: Geography of India
<b>No. of Credits</b>	: 02
<b>No. of Lectures</b>	: 30

**Course Objectives:**

1. To make students well aware of the basic concepts of human geography.
2. To understand the Demographic Transition Theory and basic concepts related to the population with special reference to India.
3. To acquaint the knowledge of types and patterns of rural settlement.
4. To recognize the concept of urbanization with special reference to Maharashtra and India.
5. To understand economic sector available in India.
6. To recognize factors affecting location of industries.
7. To study major types of industries in India.

**Course Outcomes:**

By the end of this course students will able to :

- CO1.** Know about the location and extent of India.
- CO2.** Know salient features of the India.
- CO3.** Understand physiographic of India.
- CO4.** Familiarize with the climatic characteristics and importance of the country.
- CO5.** Aware of the drainage pattern in the view of sustainable development
- CO6.** Well aware of the adjoin countries of India and their relation.
- CO7.** Understand difference between Himalayan and peninsular drainage system.



**Topics and Learning points**

<b>Unit 1: Location and Physiography</b>	<b>Teaching Hours</b>
1.1 Location and extent of India: Absolute and Relative	<b>10</b>
1.2 Neighboring countries of India	
1.3 Physiographic divisions of India and their characteristics and importance	
i. The Northern Mountain	
ii. The Northern Plains	
iii. The Peninsular Plateau	
iv. The Coastal Plains	
v. The Islands	
<b>Unit 2: Drainage System</b>	<b>10</b>
Meaning, Definition and Concept of Drainage System	
2.1 The Himalayan River System	
i. East flowing rivers (Ganga, Brahmaputra)	
ii. West flowing rivers (Indus)	
2.2 The Peninsular River System	
i. East flowing rivers (Godavari, Krishna and Mahanadi)	
ii. West flowing rivers (Narmada and Tapi)	
<b>Unit 3: Climate</b>	<b>10</b>
3.1 Main seasons and associated weather conditions	
i. The winter	
ii. The summer	
iii. The rainy/ monsoon	
iv. The retreat of monsoon	
3.2 Monsoon: Origin and Mechanism	
3.3 El- Nino and La- Nina	
i. Concept and mechanism	
ii. Impact on Indian monsoon	

**Reference:**

1. Khullar R. D. (2007): India- A Compressive Geography, Kalayani Publisher.
2. Aher A.B, Chaodhari A. P & Chaodhari Archana. Regional Geography of India Prashant Publication Jalgaon 2015.
3. Khullar, D. R. (2006): India. A Comprehensive Geography. Kalyani Publishers., New Delhi.
4. Krishnan, M. S. (1968): Geology of India and Burma. 4th edition. Higgin Bothams Private. Ltd., Madras
5. Nag, P. and Gupta S. S. (1992): Geography of India. Concept Publishing. Company, New Delhi.
6. Singh, R. L. (ed.) (1971): India. A Regional Geography. National Geographical Society of India, Varanasi.

**CBCS Syllabus as per NEP 2020 for FYBA  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: II
<b>Course Type</b>	: Open Elective (Practical)
<b>Course Code</b>	: GEO-167- OE
<b>Course Title</b>	: Cartographic Techniques for Data Representation
<b>No. of Credits</b>	: 02
<b>No. of Lectures</b>	: 60

**Course Objectives:**

1. To understand concepts of the map, its types and uses.
2. To get knowledge of map scales and their types.
3. To get knowledge about cartographic techniques for different data representation.
4. To understand the quantitative and qualitative methods of data representation.
5. To make students aware of the importance and stages of research.
6. To develop knowledge related to presentation techniques by using cartographic techniques.
7. To give knowledge about cartographic techniques for different stream students.

**Course Outcomes:****By the end of this course students will able to:**

- CO1.** Understand the concept of maps and the types and uses of maps.
- CO2.** Acquaint with the knowledge of map scales and their types.
- CO3.** Understand the quantitative and qualitative methods of data representation.
- CO4.** Well aware of the presentation techniques and its importance.
- CO5.** Develop their presentation knowledge.
- CO6.** Improve their analysing techniques for data representation.
- CO7.** Aware about geographical phenomena after observing different data

### Topics and Learning points

<b>Unit 1: Map and Map Scale</b>	<b>Teaching Hours</b>
1.1 Map: Definitions and Elements	<b>20</b>
1.2 Types of Maps	
1.3 Uses of Maps	
1.4 Map Scale: Definitions and Types	
<b>Unit 2: Quantitative Methods of Data Representation</b>	<b>20</b>
2.1 Simple and Multiple Line graph	
2.2 Simple, Multiple and Compound Bar graph	
2.3 Pie Chart	
<b>Unit 3: Qualitative Methods of Data Representation</b>	<b>20</b>
3.1 Symbol method	
3.2 Dot method	
3.3 Choropleth method	
3.4 Isopleths method	
3.5 Flow diagram	

### Reference:

1. Sharma J. P., 2010, Prayogic Bhugol, Rastogi Publishers, Meerut.
2. Singh R. L. and Singh R. P. B., 1999, Elements of Practical Geography, Kalyani Publishers.
3. Slocum T. A., McMaster R. B. and Kessler F. C., 2008, Thematic Cartography and Geo visualization (3rd Edition), Prentice Hall.
4. Tyner J. A., 2010, Principles of Map Design, The Guilford Press.
5. Sarkar A., 2015, Practical Geography: A Systematic Approach, Orient Black Swan Private Ltd., New Delhi
6. Singh R. L. and Dutta P. K., 2012, Prayogatama Bhugol, Central Book Depot, Allahabad
7. Ahirrao Y., Karanjkehele E. K., 2002, Practical Geography, Sudarshan Publication, Nashik
8. Saptarshi P. G., Jog S. R., Statistical Methods.
9. Karlekar S. N., 2008, Statistical Methods, Diamond Publication, Pune.

**CBCS Syllabus as per NEP 2020 for FYBA  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: II
<b>Course Type</b>	: Vocational Skill Course (VSC)
<b>Course Code</b>	: GEO-171-VSC
<b>Course Title</b>	: Map Making in Arc GIS
<b>No. of Credits</b>	: 02
<b>No. of Teaching Hours</b>	: 30

**Course Objectives:**

1. To understand the fundamental concepts of Geographic Information Systems (GIS).
2. To recognize common sources of spatial data, including remote sensing and surveys.
3. To create and manage geodatabases for efficient data storage.
4. To understand the significance of map projections and coordinate systems in GIS
5. To digitize point, line, and polygon features from various sources
6. To create map layouts and thematic maps with different cartographic elements.
7. To work with different data formats, such as shapefiles, KML, and geodatabases.

**Course Outcomes:**

**By the end of the course, students will be able to:**

- CO1.** Understand GIS principles and terminologies.
- CO2.** Identify and access common sources of spatial data.
- CO3.** Create and manage geodatabases for data organization.
- CO4.** Work with different map projections and coordinate systems.
- CO5.** Digitize point, line, and polygon features from various sources.
- CO6.** Create visually appealing map layouts and thematic maps.
- CO7.** Handle spatial data in various formats effectively.

**Topics and Learning Points**

<b>UNIT 1: Introduction to Arc GIS</b>	<b>Teaching Hours</b>
1.1 Understanding Geographic Information Systems (GIS)	<b>05</b>
1.2 Overview of ArcGIS software	
1.3 Installation and setup	
1.4 User interface and navigation	
<b>UNIT 2: Data Types and Sources</b>	<b>05</b>
2.1 Spatial data types	
2.2 Sources of spatial data	
2.3 Data formats (shape files, KML, geodatabase)	
2.4 Georeferencing	
<b>UNIT 3: Data Management in ArcGIS</b>	<b>10</b>
3.1 Importing and exporting data	
3.2 Creating and managing geodatabases	
3.3 Attribute tables and data classification	
3.4 Projections and coordinate systems	
<b>UNIT 4: Map Elements and Layouts</b>	<b>10</b>
4.1 Geo-referencing of Toposheet	
4.2 Digitization of Point, Line & Polygon features	
4.3 Attribute data attachment	
4.4 Creation of Layout and thematic map	
4.5 Exporting maps in different formats	

**References:**

1. Anji Reddy, M. (2004): Geoinformatics for environmental management. B.S. Publications
2. Chang.T. K. (2002): Geographic Information Systems. Tata Mc Graw Hill
3. Heywood. I, Cornelius S, Crver Steve. (2003): An Introduction to Geographical Information Systems. Pearson Education
4. Joseph George (2003): Fundamentals of remote sensing. Universities Press.
5. Esri. (n.d.). ArcGIS Pro Documentation: Map authoring. <https://pro.arcgis.com/en/pro-app/help/mapping/map-authoring/a-quick-tour-of-map-authoring.htm>
6. Esri. (n.d.). ArcGIS Desktop Documentation: Working with maps. <https://desktop.arcgis.com/en/arcmap/10.3/map/working-with-maps/working-with-maps.htm>
7. Ordnance Survey. (2018). Cartographic design principles. <https://www.ordnancesurvey.co.uk/documents/carto-design/carto-design-principles.pdf>
8. rewer, C. A. (2016). Designing Better Maps: A Guide for GIS Users. Esri Press.

**CBCS Syllabus as per NEP 2020 for F.Y.B.A Geography  
(2023 Pattern)**

<b>Name of the Programme</b>	: FYBA Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: FYBA
<b>Semester</b>	: II
<b>Course Type</b>	: Skill Enhancement Course (SEC)
<b>Course Code</b>	: GEO-176-SEC
<b>Course Title</b>	: Fundamentals of Google Map
<b>No. of Credits</b>	: 02
<b>No. of Teaching Hours</b>	: 30

**Course Objectives:**

1. To understand the concept of Google Maps and its utility
2. To identify nearby places, landmarks, and points of interest.
3. To share locations with others and explain the sharing process
4. To interpret real-time traffic updates and make informed navigation decisions.
5. To discover alternative routes and route options to reach destinations.
6. To explore streets virtually using Google Maps' Street View feature.
7. To measure distances and areas accurately using Google Maps tools

**Course Outcomes:****By the end of the course, students will be able to:**

- CO1.** Understand Google Maps and its significance in modern navigation.
- CO2.** Identify and explore nearby places, landmarks, and attractions.
- CO3.** Know how to share locations with others using Google Maps.
- CO4.** Make informed navigation decisions based on real-time traffic updates..
- CO5.** Analyze alternative routes and select the most suitable options.
- CO6.** Virtually explore streets and locations using Google Maps' Street View.
- CO7.** Accurately measure distances and areas, demonstrating a practical knowledge of Google Maps' measurement tools.



**Topics and Learning Points**

<b>UNIT 1: Introduction to Google Maps</b>	<b>Teaching Hours</b>
1.1 Understanding the concept of Google Maps	<b>05</b>
1.2 History and evolution of Google Maps	
1.3 Exploring the Google Maps interface	
1.4 Basic navigation and zooming	
<b>UNIT 2: Searching and Finding Places</b>	<b>05</b>
2.1 Searching for specific locations	
2.2 Finding nearby places and landmarks	
2.3 Sharing locations	
2.4 Saving and managing favorite locations	
<b>UNIT 3: Directions and Navigations</b>	<b>10</b>
3.1 Getting driving, walking and public transit directions	
3.2 Understanding real-time traffic updates	
3.3 Alternative routes and route options	
3.4 Offline navigation with Google maps	
<b>UNIT 4: Exploring Additional Features</b>	<b>10</b>
4.1 Street view: exploring streets virtually	
4.2 Indoor maps and floor maps	
4.3 Using Google Earth in conjunction with Google maps	
4.4 Measuring distances and areas	

**References:**

1. Anji Reddy, M. (2004): Geoinformatics for environmental management. B. S. Publications
2. Li, J., & Chen, Y. (2018). "Google Maps: Power Tools for Maximizing the API." O'Reilly Media.
3. Kassner, M., & Winter, J. (2017). "The Google Maps API and PHP, MySQL, and

Apache." A press.

4. Martin, A. P. (2019). "Google Maps: A Nuts and Bolts Approach to User-Friendly Web Mapping." Chapman and Hall/CRC.
5. [Google Maps Platform Documentation](#) - Official documentation for developers using Google Maps API. <https://developers.google.com/maps/documentation>
6. [Google Maps JavaScript API Tutorial](#) - Official guide to getting started with the Google Maps JavaScript API. <https://developers.google.com/maps/get-started>
7. [OpenStreetMap](#) - A collaborative mapping project that provides open and free geographic data. <https://www.openstreetmap.org/#map=4/21.84/82.79>

**CBCS Syllabus as per NEP 2020 for F.Y.B.A. Geography  
(2023 Pattern)**

<b>Name of the Programme</b>	: F.Y.B.A. Geography
<b>Programme Code</b>	: UAGEO
<b>Class</b>	: F.Y.B.A
<b>Semester</b>	: II
<b>Course Type</b>	: Value Education Course
<b>Course Code</b>	: GEO-185-VEC
<b>Course Title</b>	: Save the Earth
<b>No. of Credits</b>	: 02
<b>No. of Lectures</b>	: 30

**Course Objectives:**

1. To understand the theories of the evolution of the Earth.
2. To understand protocol related to environment.
3. To understand the global warming and climate change
4. To identify global environmental challenges to protect earth from them.
5. To understand the various techniques of conservation of the soil and water.
6. To understand the green house gas effect and its impact on climate change.
7. To understand governmental policies regarding global warming and climate change.

**Course Outcomes:****By the end of the course, students will be able to:**

- CO1.** Understand theories of evolution of the earth and how does earth has evolved.
- CO2.** Aware about protocol related to environment.
- CO3.** Able to understand causes of global warming and climate change.
- CO4.** Identify global environmental challenges to protect earth from them.
- CO5.** Aware about various techniques of conservation of natural resources
- CO6.** Understand green house gas effect and its impact on climate change.
- CO7.** Aware about government policies regarding global warming and climate change

### Topics and Learning points

<b>Unit 1: Introduction to Earth System</b>	<b>Teaching Hours</b>
1.1 Evolution of the Earth	<b>10</b>
1.2 Spheres of the Earth	
1.3 Conservation of the Water	
1.4 Conservation of the Soil	
1.5 Importance of Natural Resources	
 <b>Unit 2: Global warming and Climate change</b>	 <b>10</b>
2.1 Meaning and concept of global warming	
2.2 Green house gas effect	
2.3 Climate change	
2.4 Montreal protocol	
2.5 Kyoto protocol	
 <b>Unit 3: Taking action to save the Earth</b>	 <b>10</b>
3.1 Individual responsibility in environment conservation	
3.2 Community and global initiatives	
3.3 Conservation of natural resources	
3.4 Wild life and habitat preservation	
3.5 Role of government and environmental policies	

### Reference:

1. Clyton K., (1986), Earth Crust, AdusBook , London.
2. Davis W. M., (1909), Geographical Essay, Ginnia Co.
3. Dayal P., (1996), Text Book of Geomorphology, Shukla Book Depot, Patna.
4. Kale V.S. and Gupta A., (2015), Introduction of Geomorphology, University Press, PVT Kolkata.
5. Lal, D. S. (1998): 'Climatology', Chaitanya Publishing House, Allahabad
6. Kale V.S. and Gupta A., (2001), Elements of Geomorphology, Oxford Univ. Press.
7. Monkhouse, (1951), Principle of Physical Geography, McGraw Hill Pub – New York.