

Rayat Shikshan Sanstha's R. B. Narayanrao Borawake College, Shrirampur (Autonomous)

(Affiliated to Savitribai Phule Pune University, Pune)

Department of Geography

FYUG Geography Syllabus as per NEP-2020

Implemented

From

Academic Year: 2023-24

Course Structure of F.Y.B.A. Geography (Semester-I and II)

Year	Semester	Course Type	Course Code	Course Title	Theory/ Practical	Credit	No. of Theory/ Practical to be conducted
		Major	GE-MJ-111T	Physical Geography-I	Theory	4	60
		(Core)	GE-MJ-112T	Physical Geography-II	Theory	2	30
	I	VSC	GE-VSC-113T	Travel and Tourism Management	Theory	2	30
		SEC	GE-SEC-114T	Geographical Information System	Theory	2	30
1		IKS	GE-IKS-115T	Ancient Indian Calendar	Theory	2	30
		GE-MJ- Major	GE-MJ-121T	Human Geography -I	Theory	4	60
	п	(Core)	GE-MJ-122T	Human Geography -II	Theory	2	30
		VSC	GE-VSC-123T	Survey and Report Writing	Theory	2	30
		SEC	GE-SEC-124T	Introduction to Remote Sensing	Theory	2	30

F.Y.B.A. (Geography) Syllabus for Semester- I

DISCIPLINE SPECIFIC CORE COURSE: (MAJOR) Physical Geography-I

Course Code & Title	Credits	Credit distribution of the course	
	oreans	Theory	Practical
GE-MJ-111T: Physical	1	Λ	
Geography-I	4	4	

• Course Objectives:

The course objective of this course is as follows:

- 1. To introduce the students to the basic concepts of Physical geography.
- 2. To introduce the latest concept in Physical geography
- 3. To acquaint the students with the utility and application of Physical geography
- 4. To describe the components of the Earth System.
- 5. To make the students aware of Earth's System (Lithosphere)
- 6. To understand the Plate Tectonic Theory and associated features.
- 7. To study the distribution of major landforms of the Earth.
- 8. To know the process of weathering and soil formation process.

• Course Outcomes:

After completion of this course student will able to:

CO-1: The geographical maturity of students in their current and future

courses shall develop.

CO-2: The student develops theoretical, applied, and computational skills.

• Course Contents

UNIT I: Introduction to Physical Geography

1.1 Meaning and Definition

- 1.2 Nature and Scope of Physical Geography
- 1.3 Branches of Physical Geography
- 1.4 Importance of Physical Geography
- 1.5 Application of Physical Geography

UNIT II: Earth Crust

- 2.1 Interior of the Earth
- 2.2 Alfred Wegner's Theory of Continental Drift
- 2.3 Theory of Plate Tectonics
- 2.4 W.M.Davis Theory of Cycle of Erosion

(15 Clock Hours)

(15 Clock Hours)

UNIT III: Rocks and Weathering

- 3.1 Rock: Definition, Types Igneous, Sedimentary and Metamorphic Rock
- 3.2 Weathering: Definition, Types Mechanical, Chemical, Biological, and Anthropogenic Weathering

UNIT IV: Mass Movement

- 4.1 Meaning and Concept
- 4.2 Factors affecting Mass Movement
- 4.3 Types of Mass Movement- Slow Flowage, Rapid Flowage, Sliding and Slumping, Subsidence

• Reading Books:

- Kale V.S. and Gupta A., (2015), Introduction of Geomorphology, University Press, PVT Kolkata.
- Kale V.S. and Gupta A., (2001), Elements of Geomorphology, Oxford Univ. Press.
- Swaroop Shanti, (2006), Physical Geography, King Books, NaiSarak, Delhi.
- डॉ.वाणी,डॉ.पाटील(२०२०):प्राकृतिक व मानवी भूगोल,अथर्व पब्लिकेशन्स,धुळे.
- डॉ.चौधरी आणि प्रा.गावित (२०१७):भूरूपशास्त्र,प्रशांत पब्लिकेशन्स.जळगाव ,
- ए.बी.सवदीआणिपी.एस .कोळेकर (२०१९) :प्राकृतिक भूगोल ,निराली प्रकाशन ,पुणे.
- डॉ.चौधरी सी.बी. (२०२०): प्राकृतिक भूगोल,स्वयं प्रकाशित,श्रीरामपूर.
- डॉ.थोरात ,डॉ. पगार, डॉ. मोरे (२०१९): प्राकृतिक भूगोल, निराली प्रकाशन,पुणे.
- श्रीकांत कार्लेकर आणि अ.वि.भागवत (२०१३): भूरूपशास्त्राची मूलतत्त्वे, डायमंड पब्लिकेशन्स,पुणे.

(15 Clock Hours)

(15 Clock Hours)

DISCIPLINE SPECIFIC CORE COURSE (MAJOR) Physical Geography II

Course Code & Title	Credits	Credit distribution of the course	
		Theory	Practical
GE-MJ-112T:Physical Geography II	2	2	

• Course Objectives:

The course objective of this course is as follows:

- 1. To make the students aware of Earth's system (Atmosphere, Oceanography, and Hydrosphere)
- 2. To understand the role of the hydrological cycle in the earth system.
- 3. To explain the factors influencing the formation of ocean waves and currents.
- 4. To identify and study geographical places and landforms.

• Course Outcomes:

After completion of this course student will able to:

CO-1: To introduce the students to the basic concepts of Physical geography

- CO-2: To introduce the latest concept in Physical geography
- CO-3: To acquaint the students with the value and application of Physical

Geography in different regions and environments.

CO-4: To make the students aware of Earth's system (Lithosphere, Atmosphere,

Biosphere, and hydrosphere

• Course Contents

UNIT I: Atmosphere

- 1.1 Composition and Structure
- 1.2 Temperature Distribution, Factors affecting Temperature
- 1.3 Heat balance of the Earth
- 1.4 Forms of Condensation and Types of Rainfall

UNIT II: Hydrosphere

- 2.1 Hydrological cycle
- 2.2 Waves: Types and Characteristics
- 2.3 Tides: Meaning and Types

UNIT III: Oceanography

(08 Clock Hours)

(06 Clock Hours)

(10 Clock Hours)

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3.1 General Structure of Ocean Floor

3.2 Ocean Currents

UNIT IV: Biosphere-Biomes

(06 Clock Hours)

- 4.1 Characteristics of Biomes,
- 4.2 Types of Biomes -Taiga Region, Tundra Region, Grass Lands

- Critchfield, H.J. (Rep. 2010): General Climatology. Prentice Hall, New Delhi.
- Lal, D.S. (1998): 'Climatology', Chaitanya Publishing House, Allahabad.
- Lutgens, Frederic K. & Tarbuck, Edward J. (2010): 'The Atmosphere: An Introduction to Meteorology', Pearson Prentice Hall, New Jersey.
- Oliver, John E. & Hidore, John J. (2003): Climatology: An Atmospheric Science, Pearson Education, Delhi
- Savindra Singh (2005): Climatology, Prayag Pustak Bhawan, Allahabad.
- डॉ.मोरे,डॉ.पगार,डॉ.थोरात (२०१४): हवामानशास्त्र आणि सागरशास्त्र मूलतत्त्वे, अथर्व पब्लिकेशन्स,पुणे.
- डॉ.मोरे,डॉ.पगार,डॉ.थोरात (२०१९): प्राकृतिक भूगोल, निराली प्रकाशन,पुणे.
- ए.बी.सवदी आणि पी.एस. कोळेकर (२०१९): प्राकृतिक भूगोल, निराली प्रकाशन, पुणे.

VOCATIONAL SKILL COURSE (VSC)

Travel and Tourism Management

Course Code & Title	Credits	Credit distribution of the course	
		Theory	Practical
GE-VSC-113T: Travel and			
Tourism Management	2	2	

• Course Objective:

- 1. To make the students aware of tourism.
- 2. To introduce the students to the basic concepts of travel and tourism Management.
- 3. To know about tourism planning and decision-making skills.
- 4. Students will be able to travel agency /tour operation and travel documentation.

• Course Outcomes:

After completion of this course, students will able to;

CO-1: To introduce the fundamental concept of Tourism.

CO-2: To familiarize with the significance and emerging trends in tourism.

CO-3: To understand the basic concept and various components of management.

• Course Content:

Unit-1: Introduction to Travel and Tourism(04 Clock Hours)

1.1 Meaning and Definitions of Traveller, Excursionist, Tourists and Tourism

1.2 Objectives, Nature and Scope of Tourism

- **1.3 Growth and Development of Tourism**
- **1.4 Importance of Tourism**

Unit-II: Factors of Tourism

- 2.1 Physical Factors-Relief Climate and Forest
- 2.2 Socio Cultural Factors-religious, Historical and Sports

2.3 Political Factors- Policies

Unit-III: Components, Types, and Forms of Tourism (06 Clock Hours)

3.1 Components of Tourism

- 3.2 Types of Tourism Domestic, International (Inbound and Outbound) Tourism
- 3.3 Forms of Tourism: Religious, Medical Tourism, Historical, Social, Health,

Business, Conferences, Sports and Adventure Tourism

(10 Clock Hours)

(10 Clock Hours)

3.4 World Heritage sites in Maharashtra

Unit IV: Travel Agency and Tour Management

- 4.1 Travel Agency and Tour Operations: definitions and differentiation
- 4.2 Functions of a Travel Agency–Travel Information, documentation, Tour Counseling, Ticketing, reservations and itinerary
- 4.3 Functions of Tour Operators-Tour Package information, pre-tour arrangements, Tour Operations and Post Tour Management

4.4 IATA & DOT Approval - Approval from various Government Bodies

4.5 Travel Documentation: - Passport and VISA

4.6 Destination Planning

- Koontz Herold & Weihrich Heinz (2006): Essentials of Management, 7th edition, Graw Hill Publishers, New Delhi.
- Agarwal R.D (2001): Organization and Management, Tata Mc. Graw Hill Publishers, New Delhi.
- Negi Jag Mohan (2004): Travel Agency Operations Concepts and Principles, Kanishka Publishing House, New Delhi.
- https://mangaloreuniversity.ac.in/sites/default/files/BA-TTM%20Syllabus.pdf
- https://www.bhu.ac.in/Content/Syllabus/Syllabus_3306320200703041008.pdf
- प्रा.मुळूक,डॉ.मुसमाडे,डॉ.डोके,डॉ.मोरे (२०२१): पर्यटन भूगोल,निराली प्रकाशन,पुणे.

SKILL ENHANCEMENT COURSE (SEC)

Introduction to Geographical Information System

Course Code & Title	Credits	Credit distribution of the course	
	cicults	Theory	Practical
GE-SEC-114T Introduction to Geographical Information System	2	2	

• Course Objectives:

1. To introduce the students to the basic concepts of GIS.

- 2. To acquaint the students with the utility and applications of GIS Technique.
- 3. To create awareness about Geospatial technology among the students.
- 4. To inculcate the skill of map-making among the students by using GIS Technique.

• Course Outcomes:

After completion of this course, students will able to;

CO-1: Comprehend knowledge about the concepts in GIS.

CO-2: Acquire skills in map-making using GIS

• Course Content:

Unit-1: Introduction to GIS

- 1.1. Definition of GIS and Historical Development
- 1.2. Application of GIS
- 1.3. Components &Functions of GIS
- 1.4. Types of Projections

Unit-II: Data Types & Models

- 2.2 Spatial Data Concept, Sources; Data Models Raster & Vector
- 2.2 Non-spatial Data Concept, Sources; Data Models Relational, Network, Hierarchical & Object orientated

Unit-III: Software-based Practical

- 3.1 Geo-referencing of Toposheet/Map
- 3.2 Digitization of Point, Line & Polygon (at least one layer of each)
- 3.3 Topology and Cleanup Drawing
- 3.4 Data Attachment, Creation of Layout and Map
- 3.5 Analysis of Geographic Data

(20 Clock Hours)

(04 Clock Hours)

(06 Clock Hours)

• Reading Books:

- Chang, K. T. (2008): Introduction to Geographic Information Systems, Avenue of the Americas, McGraw-Hill, New York.
- Debashis, C. and Sahoo, R. N. (2015): Fundamentals of Geographic Information System, Viva Books Private Limited.
- Karlekar, S. (2007): BhaugolikMahitiPranali , Diamond Publications, Pune.
- Pandey, J. and Pathak D. (2015): Geographic Information System, TERI Press, The Energy and Resources Institute, New Delhi.
- Paul, A. L., Michel, F. G., Maguire, D. J. and Rhind, D.W. (2002): Introduction to Geographic Information Systems and Science, John Wiley and Sons Ltd.
- डॉ.व्ही.जे.पाटील आणि डॉ.डी.एस.सूर्यवंशी(२०१५): दूर-संवेदन आणि भौगालिक माहिती

प्रणाली,प्रशांत पब्लिकेशन.जळगाव,

INDIAN KNOWLEDGE SYSTEM (IKS)

Ancient Indian Calendar and Geography

Course Code & Title	Credits	Credit distribution of the course	
		Theory	Practical
GE-IKS-115T Ancient Indian Calendar and Geography	2	2	

• Course Objectives:

- 1. To make the students aware of Ancient Indian Calendar and Geography.
- 2. To introduce the students to the basic concepts in Calendars in India
- 3. To know Ancient Indian Calendar and Geography.

• Course Outcomes:

After completion of this course, students will able to;

CO-1To recognizes the role of Popular Culture to understand IKS.

- CO2-Students are able to Other Applications of IKS in Decision-Making algorithms.
- CO3-Students able to start from the oldest compositions of knowledge i.e., the Vedic literature to the country's native and tribal folklore, Indian Knowledge is spread as a spectrum.

UNIT I: Introduction to Calendars in India	(06 Clock Hours)
1.1 Meaning and Definition	
1.2 Development and Types of Calendars	
UNIT II: Hindu Calendar	(08 Clock Hours)
2.1 Day, Date, Month, Zodiac,	
2.2 Yoga, Karaņa, Nakshatra	
UNIT III: Indian Calendar Forms	(08 Clock Hours)
3.1 Origins	
3.2 Solar Month and Seasons	
3.3 Lunar Months	
UNIT IV: Saka Calendar	(08 Clock Hours)
4.1 Details Information of Saka Calendar	

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• Reading Books:

- दाते आणि सौ.दाते(१९९०): प्राकृतिक भूगोल,डायमंड प्रकाशन ,पुणे
- मोहन आपटे (१९९०): कालगणना, ,डायमंड प्रकाशन, ,पुणे

• Web References :

- 1. <u>https://unacademy.com/content/upsc/study-material/modern-indian-history/calendars-in India</u>
- 2. <u>https://byjus.com/free-ias-prep/chronology-of-ancient-to-modern-history-of-india</u>
- 3. https://byjusexamprep.com/upsc-exam/national-calendar-of-india#toc-3

F.Y.B.A. (Geography)

Syllabus for Semester- II

DISCIPLINE SPECIFIC CORE COURSE (MAJOR)

Human Geography-I

Course Code & Title	Credits	Credit distribution of the course	
	0100105	Theory	Practical
GE-MJ-121T: Human Geography-I	2	2	

• Course Objectives:

- 1. To introduce the students to the basic concepts in Human Geography.
- 2. To introduce the latest concept in Human Geography
- 3. To acquaint the students with the utility and application of Human Geography
- 4. To make the students aware of Population growth.
- 6. To understand the Theories in Human Geography.

• Course Outcomes:

After completion of this course, students will able to;

- CO-1: To introduce the students to the basic concepts of Human geography
- CO-2: The student develops theoretical, applied, and computational skills.
- CO-3: To acquaint the students with the value and application of Human geography in different regions and environments.

• Course Content:

UNIT I: Introduction to Human Geography	(10 Clock Hours)
1.1 Meaning, Definition and Significance	
1.2 Nature and Scope of Human Geography	
1.3 Branches of Human Geography	
1.4 Approaches to Study Human Geography	
UNIT II: Human Evaluation and Races	(18 Clock Hours)
2.1 Stages of Human Evaluation	
2.2 Meaning and Definition of Human Race	
2.3 Bases of Human Race	
2.4 Griffith Taylor's Theory of Human Race	
2.4 Major Human Races of the World	
2.5 Classification of Indian Races	

UNIT III: Human Adap	tation with En	vironment	(14 Clock Hours)
3.1 Human life in	n Cold Region-	Eskimo	
3.2 Human Life	in Tropics-Pign	ıy	
3.3 Regional Dis	stribution of Tri	bes in India	
a) Bhill	b) Gond	c) Naga	
3.4 Tribes in Ma	harashtra		
NITIV: Human Cultu	re		(18 Clock Hours)
4.1 World Langu	ages and their l	Distribution	
4.2World's Majo	or Religions and	l their Distribution	
4.3 Distribution	of Languages in	n India	
4.2 Distribution	of Religions in	India	
Reading Book	5:		
• Chandna, R.C. (20)10): Population	n Geography, Kaly	ani Publisher.
• Hassan, M.I. (200	5): Population (Geography, Rawat	Publications, Jaipur
• Musmade Arjun,	Sonawane Amit	and Jyotiram Mo	re (2015): Population & Settlement
Geography,Diamo	ond Publication	Pune.	· · ·
• Kaushik, S.D. (20	10): Manavi Bł	ugol, Rastogi Pub	lication, Meerut.
• Maurya, S.D. (20)	12):Manav Bhu	gol, Sharda Pustak	Bhawan. Allahabad.
• Bhende Asha & K	anitkar Tara (2	0): Principals of Po	opulation Studies, Himalaya
Publication,Mum	oai.		
• डॉ.मुसमाडे, डॉ.मोरे, डॅ	.मुळूक, डॉ.कासार	(२०२१) लोकसंख्या भू	गेल,निराली प्रकाशन,पुणे
• ए.बी.सवदी आणि पी.ए	.स. कोळेकर (२०१५	(): मानवी भूगोल, निरात	ती प्रकाशन,पुणे.
• व्ही.जे.पाटील, एस.व्ही	.ढाके आणि आर.र्व्ह	ो.भोळे (२०१४): मानर्व	ो व आर्थिक भूगोल,प्रशांत

पब्लिकेशन्स,जळगाव.

DISCIPLINE SPECIFIC CORE COURSE (MAJOR)

Human Geography-II

Course Code & Title	Credits	Credit distribution of the course	
	cicality	Theory	Practical
GE-MJ-122T: Human			
Geography-II	2	2	

• Course Objectives:

- 1. To make the students aware about Human Geography
- 2. To make the students aware about Human Settlement
- 3. To understand the agriculture practice of Human Community
- 4. To understand the tribes in India and Maharashtra
- 5. To know about human culture

• Course Outcomes:

After completion of this course student will able to;

- CO-1: To introduce latest concept in Human Geography
- CO-2: To acquaint the students with the value and application of Human geography in different regions and environment.

CO-3: To understand the role of Human Culture for development

• Course Content:

UNIT I: Population	(10 Clock Hours)
1.1 World Distribution Population	
1.2 Factors Affecting Population Distribution	
1.3 Malthus Theory of Population Growth	
1.4 Theory of Demographic Transition	
UNITII: Settlements	(06 Clock Hours)
2.1 Meaning and Definition	
2.2 Types of Settlement-Rural and Urban Settlement	
2.3 Settlement Patterns	
UNITIII: Agriculture	(06 Clock Hours)
3.1 Meaning and Definition	
3.2 Types of Agriculture	

- 3.3 Factors Affecting Agriculture Activity
- 3.4 Problems of Indian Agriculture

UNIT IV: Migration

(08 Clock Hours)

- 4.1 Meaning and Definition of Migration
- 4.2 Types of Migration
- 4.3 Causes of Migration
- 4.4 Consequences of Migration

- Johnston R, Gregory D, Pratt G (2008): The Dictionary of Human Geography, Blackwell Publication, New Jersey
- Norton. W (2001): Human Geography,4th Edition, Oxford University Press,Oxford
- प्रा.ए.बी.सवदी आणि पी.एस. कोळेकर (२०१५): मानवी भूगोल, निराली प्रकाशन,पुणे.
- डॉ.मुसमाडे, डॉ.सोनावणे,डॉ.मोरे (२०१५): लोकसंख्या आणि वस्ती भूगोल, डायमंड पब्लिकेशन, पुणे.

Vocational Skill Course (VSC)

Survey & Report Writing

Course Code & Title	Credits	Credit distribution of the course	
		Theory	Practical
GE-VSC-123T: Survey &			
Report Writing	2	2	

• Course Content:

- 1. To make the students aware survey.
- 2. To introduce the students to the basic concepts of survey & report writing.
- 4. Students will be able to design a report through survey.

• Course Outcomes:

After completion of this course, students will able to;

CO-1: Understand the basics of survey and reporting needs and methods

CO-2: Comprehend designing of a questionnaire

- CO-3: Conduct a simple and valid survey and Collect data
- CO-4: Organize and interpret data and Prepare reports.

• Course Content:

Unit-I: Introduction to Survey	(08 Clock Hours)
1.1 Meaning & Definition	
1.2 Identifying Need for Survey	
1.3Types of Data Collection	
1.4 Types of survey methods.	
1.5 Identifying Sample	
1.6 Characteristics of sample	
Unit-II: Preparing Questionnaire	(08 Clock Hours)
2.1 Types and Parts of Questionnaire	
2.2 Qualities of good Questionnaire	
2.3 Precautions in Preparing Questionnaire	
Unit-III: Report Writing	(14 Clock Hours)
3.1 Types of Report	
3.2 Characteristics of a Good Report	

3.3 Designing the Field Report – Aims, Objectives, Methodology, Analysis, Representation of Data, Interpretation and Writing the Report.

- Creswell J.(1994): Research Design: Qualitative and Quantitative Approaches Sage Publications.
- Dikshit, R. D. (2003): The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
- Evans M. (1998): Participant Observation: The Researcher as Research Tool" in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
- Mukherjee Neela (1993): Participatory Rural Appraisal: Methodology and Application. Concept Publs. Co., New Delhi.
- Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt.
- डॉ. अर्जुन कुंभार (१९९४): प्रात्यक्षिक भूगोल, सुमेरू प्रकाशन, ठाणे.

Skill Enhancement Course (SEC)

-Introduction to Remote Sensing

Course Code & Title	Credits	Credit distribution of the course	
		Theory	Practical
GE-SEC-124T: -Introduction	2	2	
to Remote Sensing			

• Course Objectives:

- 1. To introduce the students to the basic concepts of Remote Sensing.
- 2. To acquaint the students with the utility of RS and its applications.
- 3. To inculcate the skill of satellite image interpretation among the students

• Course Outcomes:

After completion of this course, students will able to;

CO-1: Obtain knowledge about the concepts of remote sensing.

CO-2: Acquire skills in visual interpretation of satellite images.

• Course Content

Unit-1: Introduction to Remote Sensing

- 1.1 Concept, Definition, Types of Remote Sensing
- 1.2 Development of Remote Sensing in India
- 1.3 Stages in Remote Sensing Process
- 1.4 Electromagnetic Spectrum, Atmospheric Window
- 1.5 Applications of Remote Sensing

Unit-II: Image Interpretation

- 2.1 Image Resolution
- 2.2 Elements of Visual Image Interpretation
- 2.3 Visual Image Interpretation of Satellite Images
- 2.4 Image Enhancement

Unit-III: Remote Sensing Platforms and Sensors (10 Clock Hours)

- 3.1Sensor Meaning and Definition
- 3.2 Types of Sensor- Camera, Radar, Scanner
- 3.3 Definition of Remote Sensing Platforms
- 3.4 Types of Platforms- Air Borne, Rockets and Satellite

(10 Clock Hours)

(10 Clock Hours)

F.Y.B.A.

- Bhatta B., (2011): Remote Sensing and GIS, Oxford University Press, India.
- Campbell, J. (2002): Introduction to Remote Sensing, Taylor & Francis, London.
- Heywood, I., Steve, C. and Cornelius, S. (2003): An Introduction to Geographical Information Systems, Pearson Education.
- Jensen, J. R. (2000): Remote Sensing of the Environment: An Earth resource Perspective, Prentice Hall.
- Jensen, J. R. (2005): Introductory Digital Image Processing, Prentice Hall, New Jersey.
- Joseph, G. (2004): Fundamentals of Remote Sensing, Universities Press, Hyderabad, India.
- डॉ.श्रीकांत कार्लेकर (२००६): दूर सवेंदन, डायमंड पब्लीकेशन्स,पुणे.
- डॉ.श्रीकांत कार्लेकर(२०१७): दूरसवेंदन आणि भौगालिक माहिती प्रणाली, डायमंडपब्लीकेशन्स,पुणे.
- Lillesand, T. M., Kiefer, R. W. and Chipman, J. W. (2016): Remote Sensing and Image Interpretation, 6th Edition, Wiley India.
- डॉ.व्ही.जे.पाटील आणि डॉ. डी.एस. सूर्यवंशी (२०१५): दूर सवेंदन व भौगोलिक माहिती प्रणाली, प्रशांत पब्लीकेशन्स,जळगाव.