

AC – 28/03/2025

Item No. – 7.8 (N) (2b) Sem. IV

As Per NEP 2020

University of Mumbai



**Syllabus for
Basket of OE
Vertical 3**

Faculty of Commerce & Management

Board of Studies in Bachelor of Management Studies

Second Year Programme - BMS (Environmental Management & Economics)

Semester

IV

Title of Paper

Credits

I) Fundamentals of Remote Sensing

2

From the Academic Year

2025-26

Title of Paper: Fundamentals of Remote Sensing

Sr. No.	Heading	Particulars
1	Description the course:	In the changing dynamics of business environmental forces, Environment Management helps explore the intricate balance between human activities and the natural world. Throughout this course, learners will delve into strategies for preserving ecosystems, mitigating environmental impacts, and promoting sustainability. From understanding environmental regulations to implementing conservation practices, students will develop the skills and knowledge necessary to become effective stewards of our planet. This will enable the learners to embark into the journey to safeguard our environment for future generations.
2	Vertical :	Open Elective
3	Type :	Theory
4	Credit:	2 credits
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: a. Understand the role of electromagnetic radiation in remote sensing and explain its significance as a medium for data acquisition. b. Understand the different types of remote sensing sensors, including optical, thermal, and microwave sensors, and how these sensors capture data in different spectrums.	
8	Course Outcomes: CO1) A learner will develop a strong foundation in the principles, technology, and applications of remote sensing. CO2) A learner will gain an understanding of the fundamental concepts of electromagnetic radiation, data recording mechanisms, and the various types of platforms and sensors used in remote sensing.	

9	Modules:-	
	<u>Module 1: Introduction to Remote Sensing</u>	
	Unit 1: Introduction to Remote Sensing	
	a. General Characteristics of Remote Sensing Platforms and Remote Sensing Sensors b. Electromagnetic Radiation as Remote Sensing Medium ,General Mechanism of Remote Sensing Data Recording c. Indian Remote Sensing Satellites and Sensors.	
	Unit 2: Sensors and Data Analysis	
	a. Sensors types –optical (multispectral, hyper-spectral), thermal and microwave, resolutions, Landsat, SPOT, IRS, ERS, Radarsat, RISAT b. Scale, maps and map projections, c. Interpretation keys; image characteristics, media and formats of digital images, image enhancement, image transformations.	
10	Reference Books: 1. Advanced Remote Sensing by Shunlin Liang & Jindi Wang. Publisher: Acad Pr 2. Concepts and Techniques of Geographic Information Systems by CP Lo & Albert KW Yeung. Publisher: PHI Learning. 3. Fundamentals Of Satellite Remote Sensing An Environmental Approach 3Rd Edition by Emilio Chuvieco. Publisher: Taylor and Francis	
11	Internal Continuous Assessment: 40%	External, Semester End Examination 60% Individual Passing in Internal and External Examination
12	Internal Paper Pattern (20 Marks) 1. Project Presentation OR Case Study writing 05 Marks 2. Quiz OR Group discussion 05 Marks 3. Class Test (Mandatory) with objectives 10 Marks <hr/> Total 20 Marks	

QUESTION PAPER PATTERN

(External and Internal)

Paper Pattern 2 Credits (Total 50 Marks)

Internal = 20 Marks

External = 30 Marks

Internal Paper Pattern (20 Marks)

1. Project Presentation OR Case Study writing

2. Quiz OR Group discussion

} any one

10 Marks

3. Class Test (Mandatory) with objectives

10 Marks

Total

20 Marks

Sd/-

Sign of the BOS
Chairman
Dr. Kanchan Fulmali
Board of Studies in
BMS

Sd/-

Sign of the
Offg. Associate Dean
Prin. Kishori Bhagat
Faculty of Commerce
& Management

Sd/-

Sign of the
Offg. Associate Dean
Prof. Kavita Laghate
Faculty of
Commerce &
Management

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Sign of the
Offg. Dean
Prin. Ravindra
Bambardekar
Faculty of
Commerce &
Management