B A Programe V Semester
Examination Scheme
(Effective from the session: 2021-24)

S.N	Name of Subject	Course Code	Th/ Pr	Type of Course	Teaching hours per week			TC	Examination Scheme				Total Marks
					L	T	P		Theory		Practical		
									SEE	CE	SEE	CE	
1	**Remote Sensing**	**ABA03-501**	**Th**	**Core**	**4**	**1**	**-**	**5**	**70**	**30**	**-**	**-**	**100**
3	**PRACTIAL**	**ABA03-501(P)**	**Pr**	**Core**	**-**	**-**	**4**	**2**	**-**	**-**	**35**	**15**	**50**
				Total Credit : 7					**Grand Total Marks: 150**				

L: Lecture T: Tutorial P: Practical

<table>
<tr><td>Course Title</td><td colspan="5">Remote Sensing</td></tr>
<tr><td>Course Code</td><td colspan="5">ABA03-501</td></tr>
<tr><td rowspan="2">Course Credits</td><td>L</td><td>T</td><td>P</td><td>TC</td><td></td></tr>
<tr><td>4</td><td>1</td><td>-</td><td>5</td><td></td></tr>
<tr><td>Prerequisites</td><td colspan="5">Knowledge about Remote sensing.</td></tr>
<tr><td>Course Objectives</td><td colspan="5">• The objective of this course is to help student in understanding about basic concepts of Remote sensing.</td></tr>
<tr><td>Course Contents</td><td colspan="5">Unit-I
Basics of Remote Sensing: definition, history and scope; Electro-magnetic Radiation: Characteristics, Spectral and Bands; Interaction with earth surface features and atmosphere; Spectral Signature.
Unit-II
Types of Remote Sensing: Air borne and Space borne; Aerial photos: Types and characteristics; Remote Sensing satellites: Platforms and sensors: active and passive, sensor characteristics: spatial resolution, spectral resolution, radiometric resolution, temporal resolution, Product.
Unit-III
Visual and Digital image processing techniques; Remote Sensing application in resource mapping and environmental monitoring, Remote sensing in India: Development and Growth. Indian Satellites, Space Organizations and data products.
Unit-IV
Introduction of GIS : Definition of Geoinformatics, Scope and Importance of Geoinformatics, History of GIS, Components of GIS, GIS tasks input, Manipulation, Management, Query analysis, Visualization, Toposheets, Surveying, Aerial photographs, Satellite data and images, Data types-Spatial and Non spatial.
Unit-V
Data model and data analysis: Raster data and their characteristics, Vector data and their characteristics, Raster data analysis- Grid cells or Pixels, Vector data analysis-Spatial data, Generation in Vector Format, Spatial and Non-Spatial data Management. Spatial Information Technology.</td></tr>
<tr><td>Course Outcomes</td><td colspan="5">After successful completion of this course students should be able to understand about basic knowledge of Remote Sensing.</td></tr>
</table>

Text Books	1. Bhatta, B.(2010): Remote Sensing and GIS, Oxford University Press, New Delhi. 2. P.S. Negi. Eco-Development a 3. G.P. Yadav& Ram Suresh, ParyavaranAdhyayan. 4. V.K. Srivastava, Environmental and Ecology (Hindi)
Reference Books	1. Griffith Taylor, Environmental race and migration. 2. Sharma, H.S. and Chattopadhyay, S.K. Sustainable Developments concepts and issues, concept, New Delhi-2000. 3. Reid, D., Sustainable Development, Earthscan, Pub. London, 1995.

<table>
<tr><td>Course Title</td><td colspan="5">Map Projection and Surveying (Practical)</td></tr>
<tr><td>Course Code</td><td colspan="5">ABA03-402 P</td></tr>
<tr><td rowspan="2">Course Credits</td><td>L</td><td>T</td><td>P</td><td>TC</td><td></td></tr>
<tr><td>3</td><td>1</td><td></td><td>4</td><td></td></tr>
<tr><td>Prerequisites</td><td colspan="5">Basic Knowledge of Practical Geography.</td></tr>
<tr><td>Course objectives</td><td colspan="5">The objective of this course is to help student to understanding about basic concepts of Map Projection and Surveying</td></tr>
<tr><td>Course Contents</td><td colspan="5">Map Projection: Conical Projection- one standard parallet, two standard parallets; Bonne’s Projection; Polar Zenithal Projection.

Band Graph, Hythergraph, Climography, Square root, Cube root.

SURVEYING
Plane Table Survey: Basic Principle of Plain Table Surveying, Plain Table Survey. Including Intersection and resection.</td></tr>
<tr><td>Course outcomes</td><td colspan="5">After successful completion of this course students should be able to understand about basic knowledge of Graphs and Diagrams.</td></tr>
<tr><td>Text Books</td><td colspan="5">1 Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
2 Raisz, E. (1962): General Cartography. John Wiley and Sons, New York. 5th edition.
3 Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.
4 Sharma, J. P. (2001): Prayogik Bhugool., Rastogi Publication, Meerut 3rd. edition.</td></tr>
<tr><td>Reference Books</td><td colspan="5">1. Singh, R.L. and Singh, Rana P.B. (1993): Elements of Practical Geography. (Hindi and English editions). Kalyani Publishers, New Delhi,.
2. Singh, L.R. (2006): Fundamentals of Practical Geography, Sharda PustakBhawan, Allahabad.</td></tr>
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