Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Technology and Science
Choice Based Credit System (CBCS) in Light of NEP-2020
Civil Engineering Department
Generic Elective (Undergraduate Courses)
ODD Sem

COURSE CODE	CATE-GORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTCE310	GE	Geoinformatics	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit.
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:
1. To introduce the concepts of remote sensing, satellite image characteristics and its components.
2. To expose the various remote sensing platforms and sensors and to introduce the concepts of GIS, GPS and GNSS.

Course Outcomes:
The student will be able to
1. The characteristics of Aerial photographic images
2. Remote sensing satellites and Applications of remote sensing.
3. The GIS and its Data models.
4. The Global Navigation Satellite System.

UNIT I
08 Hrs.

Aerial Photographs- Basic terms & Definitions, scales, relief displacements, Flight Planning, Stereoscopy, Characteristics of photographic images, Fundamentals of aerial photointerpretation, Introduction to Digital Photogrammetry.

UNIT II
08 Hrs.

Remote Sensing: Physics of remote sensing, Remote sensing satellites, and their data products, Sensors and orbital characteristics, Spectral reflectance curves, resolution and multi-concept, FCC

UNIT III
08 Hrs.

Satellite Image - Characteristics and formats, Image histogram, Introduction to Image rectification, Image Enhancement, Land use and land cover classification system, Unsupervised and Supervised Classification, Applications of remote sensing

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Controller of Examination
Shri Vaishnav Vidyapeeth
Vishwavidyalaya, Indore

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UNIT IV
08 Hrs.

Basic concepts of geographic data, GIS and its components, Data models, Topology, Process in GIS: Data capture, data sources, data encoding, geospatial analysis, GIS Applications

UNIT V
09 Hrs.

Global Navigation Satellite System (GNSS), GPS, GLONASS, GALILEO, GPS: Space segment, Control segment, User segment, GPS satellite signals, Datum, coordinate system and map projection, Static, Kinematic and Differential GPS, GPS

Text Books:
1. Remote Sensing & GIS, BS Publications
2. Higher Surveying by A M Chandra New Age International Publisher
3. Remote Sensing & GIS by B. Bhatta Oxford University Press
4. Introduction to GPS by A. E Rabbany Library of congress cataloging in Publication data

Reference Books:
1. T M Lillesand et al: Remote Sensing & Image Interpretation
2. Higher Surveying by B C Punmia Ashok kr. Jain Laxmi Publications
3. N K Agarwal : Essentials of GPS , Spatial Networks: Hyderabad

Chairperson	Chairperson	Controller of Examination	Joint Registrar
Board of Studies	Faculty of Studies	Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth
Shri Vaishnav Vidyapeeth	Shri Vaishnav Vidyapeeth	Vishwavidyalaya, Indore	Vishwavidyalaya, Indore
Vishwavidyalaya, Indore	Vishwavidyalaya, Indore		