GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2170606   **Date: 15/11/2018**

Subject Name: Application of Geoinformatics in Civil Engineering

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1	**(a)**	Write a Short note on: NAVSTAR	**03**
	(b)	Explain Components of GIS.	**04**
	(c)	Enlist and Explain Branches of Geoinformatics.	**07**
Q.2	**(a)**	Define: Focal Length, Nadir Point, Tilt.	**03**
	(b)	Explain Seven Elements of Remote Sensing.	**04**
	(c)	What is Relief Displacement? Derive Expression for the relief Displacement in a Vertical Photograph.	
		OR	
	(c)	The Scale of an Aerial Photograph is 1 cm = 100 cm and Photograph size is 15 cm x 15 cm. Determine the Number of Photographs required to cover an Area of 15 km x 15 km, if Longitudinal lap is 60% and Side Lap is 30%.	**07**
Q.3	**(a)**	What is Active Remote Sensing?	**03**
	(b)	Write Working Principle of GPS.	**04**
	(c)	Discuss the Role of Spectral Reflectance Curves in Remote Sensing with Neat Sketch, including Spectral Reflectance of Soil, Water and Vegetation.	**07**
		OR	
Q.3	**(a)**	What is Passive Remote Sensing?	**03**
	(b)	What is Scanner? Explain Types of Scanners.	**04**
	(c)	Explain in Detail: Electromagnetic Radiation.	**07**
Q.4	**(a)**	Explain Raster Data Model.	**03**
	(b)	What are the Limitations of GIS.	**04**
	(c)	Explain Factors Affecting GPS in Detail.	**07**
		OR	
Q.4	**(a)**	Write a Short note on: Vector Data Model.	**03**
	(b)	What are the Advantages of GIS.	**04**
	(c)	Enlist and Explain Applications of GNSS.	**07**
Q.5	**(a)**	Define Metadata, Attribute Data, Spatial Data.	**03**
	(b)	Discuss Application of Remote Sensing in Land use and Land Cover Mapping.	**04**
	(c)	Explain the Role of GIS and Remote Sensing in Floods.	**07**
		OR	
Q.5	**(a)**	Write Functions of DBMS.	**03**
	(b)	Discuss Application of Remote Sensing in Geology.	**04**
	(c)	Write Various Applications of Geo-informatics in Civil Engineering and Explain use of GIS in Water Resources Engineering.	**07**

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