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Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2170606 Date:28/04/2018

Subject Name:Application of Geoinformatics in Civil Engineering(Departmental Elective - II)

Time:02.30 PM to 05.00 PM Total Marks: 70

Instructions:

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

Q.1	**(a)**	Define geoinformatics and enlist various application of geoinformations in civil engineering.	**03**
	(b)	Explain principles of remote sensing.	**04**
	(c)	Discuss various applications of GIS in brief.	**07**
Q.2	**(a)**	Write advantages of remote sensing	**03**
	(b)	Discuss the following terms in briefly:- (a) GNSS (b) GPS	**04**
	(c)	Describe elements of visual image interpretation.	**07**
		OR	
	(c)	Draw the flowchart and explain digital image processing in detail.	**07**
Q.3	**(a)**	Write short note on:- Active and passive sensors	**03**
	(b)	Write about input and output devices in GIS.	**04**
	(c)	Discuss the wave model of electromagnetic energy used for remote sensing with the help of a sketch.	**07**
		OR	
Q.3	**(a)**	Differentiate between raster and vector model.	**03**
	(b)	What are the key components of GIS?	**04**
	(c)	Explain in brief application of GIS in town planning	**07**
Q.4	**(a)**	Enlist various map projection	**03**
	(b)	Show the importance of microwaves.	**04**
	(c)	What is photogrammetric survey? List factors affecting selection of flying altitude.	**07**
		OR	
Q.4	**(a)**	Which are the softwares used for remote sensing?	**03**
	(b)	What are the limitations of GIS?	**04**
	(c)	Explain different resolution with their significance.	**07**
Q.5	**(a)**	Write about digitization.	**03**
	(b)	Write short note on flight planning.	**04**
	(c)	Explain energy interaction with the earth's surface.	**07**

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OR

Q.5	**(a)**	What are the atmosphere window?	**03**
	(b)	What is the concept of layers in GIS?	**04**
	(c)	Discuss a spectral reflectance curve.	**07**

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