Code No: **R1641014**

recharge structures.

Time: 3 hours

R16

IV B.Tech I Semester Regular/Supplementary Examinations, March - 2021 REMOTE SENSING AND GIS APPLICATIONS

(Civil Engineering)

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any FOUR questions from Part-B *****

PART-A (14 Marks)

1.	a)	Briefly discuss about electromagnetic spectrum.	[2]
	b)	Discuss different types of resolutions in brief.	[3]
	c)	List out key components if GIS.	[2]
	d)	Discuss about different arithmetic operators on vector data.	[3]
	e)	How does RS involve in land use and land cover studies.	[2]
	f)	How RS and GIS improves the standards of modern life.	[2]
		PART-B $(4x14 = 56 Marks)$	
2.	a)	Explain about different types of sensors based on	[9]
		i) Orbit	
		ii) Energy source	
		iii) Data capture	
	b)	Describe how the effects of atmospheric scattering on RS data can be accounted	[5]
		for.	
3.		Discuss about the following image enhancement techniques i) Image reduction and magnification ii) Contrast enhancement	[14]
4.	a) b)	Discuss briefly process of combining spatial data and attribute data in GIS. With figure , explain various UTM zones used in GIS.	[7] [7]
5.	a) b)	What is raster overlay? Explain with suitable examples. Explain in detail about network allocation and network tracing.	[7] [7]
6.	a) b)	Explain the use of RS and GIS techniques in forestry applications. Discuss about geology and morphological applications of GIS.	[7] [7]
7.		Explain how GIS and RS can be used for identifying the sites for artificial	[14]

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Code No: **R1641014**

Time: 3 hours

R16

Set No. 2

IV B.Tech I Semester Regular/Supplementary Examinations, March - 2021 REMOTE SENSING AND GIS APPLICATIONS (Civil Engineering)

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any FOUR questions from Part-B *****

PART-A (14 Marks)

1.	a)	Outline three types of scattering that occur in earth's atmosphere.	[3]
	b)	Distinguish between spatial and non-spatial data types.	[3]
	c)	Give the details of UTM projection.	[2]
	d)	Write a short note on comparison operators.	[2]
	e)	List out the RS requirements in forestry field applications.	[2]
	f)	Discuss about the role of RS in ground water targeting.	[2]
		PART-B $(4x14 = 56 Marks)$	
2.	a)	Explain about different parts/zones of electromagnetic spectrum with reference	[6]
		to energy, frequency and wave length.	
	b)	Discuss about	[8]
		i) Band interleaved by pixel	
		ii) Band interleaved by line.	
3.	a)	Explain the term "visual image interpretation". Discuss various elements of it.	[7]
	b)	Discuss the entire process of digital image processing, by means of a flow chart.	[7]
4.	a)	Define GIS. What are the key components of GIS?	[7]
	b)	Explain the importance and various applications of GIS.	[7]
_			
5.	a)	Discuss about various vector overlay operations.	[7]
	b)	What is data compression? Explain about any two methods.	[7]
6.		Discuss about the role and advantages of RS and GIS in land use and land cover	[14]
		mapping.	
7		Explain the role of DS and CIS in continuous monitoring of floods with a case	F1 / 1

7. Explain the role of RS and GIS in continuous monitoring of floods with a case [14] study.

1 of 1

["]]"]"]www.manaresults.co.in

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Code No: **R1641014**

IV B.Tech I Semester Regular/Supplementary Examinations, March - 2021 **REMOTE SENSING AND GIS APPLICATIONS** (Civil Engineering)

R16

Time: 3 hours

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any FOUR questions from Part-B *****

PART-A (14 Marks)

1.	a)	Name the latest sensors of Indian RS satellites.	[2]
	b)	Discuss about radiometric correction.	[2]
	c)	Explain about map projection.	[2]
	d)	What is vector overlay operation?	[2]
	e)	Discuss about a few urban applications of GIS.	[3]
	f)	What are the GIS layers developed for watershed characterization.	[3]
		PART-B $(4x14 = 56 Marks)$	
2.	a)	Discuss in detail the energy interaction with the earth surfaces.	[7]
	b)	Explain about the characteristics of remote sensing systems.	[7]
3.	a)	Explain different methods of image classification.	[7]
	b)	What are different image interpretation elements? Explain briefly.	[7]
4.	a)	Explain the term GIS. What are the applications of GIS?	[7]
	b)	Distinguish between field-based and object-based raster models.	[7]
5.	a)	What do you understand by spatial data analysis? Why is it required?	[7]
	b)	Explain any two spatial analysis techniques.	[7]
6	a)	Discuss about applications of remote sensing in geology and	[7]
0.	<i>a)</i>	geomorphology.	[/]
	b)	What are the RS and GIS applications in the field of qualitative agriculture?	[7]
7.	a)	Mention about RS applications in groundwater potential recharge zones and	[7]
,.		improvement.	r. 1
	b)	Discuss about the specific resolution needs in flood zone mapping and explain the methodology used in such studies.	[7]

Set No. 3

Max. Marks: 70



Code No: R1641014

R16

Set No. 4

IV B.Tech I Semester Regular/Supplementary Examinations, March - 2021 REMOTE SENSING AND GIS APPLICATIONS

Time: 3 hours

(Civil Engineering)

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any FOUR questions from Part-B *****

PART-A (14 Marks)

1.	a)	Write a short note on electromagnetic spectrum.	[2]
	b)	Distinguish in brief active and passive remote sensing.	[3]
	c)	What do you mean by spatial entity and topology.	[3]
	d)	Explain the terms containment and adjacency.	[2]
	e)	List out the applications of GIS in geology.	[2]
	f)	Discuss about the role of RS in the process of flood zoning and mapping.	[2]
		$\underline{\mathbf{PART}} - \underline{\mathbf{B}} \ (4x14 = 56 \ Marks)$	
2.	a)	Explain in brief IRS and land sat satellites with their series and characteristics.	[7]
	b)	What are the types of errors in remote sensing. Explain them briefly.	[7]
3.	a)	Define resolution and explain the types of resolutions.	[7]
	b)	Explain in detail the image enhancement and image filtering techniques used in remote sensing.	[7]
4.	a)	Discuss in detail various components of GIS,	[7]
	b)	Explain the process of joining spatial and attribute data in GIS.	[7]
5.	a)	Explain in brief point-in -polygon overlay and line-on-polygon overlay.	[7]
	b)	What are map projections? Explain various map projection methods in brief.	[7]
6.	a)	What are the applications of RS and GIS in land use and land cover analysis. Explain briefly.	[7]
	b)	Discuss how best GIS is useful in environmental and urban planning.	[7]
7.		Discuss in detail about applications of remote sensing in disaster management.	[14]

["]]"]"]www.manarestalts.co.in