R22 Regulation *Subject code: 4E4AF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech IV Semester Supplementary Examinations, December 2024

REMOTE SENSING & GEOGRAPHIC INFORMATION SYSTEM

(CIVIL ENGINEERING)

Maximum Marks: 60 Date:17.12.2024 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

	Part-A	CO	Bloom Tx
All the following questions carry equal marks	(10x1M=10 Marks)		
1.a)	What are homologous points?	CO1	BL1
b)	What is a stereoscopic view of aerial photography?	CO1	BL1
c)	Give a note on Active sensors and Passive sensors used in remote sensing.	CO2	BL2
d)	Write a note on Blue Bird Satellites.	CO2	BL1
e)	State the characteristics of GIS.	CO3	BL1
f)	Present a short note on UTM.	CO3	BL2
g)	What is a Topology?	CO4	BL1
h)	How to define 'coverage' in Vector data format?	CO4	BL2
i)	What is a Metadata?	CO5	BL1
j)	What is 'on screen digitizing'?	CO5	BL1
	Part-B		
Answer All the following questions.	(5X10M=50Marks)		Bloom Tx level
2	Describe the geometrical properties of vertical aerial photographs. (10M)	CO1	BL2
	OR		
3	Illustrate the relief displacement of a tower in a vertical photograph and explain in detail the factors controlling the relief displacement. Assume that the radial distance r_a to a point A is 63.84 mm and the radial distance r_b to a point B is 62.65 mm. Flying height H is 1300 m above datum, point A is 152 m above datum and point B is 168 m below datum. Find out the radial distance and direction one must layoff from point 'a' and 'b' to plot them in proper location. (10M)	CO1	BL4
4	A. Explain the components of remote sensing with a neat sketch. B. Discuss energy interactions with atmosphere. (5M+5M)	CO2	BL2
	OR		
5	Briefly describe IKONOS Satellite Sensor. (10M)	CO2	BL2

6	A. Describe in detail the various components of GIS. B. Discuss about datum and datum accuracy. (5M+5M)	CO3	BL2
	OR		
7	A. What is a map? Explain the classifications of a map. B. Describe different types of coordinate systems. (4M+6M)	CO3	BL2
8	What are Composite features? Discuss the types of Composite features. (10M)	CO4	BL2
	OR		
9	A. Explain two Vector data models used in GIS. B. List out various spatial rules that define a Topology. (5M+5M)	CO4	BL3
10	A. Explain any two Raster data models used in GIS. B. What are the errors observed in the conversion of the data? (5M+5M)	CO5	BL3
	OR		
11	Briefly describe the Water Resources application of GIS. (10M)	CO5	BL4