Nirma University

University Elective Course
Semester End Examination (IR), December - 2017
B. Tech. in CL / ME / EC, Semester – VII
UEIA001 GIS and Remote Sensing

Roll / Exam No. [   ]   Supervisor's initial with date [   ]

Time: 3 Hours   Max. Marks : 100

Instructions: 1. Attempt all questions.
                 2. Figures to right indicate full marks.
                 3. Draw neat sketches wherever necessary.

Q-1	A	Discuss in brief the 'Interactive Spatial Selection' in a spatial data set.	[06]
Q-1	B	Discuss in brief the History of GIS.	[06]
Q-1	C	Draw Diagrams representing the spatial relations: (i) Disjoint (ii) Equal (iii) Covers (iv) Overlap (v) Meet (vi) Covered	[06]

Q-2	A	Discuss in brief any six GIS Analytical Functions.	[06]

<div align="center">OR</div>

Q-2	A	Write the functions of Arc Catalogue in Arc GIS.	
Q-2	B	Write down the step wise procedure to be followed in Arc GIS to Geo reference a map available in analogue format.	[12]

Q-3	A	In brief, explain the application of GIS to any one field which is not from your branch of engineering.	[08]
Q-3	B	Write in brief about **any one** of the following: (i) Spatial Resolution, Pixel Size, and Scale (ii) Field Calculator	[06]

Q-4	A	With a neat diagram, write about the elements of Remote Sensing.	[10]
Q-4	B	Differentiate between (**any one**): (i) Spatial Resolution and Spectral Resolution (ii)Raster Data and Vector Data	[05]

Q-5	A	Write a short note on (**any one**): (i) Geo stationery Satellites (ii) Applications of Remote Sensing.	[08]

Q-5 B Fill in the blanks with appropriate answers: **[05]**

(i) The visible wavelengths cover a range from approximately_____.

(ii)_____ are objects which revolve around another object.

(iii) The path followed by a satellite is referred to as its _____.

(iv) Images where only large features are visible are said to have _____.

(v) If in case of maps or images the "map-to-ground ratios" is 1:100,000 then it is referred to as _____ scale.

Q-6 A Write the step by step procedure for creation of a shape file in ARC GIS.   **[10]**

Q-6 B Explain in your own words how knowledge of GIS and Remote Sensing can be useful to you in your own branch of Engineering.   **[12]**