INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad - 500 043

CIVIL ENGINEERING

ASSIGNMENT QUESTIONS

Course Name	:	**REMOTE SENSING AND GIS**
Course Code	:	**A70140- R15**
Class	:	**IV B. TECH I SEM**
Branch	:	**CIVIL ENGINEERING**
Year	:	**2018– 2019**
Course Coordinator		**Mr. Y Ravi Kumar, Assistant Professor, Department of Civil Engineering**
Course Faculty	:	**Mr. Y. Ravi Kumar, Assistant Professor, Department of Civil Engineering.**

COURSE OBJECTIVES:

Remote Sensing and GIS is a relatively recent discipline and is an area of emerging technology with a phenomenal growth over last four decades. The Remote Sensing technology is now beyond the art of Map making from satellite or Aerial images. It has interleaved with information technology where raw digital data is converted to information which in turn aid to the knowledge base for quick and correct decision making. The digital data handling, taking data from remote sensing and supplementing with GPS observations, has led to the development of GIS (Geographical Information System). Remote Sensing coupled with GIS and GPS techniques has dramatically enhanced human capability for natural and manmade resources exploration, mapping and monitoring on local and global scale. The demand for Remote Sensing and GIS is increasing day by day in Government and Private sector. The course is not only going to enhance job opportunity for the civil students but shall also open an avenue of effective and viable interaction with national and international establishments related to various aspects of GIS & RS.

S.No	Question	Bloom Taxonomy Level	Course Outcomes
	UNIT-I INTRODUCTION TO PHOTOGRAMMETRY		
1	What is meant by Photogrammetry	Remember	1
2	How many minimum number of photographs are required for Stereo Photogrammetry?	Remember	1
3	Distinguish an oblique and highly oblique Aerial photographs?	Remember	1
4	What is meant by Focal length of lens is aerial photography?	Remember	1
5	What are fiducial marks on an image negative in aerial Photogrammetry?	Understand	2
6	Define the Scale of a vertical aerial photograph?	Remember	1
7	Explain what is meant by Photogrammetry? What are the uses of Aerial and/or Satellite Photogrammetry?	Understand	2
8	Discuss how the height of an object on the terrain can be determined using stereo parallax measurements.	Understand	2

9	Explain what is meant by Photogrammetric? What are the uses of Aerial and/or Satellite Photogrammetry?	Understand	2
10	What is difference between an oblique photograph and panoramic photograph	Remember	1
	UNIT II **REMOTE SENSING – I**		
1	Define Remote Sensing.	Remember	2
2	Name at least three platforms used for Earth Remote Sensing.	Remember	2
3	Which part of the EMR spectrum is used for radar remote sensing.	Remember	2
4	Which part of the EMR spectrum is used for optical remote sensing.	Remember	2
5	In earth remote sensing, What are the visible wavelength bands used?	Understand	2
6	What is visible wavelength band used in Earth Remote Sensing	Understand	2
7	Define Radiometric Resolution?	Remember	2
8	How do you define Temporal Resolution?	Understand	2
9	Atmospheric Windows are useful in Remote Sensing. Why?	Remember	2
10	Name the energy sources in IRS Optical remote sensing	Remember	2
11	Define Rayleigh Scattering? In what atmospheric region this scattering happens?	Understand	2
	UNIT III **GEOGRAPHIC INFORMATION SYSTEM**		
1	Name the three basic types of map projections classified based on developable surfaces	Remember	3
2	Define map projection. Why is map projection necessary in map making	Remember	3
3	Define the following term in the context of geographic coordinate system of Earth : latitude, longitude, parallel, meridian	Understand	3
4	Define the following terms : a) Georeferencing b) mean sea level, geodetic datum, vertical datum	Understand	3
5	Explain the meaning of map scale 1: 10,000. Is this a larger or smaller map scale tan a map scale of 1: 1,000?	Understand	3
6	Describe the characteristics and functions of DBMS	Remember	3
7	Differentiate between the study of GIS as a special field of academic discipline and the study of GIS as a branch of Information Technology	Remember	3
8	List the major application areas of GIS	Remember	3
9	Describe the theoretical frame work and operations involved in Geographic Information System	Understand	3
10	Write the major application areas and uses of Geographic Information System in the management of earth resources.	Understand	3
11	Name some data input devices? And Explain with a neat diagram	Understand	3
	UNIT IV **VECTOR DATA MODEL**		
1	Explain Vector data storage and attribute data storage in GIS	Understand	4
2	Write about the method of obtaining vector data using scanners	Remember	5
3	Explain digitization process and write its advantages	Understand	3
4	What are common errors in GIS data bases? Write about the importance of Edge matching and rubber sheeting	Remember	3
5	Discuss what is mean by feature based GIS	Remember	5

6	Explain GIS data file management by referring to the three basic computer file structures.	Understand	4
7	Describe various data storage methods used in GIS.	Understand	5
8	Compare and contrast the raster and vector data model.	Remember	4
9	What are the advantages of raster data model	Understand	4
10	Discuss what is the overall goal of data base management system	Understand	5
	UNIT-V **RASTER DATA MODEL**		
1	Describe the data stream flow in GIS system with a block diagram.	Remember	6
2	Critically examine what is meant by Layer based GIS with examples.	Understand	6
3	What are Raster and Vector data forms. Compare Raster data and Vector data representations.	Remember	8
4	Explain about data capture, data input, and data output in Geographic Information System	Understand	8
5	What are the advantages of vector model data model	Understand	9
6	Explain with a neat diagram how real world data is converted into Raster format.	Understand	9
7	Define data. What are the input data sources for GIS that serve as primary data? List out the secondary data sources.	Understand	6
8	What is overlay operation in GIS?	Understand	9
9	Critically examine what is meant by layer based GIS with examples	Understand	6
10	Explain about data capture, data input, and data output in Geographic Information System	Understand	9

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