Subject Code: KCE058

PAPER ID-310413

Roll No: | | | | | | | | | | | | |

B TECH
(SEM-V) THEORY EXAMINATION 2020-21
GIS AND ADVANCE REMOTE SENSING

Time: 3 Hours   *Total Marks: 100*

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 10 = 20**

Q.no.	Question	Marks	CO
a.	Define map and datum.	2	1
b.	What is Photogrammetry?	2	1
c.	Explain the meaning of GIS.	2	2
d.	What is an ideal remote sensing system?	2	2
e.	What is Relief Displacement?	2	1
f.	What are the four basic type of map projection system?	2	1
g.	What is a digital image?	2	3
h.	Write the various characteristics of any one satellite.	2	2
i.	List various Indian Satellites.	2	2
j.	What are the different sensor characteristics?	2	2

SECTION B

2.   **Attempt any *three* of the following:**

Q.no.	Question	Marks	CO
a.	What are the characteristics of ideal remote sensing systems? How do the real remote sensing systems differ from the ideal requirements?	10	2
b.	Differentiate between vector and raster data models?	10	4
c.	What are the four-basic type of map projection system?	10	4
d.	What are components of GIS? Explain each.	10	3
e.	What is the need of Conversion of Existing data in GIS?	10	5

SECTION C

3.   **Attempt any *one* part of the following:**

Q.no.	Question	Marks	CO
a.	Enumerate the advantages of Remote Sensing in Civil Engineering (specifically in Water Resources and Urban Planning).	10	6
b.	Differentiate the following: (i) Geostationary and sun-synchronous satellites. (ii) Ideal and real remote sensing system	10	2

4.   **Attempt any *one* part of the following:**

Q.no.	Question	Marks	CO
a.	Explain what is relief displacement and how is it calculated? The distance from the principal point to an image on a photograph is 6.44 cm and the elevation of the object above datum is 250m what is the relief displacement of the point if datum is 1/10000 and focal length is 20cm.	10	1
b.	What is a data model? Explain the data models used in a GIS. Differentiate between the object based and field-based data models.	10	5

5.   **Attempt any *one* part of the following:**

Q.no.	Question	Marks	CO
a.	Discus on the spectral reflectance characteristics of water and vegetation in spectral bands.	10	3
b.	Explain topological model of vector data.	10	5

6.   **Attempt any *one* part of the following:**

Q.no.	Question	Marks	CO
a.	Enumerate and explain various image interpretation elements.	10	5
b.	Describe conical map projection system and its various types.	10	4

7.   **Attempt any *one* part of the following:**

Q.no.	Question	Marks	CO
a.	What are the Data input methods? Explain each of them.	10	5
b.	Elaborate the two major uses of an aerial photograph.	10	6