Printed Pages:02 **Sub Code: NAG 063**

Paper Id: | 1 | 8 | 0 | 8 | 1 | 1 | **Roll No.** | | | | | | | | | | |

B TECH
(SEM VIII) THEORY EXAMINATION 2017-18
REMOTE SENSING AND GIS

Time: 3 Hours ***Total Marks: 100***

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

SECTION A

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

a. Define spectral reflectance curve.
b. Describe isocenter.
c. What is parallax bar?
d. What do you mean by scaling of photograph?
e. Explain meaning of GIS.
f. How will you eliminate error in photography?
g. What do you mean by spectral signature?
h. How will you create models in GIS?
i. Explain digitization of data.
j. What do you mean by data editing?

SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30

a. Explain basic classes of map projections and their properties.
b. What are the characteristics of ideal remote sensing systems? How do the real remote sensing systems differ from the ideal requirements?
c. Describe the construction and working of a parallax bar with the help of a neat sketch.
d. What do you understand by image restoration and image enhancement?
e. Explain atmospheric window and multi spectral scanner.

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10

(a) Differentiate between restoration and enhancement of remote sensing images. List any four image enhancing operations and explain any one of them
(b) What are temporal images? Why these are used in remote sensing? Explain with a suitable example, which cannot be carried out without the use of temporal images.

4. Attempt any *one* part of the following: 10 x 1 = 10

(a) Describe various data formats of satellite images.
(b) What is a data model? Explain the data models used in a GIS. Differentiate between the object based and field based data models.

5. Attempt any *one* part of the following: 10 x 1 = 10

(a) Explain the process of overlay analysis in the case of raster data with a suitable example

(b) What is the difference between logical and arithmetic overlay?

6. Attempt any *one* part of the following: 10 x 1 = 10

(a) What do you understand by GIS? Enlist and explain various components of GIS.

(b) What is the basic principle of position determination with GPS?

7. Attempt any *one* part of the following: 10 x 1 = 10

(a) What are the sources of errors in GPS? List and explain in brief how the errors can be minimized with the help of differential GPS.

(b) Explain application of remote sensing for land and water resources.