MA GEOGRAPHY
Fourth Semester (Repeat)
REMOTE SENSING & GIS
(MGE – 403 C)

Duration: 3Hrs. **Full Marks: 70**

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

Answer any *four* from *Question no.* 2 to 8
***Question no.* 1 is compulsory.**

1. What is remote sensing? Write a brief note on history and development of remote sensing. (2+8=10)
2. What is image interpretation? Discuss the key elements of image interpretation. (2+8=10)
3. What is aerial photography and photogrammetry? What are different types of aerial photographs? Write a short note on geometry of aerial photograph. (2+3+5=10)
4. What is digital image classification? Differentiate between supervised and unsupervised classification. Why accuracy assessment is done on classified images? (2+5+3=10)
5. What is digital image processing? Why it is done? What is radiometric and geometric correction? Write a short note on types of image enhancement technique. (2+2+3+3=10)
6. What is internet GIS? Discuss the architectural design of internet GIS with suitable diagram. Distinguish between Thin Client and Thick Client architecture. (2+5+3=10)

7. Write a short note on *any two*: (5+5=10)

   a) Histogram Equalization

   b) Spatial interpolation technique

   c) Digital elevation model

8. Write an explanatory note on application of RS, GIS and GPS in disaster management. (10)

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Duration: 20 minutes **Marks – 20**

(PART A - Objective Type)

I. Choose the correct answer: **1×20=20**

1. Remote sensing is based on sensing Electromagnetic energy:
   a. Emitted
   b. Reflected
   c. Absorbed
   d. All of these

2. First aerial (balloon) photographer Gaspard Felix Tournachon is known as Nadar took the photograph in the year:
   a. 1858
   b. 1958
   c. 1972
   d. None of these

3. Landsat satellite is a:
   a. Sun synchronous
   b. Geostationary
   c. Polar
   d. None of these

4. The projections used in geometry of aerial photograph:
   a. Parallel Projection
   b. Orthogonal projection
   c. Central projection
   d. All of these

5. Images overlap along flight lines is approx.:
   a. 61%
   b. 63%
   c. 60%
   d. 62%

6. Parallex is the basis of:
   a. Overlay
   b. Height
   c. Aerial photography
   d. Stereoscopic vision

7. Spectral reflectance of healthy vegetation is more on:
   a. Red
   b. SWIR
   c. MIR
   d. NIR

8. Histogram Equalization is a:
   a. Non-linear contrast enhancement technique
   b. Linear contrast enhancement technique
   c. Polynomial
   d. Exponential

9. Hyperspectral remote sensing is a:
   a. Narrow-bandwidth
   b. Broad-bandwidth
   c. Visible
   d. None of these

10. Overlay analysis is the ability to:
   a. Integrate
   b. Disintegrate
   c. Buffer
   d. All of these

11. Spatial arrangement of surface features is known as:
   a. Site
   b. Association
   c. Texture
   d. Pattern

12. Advantages of photogrammetry are:
   a. High density measurement
   b. 3D measurement
   c. Re-measurement
   d. All of these

13. Iron dominated soils have strong absorption in:
   a. Green
   b. Red
   c. NIR
   d. MIR

14. Thickness of snow can be judge as:
   a. there is no relation between reflectance of snow and age.
   b. Reflectance of snow remain same with age.
   c. Reflectance of snow increases with age.
   d. Reflectance of snow decreases with age.

15.Local operation is done to change of value of:
a. Individual pixels independent of other pixels.
b. Individuals pixels based on values obtained from different bands.
c. Individual pixels in context of values of neighboring pixels.
d. None of these.

16.Hard classification is:
a. Object based
b. Image segmentation based
c. Pixel based
d. None of these

17.Which classification method calculates probability of pixel to assign that pixel as a member of a particular class?
a. Scatter plot
b. Parallelepiped
c. Minimum distance
d. Maximum likelihood

18.Digital image processing is:
a. Computer based manipulation and interpretation of digital images.
b. Improvement of pictorial information.
c. Processing of image data for storage, transmission and representation.
d. All of these.

19.First prototype WebGIS was published by:
a. Daniel George of Autodesk
b. Mark Watson of MapInfo
c. Robert Hopkinson of ESRI
d. Steve Putz of Xerox PARC

20.Internet GIS is:
a. Client/Server Network System
b. Distributed System
c. Graphical Hypertext Information System
d. All of these

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University of Science and Technology, Meghalaya

Date Stamp:_____

SESSION 2016-17

COURSE_____PAPER CODE:_____

NAME OF THE PAPER:_____

SEMESTER_____

Instructions to Candidates

1. This answer booklet has 4 pages. Please check before writing whether it is complete or in good condition.
2. Do not write your name anywhere in the answer booklet.
3. Write legibly on both sides of the paper
4. You may use some space for any rough notes or calculation on the answer booklet if you need. These rough notes, calculations must be scored out before submitting the answer booklet.
5. Do not bring any book or loose paper in the examination hall.
6. Do not tear any page from the answer booklet.
7. Do not write anything on the question paper or blotting paper or any pieces of paper while you are in the examination hall.
8. Any act of indiscipline or misbehavior in the examination hall will result in your expulsion.
9. No examinee is allowed to leave the examination hall until 30 minutes lapse after the commencement of the examination.
10. Additional answer sheet will be supplied after the main answer booklet is completed.

For Objective Type Questions	
Page No.	Marks
Total	

For Descriptive Type Questions	
Question No.	Marks
Total	
Grand Total	

Session: 2016-17

Course_____

Roll No._____

Enrollment No._____

Semester_____

Name of the Paper_____

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Scrutinizer's Signature

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