MA GEOGRAPHY
Third Semester (Repeat)
GEO-INFORMATICS
(MGE – 303)

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 are the components of GIS? Explain the basic data structures in GIS.

$$(5+5=10)$$

2. Write short notes on (*any two*): $(5+5=10)$

   a. Indian remote sensing

   b. Co-ordinate systems

   c. Map design and layout

   d. GAGAN

3. What is visual image interpretation? What are the processes involved in it? What are the keys of visual interpretation? $(2+2+6=10)$

4. What is a sensor? Explain the different resolutions involved with a sensor.

$$(2+8=10)$$

5. Define photogrammatry. Discuss the history and generations of photogrammatry.

$$(2+8=10)$$

6. What do you mean by spectral signature? How does it help in feature identification? Explain the physics of remote sensing with suitable diagrams. $(2+3+5=10)$

7. What do you mean by GPS? What are the segments of GPS? Write a brief note on GNSS and applications of GPS. (1+4+5=10)

8. What are the types of aerial photography? What are the sources of geometric distortions in an aerial photograph? How can it be corrected? (3+4+3=10)

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Duration: 20 minutes   Marks – 20

(PART A - Objective Type)

I. Write true or false: 1×5=5

1. The first India remote sensing satellite is Aryabhatta.

2. GPS accuracy increases with more number of satellites.

3. Raster data usually takes up very little storage space.

4. A grid is composed of rows and columns of pixels.

5. Point is the basic spatial unit for a vector file.

II. Fill in the blanks: 1×5=5

1. The universal datum used for remote sensing applications is................................ and

   projection system used is...

2. Continuous grid data representing elevation information are known as.................................

3. ....involves estimating the three-dimensional coordinates of points

   on an object employing measurements made in two or more photographic images taken

   from different positions.

4. ....refers to the relative brightness or colour of an image.

III. Choose the correct answer: 1×10=10

1. The Chinese equivalent of IRNSS is:
   a. GNSS
   b. GLONASS
   c. BEIDOU
   d. GALILEO

2. The area imaged by a satellite sensor on the ground is known as:
   a. Radiometry
   b. Swath
   c. Spatial Resolution
   d. Spectral Resolution

3. Which of these is not a source of input data for GIS?
   a. Plans and maps
   b. Satellite images
   c. GPS data
   d. None of the above

4. Healthy vegetation has the highest reflectance in:
   a. Green band
   b. Red band
   c. Near Infrared band
   d. Mid Infrared band

5. GLONASS is referenced to which datum?
   a. PZ-90
   b. GTRF
   c. Everest
   d. JGS

6. MODIS is a _____ resolution satellite sensor.
   a. Coarse
   b. Medium
   c. High
   d. Very high

7. A minimum of _____ number of GPS satellites is required to estimate the location of a user.
   a. 3
   b. 4
   c. 5
   d. 6

8. LISS III is a sensor aboard the _____ satellite.
   a. Landsat
   b. IRS-P4
   c. Resourcesat
   d. RISAT

9. 8 bit data represents _____ number of image gray levels.
   a. 8
   b. 2×8
   c. 2^8
   d. None of the above

10. Quantum GIS is a type of _____ software.
    a. Free
    b. Open source
    c. Proprietary
    d. Image processing

<center>*****</center>

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_____
_____

Paper Code_____

_____ Scrutinizer's Signature   _____ Examiner's Signature   _____ Invigilator's Signature