

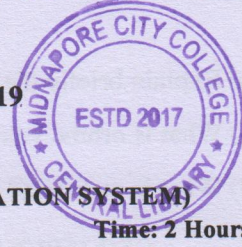
PG (NEW)CBCS  
M.Sc. Semester-III Examination, 2019  
GEOGRAPHY

Paper Code: GEO-303D

(REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM)

Full Marks: 40

Time: 2 Hours



Write the answer for each unit in separate sheet

GEO 303D.1: Physical Basis of Remote Sensing

MARKS: 20

GROUP-A

1. Answer any one question from the following:

1×8=8

- a) What do you mean by Electro Magnetic radiation? Determine the relationship among wave length, frequency and the energy content of a photon.
- b) Discuss the application of remote sensing in, at least, four different areas of Agriculture.

GROUP-B

2. Answer any two questions from the following:

2×4=8

- a) What do you mean by temperature of a real body? State the difference between Black body radiation and Gray body radiation.
- b) Briefly explain the energy interactions with atmosphere.
- c) Mention different types of satellites based upon their orbital characteristics and write down their importance.
- d) What is web GIS? Give a graphical representation at web GIS.

GROUP-C

3. Answer any two questions from the following:

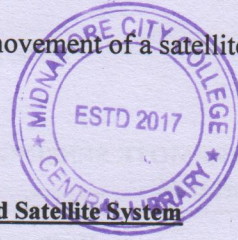
2×2=4

- a) Which part of the electromagnetic spectrum is called atmospheric window and why?

(P.T.O)

(2)

- b) Explain briefly the Kepler's second law of orbital movement of a satellite.
- c) What is orbital velocity of a satellite?
- d) What is metadata?



**GEO 303D.2: Photogrammetry, Aerial Photo and Satellite System**

**Marks: 20**

**GROUP-A**

**4. Answer any one question from the following: 1×8=8**

- a) What do you mean by characteristics curve? How characteristics curve explain the properties of film density?
- b) Explain the geometry of aerial photo with suitable illustration. Why overlap in photography is important in photogrammetry? 5+3=8

**GROUP-B**

**5. Answer any two questions from the following: 2×4=8**

- a) Write a short note on image displacement due to parallax of aerial photograph.
- b) Differentiate between push broom and whisk broom satellite system.
- c) Describe the processes of orthorectification.
- d) What do you know about film density and characteristics curve?

**GROUP-C**

**6. Answer any two questions from the following: 2×2=4**

- a) What do you mean by principal point?
- b) How do you calculate the diameter from IFOV?
- c) Which region of EMR is being used for microwave remote sensing?
- d) What is Swath?

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