

Third Semester Examination-2018**M.Sc. GEOGRAPHY**

Paper Code:GEO-303

Full Marks : 40

Time: 2 Hours

Write the answer for each unit in separate sheet

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Unit-29

(Physical Basis of Remote Sensing)

Marks: 20**GROUP-A**

- 1. Answer any one question from the following:** **1×8=8**
- a) Explain the different types of sensors used in remote sensing with examples. **8**
- b) What is scattering? Explain different types of scattering. **8**

GROUP-B

- 2. Answer any two questions from the following:** **2×4=8**
- a) How do you derive the Kepler's law of $T^2 \propto r^3$ for orbiting satellite around the earth? **4**
- b) What is the response of wet soil and dry soil in Thermal infrared in different time of the day. What do you mean by black body? **4**
- c) Write down the advantages and disadvantages of various satellite platforms. **4**
- d) What do you mean by 'Atmosphere Window'? Differentiate b/w, reflection retraction and scattering. **4**

GROUP-C

- 3. Answer any two questions from the following:** **2×4=8**
- a) What are the sources of energy for optical remote sensing? **2**
- b) State difference between radiant and kinetic temperature of an object. **2**
- c) State the fundamental difference between multispectral and hyper spectral image. **2**
- d) At which portion of the electromagnetic spectrum remote sensing operation is executed? **2**

*(Turn Over)***UNIT-30**

(Photogrammetry, Aerial Photo and Satellite System)

Marks: 20**GROUP-A**

- 1. Answer any one question from the following:** **1×8=8**
- a) Briefly explain the concept of relief displacement and image parallax in Aerial Photographic operations with proper illustrations. **8**
- b) Address the working mechanism at active and passive sensor with graphics. Also comment on the advantages at active sensor over passive acquisition mode. **8**

GROUP-B

- 2. Answer any two questions from the following:** **2×4=8**
- a) Why characteristic curve is important for aerial photographic films? **4**
- b) Briefly describe the process of image rectification. **4**
- c) What are the different conditions for stereo vision, Write down the working principle of mirror stereoscope with suitable diagrams. **4**
- d) Differentiate between Whiskbroom and push brooms satellite system. **4**

GROUP-C

- 3. Answer any two questions from the following:** **2×2=4**
- a) What do you mean by roll and pitch distortion? **2**
- b) What is a vertical scale of aerial photograph? **2**
- c) What do you mean by photographic overlap? **2**
- d) What is tilt in aerial photograph? **2**
