(29) Seat NO: _____

No. of Printed Pages: 2

**SARDAR PATEL UNIVERSITY**
**EXAMINATION - 2016**
**(I-SEMESTER)**
**M. Sc. (GEOINFORMATICS)**
**PS01CGIN01: PRINCIPLES OF REMOTE SENSING**
**Wednesday, 19 – 10 – 2016, Time: 10:00 am to 1: 00 pm**

**Total Marks: 70**

*Note: Figures to the right indicate maximum marks.*

Q1. ***Multiple Choice Questions-*** ***[8]***

(1) If the signal is just recorded in remote sensing it is..... [1]
(a) passive RS (b) active RS (c) no RS (d) both

(2) The cone angle subtended by the portion of a spherical surface at the centre of sphere is.... [1]
(a) energy (b) radiance (c) power (d) solid angle

(3) The frequency of C band range is ..... [1]
(a) 0.3 to 1 GHz (b) 1 to 4GHz (c) 4 to 8GHz (d) 8 to 12GHz

(4) Which of the following is an Indian Satellite? [1]
(a) SPOT (b) JERS (c) RESOURCESAT (d) ASTER

(5) Which parameter is to be measured by using Microwave radiometers? [1]
(a) wavelength (b) brightness temperature (c) frequency (d) none

(6) Uncorrected radar imagery is displayed in .....range geometry [1]
(a) slant (b) ground (c) pulse (d) beam

(7) Envisat carried .....instrument which provided guidance and control. [1]
(a) SAR (b) scatterometer (c) radiometer (d) DORIS

(8) ..... indicates type of objects and their physical, biological, and cultural relationships. [1]
(a) pixel (b) pattern (c) photo (d) pie

Q2. ***Short answer type questions — attempt any 7*** ***[14]***

(a) Define Irradiance and Exitance. [2]

(b) What is Wein's displacement law for remote sensing? [2]

(c) Explain in brief Sensor & Platform with suitable example. [2]

(d) Write the features of SPOT. [2]

(e) Differentiate between Multispectral and Hyperspectral bands. [2]

(f) What is Speckle noise? [2]

(g) Write the fundamental equation of RADAR and interpret all terms. [2]

(h) What is the objective of Seasat? [2]

(i) Which factors govern interpretability of an Image? [2]

(P.T.O.)

***Descriptive questions-*** ***[48]***

Q3. (a) Discuss with neat sketch "Spectral Signatures" of soil and water on earth's surface. [6]

(b) Write a note on Spectral Emissivity. [6]

**OR**

(b) Explain: Atmospheric interaction with Electromagnetic radiation. [6]

Q4. (a) List the types of Resolution and explain each one. [6]

(b) With neat figures explain Whisk Broom and Push Broom Scanners. [6]

**OR**

(b) Write a note on INSAT services. [6]

Q5. (a) Describe LiDAR technique for remote sensing. [6]

(b) What are the factors affecting microwave measurement? [6]

**OR**

(b) Write a short note: Synthetic Aperture Radar (SAR). [6]

Q6. (a) Discuss the elements of Visual Image Interpretation. [6]

(b) Write a short note on RISAT. [6]

**OR**

(b) Explain the activities of Visual Image Interpretation. [6]

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(2)