



SHRI VISHWAKARMA SKILL UNIVERSITY

(A State Skill University, setup by an Act of Legislature in 2016)

188051

Course : PGD in Geo Informatics
Subject : Principles of Remote Sensing & GPS
Subject Code : KPSE-101
Semester : First
Duration : 3 Hours
Maximum Marks : 35

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. **Section A** comprises ten questions of objective type in nature. All questions are compulsory. Each question carries one mark.
3. **Section B** comprises eight essay type questions out of which students need to do any five. Each question carries five marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled.

Roll Number

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SECTION –A (OBJECTIVE TYPE QUESTIONS)

(10*1=10 Marks)

1. Answer the followings MCQ:

- A. The arrangement of terrain features which provide the shape, size and texture of objects is largely due to which one of the followings:**
- (a) Radiometric resolution (b) Spectral resolution
(c) Spatial resolution (d) Temporal resolution
- B. Which type of scattering occurs when the diameters of atmospheric particulates are similar to the wavelengths of the scattered light:**
- (a) Mie scattering (b) Non-selective scattering
(c) Reflectance ratio scattering (d) Rayleigh scattering
- C. Due to perturbation of the orbit, satellite orbit parameters are frequently updated on measurements carried out by which one of the followings:**
- (a) Three ground stations (b) Four ground stations
(c) Five ground stations (d) Six ground stations
- D. Which one of the followings is incorrect with reference to electromagnetic radiation:**
- (a) Once generated, remains self propogating
(b) Can travel in vaccum
(c) Produces time varying magnetic field and vice versa
(d) None of these.
- E. Geometric errors are corrected by which one of followings:**
- (a) Band ratioing (b) Filtering (c) Georeferencing (d) All of these
- F. A reduction in nitrogen nutrient in plant is captured by which of the followings:**
- (a) Spectral variations (b) Spatial variations
(c) Temporal variations (d) By image enhancement
- G. The most widely used antenna in GPS is:**
- (a) Paraboloid antenna (b) Micro strip antenna
(c) Slotted antenna (d) Split antenna
- H. What is the normal altitude of GPS satellite?**
- (a) 16,200 km (b) 20,200km (c) 24,400km (d) 26,600 km

- I. For interpolation of satellite data used for monitoring dynamic changes that occur on the earth surface, which one is the most suitable orbit for the satellite:
- (a) Equatorial circular orbit (b) Near polar orbit
(c) Sun synchronous orbit (d) Geostationary orbit
- J. The ratio of the total solar radiant energy returned by a planetary body of the total radiant energy incident on the body is called:
- (a) Reflectance (b) Emissivity (c) Reflectance factor (d) Albedo

SECTION –B (ESSAY TYPE QUESTIONS)

(5*5=25 Marks)

2. What is EMR? Write its significance in remote sensing by explaining its interaction with matter.
3. What do you understand by sensor? Write its type and their characteristics in detail.
4. Differentiate satellite imagery from aerial photographs. Discuss the elements of visual image interpretation.
5. Write a note on Indian space programme with reference to communication and resource mapping satellites.
6. Write the characteristics of IKONOS and RESOURCESAT satellite.
7. Write a note on GNSS and its functioning in detail.
8. What do you understand by satellite geometry? Write its characteristics in detail.
9. Write a note on DGPS data obtaining and processing.

-----End of Paper-----