Printed Pages 01

Paper Code: MTEV021	Roll No.										

M. TECH
(ENVIRONMENTAL ENGINEERING)
(I SEM) ODD SEMESTER EXAMINATION, 2016-2017
ENVIRONMENTAL REMOTE SENSING

[Time: 3 Hrs.] **[Max. Marks: 70]**
Note: Attempt all questions.

Q1. Attempt any **TWO** parts of the following: **(7x2=14)**

a) Describe which portions of Electromagnetic spectrum are useful for remote sensing and Why?
b) Determine the wavelength at which maximum radiant existence will occur for Earth and Sun.
c) Describe how two different of species of vegetation could be distinguished using Remote Sensing?

Q2. Attempt any **TWO** parts of the following: **(7x2=14)**

a) Describe various processes that occur when Electromagnetic energy interacts with the earth surface.
b) Describe spectral, spatial and radiometric resolution of a satellite sensor.
c) Describe characteristics of an ideal and real remote sensing system.

Q3. Attempt any **TWO** parts of the following: **(7x2=14)**

a) What do you understand by ground truth collection and verification in Remote Sensing related studies? Describe with suitable examples.
b) Define GIS (Geographical Information System) and its various components. Describe the application of GIS for environmental studies.
c) What do you understand by the 'Digital Image Processing'? What is its relevance in Remote Sensing?

Q4. Attempt any **TWO** parts of the following: **(7x2=14)**

a) Describe Global Positioning System (GPS) and its three segments. How it could be useful for environmental studies, explain with a suitable example.
b) What is Spectral Ratioing? Explain the concept of NDVI.
c) What is image classification? Describe 'Gaussian Maximum Likelihood Classifier'.

Q5. Attempt any **TWO** parts of the following: **(7x2=14)**

a) Describe in detail any application of Remote Sensing for Management of Natural Resources.
b) Discuss any application of Remote Sensing for Land use and Land cover analysis with a suitable example.
c) Describe in detail application of Remote Sensing for Flood zoning and Damage estimation with a suitable example.