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B.E. / B. Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011

**GEOINFORMATICS BRANCH
EIGHTH SEMESTER
GI 512 REMOTE SENSING AND GIS FOR METEOROLOGY
(REGULATIONS 2004)**



Time 3 Hours

Max. Marks 100

Answer All the questions

Part A (10x2=20 marks)

1. Compare the onset and withdrawal of SW and NE monsoons of India.
2. Give a note on Composition of the Atmosphere.
3. Identify TRMM sensors and their target areas.
4. What is the role of Doppler Radar in Aviation Meteorology?
5. What are the Geo-stationary weather satellites?
6. What is meant by numerical weather prediction?
7. Give a note on OLR.
8. Where does the dust storms found? Why?
9. A note on Climate and Micro Meteorology.
10. A note on Aerosols and green house effect.

Answer All the questions

Part B (5x16=80 marks)

11. a. With suitable illustrations describe the mechanism of cloud formation and identify the cloud types. (10)
- b. What is meant by radiation spectrum with reference to Meteorology? (6)
12. a1. Describe the various types of atmospheric scatters and the related Microwave bands in association with precipitation measurements. (10)
- a2. Give a note on GPM (6)
- (OR)
- b1. What is meant by atmospheric exploration by balloons? Describe the methods adopted to measure various weather parameters by Radio Sonde. (10)
- b2. Describe the characteristics and variations of tropical cyclones (6)
13. a1. Give an account of Indian Satellite Missions in Meteorology and their payloads with the target areas. (10)
- a2. Assess the role of AVHRR sensor in weather forecasting. (6)
- (OR)
- b1. Describe the role of Passive sensors used in meteorological satellites in assessing the gas molecules of the atmosphere with suitable examples. (10)
- b2. Give a note on the orbital velocities and orbital paths of the satellites. (6)

14. a1. Assess the importance of measuring SST and Ocean Color in global climate monitoring and identify the related satellites and sensors. (10)

a2. Give a note on GPM (6)

(OR)

b1. What is meant by atmospheric sounding? Assess the characteristics of various types of sounders. (10)

b2. Give a note on estimation of snow and ice and the sensors. (6)

15. a1. Write a detailed account on the cyclone warning dissemination system and its role in disaster management in India. (10)

a2. Give a note on the dynamics of Bay of Bengal Cyclones. (6)

(OR)

b1. Describe the method of identification and tracking of weather systems with the integrated approach of ground and satellite based observations and monitoring. (10)

b2. The T-phi charts in weather analysis and forecasting. (6)