



CBCS SCHEME

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15TE72

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Satellite Communication and Remote Sensing

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Briefly discuss the historical developments of remote sensing. (08 Marks)
b. Write a note on developments involved in international space law. (08 Marks)

OR

- 2 a. Elaborate the benefits of environmental monitoring from satellite sensors. (08 Marks)
b. Discuss the source of information on remote sensing activity. (08 Marks)

Module-2

- 3 a. With neat diagram explain the spectral bands of electro-magnetic spectrum involved in remote sensing. (06 Marks)
b. With neat graph and equations explain the electromagnetic radiation laws. (06 Marks)
c. Define the following with symbol and unit of measurement.
i) Radiant exitance ii) Spectral radiant irradiance iii) Spectral radiance iv) Albedo. (04 Marks)

OR

- 4 a. With neat graph discuss spectral signature of various covers involved in remote sensing, also given the factors affecting the spectral signatures. (08 Marks)
b. Discuss the characteristics of EM radiation in the microwave region. (08 Marks)

Module-3

- 5 a. Elaborate the working of cross-track scanners with scheme of functioning. (06 Marks)
b. Write a note on SPOT satellite mission. (06 Marks)
c. Discuss microwave radiometers with their operation and applications in remote sensing. (04 Marks)

OR

- 6 a. With neat diagram and equations discuss the range resolution, azimuth resolution and terrain effects on a radar image. (08 Marks)
b. Write a note on geostationary and polar orbiting meteorological satellites. (08 Marks)

Module-4

- 7 a. Elaborate the steps followed to carry out a remote sensing project. (10 Marks)
b. Explain the constraints in using remote sensing data. (06 Marks)

OR

- 8 a. Discuss the types of interpretation approaches to extract information from remote sensing data. (08 Marks)
b. Given the generalized procedure for the interpretation of remote sensing imagery. (08 Marks)

Module-5

- 9 a. Discuss the effect of geometric characteristics and spectral resolution on visual analysis of remote sensing data. (06 Marks)
b. With the hierarchical organization discuss the criteria for visual interpretation. (06 Marks)
c. With examples, discuss the multi temporal analysis approaches of satellite images. (04 Marks)

OR

- 10 a. Brief out visual interpretation of brightness and color in remote sensing. (08 Marks)
b. Explain the effect of shadow and spatial patterns on visual interpretation of satellite images. (08 Marks)

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