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Reg. No. : .....

Name : .....

Eighth Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)
08.804 : SATELLITE AND MOBILE COMMUNICATION (T)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all** questions. **Each** question carries **4** marks :

1. State the Kepler's laws of planetary motion.
2. What are the advantages and disadvantages of geosynchronous satellite ?
3. Calculate the gain of a 2m parabolic reflector antenna at a frequency of 6GHz.
4. Explain the concept of frequency reuse.
5. Explain how sectoring increases the capacity of cellular system.
6. Describe Longley-Rice outdoor propagation model.
7. Explain different types of small scale fading.
8. Write notes on FEC coding.
9. Differentiate between space diversity and frequency diversity on signal receiving techniques.
10. Explain SDMA. **(4×10=40 Marks)**

PART – B

Answer **any two** questions from **each** Module. **Each** question carries **10** marks :

Module – I

11. Derive the combined link design equation of a satellite communication system.

P.T.O.

12. With a block diagram, explain the working of earthstation. Highlight the properties of earthstation antennas.

13. Write notes on :

    a) Mobile satellite network

    b) Rain induced attenuation.

Module – II

14. Explain different parameters of multipath channel.

15. Explain different statistical models for multipath fading channels.

16. Differentiate between FHMA and SDMA.

Module – III

17. With block diagram and relevant equations explain the principle of Direct sequence spread spectrum modulation.

18. Write notes on :

    a) Ergodic capacity

    b) MIMO antenna systems.

19. Explain CDMA in cellular environment. **(6×10=60 Marks)**
