



Reg. No. :

Name :

Eighth Semester B.Tech. Degree Examination, November 2013
(2008 Scheme)
08.804 : SATELLITE & MOBILE COMMUNICATION (T)

Time : 3 Hours

Max. Marks : 100



PART - B

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

1. Explain different satellite orbital patterns.
2. Explain the term transponder.
3. Determine the number of channels per cluster and the total channel capacity for a cellular telephone area comprised of 10 clusters with seven cells in each cluster and 10 channels in each cell.
4. Explain microcell zone concept.
5. Describe Okumura outdoor propagation model.
6. Explain the term doppler shift.
7. Write notes on GSM radio subsystem.
8. What are the advantages and disadvantages of CDMA ?
9. Explain the capacity of cellular CDMA technique.
10. Write notes on smart antennas.

(4×10=40 Marks)

**PART – B**

Answer **any 2** questions from **each** Module. **Each** question carries **10** marks.

Module – I

11. Explain the various satellite subsystem parameters.
12. Derive the uplink and downlink equation of satellite communication system.
13. Write notes of
 - a) High power amplifiers in an earth station
 - b) Antennas used in earth station.

Module – II

14. Explain impulse response model of multipath channel.
15. Explain different multiple access techniques.
16. Explain in detail the different types of small-scale fading.

Module – III

17. Explain parallel decomposition of multiple input multiple output channel.
18. Describe the principles of multiuser detection clearly.
19. Write notes on :
 - a) SDMA
 - b) Near-far problem.

(6×10=60 Marks)