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Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019

GSM

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART - A

- 1 a. Explain GSM subsystems, with neat diagram and list various GSM subsystem entities. (08 Marks)
 b. Write a note on GSM Interfaces. (08 Marks)
 c. Write a note on GSM frequency bands. (04 Marks)
- 2 a. Write a note on Slow frequency hopping used in GSM. (08 Marks)
 b. What are the benefits of using adaptive antennas in GSM? Explain briefly. (08 Marks)
 c. For a GSM system to be designed to cover 60,000 mile² cell radius is 29.85 miles. What is the number of cells required to cover the service area? (04 Marks)
- 3 a. List GSM logical channels with proper groupings. (06 Marks)
 b. Write a note on data encryption method used in GSM, with a neat diagram. (08 Marks)
 c. Explain Mobile identification process, with neat figure. (06 Marks)
- 4 a. Explain with neat graph, Speech Codec Attributes relating with Bit rate and quality of speech. (07 Marks)
 b. Explain GSM Full rate LPC – RPE vocoder with diagram. (08 Marks)
 c. Write a note on A Law or μ Law compounded PCM. (05 Marks)

PART - B

- 5 a. Explain briefly GSM PLMN services. (07 Marks)
 b. Explain Signaling Protocol Reference Model BS – MSC used for messaging in GSM on A interface. (06 Marks)
 c. With neat figure, explain call set up by a mobile in GSM. (07 Marks)
- 6 a. Write a note on Security algorithms for GSM, with neat figure. (06 Marks)
 b. Write a note on token based registration process in GSM, with neat figure. (07 Marks)
 c. Explain file structure of SIM card used in GSM. (07 Marks)
- 7 a. What are the salient features of planning of wireless network like GSM? (07 Marks)
 b. What are various requirements to be satisfied to design a wireless system? (06 Marks)
 c. What are the factors to be considered in selecting a modulation scheme for TDMA system in GSM? (07 Marks)
- 8 a. What are management requirements for wireless networks? Explain. (06 Marks)
 b. Explain NM Interface and Architecture, with neat figure. (07 Marks)
 c. Explain GSM TMN Architecture with figure. (07 Marks)

