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10TE73

Seventh Semester B.E. Degree Examination, Aug./Sept. 2020
Wireless Communication

Time: 3 hrs.

Max. Marks: 100

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

PART – A

- 1 a. With neat diagram, explain OSI model. Also relate it to communication network and explain. (10 Marks)
- b. Describe the characteristics of 1G, 2G, 3G and 4G cellular systems. (10 Marks)
- 2 a. Explain mobile terminated call operation. (10 Marks)
- b. With neat block diagram, explain the common wireless cellular network components. (10 Marks)
- 3 a. Explain how cell splitting and cell sectoring techniques are used to expand the capacity of a cellular system. (10 Marks)
- b. Explain concept of mobility management. Also explain the functions of location management with a figure. (10 Marks)
- 4 a. Explain with a block diagram, the GSM network architecture. (10 Marks)
- b. Discuss with the frame format the different types of GSM hyperframe. (10 Marks)

PART – B

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- 5 a. Explain in brief with flow a diagrams the GSM service request and authentication operations. (10 Marks)
- b. With a neat diagram. Explain inter MSC handover of GSM with operation steps (10 Marks)
- 6 a. Explain the basic spectrum spreading operation and procedure used on CDMA forward channels. (10 Marks)
- b. With a neat block diagram describe the generation of CDMA reverse traffic channel. (10 Marks)
- 7 a. List the various diversity techniques used in wireless communication and explain RAKE receiver with a block diagram. (10 Marks)
- b. Explain multipath and Doppler effect for the wireless mobile system. (06 Marks)
- c. Explain block interleaving technique used in mobile wireless system with a neat sketch. (04 Marks)
- 8 a. Explain Bluetooth piconet architecture. (07 Marks)
- b. With a neat diagram, explain IEEE 802.15.1 Bluetooth WPAN architecture. (07 Marks)
- c. Explain Wired Equivalent Privacy (WEP) encryption and decryption with a neat sketch. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

