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Eighth Semester B.E. Degree Examination, Dec.2016/Jan.2017
GSM (Global System for Mobile 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 relevant figures. Explain GSM PLMN. What are its objectives and services? (08 Marks)
- b. With a neat block diagram, explain mapping of GSM on to OSI layers. (06 Marks)
- c. Briefly explain the different types of GSM interfaces. (06 Marks)
- 2 a. What are the future techniques available to reduce interference in GSM? Explain. (10 Marks)
- b. Explain radio link features of GSM :
 - i) Discontinuous transmission(DTX)
 - ii) SFH. (10 Marks)
- 3 a. With a neat diagram explain data encryption in GSM. (06 Marks)
- b. Describe the mobile identification process. (06 Marks)
- c. Discuss the different Bursts in GSM. (08 Marks)
- 4 a. What are the attributes of speech codec? Explain. (08 Marks)
- b. Explain with illustration, working of full rate vocoder. (06 Marks)
- c. Write short notes on ITU –T standards. (06 Marks)

PART – B

- 5 a. With illustration explain the messages flow diagram for GSM mobile terminated call. (08 Marks)
- b. Explain intra-MSC-hand over in GSM. (08 Marks)
- c. What are the security algorithms used in GSM? (04 Marks)
- 6 a. Explain the requirements of wireless security. (10 Marks)
- b. Explain with call flow diagram token-based challenge. (10 Marks)
- 7 a. Write short notes on telegraphic models. (06 Marks)
- b. Briefly explain the design of TDMA frame. (06 Marks)
- c. Explain the various requirements to design a wireless system. (08 Marks)
- 8 a. What are the five TMN layers in M3010? Explain the pertinent three TMN layers. (10 Marks)
- b. With a neat block diagram. Explain the GSM containment tree. (10 Marks)

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