



C14-EC-604

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**BOARD DIPLOMA EXAMINATION, (C-14)**  
**OCT/NOV—2017**  
**DCE—SIXTH SEMESTER EXAMINATION**  
**MOBILE COMMUNICATION**

*Time* : 3 hours ]

[ *Total Marks* : 80

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**PART—A**

3×10=30

**Instructions** : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define voice channel and control channel in mobile communication.
2. Define mobile station and base station.
3. Define hand-off.
4. State the probable sizes of cluster with formula.
5. Give the types of multiple access techniques.
6. List the two types of spread spectrum techniques.
7. State the function of BSC in GSM architecture.
8. Mention any three-advantages of GSM over AMPS.

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9. List any three features of GPRS.
10. Give any three features of 3G.

**PART—B**

10×5=50

**Instructions :** (1) Answer *any five* questions.  
 (2) Each question carries **ten** marks.  
 (3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Draw the block diagram of a basic cellular system. 5  
 (b) Distinguish between FDD and TDD. 5
12. (a) Define co-channel interference. 3  
 (b) Explain the relation between co-channel interference and system capacity. 7
13. (a) State the need for cellular concept in mobile communication. 5  
 (b) Determine the number of channels per cluster and total channel capacity for a cellular telephone area comprised of 20 clusters with seven cell in each cluster and 5 channels in each cell. 5
14. (a) Explain FDMA system. 7  
 (b) List any three features of FDMA. 3
15. Explain frequency hopped spread spectrum (FHSS) multiple access technique. 10
16. Draw and explain the architecture of GSM. 10
17. (a) Explain the frame structure of GSM. 7  
 (b) Mention any three specifications of AMPS. 3
18. (a) Draw the architecture of DECT. 5  
 (b) Compare the features of GSM and EDGE systems. 5

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