

TCS-811**B. TECH. (CSE) (EIGHTH SEMESTER)
MID SEMESTER EXAMINATION, 2018****MOBILE COMPUTING****Time : 1 : 30 Hours****Maximum Marks : 50**

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Choose the correct answer : (1×5=5 Marks)

(a) The process of transferring a mobile station from one base station to another is :

- (i) MSC
- (ii) Roamer
- (iii) Hand off
- (iv) Forward channel

(b) The 2G cellular network uses :

- (i) TDMA/FDD
- (ii) CDMA/FDD
- (iii) Digital modulation formats
- (iv) All of the above

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- (c) The interference between the neighbouring base stations is avoided by :
- (i) Assigning different group of channels
 - (ii) Using transmitters with different power level
 - (iii) Using different antennas
 - (iv) All of the above
- (d) The shape of the cellular region for maximum radio coverage is :
- (i) Circular
 - (ii) Square
 - (iii) Oval
 - (iv) Hexagon
- (e) The advantages of using frequency reuse is :
- (i) Increased capacity
 - (ii) Limited spectrum is required
 - (iii) Same spectrum may be allocated to other network
 - (iv) All of the above

2. Attempt any *five* parts : (3×5=15 Marks)

- (a) Discuss the various MAC issues.
- (b) Explain the concept of HLR and VLR.

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- (c) Describe the concept of Cell.
- (d) What is CDMA ? Discuss.
- (e) What is TORA ?
- (f) Discuss the GSR Protocol.

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Which types of different services does GSM offer ? Give some examples and reasons why these services have been separated.
 - (b) What are the Logical Channels ? Explain each of them.
 - (c) Name the main elements of the GSM system architecture and describe their functions.
4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Explain the AODV Protocol in detail.
 - (b) Discuss the DSDV Protocol with example.
 - (c) What is GPRS ? Explain the working of GPRS.
5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) How is localization, location update, roaming etc. done in GSM and reflected in the database ? What are various typical roaming scenarios ?

- (b) Differentiate between FHSS and DSSS.
- (c) Explain the term interference in the space, time, frequency and code domain. What are countermeasures in SDMA, TDMA, FDMA and CDMA systems ?