H Roll No. .....

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

(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.

  (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 is 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 ?