Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Wireless Communication

Subject Code: 4TE06WCM1 **Branch: B.Tech (EC)**

Semester: 6 **Date: 25/04/2019** **Time: 10:30 To 01:30** **Marks: 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Define the following terms:** **(14)**

a) Page
b) Full duplex channel
c) Soft hand-off
d) Hard hand-off
e) Frequency hopping
f) Simplex systems
g) Forward channel
h) Mobile Switching Center
i) Base station
j) Dwell Time
k) Control channel
l) Trunking
m) Co-channel cells
n) Cluster

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

(a) Explain the concept of Cell Splitting and Cell Sectoring.
(b) Explain different channel assignment strategies in detail.

Q-3 **Attempt all questions** **(14)**

(a) What is fading? List and explain various types of small scale fading.
(b) Draw a neat sketch of GSM architecture and state the functions of the following: BSC, MSC, VLR, HLR, AUC.

Q-4 **Attempt all questions** **(14)**

(a) Explain practical handoff considerations.
(b) Enumerate various radio propagation model and explain any two of them.

Q-5 **Attempt all questions** **(14)**

(a) Describe: Time Division Multiple Access (TDMA) in detail. Write the equation for efficiency of TDMA and The number of channels in TDMA system.

(b) Explain Free space propagation model with necessary equations.

Q-6 **Attempt all questions** **(14)**

(a) Explain salient features of CDMA.

(b) Explain the following diversity techniques briefly:

1. Space diversity techniques
2. Frequency diversity techniques

Q-7 **Attempt all questions** **(14)**

(a) Describe a Rake receiver in CDMA.

(b) What is diffraction? Briefly explain knife-edge diffraction model with figure.

Q-8 **Attempt all questions** **(14)**

(a) Explain Linear predictive coders in detail.

(b) Write short note on Vocoders.