Department of Computer Science

Date: 13th April 2020

Midterm Assignment – Spring 2020

Course Title: Cellular Mobile Communication

Instructor: Engr. Latif Jan

Program: BS (Tele)   **Total Marks: 30 Time Allowed: 6 days**

Note: Attempt all Questions:

Q1: a) Explain in brief about the 2nd Generation evolution of cellular telephony. Why the need for 2G arises?   **(4 marks)**

b) State all the Duplexing and Multiple access schemes used in 3G and 4G?   **(4 marks)**

c) Given as a Rayleigh Criteria for rough surface as $hc = \lambda /(8\sin\theta i)$. State the condition for reflection and scattering?   **(2 marks)**

Q2: a) Explain the GSM technology? Also explain the GSM architecture with the help of a diagram.   **(5 marks)**

b) Briefly explain the Network Switching Subsystem?   **(5 marks)**

Q3: a) What is the free space Path Loss(PL) in db for a Pr=10w and Pt=80w?Find the dbm and dbW for the given transmitted power.   **(5 marks)**

b) Given here is a two-ray path loss model: PL (dB)= 40 log d − [10 log Gt +10 logGr + 20 log ht+ 20 log hr]. Find the PL(dB) if Gt=30,Gr=25,ht=20m,hr=18m and d=5km.   **(5 marks)**