University	: Menoufia		Date	: 30/05/2019
Faculty	: Electronic Engineering		Time	: 3 Hours
Program	: Communication Dept.		No. of pages	: 1
Academic level	: Third Year		Full Mark	: 60 Marks
Course Name	: Mobile Communication		Exam	: Final Exam
			Examiner	: Prof. Mona Shokair

Answer all the following questions :

Question No 1 :   (15 Marks)

   a) Draw Block diagram of GSM and explain each stage?   (5 Marks)
   b) Find optimum weights using wiener solution?   (5 Marks)
   c) What is the difference between AAA and diversity system?   (5 Marks)

Question No 2:   (10 Marks)

   a) Draw Block diagram of Multiple Access Techniques and explain each stage?   (5 Marks)
   b) Why Generation systems have been developed?   (5 Marks)

Question No 3 :   (15 Marks)

   a) Explain sensing Techniques in CRN?   (5 Marks)
   b) How can make cooperation of D2D and Cellular system?   (5 Marks)
   c) Draw Physical architecture of CR Transceiver?   (5 Marks)

Question No 4 :   (20 Marks)

   a) What are the applications of CRN?   (5 Marks)
   b) Draw Block diagram of OFDM system and Explain why CP is used? (5 Marks)
   c) Calculate quantized optimum weights in mode 1 and mode2 in 3GPP system?   (5 Marks)
   d) Calculate wavelength, number of channels and duplex distance for GSM 1900
      Where uplink frequencies are (1850-1910 MHz) and downlink frequencies are
      (1930-1990 MHz)?   (5Marks)

Best Regards
Prof. Mona Shokair