CLASS: MTECH   SEMESTER : I
BRANCH: ECE   SESSION : MO/18

SUBJECT: EC513-SPREAD SPECTRUM TECHNIQUES AND MULTIPLE ACCESS
TIME: 03:00   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a) Describe spread spectrum techniques along with its advantages over other conventional system. Discuss   [5]
        working of MSK-DSSS modem with neat diagram.
   (b) Discuss difference between DSSS and FHSS. Also explain working of coherent FHSS modem.   [5]

Q.2(a) Why a sequence generator is necessary in a spreading system? Discuss the fundamental of sequence   [5]
        generator along with different multiplying and/or dividing circuit of two different sequences.
   (b) State and explain maximal length sequence along with their properties.   [5]

Q.3(a) Discuss and explain spread spectrum communication system model in jamming environment with   [5]
        respective block diagram.
   (b) Describe performance of coherent DS systems in partial band jamming along with all signal processing   [5]
        equations and block diagram.

Q.4(a) Describe CSMA. Derive their throughput equation.   [5]
   (b) Describe OFDMA and how it differs from SDMA. Give details.   [5]

Q.5(a) Write short note on RAKE receiver and MUD.   [5]
   (b) Describe all the channels associated with CDMA system.   [5]

******26.11.18******M