(Exam Roll No.)

END TERM EXAMINATION

SEVENTH SEMESTER [B.TECH] NOVEMBER-DECEMBER 2019

Paper Code: ETEC-405 **Subject: Wireless Communication**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt any five questions including Q. No. 1 which is compulsory. Assume missing data if any.

Q1 (a) What are the limitations of conventional mobile telephone system. (5)
(b) Explain basic requirements required for establishing WLAN. (5)
(c) Explain the concept of Frequency reuse. (5)
(d) Explain HLR and VLR. (5)
(e) Explain why GEO is not preferred over GSM satellite. (5)

Q2 (a) Draw the block diagram of PCS architecture and explain it. (6.5)
(b) Calculate the spectral efficiency (η_s) if the bandwidth is 684 Kbps and transmission data rate is 1.152 Mbps. (6)

Q3 (a) Compare advantages and disadvantages of different diversity schemes. (6.5)
(b) Compare 3G and 4G technology. (6)

Q4 (a) Explain mobility management in GSM with block diagrams. (6.5)
(b) Explain multipath propagation in CDMA. (6)

Q5 (a) A Spread spectrum communication system is characterized by the following parameters: (6.5)
Duration of each information bit is 4.095ms, chip duration of a PN sequence is 1μs. Determine the processing gain and jamming margin if $(E_b/N_0)=10, P_e=0.5 \times 10^{-5}$.
(b) Draw architecture model of GSM and explain its each entity. (6)

Q6 (a) What are the five IMT 2000 technologies? Also explain vision of IMT 2000. (6.5)
(b) Draw and Explain WCDMA protocol architecture. (6)

Q7 (a) Explain the evolutionary path from GSM to 3G. (6.5)
(b) Write a note on Quality of Service in 3G. (6)

Q8 (a) Explain Global Star System with proper diagram. (6.5)
(b) Explain WLL architecture with its block diagram. (6)

Q9 (a) Explain IRIDIUM System and compare it with Global Star System. (6.5)
(b) Compare GEO, MEO and LEO. (6)