

END-TERM EXAMINATION

SUMMER SEM.- (JULY 2016)

B.Tech 5th Sem. (CSE & IT)

COURSE CODE: - 10B11EC514

MAX. MARKS: 50

COURSE NAME: - Communication Systems

COURSE CREDITS: 4

MAX. TIME: 2 Hrs.

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

- Q1(a).** A modulating signal $5 \cos 2\pi 15 \times 10^3 t$, angles modulates a carrier $A \cos \omega_c t$. Find the modulation index and the bandwidth for FM & PM system. (2*2=4)
- Q1(b).** With the help of suitable block diagram explain the Armstrong method for the generation of FM signal. (6)
- Q2.** Derive an expression to prove that theoretically FM has infinite sidebands. (5)
- Q3.** Compare FM with AM with the help of its advantages and disadvantages. (5)
- Q4.** How does DPCM overcome the drawback of PCM. Explain in detail. (4)
- Q5.** What are the drawbacks of delta modulation? Explain the technique to overcome these drawbacks. (5+5=10)
- Q6.** Explain the working of BFSK along with transmitter and receiver's block diagrams. (6)
- Q7.** How does DPSK overcome the drawback of BPSK? (5)
- Q8.** Discuss the working of Ratio detector to demodulate an FM signal. (5)