

Duration: 3 Hours

Marks: 80

Please check whether you have got the right question paper.

- N.B: 1. Question No 1 is compulsory
2. Answer any three from the remaining.

1. Attempt any four from the following. (20)
 - (a) Draw and explain basic analog communication system.
 - (b) Explain Noise Figure and derive friss formula.
 - (c) Explain Super heterodyne receiver.
 - (d) How to generate PPM.
 - (e) Explain FDM with neat diagram.
2.
 - (a) What is thermal noise? Derive the expression for root mean square voltage of thermal noise? (06)
 - (b) Explain shot noise. (04)
 - (c) Derive the AM expression and explain each term. (10)
3.
 - (a) Explain Ratio detector with neat diagram. (10)
 - (b) State and prove sampling theorem. (10)
4.
 - (a) Explain ADM Transmitter and receiver with neat block diagrams. (10)
 - (b) Explain BPSK generation and detection with neat block diagrams. (10)
5.
 - (a) Explain line coding with five data formats with examples. (10)
 - (b) What is Image signal and how to reject it? Also define selectivity, sensitivity and fidelity of a receiver. (10)
6. Answer any four (20)
 - (a) Need for modulation.
 - (b) State and prove time shifting property of Fourier Transform.
 - (c) Explain any method to generate SSB SC AM.
 - (d) Digital communication with block diagram.
 - (e) Explain BASK generation.