

C 31831

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Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2007

EC 04 406—ANALOG COMMUNICATION

[2004 admissions]

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

- I. (a) Draw the phasor diagram and waveform of SSB—SC signals.  
(b) Derive mathematical expression for single-tone FM signal.  
(c) Explain selectivity characteristics.  
(d) Write short note on HDTV.  
(e) Define and explain :  
(i) ergodic.  
(ii) correlation.  
(f) Explain what is meant by noise equivalent bandwidth.  
(g) Explain what is meant by synchronous detection.  
(h) Explain the generation of PAM signal.

(8 × 5 = 40 marks)

Part B

- II. (a) Draw the block diagram of generation of SSB signal and explain.  
*Or*  
(b) Explain the generation and detection of PM signal.
- III. (a) Draw the block diagram of superheterodyne receiver and explain function of each block in detail.  
*Or*  
(b) Draw the block diagram Monochrome TV transmitter and explain.
- IV. (a) State and prove any *two* properties of Gaussian random process.  
*Or*  
(b) Write short notes on :  
(i) Thermal noise.  
(ii) White noise.

(8 + 7 = 15 marks)

Turn over

V. (a) Derive an expression for noise figure of a DSB—SC system.

Or

(b) (i) Explain sampling process and reconstruction process.

(10 marks)

(ii) Explain what is meant by aliasing.

(5 marks)

(4 × 15 = 60 marks)

*[Handwritten mark]*