D 2388 (Pages 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2009

EE 04 501—ANALOG AND DIGITAL COMMUNICATION

(2004 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

1. (a) Define Modulation and describe frequency Modulation and Amplitude Modulation.

   (b) Write short notes on inter symbol interference and Bit error rate.

   (c) Explain power and energy spectral density.

   (d) Describe briefly about FDM.

   (e) State and prove Nyquest sampling theorem.

   (f) Explain CDMA technique.

   (g) Explain pulse Amplitude modulation.

   (h) Describe principle of forward error and ARQ.

(8 × 5 = 40 marks)

2. (a) (i) Discuss the response of LTI system to white Gaussian noise. (8 marks)

   (ii) With an example explain response of linear time invariant system. (7 marks)

Or

   (b) (i) State and prove Wience-Kinchas-Einstein theorem. (8 marks)

   (ii) Explain briefly the energy spectral density. (7 marks)

3. (a) (i) Explain JFET reactance modulator. (7 marks)

   (ii) Describe the FM transmitter Block diagram. (8 marks)

Or

   (b) (i) Discuss superheterodyne. (8 marks)

   (ii) Describe the principle of single side band suppressed carries modulation. (7 marks)

4. (a) (i) Discuss the matched filter receiver. (8 marks)

   (ii) Describe the elements of digital passband transmission. (7 marks)

Or

[redacted]

(b) Write notes on :

(i) ASK.

(ii) PSK.

(iii) FSK.

(15 marks)

5. (a) Describe briefly the frequency hopped and direct sequence CDMA. (15 marks)

Or

(b) Write notes on FDM, TDM. (15 marks)

[4 × 15 = 60 marks]