

**C 58198**

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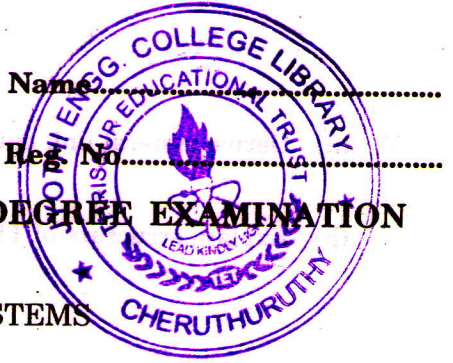
Name .....

Reg. No. ....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2009**

**IT 04 : 406—COMMUNICATION SYSTEMS**

(2004 Admissions)



Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

**Part A**

- I. (a) Explain noises in delta modulation system.  
(b) Explain the generation of PWM signal.  
(c) Explain what is meant by frequency reuse technique.  
(d) Explain 3-axis method for satellite stabilization.  
(e) What are the requirements of light sources to act as transmitter for fiber optic communication ?  
(f) Explain the concept of digital optical fibre system.  
(g) Explain various frequency bands used for satellite transmission.  
(h) Define Trigonometric Fourier series representation.

(8 × 5 = 40 marks)

**Part B**

- II. (a) (i) Define Noise and explain various types of noises in communication systems.

(9 marks)

- (ii) Explain detection of PAM signal.

(6 marks)

*Or*

- (b) Draw the block diagram of binary FSK transmitter and receiver and explain each in detail.

- III. (a) Name and explain various orbital parameters required to determine a satellite orbit.

*Or*

- (b) Explain with suitable diagram the working of various antenna systems to be used in earth station.

(15 marks)

- IV. (a) Draw the block diagram of optical receiver using Avalanche photodiode and explain.

*Or*

- (b) (i) Explain the spectrum of semiconductor laser diode.

(7 marks)

- (ii) Draw the structure of PN-photo diode and explain.

(8 marks)

**Turn over**

V. (a) Derive general link equations. Find out expressions for C/N and G/T ratios.

Or

(b) Explain structure of TDMA superframe. How is it different from a simple TDMA frame ?

(15 marks)

[4 × 15 = 60 marks]