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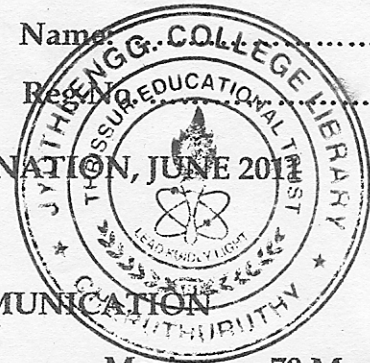
Name:

Reg. No.

FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2012

(09 SCHEME)

EC 09 404 / PTEC 09 403 - ANALOG COMMUNICATION



Time : Three Hours

Maximum: 70 Marks

PART - A

Answer all questions.

1. Define probability density function.
2. What is the need for modulation?
3. Distinguish between Narrowband and Wideband FM.
4. Define sensitivity and selectivity of a receiver.
5. Define signal-to-noise ratio.

(5 × 2 = 10)

PART - B

Answer any four questions

6. State and prove central theorem.
7. Discuss in detail about low level and high level modulation.
8. Write a note on FDM.
9. Write a note on white noise and its properties.
10. What is threshold effect in FM? Explain.
11. How to represent the Narrowband noise in terms of Inphase and quadrature components? Explain.

(4 × 5 = 20)

PART - C

Answer the following

12. (a) What is a linear Time-invariant filter? Explain its properties.
(OR)
(b) What is the significance of power spectral density? Explain.
13. (a) Derive an expression for AM wave and its power relations.
(OR)
(b) (i) Derive an expression for a Narrowband FM wave
(ii) Explain any one direct method of FM generation.
14. (a) (i) Explain the operation of a Tuned Radio Frequency receiver and state its disadvantages.
(ii) Explain the operation of a super heterodyne receiver and state its advantages over Tuned Radio frequency receivers.
(OR)
(b) With block diagram, explain the operation of a PLL.
15. (a) Derive an expression for the signal to Noise ratio of an envelope detector.
(OR)
(b) Derive an expression for the signal to Noise ratio of an FM receiver.

(4 × 10 = 40)
