

R09

Code No: 55024

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year I Semester Examinations, November - 2015****ANALOG COMMUNICATIONS****(Electronics and Communication Engineering)****Time: 3 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

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- 1.a) Explain the detection of AM signals using Envelope Detector.
b) Briefly explain about the power relations in an AM wave. [8+7]
- 2.a) Explain how a Double sideband suppressed carrier can be demodulated.
b) Draw the phasor diagrams for an amplitude modulation. [8+7]
- 3.a) Explain the generation of SSB using balanced modulator.
b) Explain how an AM transmitter is different from FM transmitter with respect to feedback. [8+7]
- 4.a) Write a note on frequency spectrum analysis of angle modulated waves. Explain the band width requirements of angle modulated waves.
b) Discuss the effects of nonlinearities in FM. [8+7]
- 5.a) Draw the circuit diagram of Foster-Seeley discriminator and explain its working.
b) Explain the principle of indirect method of generating a wide-band FM signal with a neat block diagram [8+7]
- 6.a) What are the different types of noise associated with communication system explain each in detail?
b) Derive the noise power spectral density of the FM demodulation and explain its performance with diagram. [5+10]
- 7.a) Explain the working of Super heterodyne receiver with its parameters.
b) What is the need of AGC? Explain simple AGC used in radio. [8+7]
- 8.a) Draw a block diagram illustrating a method of converting PPM to PWM.
b) Draw and explain the PAM generation system. [8+7]

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