Code No: 09A50407 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I Semester Examinations, November/December-2013
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) Discuss the Generation of AM waves in square law Modulator in detail.
b) Explain about envelope detector. [15]

2.a) How many types of generation methods of DSB-SC? Discuss in detail.
b) Draw AM transmitter block diagram and explanation of each block. [15]

3.a) Discuss Phase discrimination method for generating AM SSB Modulated waves.
b) Explain the detection of VSB signal using filter method? [15]

4.a) Compare Narrow band FM and Wide band FM.
b) Which method of FM signal generation is the preferred, when the stability of the carrier frequency is of major concern? Discuss about the method in detail. [15]

5.a) Discuss Zero crossing detector and Foster Seeley Discriminator,
b) Draw the FM transmitter block diagram and explain the function of each block. [15]

6. For a de emphasis network used with an FM receiver, the time constant of the RC circuit is 70μs. Compute
(a) The break frequency
(b) The frequency at which the gain of the de emphasis circuit is reduced to half its maximum gain?
(c) The approximate frequency at which the de emphasis is four times that at the break frequency. [15]

7.a) Explain Frequency changing and tracking.
b) A superhetrodyne radio receiver is tuned to receive a 1550 KHz carrier amplitude modulated by a 6 KHz sinusoidal tone. Assuming the IF to be 455 KHz, identify the input and output frequency components for the IF amplifier. The IF bandwidth is 15 KHz. [15]

8. Write a short note on
(a) Generation of PWM
(b) Demodulation of PPM. [15]

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