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SF-8184

B. E. II (Sem - IV) Examination

May / June – 2011

Communication Engineering

(Inst. Elective)

Time : Hours] [Total Marks :

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. II (Sem - IV)

Name of the Subject :

☛ Communication Engineering

☛ Subject Code No. : 8 1 8 4 ☛ Section No. (1, 2,.....) : Nil

Seat No. :

Student's Signature

(2) Figure to the right indicate marks.

(3) Assume suitable data if found necessary.

1 (a) Attempt the following questions. **10**

(1) What do you understand by the pre emphasis and de emphasis ?

(2) Find out the average power of sinusoidal AM.

(3) What is the difference between frequency multiplier and frequency mixer ?

(4) What is modulation ? Why it is required ?

(5) What is the difference between SSB and DSB-SC.

(b) Attempt the following questions. **10**

(1) Determine the power content of each of the sidebands and of an AM signal.

(2) Explain the trapezoidal method in detail with figure for finding out the modulation index for AM.

2 Attempt any two. **16**

(1) Explain amplitude demodulator circuit. What diagonal peak clipping and negative peak clipping ? How to remove these problems ?

(2) Explain balanced modulator-filter method and phasing method for SSB generation.

(3) Explain frequency modulation technique using varactor diode.

3 Attempt any two. **14**

(1) Explain different types of internal noises.

(2) Explain the noise factor of amplifiers in cascade and derive the friss formula.

(3) Explain signal to noise ratio. Derive SNR of an amplifier.

4 (a) Write in briefs. **10**

(i) Explain multiplexing.

(ii) Explain sampling theorem.

(iii) Explain the modes of modern operation.

(iv) Explain TV standards

(v) Explain pulse width modulation.

(b) Phase discriminator. **5**

(c) Composite video signal. **5**

5 Attempt the following :

(a) Draw & explain superhetrodune receiver. **8**

(b) Frequency division multiplexing. **7**

OR

(a) Draw a explain block diagram of F.M. Receiver. **8**

(b) Draw & explain monochrome television transmitter block diagram. **7**

6 (Any three). **15**

(i) Ratio detector.

(ii) Generation & demodulation of pwm.

(iii) Time division multiplexing.

(iv) Pulse code modulation.

(v) Block diagram of pilot currier receiver.