Total No. of Questions : 5] [Total No. of Printed Pages : 3

Roll No. .....

EX–601(N)

B. E. (Sixth Semester) EXAMINATION, June, 2011

(Electrical & Electronics Engg. Branch)

COMMUNICATION ENGINEERING

[EX–601(N)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions as indicated. All questions carry equal marks.

Unit–I

1. (a) Discuss in brief : 10
   (i) Cross correlation
   (ii) Energy spectral density
   (b) Determine the Fourier transform of the signal $x(t) = t \cos A t$. 10

Or

   (a) State and prove Rayleigh' energy theorem. 10
   (b) Explain the time shifting and frequency shifting properties of Fourier transform. 10

Unit–II

2. (a) Explain frequency modulation. Derive expression for frequency modulated wave. 10

(b) Determine the percent modulation of an amplitude-modulated wave which has a power content at the carrier of 8 kW and 2 kW in each of its side-bands when the carrier is modulated by simple audio tone. 10

Or

(a) Explain the working of ring modulator. 10

(b) Write a note on FM transmitter. 10

Unit – III

3. (a) Discuss in detail : 10

(i) Sensitivity

(ii) Selectivity

(b) Discuss the salient features of broadcast radio receiver. 10

Or

(a) Explain in brief : 10

(i) Image frequency

(ii) Tracking error

(b) Draw and explain superheterodyne receiver. 10

Unit – IV

4. (a) Explain in brief : 10

(i) Quantization

(ii) Noise figure

(b) Explain in detail adaptive delta modulation. 10

Or

(a) Write short notes on the following : 5 each

(i) FSK

(b) Explain in brief the following : 5 each

(i) Source of noise

(ii) Slope overload distortion

Unit – V

5. (a) Draw the block diagram of transponder and explain its working. 10

(b) Write a short note on reflector antenna. 10

Or

(a) Write a short note on TDMA. 10

(b) Discuss in detail the satellite eclipses. 10