Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

EX-6001 (CBGS)

B.E. VI Semester

Examination, May 2018

Choice Based Grading System (CBGS)

Communication Engineering

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Find Fourier transform of the following functions and sketch them:
   i) $sgn\ (t)$
   ii) $\cos\ \omega_0 t\ u(t)$
   b) Explain signal and its types.

2. a) Define PSD of a signal and list the properties of it.
   b) Define and explain the following:
   i) Autocorrelation
   ii) Convolution

3. a) With the help of circuit diagram, explain the working of balanced modulator for DSB-SC generation.
   b) Find the expression for FM wave and define modulation index.

4. a) What is VSB transmission? Why is it used?
   b) What is the effect of phase and frequency errors in synchronous detection? Explain.

5. a) Explain the function of IF amplifier. Also mention the selection procedure of intermediate frequency.
   b) Draw the block diagram of a receiver using AGC. Explain the principle of AGC.

6. a) State and prove sampling theorem. Also, draw the spectrum of sampled signal.
   b) Explain the generation and reception of BPSK scheme.

7. a) Draw and explain the general block diagram of an earth station. Also, write down its main RF sub-systems.
   b) Explain the advantage of TDMA over FDMA.

8. Write short notes on (any three):
   i) PCM
   ii) Transponders
   iii) TRF receivers
   iv) QAM

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