

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2017
(Fifth Semester)**

Branch - ELECTRONICS

ELECTRONIC COMMUNICATION -1

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks!)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 2 = 20)

- 1 What is the need for modulation?
- 2 Define modulation index.
- 3 What are the advantages of SSB system?
- 4 Mention the different filters used in SSB.
- 5 Define Pre-emphasis.
- 6 Define AGC.
- 7 Draw the block diagram of simple receiver. ■
- 8 Define tracking.
- 9 What is meant by BPSK?
- 10 Define companding.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Define and derive an expression for Amplitude Modulation.
OR
b What is meant by percentage modulation? Explain high level and low level modulation.
- 12 a Explain SSB Transmitter using phase shift method.
OR
b Explain SSB receiver with a neat block diagram.
- 13 a Explain the generation of Direct FM.
OR
b . Compare Amplitude and Frequency Modulation.
- 14 a Explain with a neat diagram the phase locked loop demodulator.
OR
£> Explain automatic gain control of FM receiver.
- 15 a Explain the generation of PCM wave. “ .
OR
b Distinguish between modulation technique with analog modulation.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Explain the various functional blocks of an AM transmitter with a neat diagram.
- 17 Explain the different SSB filters.
- 18 Explain stereo FM transmitters.
- 19 Explain Foster-Seeley Discriminator.
- 20 Explain in detail :
(i) Phase Shift Keying (PSK) (ii) BPSK and DPSK