H.T.No. | | | | | | | | | | |

Code No: EC1522 **GEC-R14**

II B. Tech II Semester Supplementary Examinations, December 2017

ANALOG COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. Discuss the need for modulation. Why the carrier frequency should be more than the message signal frequency?
2. Give applications SSB and VSB Transmission.
3. What is the difference between TRF and super heterodyne receiver?
4. Distinguish between narrowband and wideband FM.
5. What is the need for pre-emphasis?
6. Compare the different types of pulse modulation schemes.

PART-B

4 × 12 = 48M

1. a) What is meant by amplitude modulation? Write the expression and draw the wave form, spectrum of the AM. (6M)
   b) Explain the operation of demodulation of AM signals using Envelope detector with the help of circuit diagram and wave forms. (6M)
2. a) Draw the block diagram of SSB–SC transmitter employing side band suppression filter and explain. (7M)
   b) Give comparisons of different AM Systems. (5M)
3. a) Explain the functioning of "Super heterodyne Receiver " with the help of a block diagram. (8M)
   b) What is the meant by "Image Frequency" in a super heterodyne Receiver, Explain? (4M)
4. a) What are the differences between AM and FM systems? (4M)
   b) With the help of a block diagram, explain the functioning of FM transmitter using Armstrong (indirect) method. (8M)
5. a) Explain about threshold effect in angle modulation schemes. (4M)
   b) Derive an expression for the "Figure of merit" of DSB-SC modulation scheme. (8M)
6. a) Explain the functioning of pulse modulation schemes PAM and PPM with diagrams. (8M)
   b) Why time synchronization is required in TDM for a single channel. Explain? (4M)

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