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**Total No. of Pages: 02**  
**Total No. of Questions: 09**

**B. Tech. (Electronics Engg, ECE, ETE) (Sem.-4<sup>th</sup>)**  
**ANALOG COMMUNICATION SYSTEMS**

**Subject Code: BTEC-401**

Paper ID: [A1189]

**Time: 3 Hrs.**

**Max. Marks: 60**

**INSTRUCTION TO CANDIDATES:**

- 1) *Section- A is Compulsory.*
- 2) *Attempt any four questions from Section- B.*
- 3) *Attempt any two questions from Section- C.*

**SECTION-A**

**(10x2=20)**

- Q.1. (a) What is the role of Sample and Hold circuit?
- (b) What is the effect of negative feedback on amplifier circuits?
- (c) Explain the principle of phase shift oscillator.
- (d) What do you mean by Sensitivity?
- (e) Write down the role of AGC.
- (f) Why pre emphasis and de emphasis is done?
- (g) What do you mean by Image frequency?
- (h) Explain Coherent Signal.
- (i) What is FM capture effect?
- (j) Draw and explain the generation of PTM.

**SECTION-B**

**(4x5=20)**

- Q.2. How Amplitude modulated signal is demodulated using PLL?
- Q.3. Explain the working of single side band envelop detector.
- Q.4. Discuss the working of Super Heterodyne receiver using block diagram.
- Q.5. Explain the generation of FM modulation using varactor diode modulator.
- Q.6. Discuss the block diagram Single side band BFO receiver.

**SECTION-C**

(2x10=20)

- Q.7. Discuss the working of Foster Seeley discriminator and Zero crossing detection for frequency demodulation.
- Q.8. What do you mean by SSB transmission? Discuss any two methods of generation of SSB.
- Q.9. (a) Draw and explain the circuit for generating natural and flat top PAM.  
(b) Discuss the modulation and demodulation of PPM.

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