PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Max Marks: 40   Max Time: 120Mins   Weightage: 40 %

ENDTERM FINAL EXAMINATION

I Semester AY 2017-18   Course: **ECE 210 ANALOG COMMUNICATION**   19 DECEM 2017

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Instructions:
   i.   Write legibly
   ii.   Scientific and non programmable calculators are permitted

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Part A

[3 Q x 6 M= 18 Marks]

1. Explain in detail need for modulation in communication.

2. Define Sampling theorem and find the minimum sampling frequency required for a message signal having maximum frequency component of "fm=2KHz".

3. Compare Amplitude Modulation and Frequency Modulation.

Part B

[1 Q x 10 M= 10 Marks]

4. With a neat block diagram and waveforms explain the generation of PWM and PPM .

Part C

[1 Q x 12 M= 12 Marks]

5. With a neat block diagram explain the generation of NBFM and WBFM using Indirect Method/Stereo Method.

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Max Marks: 20   Max Time: 60 Mins   Weightage: 20 %

TEST 2

I Semester 2017-2018   Course: **ECE 210 Analog Communications**   26 OCT 2017

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Instructions:
  i.   Write legibly
  ii. Scientific and non programmable calculators are permitted

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Part A

(1Q x 4 M= 04 Marks)

1. Draw the frequency spectrum of SSB-SC when transmitted side band and lower side band, and list the advantages compared to DSB-SC.

Part B

(1Q x 6 M=06 Marks)

2. With neat block diagram explain the demodulation of DSB-SC using COSTAS loop.

Part C

(1Q x 10 M=10 Marks)

3. With neat block diagram explain the SSB-SC generation by using phase shift method or HARTLEY Modulator and write the necessary mathematical expressions.

Max Marks: 20   Max Time: 60 Mins   Weightage: 20 %

TEST 1

I Semester 2017-2018   Course: **ECE 210 Analog Communications**   18 SEPT 2017

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Instructions:
   i.   Write legibly
   ii.   Scientific and non programmable calculators are permitted

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Part A

(1Q x 4 M= 04 Marks)

1. A message signal m(t)=20cos(2πt) Volts and a carrier signal c(t)=50cos(100πt) Volts, modulated with modulation index μ=0.75.find carrier power and total power of AM wave.

Part B

(1 Q x 6 M= 6 Marks)

2. With neat block diagram explain the generation of DSB-SC using Balanced Modulator.

Part C

(1 Q x 10 M= 10 Marks)

3. Explain how to reconstruct the message signal from Amplitude Modulated signal using square law demodulator, with all mathematical expressions.