Total No. of Questions : 4]

SEAT No. : ____

PA-4963

[Total No. of Pages : 2

[6008]-208

S.E. (E&TC/Electronics/Electronics & Computer) (Insem)
PRINCIPLES OF COMMUNICATION SYSTEMS
(2019 Pattern) (Semester-II) (204193)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3. or Q.4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) State and prove linearity property. **[5]**

b) Find the fourier transform of $x(t) = e^{-at}.\mu(t)$ **[5]**

c) Explain negative frequency concept. **[5]**

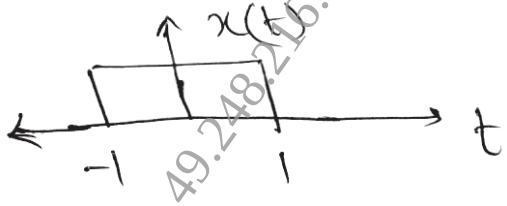
OR

Q2) a) Explain what are different types of signal. **[5]**

b) Find whether the following signals are energy or power signals **[5]**

i) $x(t)=\cos(t)$

ii) $x(t)$=rect (t) for $t = -1$ to 1



c) Draw & explain block diagram of communication system. **[5]**

Q3) a) An audio frequency signal 20 sin 2π (500t) is used to amplitude modulate the carrier of 50 sin 2π (10^3 t) calculate. **[5]**

i) Modulation index

ii) Side band frequencies

P.T.O.

iii) Amplitude of each side band

iv) Band width

v) Total power delivered to load of 600Ω

b) Compare DSBFC, DSBSC, and SSB. **[5]**

c) Explain VSB transmission with spectrum. **[5]**

OR

Q4) a) What are different types of distortions that occurs in diode detecter circuit. **[5]**

b) Draw & Explain the block diagram of super heterodyne receiver. **[5]**

c) Explain phase shift method of SSB generation. **[5]**

● ● ●