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DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE – RAIGAD -402 103

Mid Semester Examination – March - 2019

Class: B. Tech (E&TC) **Sem.:- IV**

Subject:- Analog Communication Engineering (ACE) **Marks: 20**

Subject code : BTEXC402

Date:- 12|03|2019 **Time:- 1 Hr.**

Instructions: Assume suitable data if required. (Marks)

Q.No.1 Attempt any six of the following: (06)

a.) Explain Simplex and Duplex systems.
b.) List various modes of communication.
c.) State sampling theorem.
d.) What is modulation? Give their types.
e.) Define modulation Index for amplitude modulated signal.
f.) Define low and high power level modulation.
g.) What is Digital modulation? State its advantages.
h.) Identify the amount of power saved if carrier alone is suppressed.

Q. No.2 Attempt any two of the following: (06)

a.) Discuss TDM technique.
b.) Derive an expression for instantaneous voltage for FM signal.
c.) Draw and explain Phase shift method for SSB generation.

Q.No.3 Attempt any one of the following: (08)

a.) A 10 KW carrier wave is amplitude modulated at 80% depth of modulation by a sinusoidal modulating signal. Calculate the side band power, total power and the transmission efficiency of the AM wave.
b.) Draw and explain the block diagram of ISB generation technique.