VIT

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

B1+TB1

SCHOOL OF ELECTRICAL ENGINEERING

Continuous Assessment Test – I

Winter Semester 2019 – 20

Course Code : EEE 2006 — **Date of Examination :** 20.01.2020

Course Title : Communication Engineering — **Max. Marks** : 50

Duration : 90 Minutes — **Faculty-In-Charge:** Dr. Abhishek G, Dr. Balaji S

Answer ALL the questions (50 Marks)

		Marks
1.	Briefly explain the role of "modulation" and "demodulation" in communication system.	[06]
2.	Derive the expression for the instantaneous voltage, total power, and total current of DSBFC [Double Sideband Full Carrier] wave.	[10]
3.	Illustrate the generation of SSB by phase shift method and mention its merits over the other methods.	[10]
4.	An SSB transmission contains power content of 10kW. This transmission is to be replaced by an amplitude modulated signal with the same power content. Determine the power content of the carrier and each of the sidebands when the modulation is 80%.	[10]
5.	A bandwidth of 30 MHz is to be considered for the transmission of AM signals. If the highest audio frequencies used to modulate the carriers are not to exceed 4 kHz, how many stations could broadcast within this band simultaneously without interfering with one another?	[05]
6.	Explain how the message signal is extracted from Amplitude Modulated Double Side Band Suppressed Carrier (DSBSC) signal coherently with suitable block diagram and derive it.	[09]