Reg.No.:												

VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 70012

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024
Seventh Semester
Electrical and Electronics Engineering
U19ECOE7 – BASICS OF COMMUNICATION SYSTEMS
(Common to IT, BT & CST)
(Regulation 2019)

Time: Three Hours | Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Recall the need for modulation in communication systems.	2	K2	CO1
2.	Define Frequency modulation.	2	K1	CO1
3.	Compare QPSK and BPSK.	2	K2	CO2
4.	Recall bandwidth efficiency & its uses.	2	K2	CO2
5.	List the names of standard organizations for data communication.	2	K1	CO3
6.	Relate the need for data communication circuits.	2	K1	CO3
7.	List the advantages and disadvantages of Pulse Amplitude Modulation.	2	K1	CO4
8.	Infer the sequence of operations followed in pulse code modulation.	2	K2	CO4
9.	Show handoff that avoid the call disconnect issue in GSM systems.	2	K2	CO5
10.	Interpret hexagonal shaped cells that are used for cellular mobile communication.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.		Questions	Marks	KL	CO
11.	a)	Explain the concept of Amplitude modulation and its performance parameters with neat diagrams.	13	K2	CO1
		(OR)			
	b)	Explain in detail about the modulation parameters of angle modulation techniques with neat sketches of waveforms.	13	K2	CO1
12.	a)	Sketch and explain the operation of Binary Phase shift keying modulation with neat waveforms.	13	K2	CO2
		(OR)			
	b)	With the neat block diagram, explain the operation of FSK Transmitter and Receiver.	13	K2	CO2
13.	a)	Outline the history of data communication techniques.	13	K2	CO3
		(OR)			
	b)	Explain in detail about the serial and parallel communication hardware interfaces.	13	K2	CO3
14.	a)	Show a detailed comparison of various Pulse communication techniques.	13	K1	CO4
		(OR)			
	b)	With neat block diagram and waveforms explain the operation of pulse code modulation technique.	13	K2	CO4
15.	a)	Illustrate the uses of technological information, merits and demerits of AMPS, GSM, and CDMA cellular communication standards.	13	K2	CO5
		(OR)			
	b)	Explain in detail about the Cellular system design Concepts and Frequency Reuse technique.	13	K2	CO5

PART – C

(1 x 15 = 15 Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Explain in detail about bit rate, baud rate, Bandwidth and Bandwidth efficiency of FSK modulation technique.	15	K2	CO2
		(OR)			
	b)	Select an appropriate choice of data communication code word and interpret the error correction and error detection techniques with respect to the codeword selected.	15	K2	CO3