KUMARAGURU
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B.TECH DEGREE EXAMINATIONS: NOV/DEC 2022

(Regulation 2018)

Third Semester

INFORMATION TECHNOLOGY

U18ECT3011:Principles Of Communication

COURSE OUTCOMES

CO1: Describe the fundamental concepts of communication systems
CO2: Compare analog modulation schemes.
CO3: Explain digital modulation schemes.
CO4: Classify standard base band data transmission techniques.
CO5: Paraphrase the spread spectrum techniques and multiple access techniques.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	What are the needs of the modulation in communication systems?	CO1	[K1]
2.	What are the limitations of DSBFC?	CO2	[K1]
3.	Define Modulation Index.	CO2	[K1]
4.	Compare Wideband and Narrowband FM.	CO2	[K2]
5.	List the types of Digital Modulation Techniques.	CO3	[K1]
6.	Compare BPSK and BFSK.	CO3	[K2]
7.	Recall Sampling Theorem.	CO4	[K1]
8.	What is the concept of FDM?	CO4	[K1]
9.	Define Pseudo-noise sequence.	CO5	[K1]
10.	Recall the types of multiple access techniques.	CO5	[K1]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Explain the basics of Communication system with necessary block diagrams.	12	CO1	[K2]
	b)	Interpret about Electromagnetic Spectrum.	4	CO1	[K2]
12.		Explain about super heterodyne receiver with neat block diagram.	16	CO2	[K2]

13.		Illustrate the concepts of AM Modulation and derive the equation of an AM wave and draw the phasor diagram, spectrum and derive total power.	16	CO2	[K$_2$]
14.	a)	Explain the generation and detection of BFSK and also derive the Probability of error.	12	CO3	[K$_2$]
	b)	Explain the concepts of M-ary Modulation schemes.	4	CO3	[K$_2$]
15.	a)	Explain about Differential Pulse Code Modulation.	8	CO4	[K$_2$]
	b)	Interpret the concept of Intersymbol Interference.	8	CO4	[K$_2$]
16.		Explain in detail about DS spread spectrum with coherent binary PSK and derive the Probability of error.	16	CO5	[K$_2$]

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