QUESTION PAPER CODE- 54013

University Institute of Engineering & Technology

(Recognised Under Section 2(f) and 12B of UGC)

Kurukshetra University, Kurukshetra

Roll No. -

THEORY EXAMINATION – MAY 2019	
B.TECH –CSE	SEMESTER –IV

TIME – 3 Hrs.

M.M. - 75

PAPER- CSE-206

SUBJECT - DIGITAL DATA COMMUNICATION

Note: All questions in Part-A and Part-B are compulsory. Attempt any four questions from Part-C selecting at least one from each unit.

PART-A (15 Marks)

Q. No. – 1 Answer the following questions. **15x1=15**

(i)	**Discus on Modulation Index of Amplitude Modulation**
(ii)	**How ISO and OSI related to each other?**
(iii)	**Relation between Frequency and Phase.**
(iv)	**What do you mean by Noise?**
(v)	**What is Parity Generator system?**
(vi)	**Differentiate Parallel and Serial Transmission?**
(vii)	**What is Orbit?**
(viii)	**Give an example of "B8ZS"**
(ix)	**With example discus (in short)HDB3?**
(x)	**What are FAMA and DAMA?**
(xi)	**CRC**
(xii)	**Define Narrow Band and Wide Band**
(xiii)	**Define Data and Signal?**
(xiv)	**What is uplink and Downlink frequency ?**
(xv)	**What are Physical and Logical Topologies ?**

PART-B (20 Marks)

	UNIT-I	
2	With suitable representation discus Modulation Index and Bandwidth of FM signal	5
	UNIT-II	
3	With suitable representation explain Amplitude, Frequency and Phase Shift Keying.	5
	UNIT-III	
4	With necessary diagram discus the characteristics of DTE-DCE interface .	5
	UNIT-IV	
5	What is Spread Spectrum? Explain Frequency Hopping and Direct Sequence Spread Spectrum.	5

PART-C (40 Marks)

	UNIT-I	
6	Draw the wave diagram of Amplitude Modulation and discuss on spectrum of AM. With suitable representation explain DBSC modulation, SSB modulation and Vestigial Side Band Modulation in detail.	10
7	What is Modulation? Explain Frequency and Phase Modulation in detail. Discuss in shortSpectrum of FM .	10
	UNIT-II	
8	Mr. Aditya has perform a confidential communicate with Mr. Kanv using *NRZ-L, NRZ-I, Manchester, Differential Manchester and BiPolar-AMI*Digital Encoding schemes. Without discussing with Mr. Aditya find out the equivalent Encoded signal for following digital data (i) 1010101010 (ii) 1110001100 (iii) 0000111101 (iv) 1011000011	10
9	Discus the Advantages of Digital signal over Analog signal, With suitable representation Explainfollowing digital modulation schemes Quantization, Delta Modulation and PCM.	10
	UNIT-III	
10	Along with the suitable representation and enlisting of the major characteristics discus Guided and Un-Guided Transmission media.	10
11	Now, Mr. Aditya has decide to use "Hamming Codes" for error correction, What will be the Final ready to Transmit Data for following 10 digit raw data using hamming code (i) 1100101010 (ii) 1010110011	10
	UNIT-IV	
12	What is Multiplexing? Explain Frequency Division Multiplexing. What is synchronous And Asynchronous Time Division Multiplexing? Explain in detail.	10
13	What is a Satellite? Why we need it? With suitable representation discus its major Components and explain the concept of Geo Stationary Satellite in details .	10