FE Sem-II (NEP) | Branch- EXTC | Date- 05/12/2025 (1/1)

Q.P. Code- 94138

Time: 2 Hours **marks: 60**

(1) Question No.1 is compulsory
(2) Attempt any three questions from remaining five questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data wherever necessary.

Q1	a)	Define digital signal using suitable example. How it is different from an analog signal?	03
	b)	Define Nyquist criteria in Sampling theorem using suitable waveform.	03
	c)	List any 3 features of the TCP/IP model	03
	d)	List the various advantages of wireless communication.	03
	e)	How step index is different from a graded index optical fiber?	03
	f)	List any 3 applications of satellite communication system.	03
Q2	a)	Explain concept Amplitude modulation using suitable waveform. What is modulation index and draw waveform for under modulation and over modulation.	08
	b)	Explain the evolution of Mobile communication from 3G to 5G.	07
Q3	a)	Define ASK, FSK and PSK and draw the waveforms for each type for the input sequence : 101011	08
	b)	Explain the block diagram of optical communication system in detail.	07
Q4	a)	What is frequency modulation. Explain how a FM wave can be demodulated.	05
	b)	What is OSI model and explain significance of physical and data link layer in it?	05
	c)	List the various advantages and disadvantages of fiber optic communication.	05
Q5	a)	Draw the block diagram of Pulse code modulation and explain any block in detail	05
	b)	Why wireless communication is preferred over wired communication	05
	c)	Explain the various Frequency bands used in satellite communication.	05
Q6	a)	List the different types of network topologies in Computer communication network and explain any 2 in detail.	08
	b)	Explain the various types of satellites and give the significance of Geostationary satellite.	07

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