15-05-2026 FE SEM-II EXTC (NEP-2020) ELE.OF TELE. QP CODE: 20012536

[Time: 2 hrs.] **[Max 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.

		Questions	Marks	Total Marks
Q1		**Attempt any 5**		15
	a)	Define analog signal. How it converted into digital signal?	03	
	b)	Define analog modulation, list its types.	03	
	c)	List the layers of the TCP/IP model	03	
	d)	What is wireless communication. Why do we require an antenna?	03	
	e)	What is total internal reflection in optical fiber communication?	03	
	f)	List any 3 advantages of satellite communication system.		
Q2	a)	Explain Amplitude modulation in detail.	08	15
	b)	Explain block diagram of Mobile communication. Discuss features of 4G and 5G.	07	
Q3	a)	What is shift keying in communication. List it types and gives its features. Explain anyone shift keying in detail.	08	15
	b)	Explain step index and graded index fiber with suitable diagram. List its features and its applications.	07	
Q4	a)	Explain how frequency modulation is different from Amplitude modulation. Give its features and application.	05	15
	b)	Explain 7 layers of OSI model.	05	
	c)	What are the advantages and disadvantages of fiber optic communication.	05	
Q5	a)	Explain significance of quantizer and encoder in Pulse code modulation.	05	15
	b)	Compare wired and wireless communication (min 5 points)	05	
	c)	Explain block diagram of satellite communication	05	
Q6	a)	Explain Star, Ring and Bus network topologies in Computer communication network. What is advantage and disadvantage of Mesh Topology.	08	15
	b)	Explain the orbital pattern of satellites and What is Geosynchronous and Geostationary satellite?	07	

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