Roll No.

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL / MAY 2025

Common to all Branches
VI
EC 5693 & Wireless Technologies
(Regulation 2019)

Time:3hrs Max.Marks: 100

CO1	To be able to analyze the wired and wireless communication and networks.
CO2	To be able to develop Internet of Things for various applications.
CO3	To be able to apply security protocols in Wireless Networks.
CO4	To be able to acquire the antenna systems for Wireless Technologies.
CO5	To be able to explain the Satellite Communication technologies.

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A (10x2=20Marks)
(Answer all Questions)

Q. No.	Questions	Marks	CO	BL
1	Write any 2 salient features of TCP/IP protocol	**2**	1	L2
2	What is the function of the presentation layer?	**2**	1	L2
3	What is SCADA?	**2**	2	L2
4	List and explain the parts of an RFID tag	**2**	2	L2
5	Define integrity in communication	**2**	3	L2
6	Explain the process of jamming and propose a way to overcome it	**2**	3	L2
7	Define Directivity of antenna	**2**	4	L2
8	List the different locations that have been identified to place antennas in automotive systems	**2**	4	L2
9	How many types of links are there in satellite communication? Name them	**2**	5	L2
10	List the major phases involved in launching of a satellite	**2**	5	L2

PART- B (5x 13=65Marks)
(Restrict to a maximum of 2 subdivisions)

Q. No.	Questions	Marks	CO	BL
11 (a)	Draw and explain the various blocks of a communication system	**13**	1	L4
	OR			
11 (b)	Discuss the evolution of mobile communication from 1G to 5G. Highlight the key technologies, features, advancements, and challenges associated with each generation. In your answer, explain how the transition from one generation to the next has impacted communication systems, data speeds, and global connectivity.	**13**	1	L4
12 (a)	Write detailed notes on the following (i) 6LowPAN (ii) M2M	**5** **8**	2	L3

	OR			
12 (b)	Draw the network topology for Zigbee and explain the various types of Zigbee devices. Also, bring out the saliant features of Zigbee	**13**	2	L3
13 (a)	With a detailed diagram explain the working of a WEP protocol used for IEEE 802.11	**13**	3	L3
	OR			
13 (b)	List and elucidate the various cyber threats and also discuss ways to overcome them	**13**	3	L3
14 (a)	Write down the procedure to design a microstrip patch antenna for a WiFi connection working at 2.45 GHz. Also, explain the construction and working of microstrip patch antennas	**13**	4	L4
	OR			
14 (b)	How can antenna arrays be reconfigured to work as smart antennas? Identify the two types of smart antennas and draw a general block diagram to explain their construction and working	**13**	4	L4
15 (a)	Write brief notes on the following (i) Kepler's 3 laws (ii) Applications of satellite communication (iii) Features of LEO, MEO and GEO satellites	 **3** **3** **7**	5	L3
	OR			
15 (b)	With neat diagram explain the working of the various subsystems in a satellite system	**13**	5	L3

PART- C (1x 15=15Marks)

(Q.No.16 is compulsory)

Q. No.	Questions	Marks	CO	BL
16.	Given a dipole antenna working at 2.4 GHz WLAN frequency, choose 2 methods to plot its radiation pattern and explain them. Draw the measurement setup in each case and list their advantages and disadvantages.	**15**	4	L5