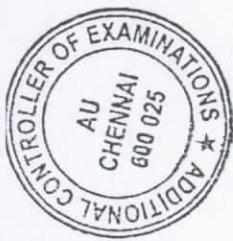


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## ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

## B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, APRIL / MAY 2024

Common to all Branches

VI

## EC 5693 &amp; 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	Bring out any two differences between 3G and 4G communication	2	1	L2
2	What is the function of the sessions layer?	2	1	L2
3	Write the salient features of LoRa protocol	2	2	L2
4	List any 3 wireless security threats	2	2	L2
5	What is the need for network security?	2	3	L2
6	What is impedance transformation in antennas?	2	3	L2
7	What is specific absorption rate? What is its permissible value?	2	4	L2
8	Bring out the differences between dipole and monopole antenna	2	4	L2
9	What is meant by orbital period?	2	5	L2
10	What is Kepler's 1st law?	2	5	L2

**PART- B (5x 13=65Marks)**

(Restrict to a maximum of 2 subdivisions)

Q. No.	Questions	Marks	CO	BL
11 (a)	Assess the different functions as described by TCP/IP protocol	13	1	L4
	OR			
11 (b)	Comment on the performance of two modulation schemes where an analog message signal is superimposed on a high-frequency carrier signal	13	1	L4
12 (a)	Write detailed notes on the following (i) 6LowPAN (ii) IoT and its enabling technologies	5 8	2	L3
	OR			
12 (b)	Explain SCADA architecture in detail	13	2	L3

13 (a)	Write brief notes on (i) Key Management (ii) Jamming (iii) Eavesdropping	5 4 4	3	L3
<b>OR</b>				
13 (b)	Explain the various security protocols used against 802.11 threats	13	3	L3
14 (a)	What are the various considerations for the selection of RFID antennas? Also briefly explain the differences between RFID tag and reader antennas.	13	4	L3
<b>OR</b>				
14 (b)	Write brief notes on the following (i) Smart Antennas (ii) Radiation pattern (iii) Polarization and its types	6 3 4	4	L3
15 (a)	Draw and review the working of a satellite communication link and bring out the differences between LEO, MEO and GEO satellites	13	5	L5
<b>OR</b>				
15 (b)	Comment on the various applications that use or can use satellite communications	13	5	L5

**PART- C (1x 15=15Marks)**

(Q.No.16 is compulsory)

Q. No.	Questions	Marks	CO	BL
16.	Choose and elaborate on the features of a short range wireless communication protocol with neat supporting diagrams	15	2	L5

