Register Number:……..

KUMARAGURU
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B.E DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Seventh Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

U18ECE0024**:** Wireless Systems and Standards

COURSE OUTCOMES

CO1: Describe the fundamentals of Wireless Communication.
CO2: Analyze Multiple Access Mechanism.
CO3: Demonstrate various 3G Technologies.
CO4: Explore Various Wireless Standards.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	What are the applications of spread spectrum technology?	CO1	[K_2]
2.	Define the term path loss in wireless communication.	CO1	[K_2]
3.	How does Time division multiple access enable multiple users to share the same frequency channel?	CO2	[K_2]
4.	Write about cochannel interference.	CO2	[K_2]
5.	What is scheduling in CDMA 2000 and how does it improve network efficiency?	CO3	[K_3]
6.	Outline the concept of reverse link in CDMA 2000 networks.	CO3	[K_2]
7.	What is the purpose of IEEE 802.11 standard?	CO4	[K_2]
8.	Compare and contrast Frequency hopping spread spectrum and direct sequence spread spectrum in the context of IEEE 802.11.	CO4	[K_2]
9.	Name two second generation digital cellular phone standards.	CO4	[K_2]
10.	Outline about frequency reuse in cellular networks.	CO4	[K_2]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Compare and contrast the advantages and disadvantages of DSSS,FHSS and THSS.	8	CO1	[K_2]
	b)	Describe the different types of fading that can occur in radio communication channels and their causes.	8	CO1	[K_2]

12.	a)	Summarize the process of call set up, data transfer and call termination in a circuit switched network	8	CO2	[K_2]
	b)	Outline the purpose and functionality of each layer in the OSI reference model.	8	CO2	[K_2]
13.	a)	Elaborate the concept of spreading in UMTS and the types of spreading codes used.	8	CO3	[K_2]
	b)	Explain the benefits and challenges associated with TD-SCDMA technology in terms of spectrum efficiency,Capacity and deployment.	8	CO3	[K_2]
14.	a)	Discuss the characteristics and uses of the IEEE 802.15.4 standard in wireless communication.	8	CO4	[K_2]
	b)	Compare and contrast the ETSI HIPERLAN and ETSI HIPERLAN/2 standards in terms of their features and capabilities.	8	CO4	[K_2]
15.	a)	Summarize the key advancements and features introduced in 2G systems compared to their predecessors?	8	CO4	[K_2]
	b)	Elaborate the key standards and protocols that shaped the development and deployment of WLANs?	8	CO4	[K_2]
16.	a)	How did CDMA2000 1x, EV-DO, EV-DV, and WCDMA evolve over time, and what were the subsequent generations that followed these technologies?	8	CO2	[K_2]
	b)	How are handovers managed in UTRA networks and what are the key parameters considered during the handover process?	8	CO2	[K_2]

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