Hall Ticket Number :										

R-17

Code: 7G384

IV B.Tech. II Semester Regular & Supplementary Examinations June 2022

Wireless Communication & Networks

(Electronics and Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five full questions* by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	If GSM uses a frame structure where each frame consists of eight time slots, and each time slot contains 186.45 bits , and the data is transmitted at 270.833 kbps in the channel, find i) the time duration of a slot ii) the time duration of a bit	7M	1	III
	b)	Explain Time Division Multiple Access and Frame structure	7M	1	II
		OR			
2.	a)	Explain Slotted Aloha packet radio protocol and Pure Aloha protocol	7M	3	II
	b)	Discuss how spread spectrum technique is used in CDMA system	7M	1	II
		UNIT–II			
3.	a)	Explain development of wireless networks	7M	2	II
	b)	Explain CCS architecture with neat diagram	7M	1	V
		OR			
4.	a)	Explain different Data services in wireless networks	7M	2	III
	b)	Discuss briefly about BISDN	7M	3	V
		UNIT–III			
5.	a)	Explain why does Mobile IP need encapsulation?	7M	2	IV
	b)	Discuss about WAP Session protocol.	7M	3	V
		OR			
6.	a)	Discuss about WML Scripts	7M	3	I
	b)	Explain WAP Architecture with neat diagram	7M	3	V
		UNIT–IV			
7.	a)	Explain infrared and spread spectrum lan's.	7M	3	III
	b)	Explain Blue tooth Baseband and Link Manager Specification	7M	3	I
		OR			
8.	a)	Draw the configuration of IEEE802.11 architecture and explain	7M	3	V
	b)	Discuss Logical link control and adaptation protocol in Blue tooth.	7M	2	V
		UNIT–V			
9.	a)	Explain GSM architecture for Short messaging service,	7M	4	I
	b)	Explain GPRS architecture for packet data transfer	7M	4	1V
		OR			
10.	a)	Compare **HIPERLAN-1and 802.11 WLAN.**	7M	2	V
	b)	Discuss the architecture and layers of HIPERLAN.	7M	2	V

END

Hall Ticket Number :										

R-17

Code: 7G381

IV B.Tech. II Semester Regular & Supplmentary Examinations June 2022

Cellular & Mobile Communications

(Electronics and Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five full questions* by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Derive the desired carrier to interference (C/I) ratio for a normal case in an Omni directional antenna systems.	7M	CO1	L3
	b)	What are the advantages of Cell splitting? Distinguish between permanent splitting and Dynamic splitting with neat figures.	7M	CO1	L3
		OR			
2.	a)	Discuss the performance criteria of Cellular system.	7M	CO1	L5
	b)	Writer short notes on Analog and Digital Cellular Systems with neat sketch.	7M	CO1	L2
		UNIT–II			
3.	a)	Define Co Channel Interference and explain how it is measured at the mobile unit.	7M	CO2	L1
	b)	Discuss the effects of antenna parameters on the cell interferences.	7M	CO2	L5
		OR			
4.	a)	Explain the principle of operation of Diversity receiver.	7M	CO2	L1
	b)	Explain the different types of Non Co-channel interference in a cellular system.	7M	CO2	L1
		UNIT–III			
5.	a)	Write in detail about near in distance and long distance propagation.	7M	CO3	L3
	b)	What is mobile antenna? Explain about different types of mobile antennas	7M	CO3	L2
		OR			
6.	a)	Discuss the land to mobile radio propagation over water.	7M	CO2	L2
	b)	Write about the signal reflections in flat and hilly terrain.	7M	CO2	L6
		UNIT–IV			
7.	a)	Explain the concept of Dynamic channel assignment in detail.	7M	CO4	L3
	b)	Discuss about frequency management and channel assignment.	7M	CO4	L2
		OR			
8.	a)	Analyze the necessity of underlay-overlay arrangement in channel assignment to mobile units?	7M	CO4	L2
	b)	What are the advantages and draw backs of sectorization?	7M	CO4	L2
		UNIT–V			
9.	a)	Write about dropped calls and dropped call rate.	7M	CO5	L1
	b)	Why hand off is necessary for cellular systems. Determine the two types of handoff based on signal strength and C/I ratio?	7M	CO5	L6
		OR			
10.	a)	Distinguish between T D M A and C D M A.	7M	CO2	L3
	b)	Write short notes on 'G S M Channels'	7M	CO2	L3

END

Hall Ticket Number :										

R-17

Code: 7G387

IV B.Tech. II Semester Regular & Supplementary Examinations June 2022

Digital Image Processing

(Electronics and Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *any five full questions* by choosing one question from each unit (5x14 = 70 Marks)

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			Marks	CO	Blooms Level
		UNIT–I			
1.	a)	Describe a simple image formation model.	7M	CO1	1.2
	b)	What is image sampling and quantization? Analyze.	7M	CO1	1.4
		OR			
2.	a)	Explain the following relationships between pixels (i) Neighbors of a pixel (ii) Connectivity (iii) Distance Measures	7M	CO1	1.2
	b)	State and explain the following 2-D DFT properties (i) Translation and rotation (ii) periodicity (iii) symmetry Property	7M	CO1	1.1
		UNIT–II			
3.	a)	Explain any three basic intensity transformation functions.	7M	CO2&CO5	1.2
	b)	Discuss the histogram processing and equalization.	7M	CO2&CO5	1.3
		OR			
4.	a)	Explain the smoothing filters in spatial domain.	7M	CO2&CO5	1.2
	b)	Describe how image sharpening can be done using ideal and Butterworth High pass filters.	7M	CO2&CO5	1.2
		UNIT–III			
5.	a)	Explain the basic model of image degradation process.	7M	C03&CO5	1.2
	b)	What are the most commonly used probability density functions in image processing applications and illustrate them with the help of plot.	7M	C03&CO5	1.4
		OR			
6.	a)	Illustrate the process of restoration in the presence of noise only.	7M	C03&CO5	1.3
	b)	Explain Wiener filtering method of restoring images.	7M	C03&CO5	1.2
		UNIT–IV			
7.	a)	Analyze CMY and HSI color models.	7M	CO4&CO5	1.4
	b)	What is Pseudo color image processing? Explain the intensity slicing as applied to pseudo color image processing.	7M	CO4&CO5	1.2
		OR			
8.		Discuss the basics of full color image processing briefly.	14M	CO4&CO5	1.1
		UNIT–V			
9.	a)	Explain detection of discontinuities briefly.	7M	CO2&CO5	1.2
	b)	Explain any one region based segmentation method.	7M	CO2&CO5	1.2
		OR			
10.	a)	What is redundancy? Explain any two redundancies.	10M	CO3&CO5	1.1
	b)	Explain Lossless predictive coding method.	4M	CO3&CO5	1.2

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