Enrolment No._____

NATIONAL FORENSIC SCIENCES UNIVERSITY, DELHI CAMPUS
B.Tech. - M.Tech. CSE Integrated-Sem V, September 2023
Term Assessment – 1

Subject Code: CTBTCSE SV-P35 **Date: 20/09/2023**
Subject Name: Wireless Communication & Mobile Computing **Time: 45 minutes**
Total Marks: 25

Instructions:

1. This Question Paper consists of 4 Questions.
2. Attempts all the questions.

Q1. Write short note on classification of transmission media. 5M

OR

Briefly explain different types of transmission impairments.

Q2. Explain the following (**any four**) 4× 2.5M

a) Forward and reverse channel
b) Handoff
c) Half and full duplex channel
d) Elevation angle
e) Coverage angle
f) Signal to noise ratio

Q3. Explain different types of satellites based on their orbit. 5M

Q4. How a call initiated by a mobile is established? Explain briefly. 5M

END OF PAPER

Enrolment No. [redacted]

NATIONAL FORENSIC SCIENCES UNIVERSITY, DELHI CAMPUS
B.Tech. - M.Tech. CSE Integrated-Sem V, October 2023
Mid Semester Examination

Subject Code: CTBTCSE SV-P5
Subject Name: Wireless Communication & Mobile Computing

Date: 03/11/2023
Time: 90 minutes
Total Marks: 50

Instructions:

1. This Question Paper consists of 7 Questions.
2. Attempts all the questions.

Q1. What is Bluetooth? Draw the Bluetooth stack diagram. **5M**

Q2. Explain FDMA. How to find total number of channels in FDMA. Compare FDMA with TDMA. **6M**

OR

Explain the encryption operation in GSM.

Q3. Explain different types of satellites based on their orbit. **6M**

Q4. What is RFID? Explain the different components of the RFID. **6M**

Q5. How a call initiated by a landline subscriber to mobile user is established? Explain briefly. **6M**

OR

How a call initiated by a mobile user is established? Explain briefly.

Q6. Draw the GSM system architecture. Also explain basic operation of each subsystem. **6M**

Q7. Explain the following (**any five**) **15M**

a)	Signal to noise ratio	b)	Fundamental frequency
c)	Handoff	d)	Mobile Switching Center (MSC)
e)	Wideband TDMA/TDD	f)	Narrowband FDMA/FDD
g)	Satellite footprint	h)	Piconet and scatternet

END OF PAPER

Seat No.: _____ Enrolment No._____

NATIONAL FORENSIC SCIENCES UNIVERSITY

B.Tech.-M. Tech. Computer Science and Engineering
- Semester V- January 2024

Subject Code: CTBTCSE SV P5 **Date: 05/01/2024**
Subject Name: Wireless Communication and Mobile Computing
Time: 11:00am- 2:00pm **Total Marks: 100**

Instructions:

1. **Write down each question on separate page.**
2. **Attempt all questions.**
3. **Make suitable assumptions wherever necessary.**
4. **Figures to the right indicate full marks.**

		Marks
Q.1	**Attempt any three**	
(a)	Define FDMA, and TDMA. Compare and contrast these multiple access schemes, highlighting their applications and advantages.	**8**
(b)	Explain the principle of CDMA in detail.	**8**
(c)	Explain different types of satellites based on their orbit.	**8**
(d)	What is RFID? Explain the different components of the RFID	**8**
Q.2	**Attempt any three**	
(a)	Explain the layers of the Bluetooth protocol stack. What functions do these layers perform, and how do they contribute to the overall functionality of Bluetooth?	**8**
(b)	Differentiate between LAN, MAN, and WAN. Provide examples of their applications and discuss their respective advantages and limitations.	**8**
(c)	Explain Piconet and scatternet in Bluetooth technology. Also define SNR and explain briefly	**8**
(d)	Explain the GPRS network architecture in details.	**8**
Q.3	**Attempt any three**	
(a)	Explain the requirements of Wireless LAN.	**8**
(b)	Explain IEEE802 architecture in terms of protocol architecture.	**8**
(c)	Explain the single cell, multiple cell and ad hoc wireless LANs.	**8**
(d)	Explain IEEE802 architecture in terms of MAC layer format.	**8**
Q.4	**Attempt any two**	
(a)	Draw and explain the GPRS transmission plane protocol model.	**7**
(b)	Explain the routing mechanism in GPRS network	**7**
(c)	Write a short note on the classification of transmission media.	**7**

Q.5

(a) Describe the mobile originated call process in a mobile communication system **7**

(b) Provide an overview of the Global System for Mobile Communications (GSM). Explain the key features and architectural components of GSM networks. **7**

--- End of Paper---