Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2710209 **Date: 02/01/2016**

Subject Name: Wireless Communication

Time:2:30 pm to 5:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

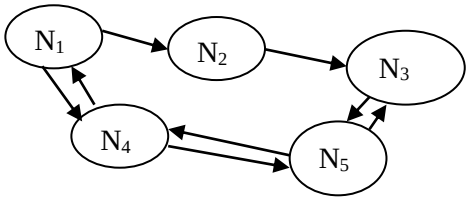
Q.1 (a) **07**

(i) Justify "Direct sequence spread spectrum receiver is more complex than the transmitter". **04**

(ii) What does mobile station comprises of for communication with GSM. **03**

(b) What is the difference between random backoff and exponential backoff? Explain distributed foundation wireless medium access control – distributed coordination function scheme with several competing senders. **07**

Q.2 (a) **07**



(i) Explain route discovery for a route from N_1 to N_3 if dynamic source routing is to be used?

(ii) What will be the content of routing table for N_1 if destination sequence distance vector routing is used?

(b) **07**

(i) How frequency selection is done during data transmission in Bluetooth ? How data transmission takes place between master and slave in case of synchronous connection oriented link and asynchronous connectionless link? **04**

(ii) If care of address is collocated, how a mobile node registers with home agent? **03**

OR

(b) **07**

(i) Justify "snooping TCP is a transparent TCP extension". **04**

(ii) Explain wireless transaction protocol class 0. **03**

Q.3 (a) **07**

(i) When scattering and diffraction of waves occur? **04**

(ii) Why baseband signal cannot be directly transmitted in a wireless system? **03**

(b) What are the reasons for handover? Explain four possible handover scenarios in GSM? **07**

OR

Q.3 (a) **07**

(i) When reflection and refraction occur? **04**

(ii) How a simple phase shift keying system can be improved? **03**

	(b)	Explain coding and spreading of data from sender A if A wants to transmit bits 101. Key is 010100100010110011. B wants to send 100 and key is 000110101000010111. What would happen at receiver's end if B's strength is 5 times A's strength at receiver? In transmitting and receiving CDMA is used. Assume missing data.	**07**
Q.4	**(a)**	Explain following with respect to GPRS 1) GPRS tunneling protocol. 2) Radio link protocol 3) Subnetwork dependent convergence protocol.	**07**
	(b)	What is a beacon? How synchronization is done in infrastructure based and ad hoc networks?	**07**
		OR	
Q.4	**(a)**	Explain system and protocol architecture in 802.11 wireless LAN.	**07**
	(b)	Which types of bearer and tele services are provided as part of mobile services in GSM.	**07**
Q.5	**(a)**	(i) How intent can be used to launch new activity in Android? How additional information can be passed using intents? (ii) How an application's identity is managed in Android? Explain that file.	**07**
	(b)	For what purpose DDMS (Dalvik Debug Monitoring system) is? How Logging can be done in Android application?	**07**
		OR	
Q.5	**(a)**	(i) Explain how activities and other application components can be registered in Android? How primary entry point activity can be designated for application? (ii) How can a Boolean, integer resource can be defined and accessed in Android?	**07**
	(b)	Explain the core files and directories of Android Application.	**07**

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