Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– I EXAMINATION – WINTER 2014

Subject Code:2710209 **Date:09/01/2014**

Subject Name: Wireless Communication

Time: **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) If the original signal needs a bandwidth w, then in case of direct sequence spread spectrum, how much bandwidth is needed by resulting signal after spreading?

(ii) Explain working of direct sequence spread spectrum transmitter and receiver.

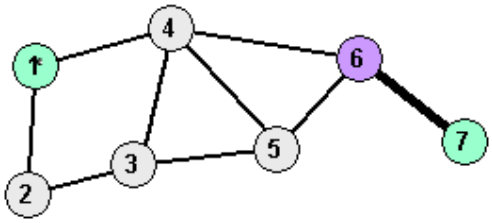
(iii) If the demodulated signal is 10100101000011010001 11 and barker code is 10110111000. What is the interpreted signal value?

(b) **07**

(i) For what purpose MAC data is scrambled in physical layer of wireless LAN 802.11? **03**

(ii) Which types of control channels are available in GSM(Global system for mobile communication)? **04**

Q. 2 **(a)** **07**



(i) If AODV(Ad hoc on demand distance vector routing) routing protocol is used for above topology, and node 1 wants to send data to node 7, node 1 generates route request(RREQ). What fields are included in RREQ?

(ii) How this route request is forwarded?

(iii) How AODV(Ad hoc on demand distance vector routing) route discovery is different from route discovery process of DSR(Dynamic source routing)?

(b) Explain basic DFWMAC-DCF(Distributed Foundation wireless medium access control-distributed coordination function) using CSMA/CA(carrier sense multiple access with collision avoidance). **07**

OR

(b) Explain DFWMAC-DCF(Distributed Foundation wireless medium access control-distributed coordination function) with RTS/CTS(request to send/clear to send). **07**

Q. 3 **(a)** **07**

(i) What is Inter symbol interference? If wireless waves travels across sea, which propagation effect can be achieved? **03**

(ii) Mobile TCP splits the TCP connection into which two parts? **04**

	(b)		**07**
		(i) To locate a mobile station and to address the mobile station in GSM, which numbers are needed?	**03**
		(ii) Explain Radio subsystem of GSM.	**04**
		OR	
Q. 3	**(a)**		**07**
		(i) Why GSM performs handovers between cells controlled by different BSCs? Explain handover process.	**03**
		(ii) What is binary phase shift keying? How higher bit rates can be achieved for the same bandwidth in case of phase shift?	**04**
	(b)	Explain the following network elements in GPRS(General Packet Radio Service) (i) GPRS support nodes(GSN) (ii) Serving GPRS support node(SGSN)	**07**
Q. 4	**(a)**		**07**
		(i) What is the use of ad-hoc traffic indication map(ATIMS)?	**03**
		(ii) Describe IP-in-IP encapsulation.	**04**
	(b)	Explain the use of following protocols in GPRS(General Packet Radio Service) (i) Subnetwork dependent convergence protocol (ii) Base station subsystem GPRS protocol. (iii) Radio link protocol.	**07**
		OR	
Q. 4	**(a)**		**07**
		(i) Describe the two different ways in which MN(Mobile Node) can register with HA(Home Address)?	**03**
		(ii) What is the use of following (a) Physical layer convergence protocol (b) Physical medium dependent	**04**
	(b)	Describe the features provided by wireless transaction protocol and wireless session protocol.	**07**
Q. 5	**(a)**		**07**
		(i) What is Intent in Android? (ii) How Android applications launch a new activity by class name? (iii) How Android application can create intents with Action and Data? (iv) How Android application can launch activity belonging to another application?	
	(b)	Explain how to define and use Frame-by-Frame animation resources in Android.	**07**
		OR	
Q. 5	**(a)**		**07**
		(i) How the application context and application resources are retrieved in Android? (ii) Which permissions are given to Android applications by default? (iii) Explain how to register permissions that Android applications require? (iv) Explain how to register permissions that one Android application grants to other applications?	
	(b)	Where menu resource is stored in Android? Explain the structure of menu resource file that has 3 items ï shape, color and size. Explain the method that is used to access menu resource.	**07**

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