

Enrollment No.....



Faculty of Engineering
End Sem (Even) Examination May-2019
CA5EL06 Mobile Communication

Programme: MCA Branch/Specialisation: Computer Application

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. The interference between the neighbouring base stations is avoided by **1**
 (a) Assigning different group of channels
 (b) Using transmitters with different power level
 (c) Using different antennas
 (d) All of these
- ii. The shape for the cellular region for maximum radio coverage is. **1**
 (a) Circular (b) Square (c) Oval (d) Hexagon
- iii. In a fixed channel assignment strategy. **1**
 (a) Each cell is assigned a predetermined set of frequencies
 (b) The call is served by unused channels of the cell
 (c) The call gets blocked if all the channels of the cell are occupied
 (d) All of these
- iv. In Handoff **1**
 (a) Process of transferring the call to the new base station.
 (b) Transfers the call.
 (c) New channel allocation is done.
 (d) All of these
- v. Right now, GSM is the accepted cellular standard in _____. **1**
 (a) Europe (b) South America
 (c) Southeast Asia (d) All of these
- vi. GSM Stands for **1**
 (a) Global service for mobile access
 (b) Global system for mobile communication
 (c) Global access point for system communication
 (d) All of these

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- vii. The cell having the same number in the adjacent cluster using the same set of RF channels are termed as **1**
 (a) Adjacent cell (b) Co channel cell
 (c) Macro cell (d) Selective Cell
- viii. Which multiple access technique is used by IEEE 802.11 standard for wireless LAN? **1**
 (a) CDMA (b) CSMA/CA
 (c) ALOHA (d) None of these
- ix. An interconnected collection of Piconet is called **1**
 (a) Scatternet (b) Micronet (c) Mininet (d) None of these
- x. Bluetooth uses **1**
 (a) Orthogonal frequency division multiplexing
 (b) Time division multiplexing
 (c) Frequency hopping spread spectrum
 (d) None of these
- Q.2 i. Write any three differences between FDMA and TDMA with their pros and cons. **3**
 ii. Explain about basic cellular system with diagram. **7**
- OR iii. What is the method of spread spectrum allocation in cellular system? Explain FHSS and DSSS in detail. **7**
- Q.3 Attempt any two:
 i. How the frequency gets reuse in cellular radio system? Explain. **5**
 ii. What is handoff and why it is conducted? List four basic protocol types of handoff. **5**
 iii. Explain PCS with their System Architecture. **5**
- Q.4 Attempt any two:
 i. Explain GSM system architecture with diagram. **5**
 ii. Differentiate between GSM and GPRS. **5**
 iii. Explain the protocol architecture of GPRS with suitable diagram. **5**
- Q.5 i. Write any three differences between IEEE802.11, IEEE802.11a and IEEE802.11b. **3**
 ii. Explain protocol architecture of IEEE 802.11 (WLAN). **7**

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- OR iii. Explain the working of IEEE 802.11 in infrastructure less mode, adhoc mode and infrastructure mode. **7**
- Q.6 Write short note on any two:
 i. Protocol stack model of Bluetooth. **5**
 ii. VSAT with diagram. **5**
 iii. Importance of WLL. **5**

Marking Scheme
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Q.1	i.	The interference between the neighbouring base stations is avoided by (d) All of these	1
	ii.	The shape for the cellular region for maximum radio coverage is. (d) Hexagon	1
	iii.	In a fixed channel assignment strategy. (a) Each cell is assigned a predetermined set of frequencies	1
	iv.	In Handoff (d) All of these	1
	v.	Right now, GSM is the accepted cellular standard in _____. (d) All of these	1
	vi.	GSM Stands for (b) Global system for mobile communication	1
	vii.	The cell having the same number in the adjacent cluster using the same set of RF channels are termed as (b) Co channel cell	1
	viii.	Which multiple access technique is used by IEEE 802.11 standard for wireless LAN? (b) CSMA/CA	1
	ix.	An interconnected collection of Piconet is called (a) Scatternet	1
	x.	Bluetooth uses (c) Frequency hopping spread spectrum	1
Q.2	i.	Any three differences between FDMA and TDMA	3
		2 marks	
		Their pros and cons.	1 mark
OR	ii.	Basic cellular system	4 marks
		Diagram.	3 marks
	iii.	Method of spread spectrum allocation in cellular system	7
Q.3			3.5 marks
		FHSS and DSSS	3.5 marks
Q.3		Attempt any two:	
	i.	Frequency gets reuse in cellular radio system	5
		Explanation	3 marks
		Diagram	2 marks

	ii.	Handoff	2 marks	5
		Reasons for a handoff to be conducted	2 marks	
		Four basic protocol types of handoff	1 mark	
	iii.	PCS with their System Architecture		5
		Explanation	2.5 marks	
		Diagram	2.5 marks	
Q.4		Attempt any two:		
	i.	GSM system architecture		5
		Explanation	2.5 marks	
		Diagram	2.5 marks	
	ii.	Differentiate b/w GSM and GPRS.		5
	iii.	Protocol architecture of GPRS		5
		Explanation	2 marks	
		Diagram	3 marks	
Q.5	i.	Any three differences between IEEE802.11, IEEE802.11a and IEEE802.11b.		3
		1 mark for each difference	(1 mark * 3)	
	ii.	Protocol architecture of IEEE 802.11 (WLAN).		7
		Explanation	4.5 marks	
		Diagram	2.5 marks	
OR	iii.	Working of IEEE 802.11 in Infrastructure less adhoc mode	3.5 marks	7
		Infrastructure mode.	3.5 marks	
Q.6		Write short note on any two:		
	i.	Protocol stack model of Bluetooth.		5
		Explanation	3 marks	
		Diagram	2 marks	
	ii.	VSAT		5
		Explanation	3 marks	
		Diagram	2 marks	
	iii.	Importance of WLL.		5
		Explanation	2.5 marks	
		Diagram	2.5 marks	
