

Enrollment No.....



Faculty of Science
End Sem (Even) Examination May-2018
CA3EG11 Wireless and Mobile Computing
Programme: BCA 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. Fading is caused due to: 1
 I. Multi Path Propagation,
 II. Obstacles,
 III. Frequency variations at source,
 IV. Variation in amplitude and phase at receiver
 (a) I and II are correct (b) I, II and IV are correct
 (c) II and III are correct (d) All are correct
- ii. 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
- iii. Which one of the following is the multiple-access scheme used in (a) GSM? 1
 (a) TDMA
 (b) FDMA
 (c) CDMA
 (d) A combination of TDMA and FDMA
- iv. GPRS needs the following parts of typical GSM 1
 (a) Does not need any part of GSM
 (b) The packet-switched core for data transmission
 (c) The circuit-switched core for localization and authentication
 (d) All of these
- v. Which one of the following is the main standard for Bluetooth? 1
 (a) IEEE 802.15 (b) IEEE 802.3
 (c) IEEE 802.11 (d) IEEE 802.16

P.T.O.

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vi.	Which one of the following is not a wireless protocol? (a) Bluetooth (b) IrDA (c) WAP (d) CSMA/CD	1
vii.	The mobility binding table in Mobile IP is maintained by (a) Mobile node (b) Home Agent (c) Foreign Agent (d) All of these	1
viii.	Which of the following layers is not present in wireless sensor network communication architecture? (a) Physical layer (b) Data link layer (c) Presentation layer (d) Application layer	1
ix.	Firewall should be situated (a) Inside a corporate network (b) Outside a corporate network (c) Between a corporate network and the outside world (d) None of these	1
x.	What are the different ways to classify IDS? (a) Zone based (b) Host and Network based (c) Network and Zone based (d) Level based	1
Q.2	i. What are main advantages of TDMA over FDMA? 2 ii. What is Antenna? Give its types and their radiation pattern. 3 iii. What is Handover? Give the difference between Soft Handover and Hard Handover? 5	
OR	iv. What is Traffic Engineering? Describe the process of traffic characterization. How the traffic measurement is done? 5	
Q.3	i. What are various mobile services provided by GSM? 2 ii. What are MM, CM and RRM? What is the Central Component of GSM Architecture? Explain with help of suitable diagram. 8	
OR	iii. Explain the different elements of GSM network: 8 (a) GMSC (b) BTS (c) BSC (d) MSC (e) HLR and VLR	
Q.4	i. What is Hiper-LAN? Differentiate between type-1 and type-2 Hiper-LAN? 3 ii. Draw the frame format of IEEE 802.11 standard and explain in detail. 7	
OR	iii. What is Bluetooth? Explain the protocol architecture of Bluetooth. 7	

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Q.5	i. What is the difference between Traditional IP and Mobile IP? Explain the concept of Mobile IP with the help of suitable diagram. 4 ii. Explain Indirect TCP and Snooping TCP. What is the drawback of I-TCP and How to solve I-TCP problem by Snoop TCP? 6	
OR	iii. What is the difference between Infrastructure network and Infrastructure less network? Describe any five design issues of Ad hoc network. 6	
Q.6	Attempt any two: i. What is firewall? List the characteristics of a good firewall implementation. 5 ii. What is the difference between worms and viruses? Explain the common types of viruses based on their target. 5 iii. What are Intrusion Detection and Intrusion Prevention? Differentiate between Signature based IDPS and Anomaly based IDPS. 5	

Marking Scheme

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Q.1	i. Fading is caused due to: I. Multi Path Propagation, II. Obstacles, III. Frequency variations at source, IV. Variation in amplitude and phase at receiver (b) I, II and IV are correct	1			
	ii. In handoff (d) All of these	1			
	iii. Which one of the following is the multiple-access scheme used in (a) GSM? (d) A combination of TDMA and FDMA	1			
	iv. GPRS needs the following parts of typical GSM (c) The circuit-switched core for localization and authentication	1			
	v. Which one of the following is the main standard for Bluetooth? (a) IEEE 802.15	1			
	vi. Which one of the following is not a wireless protocol? (d) CSMA/CD	1			
	vii. The mobility binding table in Mobile IP is maintained by (b) Home Agent	1			
	viii. Which of the following layers is not present in wireless sensor network communication architecture? (c) Presentation layer	1			
	ix. Firewall should be situated (c) Between a corporate network and the outside world	1			
	x. What are the different ways to classify IDS? (b) Host and Network based	1			
Q.2	i. Advantages of TDMA over FDMA	(1 mark * 2)	2		
	ii. What is Antenna Its types and their radiation pattern.	1 mark 2 marks	3		
	iii. Handover Difference between Soft Handover and Hard Handover	2 marks 3 marks	5		
OR	iv. Traffic Engineering Process of traffic characterization Traffic measurement	2 marks 1.5 marks 1.5 marks	5		
Q.3	i. Mobile services provided by GSM ii. Explanation of MM, CM and RRM Central Component of GSM Architecture Diagram.	2 marks 4 marks 2 marks	2 8		
	OR iii. Explain the different elements of GSM network: (a) GMSC (b) BTS (c) BSC (d) MSC (e) HLR and VLR	1.5 marks 1.5 marks 1.5 marks 1.5 marks 2 marks	8		
Q.4	i. Hiper-LAN Difference between type-1 and type-2 Hiper-LAN ii. Frame format of IEEE 802.11 standard with diagram	1 marks 2 marks	3		
	OR iii. Bluetooth Protocol architecture of Bluetooth.	2 marks 5 marks	7		
Q.5	i. Difference between Traditional IP and Mobile IP Concept of Mobile IP with diagram. ii. Indirect TCP and Snooping TCP Drawback of I-TCP How to solve I-TCP problem by Snoop TCP	2 marks 2 marks 2 marks 3 marks 1 mark	4		
	OR iii. Infrastructure network and Infrastructure less network Any five design issues of Ad hoc network.	2 marks 4 marks	6		
Q.6	Attempt any two: i. Firewall Characteristics of a good firewall implementation. ii. Difference between worms and viruses Common types of viruses based on their target iii. Intrusion Detection and Intrusion Prevention Difference -Signature based IDPS / Anomaly based IDPS.	2 marks 3 marks 3 marks 2 marks 2.5 marks 2.5 marks	5 5		
