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Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam – 603 110

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Computer Science and Engineering

Continuous Assessment Test – I

Question Paper

Degree & Branch	B.E & Computer Science and Engineering				Semester	VII
Subject Code & Name	UCS1702 Mobile Computing				Regulation:	2018
Academic Year	2022-23 ODD	Batch	2019-23	Date	16.09.2022	FN
Time: 8.15 am to 9.45 am	Answer All Questions				Maximum: 50 Marks	

Part – A (6×2 = 12 Marks)

<KL1>	1. Why CSMA/CD scheme fails in wireless networks?	<CO1>
<KL2>	2. Compare wired networks and ad-hoc networks.	<CO1>
<KL1>	3. Why is physical layer in IEEE802.11 subdivided? What are its sublayers?	<CO1>
<KL1>	4. What are the three alternatives for the implementation of Home Agent (HA)?	<CO2>
<KL1>	5. Why structure of the cellular phone is in hexagon shape?	<CO1>
<KL1>	6. What are the two possibilities for the location of the Care-of Address (COA)?	<CO2>

Part – B (3×6 = 18 Marks)

<KL2>	7. Compare SDMA, FDMA, TDMA and CDMA.	<CO1>	2.2.4
<KL 3>	8.What is the reason for the failure of many MAC schemes in wired networks? Identify the need for “specialized MAC schemes” in Wireless networks.	<CO1>	2.4.3
<KL2>	9. What is the basic prerequisite for FDMA? How does this prerequisite increase complexity compared to TDMA systems?	<CO1>	2.4.3

Part – C (2×10 = 20 Marks)

<KL 3 >	10. Assume two senders A and B want to send data. CDMA assigns the following unique and orthogonal key sequences: key $A_k = 010011$ for sender A, key $B_k = 110101$ for sender B. Sender A wants to send the bit $A_d = 1$, sender B sends $B_d = 0$. Apply CDMA technique to identify the value detected by the receivers of sender A and B respectively.	<CO1>	1.3.1 2.1.3
(OR)			
<KL 3>	11. Identify the benefits of reservation schemes. Outline how are collisions avoided during data transmission. Why is the probability of collisions lower, compared to classical Aloha?	<CO1>	2.4.3
<KL 3>	12. List the entities of mobile IP. Make use of these entities to describe data transfer from a mobile node to a fixed node and vice versa. Why and where is encapsulation needed?	<CO2>	1.3.1
(OR)			
<KL 3>	13. Identify how tunnelling works in general. How does it work for mobile IP using IP-in-IP, minimal, and generic routing encapsulation. Discuss the advantages and disadvantages of these three methods.	<CO2>	2.2.2

Prepared By	Reviewed By	Approved By
Course Coordinator	PAC Team	HOD