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| **R.M.K. ENGINEERING COLLEGE**  RSM Nagar, Kavaraipettai – 601 206 | |  |  |  |
| **Question Bank for the Units –III to IV** | |  |  |  |
| **SE00** | **6thSemester – B.E. / B.Tech.** |  |  |  |
| **BR00** | **Computer Science and Engineering** |  |  |  |
| **SU00** | **20CS603 – Mobile Computing** |  |  |  |
| **CO1#** | To understand the basic concepts of mobile computing. | **K2** | CO1 |  |
| **CO2#** | To learn the basics of mobile telecommunication system. | **K2** | CO2 |  |
| **CO3#** | To be familiar with the network layer protocols and Ad-Hoc networks. | **K2** | CO3 |  |
| **CO4#** | To know the basis of transport and application layer protocols. | **K2** | CO4 |  |
| **CO5#** | To gain knowledge about different mobile platforms and application development. | **K2** | CO5 |  |
| **CO6#** | To understand the basic concepts of mobile computing. | **K2** | CO1 |  |
|  | **Part-A (10 x 2 = 20 Marks)** | **K Level** | **CO** | **Stand**  **ardS/A** |
| **1.** | Define COA. | K1 | CO3 | S |
| **1.** | Give the role of agent solicitation message. When it is used? | K2 | CO3 | S |
| **1.** | Define Mobile IP. | K1 | CO3 | S |
| **1.** | What is foreign agent? | K2 | CO3 | S |
| **1.** | What is care of address? | K1 | CO3 | A |
| **2.** | Identify the roles of DSR protocol | K3 | CO3 | A |
| **2.** | List the disadvantages of DSR. | K2 | CO3 | A |
| **2.** | List the disadvantages of DSDV. | K1 | CO3 | S |
| **2.** | List the advantages of DSDV. | K1 | CO3 | S |
| **2.** | List the advantages of DSR. | K1 | CO3 | S |
| **3.** | What is the difference between Unicasting and Multicasting | K3 | CO3 | S |
| **3.** | What is broadcasting? | K3 | CO3 | S |
| **3.** | Classify different types of MANET Routing Protocols | K3 | CO3 | S |
| 3. | What are the advantages of ZRP? | K3 | CO3 | S |
| **3.** | What are the disadvantages of ZRP? | K3 | CO3 | A |
| **4.** | Give the advantages of routing in wireless networks. | K4 | CO3 | S |
| **4.** | What is correspondent node? | K4 | CO3 | S |
| **4.** | What is reverse tunnelling? | K4 | CO3 | S |
| **4.** | Show the basic operation of ODMRP using diagram | K4 | CO3 | S |
| **4.** | Generalize the threats in VANET. | K4 | CO3 | S |
| **5.** | What are the drawbacks of AODV? | K4 | CO3 | A |
| **5.** | What are the merits of AODV? | K4 | CO3 | A |
| **5.** | What is the difference between AODV and standard distance vector algorithm? | K1 | CO3 | S |
| **5.** | Why is routing in Adhoc networks complicated? | K1 | CO3 | S |
| **5.** | What are the general problems of mobile IP regarding security and support of quality of service? | K1 | CO3 | S |
| **6.** | What is round trip time? | K1 | CO4 | S |
| **6.** | What is slow start? | K4 | CO4 | A |
| **6.** | List the advantages of snooping. | k1 | CO4 | A |
| **6.** | Mention the features present in WSP/B | K3 | CO4 | A |
| **6.** | Define WSP. | K1 | CO4 | S |
| **7.** | What is wireless transaction protocol? | K4 | CO4 | A |
| **7.** | What is the difference between WTP class 0 and class 1 protocol? | K4 | CO4 | A |
| **7.** | List the classes of transaction services of WTP | K1 | CO4 | S |
| **7.** | What is WTP class 2 protocol? | K4 | CO4 | S |
| **7.** | What is WTP class 1 protocol? | K1 | CO4 | S |
| **8.** | What are the features of WML? | K4 | CO4 | S |
| **8.** | What is the use of WML? | K1 | CO4 | S |
| **8.** | What do you mean by WML? | K4 | CO4 | S |
| **8.** | What is WMLScript? | K4 | CO4 | S |
| **8.** | What are the advantages of WMLScript? | K4 | CO4 | S |
| **9.** | Name the layers of WAP. | K4 | CO4 | A |
| **9.** | Name some ICMP messages. | K4 | CO4 | A |
| **9.** | What is ICMP? | K1 | CO4 | S |
| **9.** | What are the components of WAP 2.0? | K1 | CO4 | S |
| **9.** | What is WTLS? | K1 | CO4 | S |
| **10.** | What is WTA? | K1 | CO4 | S |
| **10.** | Define WTA. | K1 | CO4 | A |
| **10.** | What is WDP? | K2 | CO4 | A |
| **10.** | What is wireless datagram protocol? | K3 | CO4 | A |
| **10.** | What is wireless telephony application? | K3 | CO4 | A |
|  | **Part – B ( 5 x 13 = 65 Marks)** |  |  |  |
| **11.a.** | Explain in detail the entities in Mobile IP (13) | K5 | CO3 | S |
| **11.a.** | Explain the overview of Mobile IP (13) | K5 | CO3 | S |
| **11.a.** | Explain how Tunneling and encapsulation play a crucial role in packet delivery through routing. (13) | K3 | CO3 | S |
| **11.a.** | (i) Explain the use of a Mobile Node and corresponding node. (7)  (ii) Explain the services that are provided by the Home Agent. (6) | K3 | CO3 | S |
| **11.a.** | (i) Generalize the working mechanism of Agent discovery. (7)  (ii) Explain the registration of the packets during its delivery from source to destination. (6) | K2 | CO3 | S |
| **11.b.** | Explain IP-in-IP encapsulation and Generic routing encapsulation (13) | K1 | CO3 | S |
| **11.b.** | Classify the encapsulation types used in Mobile IP. (13) | K2 | CO3 | A |
| **11.b.** | Explain minimal encapsulation and GRE (13) | K1 | CO3 | S |
| **11.b.** | Explain the optimizations done in mobile IP. (13) | K1 | CO3 | S |
| **11.b.** | Explain Binding request, binding update, binding acknowledgement and binding warning messages in detail (13) | K1 | CO3 | S |
| **12.a.** | Demonstrate the operation of DHCP with a neat diagram and explain its protocol architecture. (13) | K3 | CO3 | S |
| **12.a.** | Explain dynamic host configuration protocol.(13) | K2 | CO3 | A |
| **12.a.** | (i) Explain the characteristics of Mobile Adhoc networks(7)  (ii) Explain the application of MANET’s(6) | K2 | CO3 | A |
| **12.a.** | (i) Explain the design issues relevant to the design of suitable MANET protocols.(7)  (ii) Explain the characteristics of MANET’s (6) | K3 | CO3 | S |
| **12.a.** | (i) Explain MANET design issues (7)  (ii) Explain the different applications of Mobile Adhoc networks (6) | K3 | CO3 | S |
| **12.b.** | (i) Explain the multicast protocols for MANET in detail. (7)  (ii) Analyze features of multicast routing protocols for MANET. (6) | K4 | CO3 | A |
| **12.b.** | In what way the Dynamic Source Routing provides a possible path for packet transmission to the destination. (13) | K4 | CO3 | A |
| **12.b.** | Explain DSDV protocol in detail.(13) | K4 | CO3 | A |
| **12.b.** | Explain DSR protocol (13) | K4 | CO3 | A |
| **12.b.** | Explain destination sequenced distance vector routing protocol (13) | K4 | CO3 | A |
| **13.a.** | (i) Explain Indirect TCP (7)  (ii) Explain snooping TCP (6) | K2 | CO4 | S |
| **13.a.** | (i) Explain Mobile TCP. (7)  (ii) Explain Fast retransmit and fast recovery. (6) | K1 | CO4 | S |
| **13.a.** | Explain the improvements of TCP in mobile networks.(13) | K2 | CO4 | S |
| **13.a.** | (i) Explain I-TCP. (7)  (ii) Explain M-TCP (6) | K1 | CO4 | S |
| **13.a.** | (i) Explain Transmission/time-out freezing (7)  (ii) Explain Transaction-oriented TCP (T/TCP) (6) | K1 | CO4 | S |
| **13.b.** | Explain WAP Architecture (13) | K2 | CO4 | S |
| **13.b.** | Explain Wireless datagram protocol (13) | K1 | CO4 | A |
| **13.b.** | Explain WDP (13) | K2 | CO4 | S |
| **13.b.** | Explain WTLS (13) | K1 | CO4 | A |
| **13.b.** | Explain Wireless transport layer security (13) | K1 | CO4 | A |
| **14.a.** | Explain the basic transaction of WTP class 0 protocol (13) | K3 | CO4 | S |
| **14.a.** | Explain wireless transaction protocol. (13) | K3 | CO4 | S |
| **14.a.** | Explain the basic transaction of WTP class 1 with user acknowledgement (13) | K3 | CO4 | A |
| **14.a.** | Explain the basic transaction of WTP class 2 with no user acknowledgement (13) | K3 | CO4 | A |
| **14.a.** | Explain the basic transaction of WTP class 2 with user acknowledgement (13) | K3 | CO4 | S |
| **14.b.** | Explain WSP (13) | K4 | CO4 | S |
| **14.b.** | Explain wireless session protocol (13) | K2 | CO4 | S |
| **14.b.** | Explain WSP/B session establishment (13) | K2 | CO4 | S |
| **14.b.** | Explain WSP/B session suspension and resume (13) | K2 | CO4 | S |
| **14.b.** | Explain WSP/B completed transaction (13) | K2 | CO4 | S |
| **15.a.** | Discuss about the similarities and differences between MANET and VANET. (13) | K3 | CO3 | S |
| **15.a.** | Explain in detail about the architecture of VANET. (13) | K3 | CO3 | S |
| **15.a.** | Differentiate MANET vs VANET (13) | K3 | CO3 | S |
| **15.a.** | Explain the vehicular Adhoc networks (13) | K3 | CO3 | S |
| **15.a.** | Explain the security issues in MANET (13) | K2 | CO3 | S |
| **15.b.** | Describe in detail about the use of WML. (13) | K1 | C04 | A |
| **15.b.** | (i) Express the basic features of WML. (7)  (ii) Summarize the role of WML in mobile computing. (6) | K2 | C04 | S |
| **15.b.** | Explain WMLScript (13) | K2 | C04 | S |
| **15.b.** | Explain wireless markup language (13) | K1 | C04 | S |
| **15.b.** | How the WMLScrpit provides a general scripting capability in WAP? (13) | K2 | C04 | S |
|  | **Part – C ( 1 x 15 = 15 Marks)** |  |  |  |
| **16.a.** | What is meant by size and node density of a MANET? Explain these two terms and discuss how these two parameters impact the design of a MANET. (15) | K6 | CO3 | A |
| **16.a.** | Give the factors that make mobile ad hoc networks more vulnerable to security attacks compared to the traditional networks. Also explain major types of security attacks that are possible in a mobile ad hoc network. Compose a solution to overcome from these types of attacks. (15) | K4 | CO3 | A |
| **16.a.** | Explain AODV routing protocol (15) | K6 | CO3 | A |
| **16.a.** | Explain ZRP hybrid protocol. Differentiate reactive and proactive protocols.(15) | K4 | CO3 | A |
| **16.a.** | Compare and contrast AODV and ZRP protocols (15) | K4 | CO3 | A |
| **16.b.** | What role does WTA play in Mobile computing? How it is useful in terms of long distance communication. (15) | K4 | C04 | A |
| **16.b.** | Explain the logical architecture of wireless telephony application (15) | K4 | C04 | A |
| **16.b.** | Explain the role of WTA by taking the voice message as example. (15) | K4 | C04 | A |
| **16.b.** | Explain the architecture of WTA with an example (15) | K4 | C04 | A |
| **16.b.** | Explain wireless telephony application in detail. (15) | K4 | C04 | A |