Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

**Question Paper Code : 50433**

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Sixth Semester

Computer Science and Engineering

CS 8601 – MOBILE COMPUTING

(Common to: Computer Science and Business Systems)

(Regulations 2017)

Time : Three hours                                      Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   List out the differences between Mobile Computing and Wireless Networking.

2.   Point out the problems faced by devices in Wireless Transmission.

3.   Specify the three different categories of services defined by GSM.

4.   Draw Architecture of UMTS.

5.   What are the two types of COA?

6.   Analyze the operational constraints associated with MANET.

7.   What should the value of TTL Filed in the IP packet of agent advertisement?

8.   Tabulate the different layers used in WAP.

9.   Draw the architecture of Mobile OS.

10.  What are the features required for a mobile device to enable mobile commerce?

PART B — (5 × 13 = 65 marks)

11.  (a)   Illustrate the transmitter and receiver and explain the working principle of FHSS.

Or

(b) Discuss the following:

    (i)    Hidden terminal and Exposed terminal problem. (7)

    (ii)    Far and Near Terminal problem. (6)

12. (a) (i) Generalize the role of Handover in GSM. (3)

    (ii)    Develop the solutions for effective handover. (10)

Or

(b) (i) Explain GPRS transmission plane protocol reference model. (7)

    (ii)    Describe the functions of HLR and VLR in call routing and roaming. (6)

13. (a) Demonstrate the operation of DHCP with a neat diagram and explain its protocol architecture.

Or

(b) Discuss about the similarities and differences between MANET and VANET.

14. (a) Compare and contrast between the various mobile TCP approaches used in wireless networking in terms of mechanism, advantages and disadvantages.

Or

(b) Describe in detail WTLS class 0, class 1, class 2 initiator and responder used in WTLS.

15. (a) (i) Discuss about the evolution and the features of Windows mobile OS. (6)

    (ii)    Give the structure of Android software stack and explain. (7)

Or

(b) (i) What are the different Mobile Payment System models? List out the various technologies used for M-Payment systems. Who are the stakeholders of M-Payment systems. (7)

    (ii)    What are the risks associated with M-Payment systems? (6)

PART C — (1 × 15 = 15 marks)

16. (a) Consider a network containing 10 nodes where node N1 being the source and node N10 being the destination nodes. Illustrate the process of route discovery, route reply, data delivery and route caching using DSR. Explain the approach.
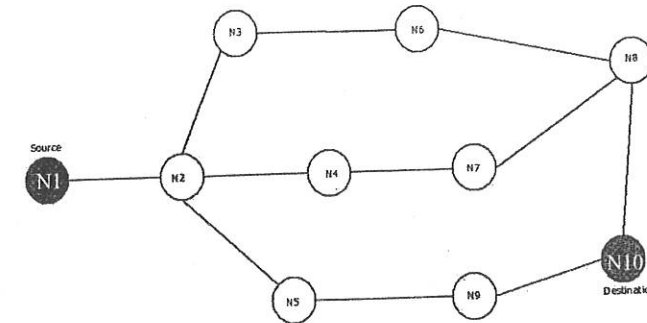


Dynamic Source Routing: Network

Or

(b) Consider a network containing 5 nodes that are "X", "Y", "Z", "T", "D" present at unit distance from each other, where "X" being the source node and "D" being the destination node. Explain how AODV works and concept of Route Request (REREQ) and Route Response (RRESP) in used.



———————