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Question Paper Code : 80449

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

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. What are the applications of mobile networks?
2. How the hidden and terminal problem is solved by MACA?
3. What are the two types of logical channels used in GSM?
4. Draw the frame structure of IEEE 802.11. In the frame control what does the type and sub type field represent?
5. List the difference between a Foreign Agent COA (FA-COA) and a Co-located COA in Mobile IP.
6. How Ad Hoc networks differs from mobile network?
7. What are the key features of mobile TCP?
8. Draw the basic transaction of WTP class 0.
9. What is a microkernel operating system?
10. List the security constraints faced by mobile operating system.

PART B — (5 × 13 = 65 marks)

11. (a) Write about different multiple access techniques and write each of their advantages and disadvantages.

Or

- (b) Discuss how the automatic, worldwide localization of users is provided in GSM.

12. (a) (i) Discuss the difference between the physical layer standard frequency hopping spread spectrum and direct sequence spread spectrum. (7)

- (ii) Discuss about various hand over techniques. (6)

Or

- (b) (i) Explain the concept of Vehicle Ad-hoc Networks (VANETs), including their purpose, potential benefits for transportation systems, and at least one technical challenge associated with their implementation. (6)

- (ii) Explain the DSR protocol with a neat graph and list the advantages. (7)

13. (a) (i) Explain in detail about generic routing encapsulation. (7)

- (ii) Explain the Dynamic host configuration protocol. (6)

Or

- (b) Why is not possible to adapt the traditional TCP environment in mobile wireless networks? Explain how Indirect TCP differs from snooping TCP.

14. (a) Explain the various classes in wireless transaction protocol, how does it improve the higher layer performance.

Or

- (b) What is the fundamental difference of WML compared to HTML? Write a WML script to design a page for online food ordering.

15. (a) Compare Monolithic design versus microkernel design of an operating system.

Or

- (b) Discuss the architecture and security perceptions of BlackBerry and ios.

PART C — (1 × 15 = 15 marks)

16. (a) Explain the GSM architecture with a neat diagram.

Or

- (b) Discuss the architecture of the Android operating system. Briefly identify the possible reasons as to why it has been able to rapidly improve its market share compared to its peers.
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