Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 70445

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 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 down the applications of mobile computing.

2. What strategies could be employed to address hidden terminal problem?

3. List down the various functionalities of mobility management layer in GSM.

4. What is the IEEE 802.3 Frame format?

5. What is the difference between foreign agent COA and Co-located COA in mobile IP?

6. How ad hoc network differs from cellular network?

7. What is the benefit of WAP?

8. Draw the basic transaction of WTP class 0 in mobile computing.

9. What is a microkernel operating system?

10. List the constraints of mobile operating system.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the GSM architecture with a neat sketch and also discuss how the automatic, worldwide localization of users is provided in GSM.

Or

(b) Discuss about various multiplexing techniques with a neat diagram. Write the pros and cons of each technique when compared to the other technique.

12. (a) Compare and contrast the physical layer standard frequency hopping spread spectrum and direct sequence spread spectrum.

Or

(b) Describe the different phases involved in medium access among different competing nodes in HIPERLAN 1.

13. (a) Explain the working principle of Generic Routing Encapsulation (GRE).

Or

(b) Justify your answer, why it 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 Dynamic host configuration protocol operations with suitable illustrations and indicate the benefits of using DHCP.

Or

(b) Discuss the differences of WML compared to HTML. Write a WML script to design a page for online food ordering.

15. (a) Explain the monolithic structure of operating system with neat illustration and compare with microkernel design.

Or

(b) Explain any three popular mobile operating systems with its software protocol stack.

PART C — (1 × 15 = 15 marks)

16. (a) Discuss the reactive routing protocols with a suitable diagram and compare the same with proactive routing protocols.

Or

(b) Describe the benefits of a proxy - based service access models and outline a proxy based design for mobile service access.

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