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# Question Paper Code : 20422

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Sixth Semester

Computer Science and Engineering

CS 8601 – MOBILE COMPUTING

(Regulations 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How does mobile network differ from wired network?
2. How is the hidden and terminal problem solved by MAC?
3. List the functionalities of mobility management layer in GSM.
4. Draw the frame structure of IEEE 802.11.
5. Differentiate foreign agent COA with Co-located COA in mobile IP.
6. How does VANET differ from MANET?
7. Illustrate the need to introduce WAP.
8. Draw the basic transaction of WTP class 0.
9. What is meant by microkernel operating system?
10. List the constraints faced by mobile operating system.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the GPRS architecture with a neat sketch. (13)

Or

(b) Discuss the differences between the frequency hopping spread spectrum and direct sequence spread spectrum. (13)

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

Or

(b) (i) Describe the UMTS core network together with respect to a 3G RNS and a 2G BSS. (6)

(ii) Explain in detail about generic routing encapsulation. (7)

13. (a) (i) Explain the AODV protocol with a neat graph and list the advantages. (7)

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

Or

(b) (i) Differentiate MANET with NANET and explain. (7)

(ii) Discuss mobile security. (6)

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 system.

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

Or

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

PART C — (1 × 15 = 15 marks)

16. (a) Explain the principal functions of the mobile operating system. Discuss how an example application can be implemented on a mobile device and write the effectiveness of system services.

Or

(b) Discuss the architecture of Android operating system. Briefly identify the possible reasons to improve its market share compared to its peers.

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