Reg. No. : | | | | | | | | | | |

Question Paper Code: 46202

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Sixth Semester

Computer Science and Engineering

14UCS602 - FUNDAMENTALS OF MOBILE COMPUTING

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which MAC mechanisms controlling medium access indicates the medium is urrently idle

   (a) Clear Channel Assessment (b) Station Management

   (c) Start frame delimiter (d) Header error check

2. The design process of selecting and allocating channel groups for all of the cellular base stations within a system is called

   (a) Frequency Reuse (b) Amplitude Reuse

   (c) Phase Reuse (d) Phase Planning

3. _____protocol is used for finding physical address for given IP address

   (a) RARP (b) ARP (c) SMTP (d) DNS

4. _____mechanism has a higher latency during handoff.

   (a) Transaction-oriented TCP (b) Mobile TCP

   (c) Indirect TCP (d) Snooping TCP

5. A Global Service for Mobile (GSM) uses two bands for duplex

(a) Data (b) Communications (c) Signals (d) Frames

6. The _____ provides packet mode transfer for applications that exhibit traffic patterns such as frequent transmission of small volumes

(a) GSM (b) GPRS (c) UMTS (d) GGSN

7. Proactive is also called as _____ protocols.

(a) Table Driven (b) On demand routing (c) Vector routing (d) topology

8. Which network does not rely on a pre existing infrastructure?

(a) Wireless Ad Hoc Network (b) Bluetooth
(c) HIPERLAN (d) Wireless Sensor Network

9. M- Commerce stands for _____.

(a) Multimode (b) Multi casting (c) Multi media (d) Mobile

10. The digital modulation technique used in frequency selective channels is

(a) FSK (b) QSK (c) BPSK (d) QPSK

PART - B (5 x 2 = 10 Marks)

11. List the characteristics of Mobile Computing.

12. What are the requirements of a mobile IP?

13. Differentiate GSM and DECT

14. What is VANET?

15. What is mobile OS? List the commercial mobile OS.

PART - C (5 x 16 = 80 Marks)

16. (a) (i) Explain in detail about Mobile Computing and Classify its various applications and limitations in the real world scenario. (10)

(ii) Discuss about Reservation Based schemes. (6)

Or

(b) (i) Describe the various random assignment schemes that are used in MAC protocol. (8)

(ii) Illustrate the working principle of contention based MAC Protocols. (8)

17. (a) List the entities of mobile IP and describe about the data transfer from a mobile node to a fixed node and vice versa. How does the MN discover that it has moved? Also discuss how optimization in achieved in mobile IP route. (16)

Or

(b) Explain in details about I-TCP with schematics diagram. (16)

18. (a) (i) Discuss in detail about the architecture, Services, and Localization in GSM. (10)

(ii) Discuss in detail about the architecture of GPRS. (6)

Or

(b) What is UMTS? Explain in detail about UMTS. (16)

19. (a) Discuss the various routing strategies in mobile ad hoc network with an example. (16)

Or

(b) Write short notes on: (i) Dynamic source routing (ii) Destination Sequenced Distance Vector Routing. (16)

20. (a) Explore the architecture of the following mobile operating systems:
(i) Apple iOS
(ii) Android
(iii) Windows phone. (16)

Or

(b) (i) Elaborate the mobile payment schemes and security issues. (8)

(ii) Briefly explain the various applications of MCommerce. (8)