

**2024**

**( 5th Semester )**

**BACHELOR OF COMPUTER APPLICATIONS**

**Paper : MBC : 504 (Old Course)**

**( Mobile Computing )**

**Full Marks : 70**

**Pass Marks : 45%**

**Time : 3 hours**

**( PART : B—DESCRIPTIVE )**

**( Marks : 45 )**

*The figures in the margin indicate full marks  
for the questions*

1. (a) List and explain the characteristics of mobile computing. 5

(b) What are the categories of mobile services? 4

**Or**

(c) Distinguish between mobile computing and wireless networking. 4

(d) What are the limitation and challenges of mobile computing? 5

2. (a) Explain the WAP architecture with a diagram. 5  
 (b) Describe the transport layer of WAP. 4  
 Or  
 (c) List and explain the different properties of WAP. 5  
 (d) Explain some of the wireless networking standard used in mobile computing. 4
3. (a) What do you understand by WML? 3  
 (b) How do you format text in WML? Explain with an example. 6  
 Or  
 (c) Explain WML Decks and Cards. 3  
 (d) What are WML tasks? How to perform them? Explain with an example. 6
4. (a) What is a WAP push message? How does it work? 4  
 (b) Describe the building and deploying of end-to-end WAP services. 5  
 Or  
 (c) Explain in detail WAP end-to-end security with a neat labelled diagram. 9

5. (a) Explain WAP services w.r.t (i) handset manufacturers and (ii) banking. 6  
 (b) Can we secure WAP to prevent unauthorized access? If yes, justify. 3  
 Or  
 (c) What is the difference between a WAP and a WiFi router? 3  
 (d) Explain one key feature of future network. 6

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2024

( 5th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Paper : MBC : 504 (Old Course)

( **Mobile Computing** )

( PART : A—OBJECTIVE )

( Marks : 25 )

*The figures in the margin indicate full marks for the questions*

**SECTION—I**

( Marks : 10 )

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×10=10

1. Which type of multiplexing enables to use the whole bandwidth simultaneously?

(a) FDMA ( )

(b) CDMA ( )

(c) TDMA ( )

(d) None of the above ( )

2. By what other term can mobile computing environment be referred to generally?

(a) Distributed computing ( )

(b) Grid computing ( )

(c) Cloud computing ( )

(d) None of the above ( )

3. For a full-duplex, which of the given statements is correct?

(a) The bi-directional communication is possible ( )

(b) The communication is only possible in one direction ( )

(c) The communication is only possible in one direction at a particular time instant ( )

(d) None of the above ( )

4. What is the basic function of snooping TCP?

(a) Flow control ( )

(b) Congestion control ( )

(c) To buffer the data that is in proximity to the mobile host for enabling fast local retransmission if the packet loss is the case ( )

(d) All of the above ( )

5. A 4G communication supports the data rates of

(a) 200 Mbps ( )

(b) 1024 Mbps ( )

(c) 100 Mbps ( )

(d) 50 Mbps ( )

6. A transfer rate of how much Kbit/s is possible in GPRS depending on the code?

(a) 190 ( )

(b) 125 ( )

(c) 110 ( )

(d) 170 ( )

7. The obstacles in mobile communication are

(a) interference, low bandwidth ( )

(b) regulations and spectrum ( )

(c) high delay ( )

(d) All of the above ( )

8. WAP enhances \_\_\_\_\_ property.

- (a) wireless specification interoperability ( )
- (b) wireless side interoperability ( )
- (c) wireless specification infraction ( )
- (d) All of the above ( )

9. WAP is a \_\_\_\_\_ suite.

- (a) protocol ( )
- (b) message ( )
- (c) security ( )
- (d) None of the above ( )

10. Which of the following is the example of WML script?

- (a) Procedural logic ( )
- (b) Loop ( )
- (c) Conditional ( )
- (d) All of the above ( )

( 5 )

SECTION—II

( Marks : 5 )

Tick (✓) True or False in the brackets provided : 1×5=5

1. The WAP protocol was designed to show internet contents on wireless clients, like mobile phones.

True (   ) / False (   )

2. WAP homepages are not too different from the HTML homepages.

True (   ) / False (   )

3. No dial-up modem connection is required for GPRS connection.

True (   ) / False (   )

4. Wireless transaction protocol provides data integrity, privacy, authentication and denial of service protection.

True (   ) / False (   )

5. Handoff is a technique used to maintain an acceptable link quality when a mobile station traverses a cell boundary.

True (   ) / False (   )

SECTION—III

( Marks : 10 )

Answer in short the following :

2×5=10

1. What are the basic building blocks for mobile computing?

2. Why do we need WAP?

3. List out the different layers of WAP architecture.

4. Define wireless application environment.

5. What is the goal of M-TCP?

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