

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Sixth Semester B.Tech Degree Regular and Supplementary Examination July 2021

**Course Code: CS364****Course Name: MOBILE COMPUTING**

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer all questions, each carries 3 marks.*

Marks

- |   |   |     |
|---|---|-----|
| 1 | List any three characteristics of mobile computing.                         | (3) |
| 2 | Define middleware in mobile computing with example.                         | (3) |
| 3 | List the characteristics of different types of satellites (based on orbit). | (3) |
| 4 | Differentiate the use of HLR and VLR in GSM network.                        | (3) |

**PART B***Answer any two full questions, each carries 9 marks.*

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|---|---|-----|
| 5 | a) Explain Three-tier architecture for mobile communication with neat diagram.      | (6) |
|   | b) Draw the flowchart of Internet Content Adaptation Protocol (ICAP).               | (3) |
| 6 | a) Differentiate SDMA, FDMA, TDMA Medium Access techniques.                         | (6) |
|   | b) List the design considerations for mobile computing.                             | (3) |
| 7 | a) Illustrate the working of GSM (Global System for Mobile) with suitable diagrams. | (6) |
|   | b) List the features of DECT system.  | (3) |

**PART C***Answer all questions, each carries 3 marks.*

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|----|---|-----|
| 8  | Justify why the CSMA/CD protocol is difficult to implement in wireless networks.              | (3) |
| 9  | Differentiate Ad-hoc and Infrastructure based wireless networks.                              | (3) |
| 10 | Explain the requirements for a Mobile IP protocol.  | (3) |
| 11 | List the steps involved in DHCP to obtain IP Address in a LAN with the help of neat diagrams. | (3) |

**PART D***Answer any two full questions, each carries 9 marks.*

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|----|--|-----|
| 12 | Draw and explain about IEEE 802.11 MAC layer frame format. | (9) |
|----|--|-----|

- 13 a) Explain in detail the working of the following protocols: (6)  
i) Indirect TCP ii) Snooping TCP
- b) Differentiate between proactive and reactive routing in networks. (3)
- 14 Illustrate the working of Mobile IP with the help of neat diagrams. (9)

**PART E**

*Answer any four full questions, each carries 10 marks.*

- 15 Discuss the following mobile transport layer protocols: (10)  
(i) Transaction Oriented TCP (iii) Mobile TCP
- 16 Explain the architecture of Wireless Access Protocol (WAP) with suitable diagrams. (10)
- 17 Explain the architecture of IEEE 802.15 Bluetooth networks with suitable diagrams. (10)
- 18 Write down the features of the following mobile operating systems: (10)  
i) Android ii) PalmOS
- 19 a) Discuss LiFi and its applications. (4)  
b) Explain the following concepts in 5G networking with required diagrams: (6)  
i) MIMO ii) Supercore
- 20 List the features of following mobile application development tools: (10)  
(i) XML (ii) J2ME (iii) Java Card

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