



Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S8 (R,S)(FT/PT) Examinations April 2026 (2019 Scheme)

Course Code: CST476
Course Name: MOBILE COMPUTING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions; each carries 3 marks.

- | | | Marks |
|----|---|-------|
| 1 | Define mobile computing & list out its advantages. | (3) |
| 2 | What are the three segments of the ubiquitous Internet? | (3) |
| 3 | List out the advantages and disadvantages of spread spectrum. | (3) |
| 4 | Explain how is localization done using satellite systems? | (3) |
| 5 | Explain the advantages of WLAN over wired LAN | (3) |
| 6 | What is a piconet in Bluetooth? | (3) |
| 7 | Write about Wireless Datagram Protocol (WDP). | (3) |
| 8 | Explain the working of a mobile node using mobile IP? | (3) |
| 9 | How does multi factor security increases the security of information? | (3) |
| 10 | Mention the features of 5G Wireless Systems. | (3) |

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

- 11 a) What is a middleware? Discuss the role of various types of middleware in mobile computing. (7)
- b) Explain any four design considerations of the mobile computing in detail. (7)

OR

- 12 a) With a neat diagram discuss the functionalities of the three tiers of mobile computing architecture. (9)
- b) Discuss any five functions of mobile computing (5)

Module II

- 13 a) With a neat sketch explain the architecture of GSM in detail. (8)
- b) Discuss how routing is enabled in a satellite system. (6)

OR

- 14 a) Explain Geo stationary earth orbits and mention its advantages and disadvantages. (7)
- b) Elaborate the working of following medium access control protocols: (7)
- a. TDMA b. FDMA

Module III

- 15 a) Explain the design goals that has to be considered for designing the Wireless LAN. (8)
- b) Discuss the features of HIPERLAN1 in detail. (6)

OR

- 16 a) Discuss the protocol architecture of IEEE 802.11 Wireless LAN in detail. (7)
- b) Describe the architecture of Bluetooth with a neat sketch. (7)

Module IV

- 17 a) With the help of an example show the routing table, show the routing table creation using Destination Sequence Distance Vector Routing protocol in MANETS. (8)
- b) Describe the working of DHCP in Mobile computing with neat diagram. (6)

OR

- 18 a) Explain Wireless Application Protocol(WAP) architecture to standardize mobile devices. (7)
- b) How does a WTLS establishes a secure session? (7)

Module V

- 19 a) Discuss any four security models used for information security in mobile computing environment. (8)
- b) List out the Characteristics of Next Generation Network (NGN) (6)

OR

- 20 a) Explain the functioning of Orthogonal frequency division multiplexing. (7)
- b) Explain 10 pillars in 5G. (7)
