Hi-Tech Institute of Engineering & Technology	
DEPARTMENT OF CSE/IT/AI-ML	
1ST MODEL PAPER, ODD SEMESTER-2023-24,	
Semester: 7th	**Course/Branch: B.TECH/CSE/IT**
Subject Code: KCS 711	**Subject Name: Mobile Computing**
Faculty Name: Pranjal Singh	
Time: 3 Hours	***Total Marks: 100***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION-A

1. Attempt all question in brief. 2x 10 =20

Q.No	Question	Marks
a.	Explain near and Far Problem in context to cellular network.	2
b.	Define Fisheye state routing.	2
c.	Describe Temporary Ordered Routing Algorithm (TORA) in brief.	2
d.	Which routing algorithm used in MANETs	2
e.	What are HLR and VLR in mobile computing?	2
f.	What is Wireless Application Protocol?	2
g.	How does a mobile agent function in a network?	2
h.	Explain kangaroo transaction processing.	2
i.	How data replication can increase performance?	2
j.	Discuss the uplink and downlink frequency band of GSM.	2

SECTION-B

2. Attempt any THREE part of the following: 3x10 =30

Q.No	Question	Marks
a.	Explain the (quality of service) QoS in different terms of mobile adhoc networks.	10
b.	Describe the architecture, protocol stack and applications of Wireless Application Protocol.	10
c.	What is Data replication? Describe the replication strategies in detail.	10
d.	What is mobile agent system? What are the security design and performance issues in mobile agent systems?	10
e.	Describe the file system in mobile computing. How Disconnected Operations are performed in CODA file system?	10

SECTION-C

3. Attempt any ONE part of the following: 1x10 = 10

Q.No	Question	Marks
a.	Write Short Note on (i) Mobile Adhoc Network (MANET) (ii) Bluetooth	10
b.	Describe the GSM architecture and also describe different elements in this architecture.	10

4. Attempt any ONE part of the following: 1x10 = 10

Q.No	Question	Marks
a.	Draw and define 802.11 protocol stack regarding to the following points: (i) Physical layer (ii) MAC sub-layer protocol (iii) Frame architecture	10
b.	Compare SDMA, TDMA, FDMA and CDMA in terms of transmission techniques, signal separation and applications?	10

5. Attempt any ONE part of the following: 1x10 = 10

Q.No	Question	Marks
a.	Why does traditional TCP not perform well in wireless network? Discuss different approaches for TCP improvement.	10
b.	What are the characteristics of MANET? Explain the process of Path Discovery and Path Maintenance in DSR Routing Protocols.	10

6. Attempt any ONE part of the following: 1x10 = 10

Q.No	Question	Marks
a.	Write Short Note on (i) Light Fidelity (ii) Introduction to 4g and 5g	10
b.	Discuss the DSDV with example and differentiate it from AODV. Explain proactive, reactive routing protocol.	10

7. Attempt any ONE part of the following: 1x10 = 10

Q.No	Question	Marks
a.	Describe the Fault Tolerance issues involved in Mobile Computing? What is the Monitoring Process?	10
b.	Describe briefly about wireless networking. Describe the various types of wireless networking.	10