CE1.5-R4: MOBILE COMPUTING

NOTE:

1. **Answer question 1 and any FOUR from questions 2 to 7.**
2. **Parts of the same question should be answered together and in the same sequence.**

Time: 3 Hours **Total Marks: 100**

1.

a) "CSMA/CD protocol is not appropriate for mobile networking." Comment.

b) Draw and Explain state transition diagram of Protocol mechanism for multiple access with collision avoidance.

c) What are the qualities of service issues when a mobile computing system uses combination of a fiber-optic channel and a satellite communication channel?

d) Why is DSDV not used in mobile adhoc network routing?

e) Explain SNOOP protocol in mobile networking.

f) Ad-hoc wireless networks do not need any infrastructure to work. What are the limitations of Ad-hoc wireless network?

g) How can energy be saved in mobile computing.

(7x4)

2.

a) By drawing suitable diagram, explain working of Dynamic Source Routing.

b) TCP performs poorly together with wireless links. Indirect TCP segments a TCP connection into a fixed part and a wireless part. What are the advantages and disadvantages of it?

(10+8)

3.

a) How is indexing on air useful in accessing mobile databases?

b) A mobile database is a database that can be connected by a mobile computing device over a mobile network. What are the requirements to have a mobile database? Name the tools supporting mobile database.

(9+9)

4.

a) Develop a scenario where mobile computing can be useful in tele-education.

b) Write down the Comparisons of Infrared and Radio wave communication.

c) What is Security Mobile Architecture and components of it?

(6+4+8)

5.

a) Compare MACAW and IEEE 802.11 protocols.

b) Symbian OS is used in Mobile phones as Operating System. What are the characteristics of Symbian OS?

c) What is the need for location privacy in mobile computing and how it is implemented?

(6+6+6)

6.

a) What are the limitations of mobile devices?

b) How is distributed computing different from mobile computing? Illustrate it using client-server model.

(6+12)

7.

a) Mobile IP is the extensions of convention IP, needed for the internet to support the mobility of hosts. What are the convention and entities used in Mobile IP?

b) How can Quality of Service (QoS) be differentiated in Wireless LAN's at MAC level?

c) HiperLAN (High Performance Radio LAN) is a Wireless LAN standard. What are the features of Hiper LAN/1 and Hiper LAN/2?

(6+6+6)