Sub Code: CST-309 **ROLL NO……..……..**

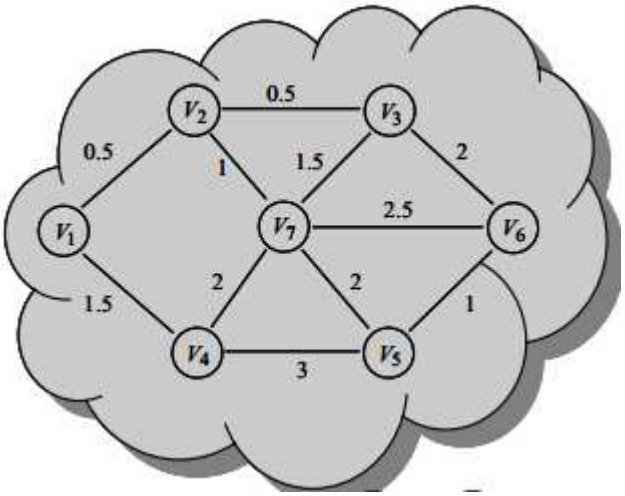
I SEMESTER EXAMINATION, 2022 – 23

(Ist Year, M.Tech. – Computer Science and Engineering)

ADVANCED WIRELESS AND MOBILE NETWORKS

Duration: 3:00 hrs **Max Marks: 100**

Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.

Q 1.	Answer any four parts of the following. a) Compare 1G, 2G and 3G mobile Technologies. b) What is connected graph? Explain the types of connected graph. c) Draw the roaming architecture in LTE networks. d) Explain the properties of trees in a graph with suitable example. e) Explain the role of SIM, HLR, and VLR in GSM network. f) Explain the functions of network layer for wireless networks.	5x4=20
Q 2.	Answer any four parts of the following. a) Write steps for Location registration and call delivery in 4G b) What is location management process? Explain the Components of location management process. c) Write the LTE and LTE-A features in the evolution from Release 8 to Release 10. d) Explain the QoS Challenges in Wireless IP Networks. e) What is walk? Explain the types of walk in directed graph with suitable example. f) What are the difference between adaptive link and network layer?	5x4=20
Q 3.	Answer any two parts of the following. a) Write an algorithm for Dijkstra algorithm and find the MST of Figure 1 using Dijkstra algorithm from source V_1 to Destination V_6  Figure 1 b) How to established 3GPP Packet Data Networks architecture? Explain working of each component in details. c) Discuss the following terms in QoS (i) Management of End-to-End IP QoS (ii) EPS Bearers and QoS in LTE networks	10x2= 20

Q 4.	Answer any two parts of the following. a) How does mobile IP work? What are the challenges with mobile IP with respect to high speed mobility? How does cellular IP solve some of these challenges? b) Explain in detail about classification of handoff in wireless networks. c) Explain the working of infrared link access protocol how information transfers in wireless links?	10x2= 20
Q 5.	Answer any two parts of the following. a) Draw the QoS Architecture and explain the working of each component in details. b) Explain the working of adaptive hybrid ARQ schemes for wireless links c) Explain the following terms with suitable example. (i) Cell Residing Time Distribution (ii) Mobility Prediction in Pico- and Micro-Cellular Networks.	10x2= 20

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