

Important Instructions:

- 1) Open this MS-Word document and start writing answers below each respective question given on page 2.**
- 2) Answers the question in the same sequence in which they appear.**
- 3) Provide to the point and concrete answers.**
- 4) First read the questions and understand what is required of you before writing the answer.**
- 5) Attempt the paper yourself and do not copy from your friends or the Internet. Students with exactly similar answers or copy paste from the Internet will not get any marks for their assignment.**
- 6) You can contact me for help if you have any doubt in the above instructions or the assignment questions.**
- 7) All questions must be attempted.**
- 8) Do not forget to write your name, university ID, class and section information.**
- 9) Rename you answer file with your university ID# before uploading to SIC.**
- 10) When you are finished with writing your answers and are ready to submit your answer, convert it to PDF and upload it to SIC unzipped, before the deadline mentioned on SIC.**

Mid Semester Assignment, Course: - Mobile Computing

Deadline: - Mentioned on SIC

Marks: - 30

Program: - BS (CS), BS-SE

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Class and Section: B

Question1: Explain why wired networks have higher bandwidth in comparison to mobile networks.

(2)

ANS : Wired network are generally much faster than wireless networks. Data speed have continually improved with inception of gigabit routers and technology. A wired network uses cables to connect with devices while wireless network allow devices to stay connected.

Question2: Explain the relation between miniaturization and portability. **(3)**

ANS: The relation between miniaturization and probability is that with time things are getting more reliable than before, So if anything get portable than before it also need miniaturization,

Question3: Differentiate between convergence and divergence. **(3)**

ANS: Convergence desire to enable as many functions of computing from a single device. The smart phone is the main example of convergence as it acts as radio, phone, calculator, watch and many etc. The divergence desire to enable single best device to perform as prime like DSLR etc.

Question4: Suppose you are given the task of designing an app for mobile devices which has the capabilities of text chat, recorded audio message, and live video conferencing. Explain which protocol out of UDP and TCP would you use for each type of service and why? **(4)**

ANS : TCP is connection oriented once the connection is establish and done data can be sent and receive bidirectional without the lost of data. While the UDP conectionless internet

protocol in this we have risk lost of data.so audio message text chat live video we will use TCP because we don't want to lose any of our data. TCP have flow control between sender and receiver. Control of traffic control into network while UDP don't have.

Question5: Suppose you have the choice of using 2G, 3G, 4G, 5G, Wi-Fi and Satellite networks. Which of these technologies will you use in the following scenarios and why. (18)

- a) A city wide network with voice, SMS services and Internet services good enough for ultra-high definition streaming and video conferencing.

ANS : we will USE 5G network because its faster in transmission ,lower latency and therefore greater capacity of execution, stronger reliability, better mobility. it will have high resolution bidirectional large bandwidth shaping. So for SMS service and internet with ultra high definition streaming and video conferencing 5G will be used.

- b) A city wide network with only voice and SMS services.

ANS: we will be using 2G network because it will provide small data service like SMS and MMS. 2G capabilities are achieved by allowing multiple users on single channel via multiplexing.

- c) A city wide network with voice, SMS services and Internet services good enough for normal definition streaming and video conferencing.

ANS: we will USE 4G network.Because 4G LTE stand for (long term evolution) having data transfer rate of 100mbps downlink and 50mbps uplink. Uses OFDM. Uses single carrier FDMA for uplink. We can use this network for SMS and Internet services and also for normal definition and streaming conferencing. It is also called true mobile broadband..it Quickly downloads files over wireless network.

- d) A global scale network with voice, SMS and Internet services.

ANS: we will USE Satellite network because Satellite are the height of of modern communications technology. Mainly the communication satellites are used in networks by re-transmitting signals from a ground base to a large area of earth.it is cost efficient.for global scale network with voice and SMS and internet service we will use satellite network

- e) A campus size network for information and resource sharing between 200 end devices.

ANS: we will USE WIFI network because the wireless nature of such networks allow users o access network resources from any location within their primary networking environment.

- f) A city wide network with voice, SMS and basic Internet services.

ANS :we will USE 3G network because web browsing, video downloading ,email and picture sharing etc were introduced in this generation.It facilitate greater voice and data capacity also it supports wider range of applications and increase the transmission of data in lower cost.