## Mid Semester Assignment, Course: - Mobile Computing

**Deadline: - Mentioned on SIC** **Marks: - 30**

**Program: - BS (CS), BS-SE** **Dated: 13 April 2020**

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**Class and Section: BSSE 8(A)**

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**Question1:** **Explain why wired networks have higher bandwidth in comparison to mobile networks. (2)**

**ANS: This is mainly because in wired networks each device is connected individually to the network with each cable transmitting data at the same speed. Mobile network tend to be slower, as the signal gets blocked sometime by walls, hills, vehicles or bad weather. The bandwidth of mobile network depends on the signal especially when a long way from the source.**

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

**ANS: MINIATURIZATION:**

**Making of a new and fast working hardware to perform the task more efficient as compare to old one. Smaller in size but effective in performance. The use of mobile phone while on the move.**

**PORTABILITY:**

**Reducing the size of hardware. It doesn't effect the performance of the system. It only reduce the hardware by using new technology to make the system smart. Making the system movable from one place to another.**

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

**ANS: Convergence is about being together while divergence is about moving apart. In convergence similar things combine together and make a structure e.g mobile phones while in divergence the process is opposite certain things diverges into two or more objects e.g Computers Both lives in similar environment in convergence where in divergence both lives in different environment.**

**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: Transmission Control Protocol (TCP) will be use for texts and audio chats as it is the most accurate protocol. It won't loss the data and won't deduct a single word from voice notes. For live video conferencing we prefer User Datagram Protocol (UDP). The fastest way of communication but it still misses some data but it is better for video sessions and conference.**

**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 as it have high speed with low latency.**

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

**ANS: As for only voice and SMS services 2G works better as it doesn't require much speed**

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

**ANS: As we know that 3G is suitable for this scenario because its normal definition streaming and 3G works good in this scenario.**

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

**ANS: On a global scale we need to cover large area and for this we have better option of using SATELLITE.**

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

**ANS: For a specific place with specific devices we will use WIFI to share sources and information.**

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

**ANS: For basic services we use 2G, enough to fulfil SMS and Basic Internet services.**