

## **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.**

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**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: \_\_BS-SE & B \_\_\_\_\_**

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

**(2)**

**Answer: Wired networks have higher bandwidth because they are faster than mobile networks and there is also dedicated direction for wired networks.**

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

**Answer: Miniaturization: It creates new and powerful hardware then the older to perform the same task as the older one but the new one will be fast and accurate. It is related to mobile.**

**Portability: It reduce the size of hardware. It will not affect the performance of the system but will only reduce size of the hardware by removing those hardware which are not in use. It is related to computer.**

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

**Answer: Convergence mean something together and divergence mean moving away. Convergence is in action when the price of an asset and indicator are close to each other and divergence is in action when the price of an asset and indicator are falling apart from each other.**

**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)**

**Answer: We will use TCP protocol for text chat and recorded audio message because there is no loss of data and the data will be sent as it is like a voice note. We will use UDP for live video calling because it is fast although some time data is lost in it.**

**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.**
- b) **A city wide network with only voice and SMS services.**
- c) **A city wide network with voice, SMS services and Internet services good enough for normal definition streaming and video conferencing.**
- d) **A global scale network with voice, SMS and Internet services.**
- e) **A campus size network for information and resource sharing between 200 end devices.**
- f) **A city wide network with voice, SMS and basic Internet services.**

**Answer:**

- a) **We will use 4G and 5G because they cannot provide HD streaming, although we can use 4G for video conferencing.**
- b) **We will use 2G because there is no data transfer in it.**
- c) **We will use 3G and 4G because both are good in streaming and 4G is best for live streaming.**
- d) **We will use satellite because it can transfer and receive data from small satellite dishes easily and they can also communicate with other satellite too,**
- e) **We will use Wi -fi because the size of campus can be easily covered by the help of Wi-Fi.**
- f) **We will use 2G and 3G because they can provide us with call and messages. 2G is used for general internet and 3G is used for a little advanced internet.**