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 Section (A)

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

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

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

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)**

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.**

Q1. Explain why wired networks have higher bandwidth in comparsion to mobile networks

- The wired networks bandwidth is higher than mobile networks because wired networks is directly connected to the device and in mobile network we use wireless networks . In wireless network the speed of file-sharing data are almost always tortoise-like . In wireless networks if any other device near by mobile device may interapt mobile signals e.g like radar system , wireless radio etc .so the disadvantages of wireless networks concerning cost , rang , and modam speed .

Q2. Explain the relation between miniaturization and portability.

- To overcome the mass of hardware of computers which can be collectively shifted quite easily .
- Making new and materially slighter mobile form determining factor which authorized the usage of personal mobile methodology while on the move.

Q3. Differentiate between convergence and divergence.

- CONVERGENCE
- Convergence is the coupling of two or more dissimilar high tech in a single tool , such as mobile phones , cameras , Personal Digital Assitants (PDAs) , games etc in hybrid device.
- DIVERGENCE
- Divergence required dissimilar approach to junction design by upgrading information tools with particular functionality instead of sweeping one.

- **Q4. 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?**
- **For designing an app for mobile devices which has the capabilities of text chat , recorded audio message , and live video conferencing I recommend UDP protocol because the capabilities of recorded audio and live video conferencing can be easily done in UPD . UPD is suitable for real time application like voice over IP in which recorded audio message and live video conferencing can be done while in TCP voice over is not supported.**

- **Q5. 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?**
- **a) A city wide network with voice, SMS services and Internet services good enough for ultra-high definition streaming and video conferencing.**
- **ANS) I would recommend 5G because for high ultra streaming and video conferencing 5G is best it have high speed it have ultra low latency have massive more huge network capacity.**
- **b) A city wide network with only voice and SMS services.**
- ANS) 3G is best because only voice and sms 3G can do it better when there is no streaming and video conterencing.

- **C) A city wide network with voice, SMS services and Internet services good enough for normal definition streaming and video conferencing.**
- ANS) I recommend 4G because 4G is better for normal video conference and normal streaming.
- **d) A global scale network with voice, SMS and Internet services.**
- ANS) Satellite is the best option for global scale network with voice , SMS and internet service because through satellite SMS and internet services can be provided to the world.

- **e) A campus size network for information and resource sharing between 200 end devices.**
- **ANS) Wifi is the best option because 200 end device can be handle by Wifi which have massive network capacity and high speed** . It is also secure and having wifi function of no limitation.
- **f) A city wide network with voice, SMS and basic Internet services.**
- **ANS) 3G is good for SMS and basic internet services because for basic internet services , voice and SMS it works easily . It is send/receive large email messages. It has speed up to 2Mbps.**