

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 (no MS Word) and upload it to SIC unzipped, before the deadline mentioned on SIC.**
- 11) Do not make any changes to the format provided.**
- 12) Failure in following the above instructions might result in deduction of marks.**

Final Exam, Course: - Mobile Computing

Deadline: - Mentioned on SIC

Marks: - 50

Program: - BS (CS), BS-SE

Dated: 24 June 2020

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Class and Section: _ (8th semestre) (A) _____

Q1: Provide the names of 4 challenges that exist in Adhoc Networks.(4)

ANSWER # 1

Challenges in Adhoc Networks

Dynamic topology is the challenge where nodes are unengaged to move which ends up in route changes and packets .

Scalability is still unsolved challenges include addressing, routing, configuration management , interoperability , etc

Ease of snooping on wireless transmission (security hazard)

Energy constraints limit process power ,ad hoc networks rely on every nodes being a router .

Q2: How the nodes in the Adhoc Network know about the changing network topology. (2)

ANSWER #2

Ad hoc incorporates set of mobile nodes connected wireless during a self organized , self healing network while not having a set infrastructure. Many nodes liberate to move indiscriminately because the network topology changes often.

Every nodes behave as a router as they forward traffic to other specific nodes Within the network .

Q3: Why is it important to minimize flooding of control packets in Adhoc Networks and how MPR achieves it? (4)

Answer #3

It is important that same message is not broadcast to the node which receives it before and minimum the response time. It is achieved by using MPRs set of selected neighbour nodes. Multi point Relay minimizes the flooding of broadcast packets in the network by reducing duplicate retransmission in the same region .

Q4: Explain briefly how Mobile Cloud Computing is different than simple mobile computing and simple cloud computing? (4)

ANSWER

: Mobile Cloud Computing: Mobile Cloud Computing refers to an infrastructure where both the info storage and therefore the processing occur outside of the mobile device. Mobile cloud applications move the info storage faraway from mobile phones into the cloud ,bringing applications and mobile computing not only to smart phone users but also to a way broader range of mobile subscribers .

Mobile Computing: It is a technology that permits transmission of knowledge, audio and video through a sensible phone or the other wireless enabled device without having to be connected to a hard and fast physical channel . The mobile computing means to access data through portable devices like PDA, smart phone, tablet then on.

cloud computing is collection of remote servers in network to permit centralized data storage and online communication to computer services or resources . Internet and not on personal devices to supply on-demand access. Applications are run on a foreign server, all the processing task done on remote server then result sent to the user.

Q5: Explain the term MBaaS in your own words?

ANSWER

MBaaS indicate mobile backed as a service .In easy words its the simplest way of empowering mobile developer with prepared rear mobile resources ,APIs and cloud storing in order that the mobile application development method may be fast-tracked .

MBaaS suppliers will build things behind the curtain to provide your app the facility and the suppleness it wants. Mobile Backend as a service supplier is serving up API at their finish, They will have access to any or all the traffic analytics. MBaaS give social media integration, information management, data base, file, storage, apps and infrastructure.

Q6: Imagining you visit a completely new city. What kind of services a modern LBS can provide you at your location automatically? (6)

ANSWER

Games where your location is part of the game play

E. G

Your movement during your your day make your avatar move in game or your position unlocks content.

Recommending social events in a city.

Requesting the nearest business or service such as ATM, restaurant or retail store.

Assistive health care systems.

Receiving alerts, such as notification of a sale on a gas or warning of a traffic jam.

Location based mobile advertising

Games where your location is a part of the game play, for example your movement during your day make your avatar move in the game or your position unlock content.

Real games Q and A revolving around restaurants, services and other venues.

Sending a mobile caller location during an emergency call using advanced mobile location.

Q7: Use your imagination as to how the following context can be used by a context aware application in mobile computing environment?

(8)

Date/Time

Environment

Emotional state

Focus of attention

Orientation

User preferences

Calendar (events)

Browsing history

ANSWER

Date/Time

According to the context aware systems the date and time for the user should be provided by the system on his current location and provide user a option to change date and time according to his area of living it should be displayed on the screen by design made of user centric approach

Environment

The environment is key factor in the context aware systems the system should focus on the how the system will react at the environment change for example in the noisy area or at night time or at daylight what's will be behaviors in different conditions for their Strong Statilte to Spa

Focus of attention

The system should give importance to the attentions of user. Through context aware systems the can provide some services like in the phone call Avoid unnecessary interruption or when the message arrive on the Phone flashes a notification every 30 seconds Eventually the user will ignore it!

Orientation

Orientation means the context aware system have capability to provide users device to adjust the screen in every change for example auto rotate mode in Smartphone to adjusts the screen to the orientation of the device ,Apple Watch turns on display arm lifted/rotated.

User preferences

The context aware system maintain the user preferences by providing the user with certain options such as in the mobile phone color density control, light or dark mode

in the phone wallpaper or theme change control.

Calendar (events)

The context aware system focuses on the system time zones and global date and this way the user have the personalized calendar and keep track of the events which will occur different to different user according to his area .

Q8: Explain why energy efficiency is important in technologies like Bluetooth and ZigBEE? (4)

ANSWER

With all the talks about global warming, the governments, network device manufacturers, networks service providers and users are more concerned about energy efficiency of the wireless devices than before. The reasons for requiring the more energy efficiency in wireless are various, but most of them are worrying about design problem, the policy of green technology, saving the business cost, and final user satisfaction.

Q9: Explain briefly how you use RFID technology at INU on a daily basis when present on the campus? Do you use an active or passive tag? (4)

ANSWER

We are use the RFID technology for the identification of ourselves to enter the campus we use it for the attendance and use the WIZ machine to see our result and other academic activities. we having passing tag.

Q10: Explain how Wearable Computing can be employed in computer gaming? (5)

ANSWER

Wearable technology is the next step in a gaming we can employed many wearable technology in gaming for example we can use VR for the immerse experience in gaming eniverment virtually there are many gaming jackets with sensors which we use real time bullet effects on humans they are other many technology that campanies are working on to better experience for gaming .

Q11: What kind of facilities and technologies must be present in order to call you own home a Smart Home?

ANSWER

(5)

The smart home residential based from the platform from the computer technology and control the technology and image display and communication through the network to meet automation the entire system provide control the management

The smart home owners control appliance door control the finger print and lights and thermostats are control the the mobile device or tablets and those suppurate the internet smart home secuire for other home and smart home saving costing