KINGS

COLLEGE OF ENGINEERING

DEPARTMENT OF INFORMATION TECHNOLOGY

ACADEMIC YEAR 2012-2013 (EVEN SEMESTER).

QUESTION BANK

SUB.CODE : IT1452
SUB.NAME : FUNDAMENTALS OF PERVASIVE COMPUTING
YEAR / SEM /SEC : IV/VIII
DEGREE / BRANCH : B.Tech / IT
BATCH : 2009-2013
REGULATION : R2008- ANNA UNIVERSITY-TIRUCHIRAPPALLI

Unit-I

PERVASIVE ARCHITECHTURE

PART -A (2 MARKS)

1. What is Pervasive computing era?
2. What is the aim of ubiquitous computing?
3. What is the purpose of pervasive computing?
4. What are the other terms of pervasive computing?
5. What is Ubiquitous computing?
6. What is sentient computing?
7. Define context adaptive system?
8. What are the applications of wearable computers?
9. What are the features of wearable computers?
10. Define aware systems.
11. What is AML?
12. What are the key challenges of urban computing?

PART-B (16 MARKS)

1. Explain the requirements of computational infrastructures.
2. Explain the pervasive computing technology compare with Ubiquitous computing.
3. List and explain the applications of pervasive computing.
4. Explain in detail about the pervasive web application architecture.

Unit-II

MOBILE DEVICES TECHNOLOGIES

PART -A (2 MARKS)

1. What are the characteristics of mobile computing devices?
2. What are the features of mobile computing?
3. List the advantages of push mode.
4. What are the 2 categories of context?
5. List the 5w of context.
6. What is mobile agent?
7. Define the following Applet, Servlet, and Mobile Agents.
8. Write down the advantages of the Mobile Agent paradigm

PART-B (16 MARKS)

1. Explain the features of software operating system.
2. What is the EPOC operating system consists of the following features.
3. What are the three types of browsers available for mobile devices?
4. List and explain Technical advantages of Mobile Agents.
5. List and explain applications of mobile agents.

Unit-III

SENSOR NETWORKS RFID'S

PART -A (2 MARKS)

1. List the advantages and disadvantages of active RFID tags.
2. List the properties of sensor network.
3. Why we need wireless communication channel?
4. What are the advantages and disadvantages of optical communication?
5. What is infrared communication?
6. Describe about RFID's.
7. What are the two main classes of sensors networks and data gathering sensor networks?
8. What are and data gathering sensor networks?
9. Define: Event detection sensor networks.

PART-B (16 MARKS)

1.Explain in detail about the following :

a) RFID transponder and reader architecture. (6)

b) RFID tags (4)

c) Types of tags (6)

2. Explain about sensor node architecture.
3. Explain about sensor network architecture.
4. Explain the applications of wireless sensor networks.
5. Explain the application of RFID technologies.

UNIT-IV

LOCAL AREA AND WIDE AREA WIRELESS TECHNOLOGIES

PART-A (2 MARKS)

1. What are the features of IEEE 802.11?
2. What are the components used in IEEE 802.11-System?

3. List the 2 basic architecture in IEEE 802.11 system?
4. Write down the application classes of the Bluetooth synchronization classes.
5. Write down the 3 ways followed in WPAN-IEEE802 15.4-data transmission.
6. What are the two different types of devices are defined in an 802 15.4 network.
7. Why we go for mesh topology?
8. What are the requirements needed for mobile IP?
9. What is cellular telephony?
10. List the specifications included in Bluetooth.
11. What is the use of OBEX object model?

PART-B(16 MARKS)

1. Write down the application classes of the Bluetooth synchronization classes.
2. Explain the OBEX protocol operations.
3. Explain the personnel area networks.
4. Explain the IEEE 802.11 system architecture.
5. Discuss MAC and MAC layer issues of Bluetooth in detail.

UNIT V
PROTOCOLS AND APPLICATIONS
PART-A (2 MARKS)

1. List the routing protocol of sensor networks?
2. What are the Hierarchical routing protocols?
3. What are the flat routing protocols?
4. What are the location routing protocols?
5. What are the characteristics of http1.0?

PART-B (16 Marks)

1. Explain the applications of pervasive computing in details.
2. Explain in detail about the hierarchical routing protocols.
   a) LEACH (4)
   b) PEGASIS (6)
   c) LSU (3)
   d) TEEN and APTEEN (3)
3. Explain in detail about the location routing protocols.
   a) ASCENT (8)
   b) GEAR (8)
4. Explain the multimedia messaging service protocols.
   a) Allows protocol options (6)
   b) Mm1 is intra carrier issue (6)
   c) MM3 and MM4 critical for interworking (4)

5. Explain the multimedia messaging service protocols
   a) Allows protocol options (4)
   b) Mm1 is intra carrier issue (6)
   c) MM3 and MM4 critical for interworking (6)