Total No. of Questions : 10]

SEAT No. :

P3112

[Total No. of Pages : 2

[5154]- 679

B.E. (Computer Engineering)

PERVASIVE COMPUTING

(2012 Pattern) (Semester - I) (Elective - II (b))

Time :2½ Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Attempt question Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Assume suitable data, if necessary.***
3) ***Figures to the right indicate full marks.***

Q1) a) Outline five core properties that characterize UbiCom system. **[5]**

b) Explain how CoolTown model can be implemented at workplace and home. **[5]**

OR

Q2) a) Discuss smart dust and tiny OS. **[5]**

b) How dynamic adaptation is performed in IBM's transcoding application. **[5]**

Q3) a) Why user interfaces are primarily visible? Discuss benefits of using auditory interface. **[5]**

b) What is PostHuman technology model? **[3]**

c) Define Planned action & situated action. **[2]**

OR

Q4) a) What are different design characteristics of iHCI model? **[5]**

b) Write short note on device connectivity. **[5]**

Q5) a) Explain core capabilities for context aware applications. **[5]**

b) Write short note on Contextual services. **[5]**

c) Discuss "Odyssey" system and comment whether it is uses application-level or System-level adaptation. **[8]**

OR

P.T.O.

Q6) a) Discuss actuator services in detail. **[6]**

b) What is meaning of following terms in adaptation: **[6]**

Agility, Fidelity & concurrency

c) What is mobile agent? Give it's architecture. **[6]**

Q7) a) Explain various security issues & challenges in Pervasive Computing. **[8]**

b) Define Authentication & authorization in detail with any case study as an example. **[8]**

OR

Q8) a) Explain Social networking & media exchange example for smart interaction. **[8]**

b) What is Secure resource discovery. **[4]**

c) Give collaborative defense strategies for Network Security. **[4]**

Q9) a) Explain graduated levels & system support for each of UbiCom property. **[5]**

b) Write short note on seven challenges highlighted by Grinter & Edwards for using ubiquitous applications in smart environment. **[7]**

c) Differentiate in between Human Intelligence & Machine Intelligence. **[4]**

OR

Q10)a) Review following technologies & justify whether they are disruptive or sustaining technologies: Mobile, Radio, email and eBook **[8]**

b) Compare and contrast the following techniques for lowering energy use:

i) Passive electronic components. **[8]**

ii) MEMS

iii) Energy harvesting

iv) Ultra-capacitors and fuel cells.