

Time : 2½ Hours]

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.

[Max. Marks : 70

- 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

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- Q6) a) Discuss actuator services in detail. [6]
 b) What is meaning of following terms in adaptation: Agility, Fidelity & concurrency. [6]
 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.

