

[Time: 2.30 Hrs]

[Marks: 75]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate full marks.

- Q.1 Attempt any Three of the following: 15**
- a. What is Ubiquitous Computing? Explain its applications.
 - b. Explain Service Architecture model in detail.
 - c. Write a short note on transparency and openness in modern Ubiquitous systems.
 - d. Describe Weiser's ICT Device Forms in detail.
 - e. Explain basic types of environment for UbiCom systems.
 - f. Discuss smart DEI in detail.
- Q.2 Attempt any Three of the following: 15**
- a. What is Smart Card? Explain its Operating system.
 - b. Explain diversity of ICT Device Interaction.
 - c. What is Mobile code? Explain its benefits in detail.
 - d. Discuss Explicit HCI in detail.
 - e. Describe Hidden UI via wearable and implanted devices.
 - f. Write a short note on Virtual Retinal Display (VRD).
- Q.3 Attempt any Three of the following: 15**
- a. What is RFID tags? Explain active and passive RFID tags.
 - b. Explain in detail Physical and Virtual Tag Management.
 - c. Draw and explain block diagram of sensor electronic circuit.
 - d. Describe MEMS in detail.
 - e. Write the challenges of a sensor net system.
 - f. Write a short note on :
 1. PID controller
 2. Real-Time operating system for Embedded system
- Q.4 Attempt any Three of the following: 15**
- a. What is Intelligent Network (IN)? Explain PSTN voice network in detail.
 - b. Explain in detail WPAN and BAN.
 - c. Describe Wireless data network in detail.
 - d. What is Service Oriented Network? Explain Content based network.
 - e. Write a short note on :
 - i. ZigBee
 - ii. Bluetooth
 - f. Describe the types and characteristics of mobile networks
- Q.5 Attempt any Three of the following: 15**
- a. What is HCI? Explain Implicit HCI in detail.
 - b. Explain in detail Human Centered Design (HCD) with its lifecycle.
 - c. What is Broadcasting? Explain Audio Broadcast Network.
 - d. Explain control system for physical world task.
 - e. Write a short note on addressing and routing in data network.
 - f. Explain various network design issues.