

Duration: 3Hrs

Max. Marks: 80

- N. B : (1) Q1 is compulsory  
(2) From Q2 to Q6 solve any three questions  
(3) All questions carry equal marks  
(4) Assume suitable data, if required, and state it clearly

Q1 Answer any four of the following [20]

- A. What are the current trends in IoT?
- B. Explain the use of IP Addressing in IoT systems.
- C. Compare and contrast JSON and XML data exchange formats.
- D. What is the Controller Area Network? List an example of its application.
- E. What are system design considerations during sensor integration?
- F. What is UART? Explain the working of UART.

Q2. [20]

- A. What is data privacy? List the important design consideration that the IoT system designer should take to ensure data privacy
- B. What is Raspberry Pi? How it can be used in data logging applications

Q3. [20]

- A. What are the design considerations when selecting an embedded platform for developing an IoT based application?
- B. What is Node-Red? Explain Flow Control using Node-Red?

Q4 [20]

- A. What are the system considerations for sensor integration?
- B. Compare and contrast Bluetooth BR/EDR and Bluetooth low energy.

Q5 [20]

- A. What do you mean by User experience? What are the important design considerations in Interface design for user experience?
- B. Explain Arduino Programming for Ethernet with the help of code snippet.

Q6. Write short note [any 2] [20]

- A. MQTT
- B. Designing for affordability - IoT Systems
- C. ZigBee

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