



RAN-2211000306026003

B.Sc. (Comp Sci.) (Sem. VI) Examination March - 2026

Paper - 603 - IOT (Old)

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book.	Seat No.: <table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> Student's Signature						

Q. 1 Answer any seven of the following short questions (2 marks each). [14]

1. Provide an example of an IoT system where data is used to infer information and knowledge.
2. Why must IoT systems be self-adapting and self-configuring to function efficiently?
3. Define the Internet of Things (IoT) and explain its key characteristics.
4. What are the main components of IoT architecture?
5. Define a gas detector sensor and mention its applications.
6. How does an infrared (IR) sensor work?
7. Explain the purpose of an ultrasonic sensor in IoT applications.

Q. 2 Answer any two of the following. [12]

1. Describe the physical design aspects of IoT.
2. Discuss the different types of communication models in IoT.
3. Explain the logical design of IoT with a focus on IoT functional blocks.
4. Discuss the various IoT communication models and APIs.

Q. 3 Answer any two of the following questions. [12]

1. Explain the role of sensor technology in IoT applications.
2. Discuss security challenges in IoT and possible solutions.
3. Explain the working principle of an ultrasonic sensor and its applications.
4. Describe the different types of actuators and their working mechanisms.

Q. 4 Answer any two of the following questions. [12]

1. Types of actuators and their real-world applications.
2. Discuss how Raspberry Pi can be interfaced with different Linux operating systems.
3. What are the fundamental components required to build an IoT device?
4. Describe how IoT can be applied in environmental monitoring systems.