

# RGPV IoT Unit-02 PYQ Analysis

## Last 5 Years Previous Year Question Analysis (2023–2025)

### Unit-02 Topics Covered

- Sensor Node
  - Sensor Features
  - Sensor Resolution
  - Analog & Digital Sensors
  - Scalar & Vector Sensors
  - Sensor Errors
  - Actuator
  - Actuator Types
  - Soft Actuators
  - Quantization Error
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## RGPV JUNE 2025 PAPER ANALYSIS

### Questions Asked from Unit-02

#### 7-Mark Questions

#### 1. Explain the following:

- Pneumatic
- Sensor features

 DIRECT QUESTION FROM UNIT-02

- ➔ Sensor features repeated topic hai.
  - ➔ Pneumatic actuator important actuator type hai.
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## **RGPV DECEMBER 2024 PAPER**

### **ANALYSIS**

#### **Questions Asked from Unit-02**

##### **7-Mark Questions**

**1. Discuss the role of actuators in IoT. Explain various types of actuators.**

 **VERY IMPORTANT**

- ➔ Most repeated actuator question.
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## **RGPV MAY 2024 PAPER ANALYSIS**

#### **Questions Asked from Unit-02**

##### **7-Mark Questions**

**1. Compare mechanical, soft and shape memory polymer based actuators.**

 **HIGHLY IMPORTANT**

- ➔ Soft actuator repeatedly asked.
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**2. Compare commercially available sensors used for IoT-based sensing applications.**

 **IMPORTANT SENSOR QUESTION**

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July  
17

# RGPV MAY 2023 PAPER ANALYSIS

## ✓ Questions Asked from Unit-02

### ★ 7-Mark Questions

**1. What are the different types of sensors used in IoT Network?**

🔥 VERY HIGH PROBABILITY

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**2. Explain challenges and requirements of IoT device.**

★ Related to Sensor Node concepts.

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**3. Write short note on Actuator.**

🔥 REPEATED TOPIC

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July  
17

# RGPV CS-803(C) MAY 2023 PAPER

## ANALYSIS

## ✓ Questions Asked from Unit-02

### ★ 14-Mark Question

**1. Discuss the role of sensors in IoT. Explain various types of sensors.**

🔥 MOST IMPORTANT LONG QUESTION

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### ★ 7-Mark Question

## 2. Write short note on Actuator.

 Frequently repeated.

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## MOST REPEATED QUESTIONS (2023–2025)

| Topic                | Repetition |
|----------------------|------------|
| Sensor Types         | ★★★★★★     |
| Actuator & Types     | ★★★★★★     |
| Sensor Features      | ★★★★       |
| Soft Actuators       | ★★★★       |
| Sensor Node Concepts | ★★★        |
| Sensor Comparison    | ★★★        |
| Pneumatic Actuator   | ★★★        |
| Sensor Challenges    | ★★★        |

## PYQ-BASED EXPECTED QUESTIONS

### VERY HIGH PROBABILITY QUESTIONS

#### Most Expected 7-Mark Questions

1. Explain sensor node with diagram.
2. Explain sensor features.
3. Explain actuator and types of actuators.
4. Differentiate between analog and digital sensors.

5. Explain different types of sensors used in IoT.

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## **HIGH PROBABILITY QUESTIONS**

1. Explain soft actuators.
  2. Explain scalar and vector sensors.
  3. Explain sensor resolution.
  4. Explain pneumatic actuator.
  5. Compare various sensors used in IoT applications.
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## **MEDIUM PROBABILITY QUESTIONS**

1. Explain quantization error.
  2. Explain hysteresis and drift error.
  3. Explain sensor calibration issues.
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## **UNIT-02 EXAM TREND ANALYSIS**

### **RGPV Mostly Focuses On:**

- Sensor types
  - Actuator types
  - Sensor features
  - Comparison-based questions
  - Short notes on actuators
  - Soft actuator concepts
  - Sensor node functionality
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## MOST SCORING TOPICS

**If Time is Very Less → Prepare These First**

| Priority | Topic                     |
|----------|---------------------------|
| 1        | Sensor Types              |
| 2        | Actuator Types            |
| 3        | Sensor Features           |
| 4        | Analog vs Digital Sensors |
| 5        | Sensor Node               |
| 6        | Soft Actuator             |
| 7        | Scalar vs Vector Sensors  |
| 8        | Sensor Errors             |



## ONE-NIGHT REVISION NOTES

| Topic          | Quick Revision             |
|----------------|----------------------------|
| Sensor         | Detects physical quantity  |
| Actuator       | Performs physical action   |
| Analog Sensor  | Continuous output          |
| Digital Sensor | Discrete output            |
| Scalar Sensor  | Magnitude only             |
| Vector Sensor  | Magnitude + direction      |
| Resolution     | Smallest detectable change |
| Soft Actuator  | Flexible actuator          |
| Pneumatic      | Air pressure actuator      |



## MEMORY TRICKS

## Sensor Features

👉 “ARPRS”

- A = Accuracy
  - R = Resolution
  - P = Precision
  - R = Response Time
  - S = Sensitivity
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## Sensor Errors

👉 “BDHQ”

- B = Bias
  - D = Drift
  - H = Hysteresis
  - Q = Quantization
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## Actuator Types

👉 “HPETMS”

- H = Hydraulic
  - P = Pneumatic
  - E = Electrical
  - T = Thermal
  - M = Mechanical
  - S = Soft
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## For 7 Marks

Always write:

Definition

↓

Diagram

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Types / Working

↓

Advantages

↓

Applications

↓

Conclusion

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## For Comparison Questions

Make proper table:

| Basis | Analog | Digital |
|-------|--------|---------|
|-------|--------|---------|

➔ Comparison table se examiner impress hota hai.

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## Must Draw These Diagrams

- ✓ Sensor Node Block Diagram
  - ✓ Analog vs Digital Signal
  - ✓ Actuator Working
  - ✓ Sensor Classification Tree
  - ✓ Soft Actuator Sketch
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# **FINAL PREDICTION FOR NEXT**

## **EXAM**

### **MOST EXPECTED LONG QUESTION**

★ “Explain different types of sensors used in IoT.”

### **MOST EXPECTED THEORY QUESTION**

★ “Explain actuator and its various types.”

### **MOST EXPECTED COMPARISON**

★ “Differentiate between Analog and Digital sensors.”

### **MOST EXPECTED SHORT NOTE**

★ “Soft Actuator”

★ “Sensor Features”

★ “Sensor Resolution”