

# CS-404 UNIT-1 PYQ ANALYSIS (2022–2025)

## Topic: Basic Structure of Computer

### Asked Questions

✓ June 2022

- Explain the structure of desktop system in detail.

✓ November 2023

- Draw and explain the architecture of a computer system.

✓ June 2023

- Explain basic principles of computer architecture.

### 2026 Prediction

- Draw and explain basic structure of computer system.
  - Explain components of a desktop computer with neat diagram.
  - Explain Von Neumann architecture.
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## Topic: General Register Organization

### Asked Questions

✓ June 2024

- Explain the role and significance of registers in a CPU's general register organization.

✓ December 2024

- Differentiate between accumulator, index, stack and general-purpose registers.

## 2026 Prediction

- Explain General Register Organization with diagram.
  - Explain accumulator, index register, stack register and general purpose registers.
  - Explain register organization and control word.
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# Topic: Stack Organization

## Asked Questions

✓ November 2022

- Discuss Stack Organization in detail.

✓ June 2023

- Explain Stack Organization and Addressing Modes.

## Probability



## 2026 Prediction

- Explain stack organization with PUSH and POP operations.
  - Explain stack structure with diagram.
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# Topic: Instruction Format

## Asked Questions

✓ June 2022

- Define Instruction Format. Explain I/O System in detail.

✓ November 2023

- Explain instruction formats for computer system.

## Probability



## 2026 Prediction

- Explain instruction format with suitable example.
  - Differentiate between instruction format and instruction type.
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# Topic: I/O System

## Asked Questions

✓ June 2022

- Explain I/O System in detail.

## Probability



## 2026 Prediction

- Explain I/O system and its components.
  - Explain relationship between CPU, Memory and I/O devices.
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# Topic: Bus Structure

## Asked Questions

✓ June 2025

- Illustrate the concept of bus structure. How does it aid in CPU and memory communication?

✓ June 2024

- Explain bus structure and communication.

✓ June 2023

- Explain bus structure and addressing modes.

### **Probability**



### **2026 Prediction**

- Explain bus structure with neat diagram.
  - Differentiate data bus, address bus and control bus.
  - Explain CPU-memory communication using buses.
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## **Topic: Register Transfer Language (RTL)**

### **Asked Questions**

✓ June 2024

- What is Register Transfer Language? Explain representation of instructions in RTL.

### **Probability**



### **2026 Prediction**

- Explain Register Transfer Language with examples.
  - Explain bus transfer and memory transfer using RTL.
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## Topic: Addressing Modes

### Asked Questions

✓ November 2022

- Explain addressing modes in detail.

✓ November 2023

- Explain addressing modes with suitable examples.

### Probability



### 2026 Prediction

- Explain addressing modes with examples.
  - Compare direct, indirect and indexed addressing modes.
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## Topic: Instruction Types

### Asked Questions

✓ December 2024

- Short note on Instruction Types.

✓ June 2025

- Short note on Instruction Types.

## Probability



### 2026 Prediction

- Explain various instruction types.
  - Write short note on instruction types.
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# Topic: Fetch and Execution Cycle

## Asked Questions

✓ June 2025

- Discuss role of Program Counter, Instruction Register and Memory Register during fetch-execute cycle.

✓ December 2024

- Discuss sequence of steps involved in fetching instruction from memory and executing it.

## Probability



### 2026 Prediction

- Explain Fetch Cycle and Execution Cycle with diagram.
  - Explain role of PC, IR and MAR in instruction execution.
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# Topic: Hardwired Control Unit

## Asked Questions

✓ June 2024

- Differentiate between Hardwired Control Unit and Microprogrammed Control Unit.

✓ June 2025

- Explain control word and micro-operation execution.

## Probability



## 2026 Prediction

- Explain Hardwired Control Unit with diagram.
  - Compare Hardwired and Microprogrammed Control Units.
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# Topic: Microprogrammed Control Unit

## Asked Questions

✓ June 2024

- Differentiate between Hardwired and Microprogrammed Control Unit.

✓ December 2024

- Describe arrangement of microinstructions in control memory and interpretation.

## Probability



## 2026 Prediction

- Explain Microprogrammed Control Unit with block diagram.
  - Explain advantages and disadvantages of microprogrammed control.
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# Topic: Micro Instruction Format

## Asked Questions

✓ June 2022

- What is the format of Micro Instruction in Computer Architecture?

✓ June 2023

- Short note on Micro Instruction Formats.

## Probability



## 2026 Prediction

- Explain microinstruction format with diagram.
  - Explain fields of microinstruction.
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# Topic: Control Memory & Microprogram Sequencer

## Asked Questions

✓ June 2023

- Explain Micro Program Sequencer.

✓ December 2024

- How are microinstructions arranged in control memory and interpreted?

## Probability



## **2026 Prediction**

- Explain control memory and microprogram sequencer.
- Explain sequencing and execution of microinstructions.