

COA CS-404 Unit-3 PYQ Analysis (2022–2025)

I/O Organization

Syllabus

- I/O Interface
 - PCI Bus
 - SCSI Bus
 - USB
 - Serial Data Transfer
 - Parallel Data Transfer
 - Synchronous Data Transfer
 - Asynchronous Data Transfer
 - DMA (Direct Memory Access)
 - I/O Processor
-

Topic: I/O Interface

Asked Questions

✓ June 2022

- Explain I/O Interface with suitable diagram.

✓ June 2024

- Discuss the need of I/O Interface in computer systems.

Probability



2026 Prediction

- Explain I/O Interface with block diagram.
 - Why is I/O Interface required?
 - Explain functions of I/O Interface.
-

Topic: PCI Bus

Asked Questions

✓ June 2023

- Explain PCI Bus Architecture.

✓ December 2024

- Write short note on PCI Bus.

✓ June 2025

- Explain PCI Bus and its advantages.

Probability



2026 Prediction

- Explain PCI Bus Architecture with diagram.
 - Advantages and features of PCI Bus.
 - Compare PCI and USB.
-

Topic: SCSI Bus

Asked Questions

✓ November 2022

- Explain SCSI Bus.

✓ June 2024

- Write short note on SCSI Bus.

Probability



2026 Prediction

- Explain SCSI Bus Architecture.
 - Features and advantages of SCSI Bus.
 - Compare SCSI and PCI Bus.
-

Topic: USB

Asked Questions

✓ June 2023

- Explain USB Architecture.

✓ June 2025

- Explain USB and its applications.

Probability



2026 Prediction

- Explain USB Architecture with diagram.
 - Advantages of USB.
 - Compare USB and SCSI.
-

Topic: Serial Data Transfer

Asked Questions

✓ June 2022

- Explain Serial Data Transfer.

✓ June 2024

- Differentiate Serial and Parallel Data Transfer.

Probability



2026 Prediction

- Explain Serial Data Transfer with diagram.
 - Advantages and disadvantages of Serial Transfer.
 - Compare Serial and Parallel Transfer.
-

Topic: Parallel Data Transfer

Asked Questions

✓ June 2022

- Explain Parallel Data Transfer.

✓ June 2024

- Differentiate Serial and Parallel Data Transfer.

Probability



2026 Prediction

- Explain Parallel Data Transfer.
 - Compare Serial and Parallel Transfer.
-

Topic: Synchronous Data Transfer

Asked Questions

November 2023

- Explain Synchronous Data Transfer.

June 2025

- Compare Synchronous and Asynchronous Transfer.

Probability



2026 Prediction

- Explain Synchronous Data Transfer.
 - Advantages of Synchronous Transfer.
 - Compare Synchronous and Asynchronous Transfer.
-

Topic: Asynchronous Data Transfer

Asked Questions

✓ November 2023

- Explain Asynchronous Data Transfer.

✓ June 2025

- Compare Synchronous and Asynchronous Transfer.

Probability



2026 Prediction

- Explain Asynchronous Data Transfer.
 - Explain Handshaking Mechanism.
 - Compare Synchronous and Asynchronous Transfer.
-

Topic: DMA (Direct Memory Access)

Asked Questions

✓ June 2022

- Explain DMA Controller with diagram.

✓ November 2022

- Explain DMA Transfer.

✓ June 2023

- Explain DMA and its working.

✓ November 2023

- Explain DMA with block diagram.

✓ June 2024

- Explain Direct Memory Access mechanism.

✓ December 2024

- Explain DMA Controller.

✓ June 2025

- Explain DMA operation with neat diagram.

Probability



MOST REPEATED QUESTION OF UNIT-3

2026 Prediction

- Explain DMA Controller with block diagram.
- Explain DMA transfer process.
- Advantages of DMA over programmed I/O.
- Explain DMA modes of transfer.

Topic: I/O Processor

Asked Questions

✓ June 2023

- Explain I/O Processor Architecture.

✓ June 2024

- Explain functions of I/O Processor.

✓ June 2025

- Explain I/O Processor with diagram.

Probability



2026 Prediction

- Explain I/O Processor Architecture.
- Functions and advantages of I/O Processor.
- Compare DMA and I/O Processor.

Year-Wise PYQ Summary

Year	Questions Asked
June 2022	I/O Interface, Serial Transfer, Parallel Transfer, DMA
Nov 2022	SCSI Bus, DMA
June 2023	PCI Bus, USB, DMA, I/O Processor
Nov 2023	DMA, Synchronous Transfer, Asynchronous Transfer
June 2024	I/O Interface, SCSI Bus, Serial vs Parallel, DMA, I/O Processor
Dec 2024	PCI Bus, DMA
June 2025	PCI Bus, USB, Synchronous vs Asynchronous, DMA, I/O Processor