

6E7104

Total No. of Questions : 22

Total No. of Pages : 04

Roll No. :

6E7104

B.Tech. VI-Sem. (Main/Back) Exam.- 2024

Computer Science and Engineering (Artificial Intelligence)

6CAI4-04 Computer Architecture and Organization

CS, IT, AID, CAI

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates :

Attempt all ten questions from Part-A, five questions out of seven questions from Part-B and three questions out of five questions from Part-C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in Form No. 205)

ersahilkagyan.com

1. Nil

2. Nil

PART-A

[10×2=20]

(Answer should be given up to 25 words only)

All questions are compulsory

Q.1 What is meant by RISC?

Q.2 What do you mean by ALU?

- Q.3 What is a control memory?
- Q.4 What is an instruction cycle?
- Q.5 Define a bus.
- Q.6 What is a micro-operation?
- Q.7 What do you mean by multicomputer ?
- Q.8 What is parallel processing?
- Q.9 What is a register?
- Q.10 What is auxiliary memory?

PART-B

[5×4=20]

(Analytical/Problem solving questions)

Attempt any five questions

- Q.1 Design a 4×3 RAM.
- Q.2 Explain set-associative mapping with a suitable example.
- Q.3 Design a 4×3 ROM for a table of contents of your choice.
- Q.4. Write 4 logic micro-operations.
- Q.5 Explain memory hierarchy.
- Q.6 Explain serial communication with an example.
- Q.7 Explain arithmetic pipeline with an example.

(Descriptive/Analytical/Problem Solving/Design question)

Attempt any three questions

- Q.1 Explain DMA with suitable example.
- Q.2 Show the steps of Booth's algorithm for $8 \times (-8)$.
- Q.3 Describe Flynn's taxonomy.
- Q.4 Explain the design of a vector processor.
- Q.5 Explain cache coherence with a suitable example.

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