

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.C.A. - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - IV

24UACT4006 - Computer Architecture

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Discuss features, advantages and disadvantages of ARM processor.
2. Explain classes of hazards that degrades performance of pipelining.
3. What is an addressing mode? What is the need for addressing in a system?
4. Convert binary 1010 into the Gray code and draw logic diagram to implement conversion.
5. Describe in detail about Bus structure in Computer Architecture.
6. Write a program to evaluate the arithmetic expression $X=(A-B)*(((C-D*E)/F)/G)$.
7. Distinguish between strobed I/O & interrupt driven data transfer modes.
8. Distinguish DRAM and SRAM. State need for refresh logic in DRAMs.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Draw functional units of computer and illustrate connections between processor and memory.
10. Compare and contrast RISC & CISC.
11. Assume you are developing real time Image processing system for security camera N/W. Would you recommend SISD or SIMD? Justify your recommendation describing advantages and disadvantages of both.
12. Explain DMA & Serial communication and the need for it with respect to interrupts.
13. Compare and contrast Virtual and Cache memory.
