

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.

BCA. END SEMESTER EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20UCACT3005 - Computer Architecture

<b>Total Duration : 3 Hrs</b>	<b>Total Marks : 75</b>
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

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

1. Illustrate the Block diagram, Boolean function and function table of a 4x1 Multiplexer.
2. Describe the micro programmed control unit of a basic computer with necessary block diagrams.
3. Explain the working of four segment instruction pipeline with suitable diagram.
4. List out the advantages and disadvantages of Asynchronous data transfer.
5. Illustrate the basic operation of the cache memory.
6. Sketch the block diagram of 2-to-4 line decoder with NAND gates with truth table.
7. Explain about any 5 registers briefly.
8. Sketch the block diagrams of SISD, SIMD, MISD, MIMD.

Section C

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

9. Illustrate the Octal-to-Binary encoder with block diagram, circuit diagram and truth table.
10. Describe about RISC architecture, its features, advantages and disadvantages.
11. Explain about pipelining with suitable diagram.
12. Explain the demand paging process in Virtual memory.
13. Discuss about Asynchronous data transfer with suitable diagram.