

Roll No. ....

**Y – 3639**

**B.C.A. (Fourth Semester) EXAMINATION, May/June-2021**

Paper – 402

**ADVANCED COMPUTER ARCHITECTURE**

*Time : Three Hours*

*Maximum Marks : 80*

*Minimum Pass Marks : 32*

**Note**—Attempt *all* questions.

**Unit-I**

1. (a) Giving a suitable interconnected block diagram, explain how a program is executed in a Digital computer. 8
- (b) Giving suitable timing diagrams, explain the working principle of fetch and execution cycles. Mention their application. 8

**Unit-II**

2. (a) What are different types of memory system used in computer ? List them. Explain in detail the requirement and characteristics of computer memory system. 8
- (b) Discuss chip packaging error correction in detail. Give neat diagrams. 8

**Unit-III**

3. (a) What do you understand by internal memory and external memory ? Giving suitable examples, explain the difference between them. Giving neat diagram, explain how magnetic disk is organized in computer. 8
- (b) What is RAID ? Giving neat diagram, discuss RAID's levels in respect to their advantages and limitations. 8

**Unit-IV**

4. Write detailed notes on any *two*, giving neat diagrams : 16
  - (i) CD-ROM.
  - (ii) VROM.
  - (iii) Optical memory.
  - (iv) RAID.
  - (v) External memory.

**Unit-V**

5. Write detailed notes on any *two* of the following— 16
  - (i) I/O interrupt Controller.
  - (ii) DMA.
  - (iii) Programmed I/O.
  - (iv) I/O Module.
  - (v) Design issues of an Interrupt.

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