FD-326

M.Sc. 1st Semester
Examination, Dec.-Jan., 2021-22

COMPUTER SCIENCE

Paper - V

Computer System Architecture

Time : Three Hours] [*Maximum Marks* : 100
[*Minimum Pass Marks* : 40

Note : Answer any **two** parts from each question. All questions carry equal marks.

Unit-I

1. (*a*) What are combinational and sequential blocks ? Explain multiplexers and decoders.

(*b*) What do you mean by number system ? Explain Binary, Octal and Hexadecimal number system in brief.

(*c*) Explain the following terms :

(*i*) Flip-flops

(*ii*) ASCII code

(*iii*) ALU

(*iv*) RAM

Unit-II

2. (*a*) Explain the concept of buses and registers in brief.

(*b*) Explain the various logical and arithmetic operations along with register timing.

(*c*) Write short notes on the following :

(*i*) Block diagram of a microprocessor

(*ii*) CPU organization

Unit-III

3. (*a*) What is instruction code ? Explain the execution of instruction in detail.

(*b*) What is Interrupt ? Explain the interrupt cycle with suitable flow chart in brief.

(*c*) Write short notes on the following :

(*i*) Timing and control

(*ii*) Design of computer

Unit-IV

4. (*a*) What is Instruction format ? Why is it used ? Explain the various types of addressing mode with example.

(*b*) Explain assembly language and assembler in detail.

(*c*) Explain data transfer and manipulation in brief.

Unit-V

5. (*a*) What do you mean by asynchronous data transfer ? Explain in brief.

(*b*) Explain virtual memory and cache memory in brief.

(*c*) Write short notes on any **two** of the following :

(*i*) Input-output processor

(*ii*) DMA

(*iii*) Auxiliary memory

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