Tribhuwan University

Institute of Science and Technology

Computer Architecture

2070

Group A

Attempt any two questions :   (2*10=20)

1.) What is input-output processor (IOP)? Why IOP is needed in Computer System? Explain.
2.) Explain the DMA controller with block diagram. How the DMA interacts with I/O device? Explain.
3.) What in the general model of Microprogram Control Unit? Explain the major steps when you designing of microprogram control unit.

Group B

Attempt any ten questions :   (10*6=60)

4.) What is an error detection code? Explain with example.
5.) Design the binary adder-subtractor with example.
6.) Write down the code to evaluate
   y=A(B/C-D)+E for one,two and three instruction format.

7.) Mention the different types of data transfer instructions and explain with example.
8.) What are the different types of I/O techniques ? Explain.
9.) Whar are the typical characteristics of RISC instruction set architecture? Explain.
10.)Show the steps of multiplication process using Broth algorithm of the following binary numbers : Y=8*10.
11.)What are the difference between I/O bus and interface modules? Explain.
12.)Differentiate between input-output processor (IOP) and direct memory access (DMA).
13.)Whar are the key characteristics of computer memory system? Explain.
14.)What is the main role of memory management hardware? Explain.
15.)Write short notes on the following :
   a.) Memory Protection
   b.) Address Mapping