2017

COMPUTER SCIENCE & TECHNOLOGY

PAPER : CSIT-3.3

ADVANCED COMPUTER ORGANIZATION AND ARCHITECTURE

FULL MARKS: 80 Time : 3 hours

{ The figures in the margin indicate full marks for the question.}

1. What is instruction set design? Find out $-17)_{10}=?)_2$ 2+ 2=4
2. How is instruction format? Write the difference between register direct addressing and register indirect addressing mode. 2+4=6
3. Define rounding. Give the logical structure and expression for output of full adder. 1+4=5
4. Describe about booth's algorithm with flow chart and an example. 5

   Or

   Describe about the division of integer with an example.
5. What are the difference between serial adder and parallel adder? 3
6. Consider floating point numbers are 0.3×10^2 and 0.2×10^3 find the multiplication of these two numbers. 2
7. Briefly describe about addition and subtraction of floating point arithmetic. 5
8. Give one example of symbol arrow ($\rightarrow$) of register transfer language? Write the difference between two bus and three bus system. 1+3=4
9. How CU is different from MCU? Describe about MCU. 1+5=6
10. Define computer system? Write the classifications of memory. 1+3=4
11. Define page and frame number. Explain about the paging technique. 2+4=6

    Or

    Define write policy. Write about page replacement policy.
12. What is the difference between physical memory and virtual memory? 2
13. Define cache line. Write the difference between cache miss and cache hit. 1+2=3
14. How I/O bus connected to I/O devices and show it with a diagram? 4
15. Explain about DMA controller. 6

    Or

    Explain about DMA transfer.
16. Define pipeline processor. Explain about instruction pipelining.

    Or

    Explain about vector processor. 1+5=6
17. Describe about the pipelining. 6
18. What is data dependency? 3

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