

B.E./B.TECH. DEGREE EXAMINATIONS: NOV/DEC 2010

Third Semester

CSE105: COMPUTER ARCHITECTURE

(Common to Computer Science & Engineering and Information Technology)

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. The most widely used binary codes for expressing alphanumeric characters are _____.
 - a. ASCII & EBCDIC
 - b. ASCII & BCD
 - c. UNICODE & EBCDIC
 - d. BCD & UNICODE
2. RISC stands for
 - a. Recursive Instruction Set Computer.
 - b. Recursive Instruction Sequence computer
 - c. Reduced Instruction Set Computer.
 - d. Reduced Instruction Sequence Computer
3. Cascaded connection of n full adder blocks used to add two n-bit numbers, this configuration is called.
 - a. n-bit ripple-carry adder
 - b. n-bit ripple up counter
 - c. Sequential full adder
 - d. Sequential adder
4. _____ halves the maximum number of summands in fast multiplication.
 - a. Carry-save addition of summands
 - b. Micro instruction sequence
 - c. Booth algorithm
 - d. bit-pair recording
5. The processing unit, which executes machine instructions and coordinates the activities of other units is called as.
 - a. ISP
 - b. CU
 - c. CPU
 - d. ALU
6. The VGA resolution is _____.
 - a. 1024 X 768
 - b. 1600 X 1200
 - c. 640 X 480
 - d. 800 X 600
7. DDR SDRAM stands for_____.
 - a. Digital Data Recorder SDRAM
 - b. Digital Direct Recorder SDRAM
 - c. Double Data Rate SDRAM
 - d. Double Direct Rate SDRAM
8. The disk and read/write heads are placed in a sealed, air-filtered enclosure. This technology is known as _____.
 - a. Winchester Technology
 - b. Manchester Technology
 - c. Self-clocking technology
 - d. Nano Technology
9. When I/O devices and the memory share the same address space, the arrangement is called _____.
 - a. Direct mapping
 - b. Memory-mapped I/O
 - c. I/O mapped I/O
 - d. Indirect mapping
10. DMA controller may be given exclusive access to the main memory to transfer a block of data without interruption. This is know as _____.
 - a. Cycle stealing
 - b. Direct mode
 - c. Indirect mode
 - d. Burst mode

PART B (10 x 2 = 20 Marks)

11. List the registers that generally contained in a processor.
12. What is Big-endian and Little-endian formats?
13. What are the two techniques for fast multiplication?
14. What is Guard Bits?

15. What is the use of MDR and MAR?
16. What are Superscalar processors?
17. Compare flash devices with EEPROM
18. What is dirty bit?
19. What is DMA?
20. List any two functions of I/O interface.

PART C (5 x 14 = 70 Marks)

21. a) (i) With a neat block diagram explain the basic functional units of a computer. (9)
(ii) Write a note on the roles of system software. (5)
(OR)
b) What is addressing mode? Explain the generic addressing modes with suitable examples.
22. a) (i) Draw and explain the 4 bit Carry lookahead adder. (7)
(ii) Explain Booth Algorithm with an example. (7)
(OR)
b) (i) Write about IEEE standard for Floating-Point Numbers. (7)
(ii) Write a note on Integer division using Restoring – division method with an example. (7)
23. a) Discuss in detail about Microprogrammed control. (7)
(OR)
b) What is a Hazard in Pipelining? Explain Data Hazards. (7)
24. a) (i) Write a note on Synchronous DRAM. (7)
(ii) Explain the mapping function in Cache memory. (7)
(OR)
b) Explain the address translation mechanism in virtual memory. (7)
25. a) What is an interrupt? Write in detail about it. (7)
(OR)
b) Explain in detail about any two Standard I/O Interfaces. (7)
