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Reg. No. : | | | | | | | | | | |

Question Paper Code: 53203

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

Third Semester

Computer Science Engineering

15UCS303 - COMPUTER ORGANIZATION AND ARCHITECTURE

(Common to Information Technology)

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

PART A - (5x 1 = 5 Marks)

Answer All Questions

1. The smallest entity of memory is called as CO1- R

(a) Cell (b) Block (c) Instance (d) Unit

2. _____is a fast memory that operates at electronic speed. CO2- U

(a) Main Memory (b) Cache (c) Primary Storage (d) Secondary Storage

3. Operands of an instruction are not available at the time expected in the pipeline and as a result pipeline is stalled is called CO3- R

(a) Hazards (b) Structural Hazards

(c) Data Hazards (d) Control Hazards

4. The time lost due to branch instruction is often referred to a CO4- R

(a) Latency (b) Delay (c) Branch penalty (d) None of these

5. The device that is allowed to initiate data transfer on the bus at any given time is called CO5- R

(a) Interface (b) Bus Master (c) DMA (d) Interrupt

PART – B (5 x 3= 15Marks)

6.		What is meant by multiprogramming?	CO1- U	
7.		What are the various types of operations required for instructions?	CO2- U	
8.		What is pipelining?	CO3- U	
9.		What is virtual memory and MMU?	CO4- U	
10.		Define Interrupt?	CO5- U	

PART – C (5 x 16= 80Marks)

11.	(a)	Explain different types of instructions with examples. Compare their relative merits and demerits.	CO1-U	(16)
		Or		
	(b)	Describe different types of addressing modes in detail with example?	CO1 -U	(16)
12.	(a)	Explain the various basic instruction operation and instruction sequencing with example?	CO2 -U	(16)
		Or		
	(b)	Explain Instruction set architecture (ISA) in detail?	CO2 -U	(16)
13.	(a)	Describe the IEEE standards for single and double precision floating point numbers.	CO3- U	(16)
		Or		
	(b)	How floating point addition is implemented. Explain briefly in neat diagram?	CO3- U	(16)
14.	(a)	Explain the Superscalar operation and explain the execution steps in detail? the performance when the set is stored in sequential list.	CO4-U	(16)
		Or		
	(b)	What is a data hazard? Explain the methods for dealing with the data hazards	CO4 -U	(16)

15. (a) Explain in detail about virtual memory. CO5- U (16)

Or

(b) What is bus arbitration? Explain any two types of bus arbitration? CO5- U (16)

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