



End Semester Examination – Nov/Dec – 2016

Code : **14CS3003**
Sub. Name : **Advanced Computer Architecture**

Semester : **2016-17 ODD**
Duration : **3hrs**
Max. marks : **100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks																												
1.		State Amdahl’s law and how will you measure the overall performance of CPU using Amdahl’s law?	CO2	20																												
(OR)																																
2.		Discuss the different types of addressing modes with neat sketch.	CO2	20																												
3.		What is structural hazard? Explain the technique to avoid structural hazard in a 5 stage pipeline.	CO3	20																												
(OR)																																
4.		What is data hazard? Explain the technique to avoid data hazard in a 5 stage pipeline.	CO3	20																												
5.		Compare and contrast SISD , SIMD, MISD and MIMD	CO1																													
(OR)																																
6.		Compare UMA, NUMA and COMA with a neat sketch	CO1	20																												
7.		Explain the concept of dynamic scheduling in Tomasulo’s approach with a neat diagram.	CO2	20																												
(OR)																																
8.		Discuss the role of reservation station duties in Tomasulo’s approach for the following instruction <table border="1"><tr><td colspan="2">Instruction</td><td>j</td><td>k</td></tr><tr><td>LD</td><td>F6</td><td>34+</td><td>R2</td></tr><tr><td>LD</td><td>F2</td><td>45+</td><td>R3</td></tr><tr><td>MULTD</td><td>F0</td><td>F2</td><td>F4</td></tr><tr><td>SUBD</td><td>F8</td><td>F6</td><td>F2</td></tr><tr><td>DIVD</td><td>F10</td><td>F0</td><td>F6</td></tr><tr><td>ADDD</td><td>F6</td><td>F8</td><td>F2</td></tr></table>	Instruction		j	k	LD	F6	34+	R2	LD	F2	45+	R3	MULTD	F0	F2	F4	SUBD	F8	F6	F2	DIVD	F10	F0	F6	ADDD	F6	F8	F2	CO1	20
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<u>Compulsory:</u>																																
9.	a.	Describe the memory hierarchy with neat sketch.	CO1	10																												
	b.	Compare and contrast set associative mapping and associative mapping.	CO1	10																												

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