DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Instructor : **Jayasree C.V**

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Course name : **R 402 Computer Organization**
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Objective of the course : **Provides a basic understanding of how computers do what they do**

LECTURE SCHEDULE

Unit No.	Topics to be covered	No. of hours	Schedule	
			From	To
1	Organization and Architecture – Review of basic operational concepts	2	29/12/08	30/12/08
	CPU- single bus and two bus organization,	2	12/01/09	13/1/09
	Execution of a complete instruction	3	14/1/09	16/1/09
	interconnection structures – layered view of a computer system.	2	19/2/09	20/1/09
2	CPU - Arithmetic: Signed addition and subtraction	2	20/1/09	21/1/09
	serial and parallel adder – BCD adder – Carry look ahead adder,	3	22/1/09	27/1/09
	Multiplication – Array multiplier – Booth's Algorithm,	3	28/1/09	31/1/09
	Division – Restoring and non-restoring division, floating point arithmetic - ALU Design.	4	01/02/09	07/02/09
3	Processor Logic Design – Processor Organization	3	09/02/09	11/02/09
	Control Logic Design – Control Organization –	2	12/02/09	13/2/09
	Hardwared control – Microprogram control	2	16/2/09	17/2/09
	LA control – Microprogram sequencer, Horizontal and vertical micro instructions – Nano instructions.	5	18/2/09	24/2/09
4	Memory: Memory hierarchy – RAM and ROM	2	25/2/09	26/2/09
	Memory system considerations – Associative memory, Virtual memory	3	27/2/09	06/03/09
	Cache memory – Memory interleaving.	2	07/03/09	09/03/09
5	Input – Output: Printers, Plotters, Displays	2	10/03/09	11/03/09
	Keyboard, Mouse, OMR and OCR,	2	12/03/09	13/3/09
	Device interface – I/O processor –	2	16/3/09	17/3/09
	Standard I/O interfaces – RS 232 C, IEEE 488.2 (GPIB).	3	18/3/09	20/3/09

CLASS NOTES PREPARATION PLAN

Unit No.	Topic	Text Book	Page No.
1	introduction: Organization and Architecture – Review of basic operational concepts – CPU- single bus and two bus organization, Execution of a complete instruction – interconnection structures – layered view of a computer system.	T1,T2	2-6 7,9,421-422,267
2	CPU - Arithmetic: Signed addition and subtraction – serial and parallel adder – BCD adder – Carry look ahead adder, Multiplication – Array multiplier – Booth's Algorithm, Division – Restoring and non-restoring division, floating point arithmetic - ALU Design.	T1	367-400
3	Control Unit Organization: Processor Logic Design – Processor Organization – Control Logic Design – Control Organization – Hardwared control – Microprogram control – PLA control – Microprogram sequencer, Horizontal and vertical micro instructions – Nano instructions.	T1	425-429
4	Memory: Memory hierarchy – RAM and ROM – Memory system considerations – Associative memory, Virtual memory – Cache memory – Memory interleaving.	T1	291-311,314,337
5	nput – Output: Printers, Plotters, Displays, Keyboard, Mouse, OMR and OCR, Device interface – I/O processor – Standard I/O interfaces – RS 232 C, IEEE 488.2 (GPIB).	T1	553-560

Name of the text Books:

T1:Computer Organization: V. Hamacher-Mc Graw Hill

T2:Digital computer design: Rajaraman

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KERALA

Course name : **R403-Object Oriented Programming**

Objective of the course :

1) **This course explains in a simple and easy to understand way how object oriented programming is done using C++ .**

2) Since the future language is object oriented language ,this course is for programmers who are familiar with C language to know more object oriented language through C++ .

LECTURE SCHEDULE

Unit No.	Topics to be covered	No. of hours	Schedule	
			From	To
1	Inroduction to OOP,Evolution of object oriented languages	1	29/12/08	29/12/08
1	Need of objects,Definition of object oriented language	1	30/12/08`	30/12/08
1	Classes and objects	1	31/12/08	31/12/08
1	Creating classes & using classes & objects	2	1/1/09	5/1/09
1	Member functions & variables	1	6/1/09	6/1/09
1	Tutorial on class& object	1	8/1/09	8/1/09
1	Member functions & variables	2	12/1/09	13/1/09
1	Constructors	1	14/1/09	14/1/09
1	Tutorial on member functions & variables	1	15/1/09	15/1/09
1	Destructors	1	19/1/09	19/1/09
2	Inheritance & access control	1	20/1/09	20/1/09
2	Member access control in classes	1	21/1/09	21/1/09
	Assignment (1)	1	22/1/09	22/1/09
2	Friend functions& classes	1	27/1/09	27/1/09
2	Extending classes(public,private & protected)	2	28/1/09	29/1/09
	Internal Examination(1)	3days	2/2/09	4/2/09
2	Tutorial of member access control in classes	1	5/2/09	5/2/09
2	Classification of inheritance (Multiple, Multilevel,Hybrid, Hierarchical)	2	9/2/09	10/2/09
3	Polymorphism-runtime & compile time	2	11/2/09	12/2/09
3	Overloading functions &operators	3	16/2/09	18/2/09
3	Tutorial on overloading functions & operators	1	19/2/09	19/2/09
3	Selecting friend member function for operator overloading	2	24/2/09	25/2/09
	Assignment (2)	1	26/2/09	26/2/09
	Internal Examination (2)	3 days	2/3/09	4/3/09

3	Virtual function,Pure virtual function	2	5/3/09	10/3/09
3	Abstract class	1	11/3/09	11/3/09
3	Tutorial on runtime polymorphism through virtual function	1	12/3/09	12/3/09
4	Virtual base class	1	16/3/09	16/3/09
4	Template classes	2	17/3/09	18/3/09
4	Virtual destructors	1	19/3/09	19/3/09
5	Dynamic objects	1	23/3/09	23/3/09
5	Dynamic object allocation	1	24/3/09	24/3/09
5	Java-object oriented features in Java,Comparison with C++	2	25/3/09	26/3/09
	Model examination	6 days	2/4/09	8/4/09

CLASS NOTES PREPARATION PLAN

Unit No.	Topic	Text Book	Page No.
1	Module1:Introduction to OOP-Constructors & Destructors	T1	1-147
2	Inheritance & access control	T1	176-215
3	Polymorphism (compile time,runtime),operator overloading,function overloading	T1	222-241
4	Namespaces,Templates	T1	307-322
5	Dynamic objects	T1	103

Name of the text Books:

T1:Object Oriented Programming with C++ by E . Balagurusamy (second edition)

Tata McGraw Hill

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Course Instructor : **Anju Rebecca Thomas**

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Staff room location: **Staff Room 1**

Course name : **R404 - INTEGRATED CIRCUITS**

Objective of the course :

LECTURE SCHEDULE

Unit No.	Topics to be covered	No. of hours	Schedule	
			From	To
1	Logic Families – Propagation delay, power dissipation, noise margin window profile, Fan in, Fan out.	2	11/2/09	13/2/09
	DTL, TTL, Tri state logic, ECL, I^2L & CMOS. Comparison of circuits.	4	16/2/09	25/2/09
2	Storage elements- Flip flops, Latches, Registers.	2	27/2/09	6/3/09
	Decoders, Multiplexers, Buffers	3	9/3/09	13/3/09
	Memory Systems – ROM types, RAM – BJT RAM cells, MOS RAMs, RAM organization, flash memories, PLA, PAL, PGA, FPGA, PLD, CPLD, CDROM, magneto optic storage	4	16/3/09	23/3/09
3	D/A converters – Binary weighted resistor type, Ladder type A/D converter, counting type, Successive Approximation type, Parallel comparator type, dual slope type.	4	25/3/09	1/4/09
4	Op amps : Characteristics, Basic principles, definitions, Ideal Op amp, Inverting and non inverting op amps	3	9/1/09	14/1/09
	Parameters- Input offset voltage, Input bias current, CMRR, slew rate.	3	16/1/09	21/1/09
5	Op amp applications: Summing, Comparator, Differentiator, Integrator	3	23/1/09	30/1/09
	Square wave generator, Triangular wave generator	2	6/2/09	9/2/09

CLASS NOTES PREPARATION PLAN

Unit No.	Topic	Text Book	Page No.
1	Logic Familes	T1	
2	Storage elements	T2	
3	D/A & A/D Converters		
4	Op Amps		
5	Op Amp applications		

Name of the text Books:

T1: Integrated Circuits, Botkar, Khanna Publishers

T2: Digital integrated Electronics, Taub & Shilling, McGraw Hill**.**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Instructor : **SMITHA SURESH**

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Staff room location: **Staff room no. ……**

Course name : **DATA STRUCTURES R405**

Objective of the course : **IT DEALS WITH THE DETAILED STUDY OF DATA ORGANIZATION, DATA RETRIEVAL AND DATA MANIPULATION**

LECTURE SCHEDULE (R4 A)

Unit No.	Topics to be covered	No. of hours	Schedule	
			From	To
2	Introduction	1	29/12/2008	29/12/2008
	Study of Basic Data Structures	1	8/01/09	8/01/09
	Arrays, Structures	1	9/01/09	9/01/09
	Stacks	1	12/01/09	12/01/09
	Queues	1	13/01/09	13/01/09
	Circular Queues	1	14/01/09	14/01/09
	Deque	1	15/01/09	15/01/09
	Priority Queue	1	16/01/09	16/01/09
	Evaluation of Expression	2	17/01/09	20/01/09
	Polynomial Representation Using Array	2	21/01/09	22/01/09
	Sparse Matrix	1	23/01/09	23/01/09
3		2	27/01/09	28/01/09

	Linked List			
	Linked stack	1	29/01/09	29/01/09
	Linked Queue	1	30/01/09	30/01/09
	Doubly linked list	2	5/02/09	6/02/09
	Polynomial representation using linked list	2	9/02/09	10/02/09
	Strings	1	11/02/09	11/02/09
	Data representation	1	12/02/09	12/02/09
	Pattern matching	1	13/02/09	13/02/09
4	Trees	2	16/02/09	17/02/09
	Binary trees	2	18/02/09	19/02/09
	Tree traversal	2	20/02/09	24/02/09
	Graphs	2	25/02/09	26/02/09
	DFS &BFS	3	27/02/09	06/03/09
5	Selection Sort	1	10/03/09	10/03/09
	Bubble sort	1	11/03/09	11/03/09
	Insertion sort	1	12/03/09	12/03/09
	Merge sort	1	13/03/09	13/03/09
	Quick sort	1	16/03/09	16/03/09
	Heap sort	1	17/03/09	17/03/09
	Radix sort	1	18/03/09	18/03/09
	External sorting methods	1	19/03/09	19/03/09
1	Principles of programming	1	20/03/09	20/03/09
	System Life Cycle	1	23/03/09	23/03/09
	Algorithm Specification	1	24/03/09	24/03/09
	Recursive Algorithm	1	25/03/09	25/03/09
	Documentation	1	26/03/09	26/03/09
	Performance analysis and Measurements	1	27/03/09	27/03/09
	Time and space complexity	1	30/03/09	30/03/09
	Complexity calculation of Simple Algorithm	1	31/03/09	31/03/09

Course Instructor : **Sudev t r**

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Staff room location: **Lab 8 (CAD Lab)**

Course name : **R - 406 Advanced Microprocessors and Peripherals**

Objective of the course : **To teach the generation and the concepts evolving in each of the processors starting from the 8085 up to the modern processors of Pentium and AMD.To make the students aware of how to get programmed using 8086.**

LECTURE SCHEDULE

Unit No.	Topics to be covered	No. of hours	Schedule	
			From	To
1	Introduction talk about microprocessors Discussion of the 8085 processor(only the review)	1	30/12/08	30/12/08
	Interfacing , the interfacing IC 8255 block Diagram and explanations.	2	31/12/08	1/01/09
	The interfacing IC 8251 block diagram and explanations	3	02/01/09	06/01/09
	The interfacing IC 8279	3	08/01/09	13/01/09
	The interfacing IC 8253	2	14/01/09	15/01/09
2	Interfacing keyboard with 8085	2	16/01/09	17/01/09
	Interfacing seven seg display	2	20/01/09	21/01/09
	Interfacing D/A converter	1	22/01/09	22/01/09
	Interfacing A/D converter	1	23/1/09	23/1/09
	Revision and difference between microprocessor and microcontroller	1	27/1/09	27/1/09
3	The 8086 processor block diagram and explanation	2	28/1/09	29/1/09
	The 8088 processor block diagram and explanation and the difference between the two	1	30/1/09	30/1/09
	Addressing modes	3	05/02/09	07/02/09
4	Instruction sets of 8086	4	10/02/09	13/02/09
	Programming using these instructions	2	17/02/09	18/02/09
	Introduction to 80286 Additional features of 80286	3	19/02/09	21/02/09
5	Introduction to 80386 additional features	3	24/02/09	26/02/09
	Interfacing co processor with 80386	2	05/03/09	06/03/09
	Additional features of Pentium processor	1	7/03/09	7/03/09
	Brief study of latest processors	2	10/03/09	11/03/09
	Introduction if RISC processors	1	12/03/09	12/03/09

NOTES

The collective crux from the different books specified in the reference

References:

RAMESH GAONKAR,A K RAY,NAGOOR KHANI,B RAM,BARY B BRAY.