TECNIA INSTITUTE OF ADVANCED STUDIES

GRADE 'A' INSTITUTE

Department of Information Communication & Technology

COURSE PLAN

ACADEMIC SESSION 2024-25

As per Scheme of Examination & Syllabi for Bachelor of Computer Application Scheme & Syllabus (w.e.f Academic Session 2021-2022 onwards); Guru Gobind Singh Indraprastha University, New Delhi.

PROGRAMME CODE :	020	PROGRAMME :	Bachelor of Computer Applications (BCA)		SHIFT:	1st		L	3	T/P	1	Credits	4
COURSE CODE :	BCA-203	COURSE NAME:	Computer Organization and Architecture		SECTION:	A							
		COURSE TYPE:	Core Course Theory (CCT)	FACULTY:	Dr. Rajesh Kumar								

LEARNING OBJECTIVES: The paper aims to understand the importance, limitations and challenges of processes involved in software development. In this course, the learners will be able to develop expertise related to the following:

1. To gain knowledge of various software models.

2. To gain knowledge of various software design activities.

3. To learn cost estimation, software testing, Maintenance and debugging

PREREQUISITE: Fundamentals of Computer

COURSE OUTCOME & MAPPING, COURSE ARTICULATION

		COMMUNICATION SKILLS : The student should be able to communicate the technical information both orally and in writing professionally.	USE OF SOFTWARE TOOLS : Create, select, adapt and apply suitable tools and technologies to a wide range of computational activities.	TECHNICAL SKILLS : Acquire necessary knowledge of technical, scientific as well as basic managerial and financial procedures to analyze and solve real world problems within their work domain	DOMAIN AWARENESS : Clarity on both conceptual and application oriented skills in commerce, Finance & Accounting and It Applications in Business context.	TECHNICAL SUPPORT : Must be able to provide technical support for various software applications	ANALYSIS AND INVESTIGATION OF COMPLEX COMPUTING PROBLEMS : Ability to analyze research and investigate complex computing problems through design of experiments, analysis and interpretation of data and synthesis of the information to arrive at valid conclusions.	DESIGN / DEVELOPMENT OF SOLUTIONS : Apply the knowledge gained in core courses to a broad range of advanced topics in computer science, to learn and develop sophisticated technical products independently.	IMBIBE CYBER ETHICS : Awareness on ethics, values, sustainability and creativity aspects of technical solutions.		
		COMMUNICATION SKILLS	USE OF SOFTWARE TOOLS	TECHNICAL SKILLS	DOMAIN AWARENESS	TECHNICAL SUPPORT	ANALYSIS AND INVESTIGATION OF COMPLEX COMPUTING PROBLEMS	DESIGN / DEVELOPMENT OF SOLUTIONS	IMBIBE CYBER ETHICS		
	CO - PO MAPPING	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8		
CO1	Able to understand the fundamentals of digital principles and able to design digital circuits by simplifying the Boolean functions	3	2	2	2	2	2	2	1		
CO2	Implement the combinational and sequential circuits for the given specifications	2	3	2	1	2	2	2	1		
CO3	Able to trace the execution sequence of an instruction through the processor	2	1	2	2	1	2	2	2		
CO4	Demonstrate computer architecture concepts related to design of modern processors, memories and I/Os.	1	2	2	1	2	2	1	1		
CO5	Demonstrate the ability to classify the addressing modes, instructions set	0	1	2	2	2	2	2	1		
	Course Articulation (Average)	1.6	1.8	2	1.6	1.8	2.0	1.8	1.2		

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S. No.	Lecture No.	Unit No	Topic	Sessional Outcome	Experiential Learning	Participative Learning	Problem Solving Methodologies	ICT Tools & E-Resource Utilization	Mapping with CO	Class Material (PPT Faculty+Students)	Additional Material (Links/ Journals/ Articles/ NEWS)	Mode of Assessment	Status
1	L1	1	Boolean Algebra & Logic	Student Would Be Able To Understand The Concept Of Boolean Algebra	Student teaching	Lecture Through PPT	Analysis of the Problem	https://www.youtube.com/watch?v=VdqRkp00frE&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74	CO5	PPT	https://www.youtube.com/watch?v=kTdvOIA2ko0	PPT (CIA)	
2	L2	1	Basic Laws of Boolean Algebra	Student Would Be Able To Understand The Basic Laws Of Boolean Algebra	Student teaching	Lecture Through PPT		https://www.youtube.com/watch?v=K3W2_EYnyaA&list=PLftJ4X48yC1n	CO1	PPT	https://www.youtube.com/watch?v=KEJdEZiJxXo	PPT (CIA)	
3	L3	1	Logic Gates	Students Would Able To Learn Logic Gates	Demonstration	Lecture Through PPT	Case study	https://www.youtube.com/watch?v=YwzgXnAQdNU&list=PLftJ4X48yC1n	CO1, CO4	PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	PPT (CIA)	
4	T1	1	Boolean Algebra, Basic Laws and Logic Gates (Tutorial 1,2 & 3)	Student Will Understand Boolean Algebra & Logic Gates	Evaluation and Optimization	Discussion/ Doubt Clearing session	Analysis of the Problem	https://www.youtube.com/watch?v=YwzgXnAQdNU&list=PLftJ4X48yC1n	CO3, CO4	Notes & PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	PPT (CIA)	
5	L4	1	Simplifications of Boolean Equations using K-maps	Understand The Concept Of K Maps	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=mSIJO78dzPI&list=PLftJ4X48yC1nR	CO4	PPT	https://www.youtube.com/watch?v=h8PAobI4xUk	PPT (CIA)	
6	L5	1	Simplifications of Boolean Equations using SOP	Understand The Concept Of Sop & Pos	Hands-on Design	Lecture Through PPT	Design Approaches	https://www.youtube.com/watch?v=U96m9b6SzfQ&list=PLftJ4X48yC1n	CO4	Notes & PPT	https://www.youtube.com/watch?v=qw05VJh_f-W	Flipped Classroom	
7	L6	1	Simplifications of Boolean Equations using POS	Understand The Concept Of Sop & Pos	Evaluation and Optimization	Lecture Through PPT		https://www.youtube.com/watch?v=U96m9b6SzfQ&list=PLftJ4X48yC1n	CO4	Notes & PPT	https://www.youtube.com/watch?v=qw05VJh_f-W	Question from Assignment	
8	T2	1	Simplification (Tutorial 4,5 & 6)	Student Will Understand Simplification	Hands-on Design	Discussion/ Doubt Clearing session	Design Review and Refinement	https://www.youtube.com/watch?v=U96m9b6SzfQ&list=PLftJ4X48yC1n	CO1, CO4	Notes & PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	Group Discussion	
9	L7	1	Simplifications of Boolean Equations using Don't Care condition	Understand The Terms Don'T Care Conditions	Simulation and Modeling	Group Discussion		https://www.youtube.com/watch?v=Aft2vPI9tkc&list=PLftJ4X48yC1nRU	CO4	PPT	https://www.youtube.com/watch?v=6-2qBShDHCo	Group Discussion	
10	L8	1	Arithmetic Circuits of Adder & Subtractor	Understand Arithmetic Circuits	Service learning	Lecture Through PPT	Design Review and Refinement	https://www.youtube.com/watch?v=LNLJGgsDjBk	CO5	PPT	https://www.youtube.com/watch?v=kGL7RE-KC_E	PPT (CIA)	
11	L9	1	Arithmetic Circuits of Parallel Binary adder/Subtractor	Understand Arithmetic Circuits	Service learning	Lecture Through PPT		https://www.youtube.com/watch?v=3MfyrwPjYk4&list=PLftJ4X48yC1nR	CO2	Notes & PPT	https://www.youtube.com/watch?v=PMSkW3Z8f4E	PPT (CIA)	
12	T3	1	Arithmetic Circuits (Tutorial : L7,L8 & L9)	Student Will Understand Arithmetic Circuits	Simulation and Modeling	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=3MfyrwPjYk4&list=PLftJ4X48yC1nR	CO2	Notes & PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	Group Discussion	
13	L10	1	Basics of Combinational Circuits	Understand Computational Circuits	Hands-on Design	Flipped Classroom	Design Review and Refinement	https://www.youtube.com/watch?v=O8yHtoqlq0Y&list=PLftJ4X48yC1nR	CO3	PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	PPT (CIA)	
14	L11	1	Multiplexers & De- Multiplexers	Understand Multiplexers & De- Multiplexers	Demonstration	Flipped Classroom	Reliability Testing	https://www.youtube.com/watch?v=O8yHtoqlq0Y&list=PLftJ4X48yC1nR	CO3	PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	Flipped Classroom	
15	L12	1	Decoders & Encoders	Understand Decoders & Encoders	Evaluation and Optimization	Lecture Through PPT	Evaluation and Analysis	https://www.youtube.com/watch?v=yvXZV2t-MK8&list=PLftJ4X48yC1	CO3	PPT	https://www.youtube.com/watch?v=W0hDfefSE1C	PPT (CIA)	
16	T4	1	Multiplexers & De- Multiplexers, Decoders & Encoders (Tutorial)	Student Will Understand Multiplexers & De- Multiplexers, Decoders & Encoders	Simulation and Modeling	Discussion/ Doubt Clearing session	Reliability Testing	https://www.youtube.com/watch?v=yvXZV2t-MK8&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=17	CO4	PPT	https://www.youtube.com/watch?v=h4prlQPOpNQ	Group Discussion	
17	L13	1	Flip-flops	Understand Flip Flops	Hands-on Design	Lecture Through PPT	Design Review and Refinement	https://www.youtube.com/watch?v=T10-9IJU5JQ&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=22	CO1, CO3	PPT	https://www.youtube.com/watch?v=T10-9IJU5JQ	Flipped Classroom	
18	L14	2	S-R	Learn The Concept Of S-R	Job shadowing	Lecture Through PPT	Evaluation and Analysis		CO1	PPT & Notes	https://www.youtube.com/watch?v=TWI19Uruijl	Mini Projects	
19	L15	2	D and J-K	Learn The Concept Of D, J-K	Demonstration	Flipped Classroom		https://www.youtube.com/watch?v=T10-9IJU5JQ&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=22	CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	VIVA	
20	T5	2	Flops, Flops, S-R, D & J-K (Tutorial : L13,L14,L15)	Flops, Flops, S-R, D & J-K	Hands-on Design	Discussion/ Doubt Clearing session	Reliability Testing		CO2	PPT	https://www.youtube.com/watch?v=T10-9IJU5JQ	Group Discussion	
21	L16	2	Clocked Flip - flop	Learn The Concept Of Clocked Flip Flop	Demonstration	Lecture Through PPT	Brainstorming	https://www.youtube.com/watch?v=T10-9IJU5JQ&list=PLftJ4X48y	CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	PPT (CIA)	

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#	ID	Hrs	Topic	Objective	Method	Pedagogy	Assessment	Link	CO	Resource	Link	Assessment
22	L17	2	Clocked Flip Flop	Understand Clocked Flip Flop	Simulation and Modeling	Flipped Classroom	Evaluation and Analysis	C1nRU3-6h0P3UrWoT-hznf74&index=22	CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	PPT(CIA)
23	L18	2	Race around Condition	Understand Race Around Condition	Evaluation and Optimization	Lecture Through PPT	Practical	https://www.youtube.com/watch?v=T10-9IJU5JQ&list=PLftJ4X48yC1nRU3-6h0P3QrWoT-hznf74&index=22	CO2	Notes & PPT	https://www.youtube.com/watch?v=T10-9IJU5JQ	PPT(CIA)
24	T6	2	T, Clocked Flip Flop, Race around Condition[Tutorial : L16,L17 & L1	Understand T, Clocked Flip Flop, Race Around Condition	Hands-on Design	Discussion/ Doubt Clearing session	Evaluation and Analysis		CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	Group Discussion
25	L19	2	Master Slave Flip Flop	Understand Master Slave Flip Flop	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=be9q_9Hcips&list=PLftJ4X48yC1nRU3-6h0P3QrWoT-hznf74&index=29	CO1	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	PPT(CIA)
26	L20	2	Realisation of one flip flop using other flip flop	Learn About Realisation Of Flip Flop	Hands-on Design	Lecture Through PPT	Evaluation and Analysis		CO3	PPT	https://www.youtube.com/watch?v=5t_BIROKkLW	PPT (CIA)
27	L21	3	Realisation of one flip flop using other flip flop	Learn About Realisation Of Flip Flop	Demonstration	Lecture Through PPT		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO3	Notes & PPT	https://www.youtube.com/watch?v=T10-9IJU5JQ	PPT(CIA)
28	T7	3	Master Slave Flip Flop and Realisation [Tutorial : L19,L20,L21]	Understand Masterslave Flip Flop & Realisation	Hands-on Design	Discussion/ Doubt Clearing session	Evaluation and Analysis	https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	Group Discussion
29	L22	3	Applications of Flip Flop, Latch,	Learn Applications Of Flip Flop, Latch	Simulation and Modeling	Flipped Classroom		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO3	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	Mini Projects
30	L23	3	Registers & Counters	Understand Registers & Counters	Hands-on Design	Flipped Classroom	Evaluation and Analysis	https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO1	Notes & PPT	https://www.youtube.com/watch?v=icFFxkg1p4o	Mini Projects
31	L24	3	Introduction of Data Transfer Operations	Learn The Concept Of Data Transfer Operations	Demonstration	Flipped Classroom		https://www.youtube.com/watch?v=duz8ouw0aow&list=PLftJ4X48yC1n	CO3	Notes & PPT	https://www.youtube.com/watch?v=T10-9IJU5JQ	Mini Projects
32	T8	3	Registers & counters, Data Transfer operations [Tutorial : L19,L20 &	Understand R & C, Dto	Hands-on Design	Discussion/ Doubt Clearing session	Evaluation and Analysis	https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	Group Discussion
33	L25	3	Register Transfer	Understand Register Transfer	Demonstration	Lecture Through PPT		https://www.youtube.com/watch?v=3p8kZpTS6IQ	CO3	PPT	https://www.youtube.com/watch?v=TWI19Uruijl	Mini Projects
34	L26	3	Bus Transfer	Understand Bus Transfer	Hands-on Design	Lecture Through PPT	Software Design Solutions	https://www.youtube.com/watch?v=5YurAgw70g0	CO2	Notes & PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	Mini Projects
35	L27	3	Memory Transfer	Understand Memory Transfer	Student teaching	Lecture Through PPT		https://www.youtube.com/watch?v=5YurAgw70g0	CO2	PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	Mini Projects
36	T9	3	Register, Bus & Memory Transfer [Tutorial : L25,L26,L27]	Learn The Concept Of Register, Bus & Memory Transfer	Simulation and Modeling	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	Group Discussion
37	L28	3	Registers Operations	Understand Register Operations	Evaluation and Optimization	Lecture Through PPT		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	Mini Projects
38	L29	3	Micro - Operations	Understand Micro Operations	Hands-on Design	Lecture Through PPT		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	VIVA and Presentation
39	L30	4	Basic Computer Organization and Design	Learn Computer Organizations	Demonstration	Lecture Through PPT	Brainstorming	https://www.youtube.com/watch?v=GFW9Fxf41Bc	CO2	PPT	https://www.youtube.com/watch?v=KBSCMTYaH1s	PPT(CIA)
40	T10	4	Register Operations, Micro Operations and computer organization	Understand Ro, Mo & Co	Hands-on Design	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf/mat	Group Discussion
41	L31	4	Instruction Codes Registers & Computer Register	Understand Code Registers And Computer Registers	Student teaching	Lecture Through PPT		https://www.youtube.com/watch?v=Sy1i3e-gJ9w	CO2	PPT	https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf/mat	PPT(CIA)
42	L32	4	Instruction Cycle	Understand The Concept Of Instruction Cycle	Hands-on Design	Lecture Through PPT		https://www.youtube.com/watch?v=WIv9MDx-8U4	CO2	Notes & PPT	https://www.youtube.com/watch?v=g0THMDrk_5Y	PPT(CIA)
43	L33	4	General Register Organization	Understand General Register	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	Notes & PPT	https://www.youtube.com/watch?v=D6JxtgcPmcM	Mini Projects

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44	T11		4	Registers, Instruction Cycle & General Register & Organization (Tut	Understand Registers, Instruction Cycle & General Register & Organization	Hands-on Design	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	PPT	https://www.youtube.com/watch?v=D6IxtqcPmcM	Group Discussion
45	L34		4	Stack Organization	Concept Of Stack Organization	Student teaching	Lecture Through PPT		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	CO2	Notes & PPT	https://www.youtube.com/watch?v=D6IxtqcPmcM	PPT(CIA)
46	L35		4	Instruction Formats	Understand Instruction Formats	Student teaching	Lecture Through PPT	Brainstorming	https://www.youtube.com/watch?v=zD-RTG41EI8&list=PLftJ4X4	CO2	PPT	https://www.youtube.com/watch?v=UNLthDzfn4o	VIVA
47	L36		4	Addressing Modes	Understand Instruction Formats	Student teaching	Lecture Through PPT	Practical	https://www.youtube.com/watch?v=zD-RTG41EI8&list=PLftJ4X4	CO2	PPT	https://www.youtube.com/watch?v=UNLthDzfn4o	PPT(CIA)
48	T12		4	Stack Organization, Instruction Formats & Addressing Models (Tut	Understand The Steps Of Formats & Models	Student teaching	Discussion/ Doubts Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	PPT	PPT	https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf:mat	Group Discussion
49	L37		4	Addressing Modes	Understand The Concept Of Addressing Models	Demonstration	Lecture Through PPT		https://www.youtube.com/watch?v=zD-RTG41EI8&list=PLftJ4X4	CO5	PPT	https://www.youtube.com/watch?v=UNLthDzfn4o	PPT(CIA)
50	L38		4	Input-Output Organization: Peripheral Devices	Understand Priority Interrupt	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=crC79PYB7oM	CO5	PPT	https://www.youtube.com/watch?v=Y3rT6tkMBkc	Questions from Assignment
51	L39		4	Input-Output Interfaces	Understand The Working Of Various Input Output Devices	Student teaching	Flipped Classroom		https://www.youtube.com/watch?v=myVbSSyZtr4	PPT	PPT	https://www.youtube.com/watch?v=VAChQ9n-xSI	PPT(CIA)
52	T13		4	Addressing Modes, I/O Interfaces (Tutorials: L34,L35, L36)	Understand Adressing Modes, I/O Interfaces	Hands-on Design	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	PPT	PPT	https://www.youtube.com/watch?v=EHdi72VVvB4	Group Discussion
53	L40		4	Asynchronous Data Transfer	Understand The Concept Of Asynchrous Data Transfer	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=-y1KxDbjU_Y&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=41	CO5	PPT	https://www.youtube.com/watch?v=EHdi72VVvB4	PPT(CIA)
54	L41		4	Modes of Transfer and Priority Interrupt	Understand The Concept Of Asynchrous Data Transfer	Hands-on Design	Lecture Through PPT		https://www.youtube.com/watch?v=-y1KxDbjU_Y&list=PLftJ4	CO5	PPT	https://www.youtube.com/watch?v=EHdi72VVvB4	PPT (CIA)
55	L42		4	Direct Memory Access (DMA)	Understand The Working Of Various Input Output Devices	Externship	Lecture Through PPT	Practical	https://www.youtube.com/watch?v=2XC2b_3hkVw	CO3	Notes & PPT	https://www.youtube.com/watch?v=MQF4cc2dkV8	Flipped Classroom
56	T14		4	Asynchronous Data Transfer, MOT & Priority Interrupt, DMA(Tutn	Understand Asynchronous Data Transfer, Mot, Priority Interrupt, Dma	Simulation and Modeling	Discussion/ Doubt Clearing session		https://www.youtube.com/watch?v=MSac_s-W0pc&list=PLftJ4X48yC	PPT	PPT	https://www.youtube.com/watch?v=EHdi72VVvB4	Group Discussion
57	L43		4	Memory Organization & Main Memory	Learn The Concept Of Direct Memory Organization	Externship	Lecture Through PPT		https://www.youtube.com/watch?v=cLIFiu-I28Y&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=47	CO5	PPT	https://www.youtube.com/watch?v=LdsDmPFKmXU	Group Discussion
58	L44		4	Auxiliary Memory & Associative Memory	Learn Internal Orgnization Of Auxiliary Memory	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=8ED4jGPjoQ&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=44	CO5	PPT	https://www.youtube.com/watch?v=zQPr-IYhFDA	PPT(CIA)
59	L45		4	Cache Memory & Virtual Memory	Learn Cache Memory	Simulation and Modeling	Lecture Through PPT		https://www.youtube.com/watch?v=L8NUuFaCb5k&list=PLftJ4X48yC1nRU3-6h0P30rWoT-hznf74&index=45	CO5	PPT	https://www.youtube.com/watch?v=zQPr-IYhFDA	PPT(CIA)
60	T15		4	Memory Organization, Main Memory, Auxiliary Memory, Associativ	Understand Memory Organization, Main Memory, Auxilary Memory, Associative Memory, Cache Memory, Virtual Memory	Evaluation and Optimization	Discussion/ Doubt Clearing session		https://www.geeksforgeeks.org/software-engineering/	CO5	PPT	https://www.youtube.com/watch?v=zQPr-IYhFDA	Group Discussion

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Suggested Readings :(Latest Edition)

TEXTBOOKS

TB1   Morris Mano, Computer System Architecture, 3rd Edition, Prentice-Hall of India Private Limited, 1999.

TB2   Moris Mano, "Digital Logic and Computer Design", PHI Publications, 2002

REFERENCES:

RB1   R. P. Jain, "Modern Digital Electronics", TMH, 3rd Edition, 2003

RB2   William Stallings, Computer Organization and Architecture, 4th Edition, Prentice Hall of India Private Limited, 2001

RB3   Subrata Ghosal," Computer Architecture and Organization", Pearson 2011

RB4   Malvino, "Digital Computer Electronics: An Introduction to Microcomputers", McGraw Hill

JOURNALS

1. IEEE Transactions on Computers

2. ACM Transactions on Computer Systems (TOCS)

3. Journal of Computer Architecture

4. IEEE Transactions on Parallel and Distributed Systems (TPDS)

5. ACM Transactions on Architecture and Code Optimization (TACO)

6. Microprocessors and Microsystems

7. Journal of Systems Architecture

8. International Journal of Computer Architecture and Design (IJCAD)

9. Performance Evaluation

10. Computer Architecture Letters (CAL)

Name of Faculty :   Dr.Rajesh Kumar

Head of Department :   Dr. Rajesh Kumar

Date :

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