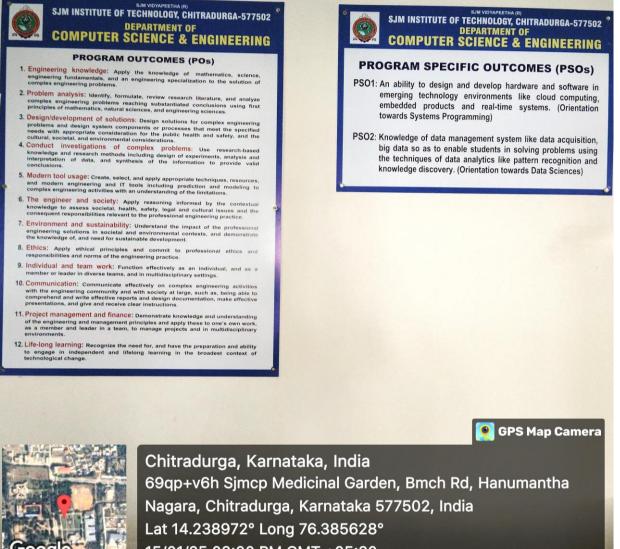


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Display of Department of CS& E Sample POs, PSOs & COs



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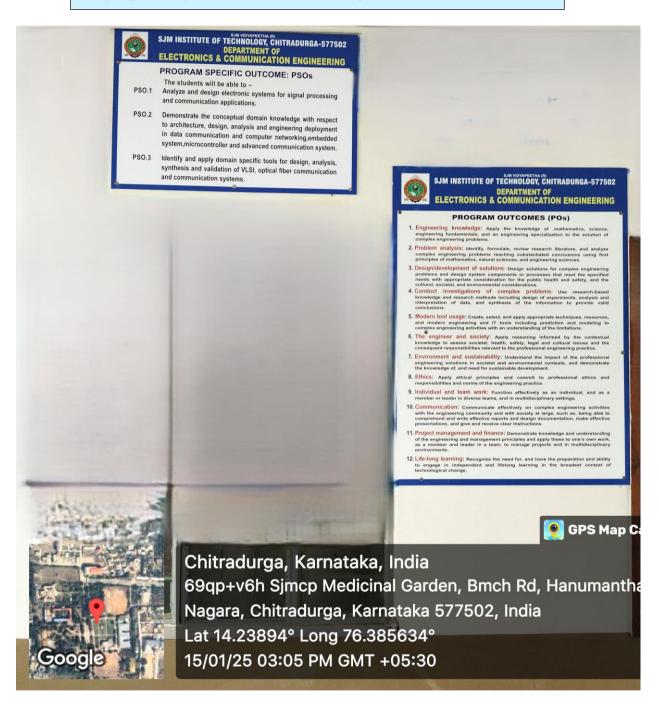
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Display of Department of E& C Sample POs, PSOs & COs







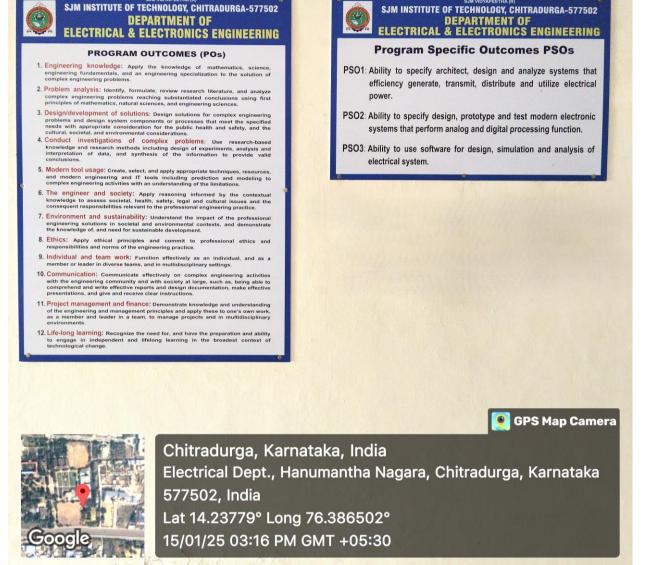
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Display of Department of E& E Sample POs, PSOs & COs





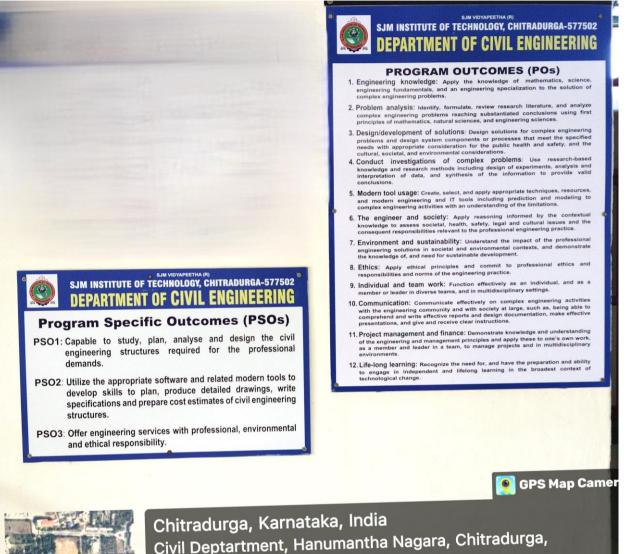


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Display of Department of Civil Engineering Sample POs, PSOs & COs





Chitradurga, Karnataka, India Civil Deptartment, Hanumantha Nagara, Chitradurga, Karnataka 577502, India Lat 14.238424° Long 76.386421° 15/01/25 03:10 PM GMT +05:30





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Display of Department of Mechanical Engineering Sample POs, PSOs & COs

SJM INSTITUTE OF TECHNOLOGY, CHITRADURGA-577502 **DEPT. MECHANICAL ENGINEERING** PROGRAM OUTCOMES (POs) 1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. Problem analysis: Identify, formulate, review research literature, and complex engineering problems reaching substantiated conclusions usi principles of mathematics, natural sciences, and engineering sciences. Design/development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societai, and environmental considerations. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. SJM VIDYAPEETHA (R) SJM INSTITUTE OF TECHNOLOGY, CHITRADURGA-577502 **DEPT. OF MECHANICAL ENGINEERING** PROGRAM SPECIFIC OUTCOMES (PSOs) Modern tool usage: Create, select, and apply appropriate techniques, and modern engineering and IT tools including prediction and m complex engineering activities with an understanding of the limitations. PSO1: Apply their knowledge in the domain of engineering mechanics, thermal and fluid sciences to solve engineering 6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. problems utilizing advanced technology. PSO2: Successfully apply the principles of design, analysis and Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. implementation of mechanical systems / processes which have been learned as a part of the curriculum. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. PSO3: Develop and implement new ideas on product design and Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. development with the help of modern CAD/CAM tools, while ensuring best manufacturing practices 10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. 11. Project management and finance: Demonstrate knowledge and up of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. 12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change. **GPS Map Camera** Chitradurga, Karnataka, India Sjmit Quarters, Kodana Hatti Rd, Hanumantha Nagara, Chitradurga, Karnataka 577502, India



Lat 14.238088° Long 76.38652° 15/01/25 03:13 PM GMT +05:30





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Display of POs, PSOs & COs in Laboratory Manuals







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SJM Vidyapeeska© SJM Institute of Technology, Chitradurga - 577502 Department of Computer Science & Engineering Program Outcomes (POs) PO 1: Engineering Knowledge: Apply the knowledge of Mathematics, Science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems. PO 2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences. PO 3: Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments analysis and interpretation of data and synthesis of the information to provide valid conclusions. PO 5: Modern tool usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of limitations. PO 6:The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. PO 7: Environment and sustainability: understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development. PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. PO 9: Individual and Team work: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings. PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions. PO 11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in team, to manage projects and in multi-disciplinary environments. PO 12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change. Program Specific Outcomes (PSOs) PSO 1: An ability to design and develop hardware and software in emerging technology environments like cloud computing embedded products and real-time systems. (Orientation towards Systems Programming) PSO 2: Knowledge of data management system like data acquisition, big data so as to enable students in solving problems using the techniques of data analytics like pattern recognition and knowledge discovery. (Orientation towards Data Sciences)





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VTU curriculum syllabus sample copy providing COs

Digital Design an	Semester	3	
Course Code	BCS302	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	3:0:2:0	SEE Marks	50
Total Hours of Pedagogy	40 hours Theory + 20 Hours of Practicals	Total Marks	100
Credits	04	Exam Hours	3
Examination nature (SEE)	Theory		•

Course objectives:

- To demonstrate the functionalities of binary logic system
- To explain the working of combinational and sequential logic system
- To realize the basic structure of computer system
- To illustrate the working of I/O operations and processing unit

Teaching-Learning Process (General Instructions)

These are sample Strategies; that teachers can use to accelerate the attainment of the various course outcomes. 1. Chalk and Talk

- 2. Live Demo with experiments
- 3. Power point presentation

MODULE-1

8 Hr Introduction to Digital Design: Binary Logic, Basic Theorems And Properties Of Boolean Algebra, Boolean Functions, Digital Logic Gates, Introduction, The Map Method, Four-Variable Map, Don't-Care Conditions, NAND and NOR Implementation, Other Hardware Description Language - Verilog Model of a simple circuit.

Text book 1: 1.9, 2.4, 2.5, 2.8, 3.1, 3.2, 3.3, 3.5, 3.6, 3.9

MODULE-2

8 Hr

Combinational Logic: Introduction, Combinational Circuits, Design Procedure, Binary Adder- Subtractor, Decoders, Encoders, Multiplexers. HDL Models of Combinational Circuits - Adder, Multiplexer, Encoder. Sequential Logic: Introduction, Sequential Circuits, Storage Elements: Latches, Flip-Flops.

Text book 1: 4.1, 4.2, 4.4, 4.5, 4.9, 4.10, 4.11, 4.12, 5.1, 5.2, 5.3, 5.4.

MODULE-3 8 Hr Basic Structure of Computers: Functional Units, Basic Operational Concepts, Bus structure, Performance -Processor Clock, Basic Performance Equation, Clock Rate, Performance Measurement.Machine Instructions and Programs: Memory Location and Addresses, Memory Operations, Instruction and Instruction sequencing, Addressing Modes.

Text book 2: 1.2, 1.3, 1.4, 1.6, 2.2, 2.3, 2.4, 2.5

MODULE-4

Input/output Organization: Accessing I/O Devices, Interrupts - Interrupt Hardware, Enabling and Disabling Interrupts, Handling Multiple Devices, Direct Memory Access: Bus Arbitration, Speed, size and Cost of memory systems. Cache Memories - Mapping Functions.

Text book 2: 4.1, 4.2.1, 4.2.2, 4.2.3, 4.4, 5.4, 5.5.1

MODULE-5

8 Hr

8 Hr







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Basic Processing Unit: Some Fundamental Concepts: Register Transfers, Performing ALU operations, fetching a word from Memory, Storing a word in memory. Execution of a Complete Instruction. Pipelining: Basic concepts, Role of Cache memory, Pipeline Performance.

Text book 2: 7.1, 7.2, 8.1

PRACTICAL COMPONENT OF IPCC

SI.N	Experiments
0	Simulation packages preferred: Multisim, Modelsim, PSpice or any other relevant
1	Given a 4-variable logic expression, simplify it using appropriate technique and simulate the same using basic gates.
2	Design a 4 bit full adder and subtractor and simulate the same using basic gates.
3	Design Verilog HDL to implement simple circuits using structural, Data flow and Behavioural model.
4	Design Verilog HDL to implement Binary Adder-Subtractor - Half and Full Adder, Half and Full Subtractor.
5	Design Verilog HDL to implement Decimal adder.
6	Design Verilog program to implement Different types of multiplexer like 2:1, 4:1 and 8:1.
7	Design Verilog program to implement types of De-Multiplexer.
8	Design Verilog program for implementing various types of Flip-Flops such as SR, JK and D.
Cours	e outcomes (Course Skill Set):
1	end of the course, the student will be able to: CO's
1	Apply the K-Map techniques to simplify various Boolean expressions.
1	Design different types of combinational and sequential circuits along with Verilog programs.
1	Describe the fundamentals of machine instructions, addressing modes and Processor performance.
1	Explain the approaches involved in achieving communication between processor and I/O devices.
CO5:A	nalyze internal Organization of Memory and Impact of cache/Pipelining on Processor Performance.





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Sample Internal Test guestion Papers with COs

Department of Computer Science & Engineering First Internal Assessment Question Paper (2023-24)

Name	of the faculty:	Prof. Poral Nagaraj							
Course	e Name: "Princ	ciples of Programmin	ng Using C"	Course Code:	BPOPS1	03	Ma	x. Ma	arks: 25
Semester: 1 st Sem. Section: 'A' Date: 31/10/2023 Time: 9:15 A						9:15 A	M to	10:15	A.M
		Not	e : Answer to	vo full question	15				
Q.No				Marks	CL	со	РО		
1.a	Define a computer. Explain how the computer components are						U	1	POI
1.b	Define a token in Clanguage, Explain with example any three tokens						U	2	PO2
			0	R					
2.a	How would you distinguish primary memory from secondary memory? 5						U	1	PO1
2.b	Write the basic structure of a C program and explain with a relevant example.				7.5	U	2	PO2	
3.a	Explain formatted input and output functions used in C with appropriate syntax and examples.				6	U	2	PO1, PO2	
3.b	What is an identifier? List the rules for an identifier. Give two examples each for valid and invalid identifiers. 6.5					U	2	PO2	
	3.15		0	R					
4.a	How would you explain basic data types used in C language with suitable examples?				8	U	2	PO2	
4.b	Write a program to find largest of three numbers using conditional 4.5 operator.					Ap	2	PO1, PO2 PO3	

nderstand, Ap : Apply, A : Analyze, E : Evaluating, C: Creating) CO: Course outcomes, PO: Program outcomes.

COURSE OUTCOMES

CO 1: Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.

CO 2: Apply programming constructs of C language to solve the real world problem.

CO 3: Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting

CO 4: Explore user-defined data structures like structures, unions and pointers in implementing solutions. CO 5: Design and Develop Solutions to problems using modular programming constructs using functions.

Academic Coordinato

Department Of Computer Science SJMIT, Chitradurga





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Department of Computer Science & Engineering

Second Internal Assessment Question Paper (2023-24)

Name	of the faculty:	Prof. Poral Nagaraj							
Course	e Name: "Princ	ciples of Programming U	Jsing C"	Course Code:	BPOPS103		Max. N	arks: 25	
					Time: 9:1	Time: 9:15 A.M to 10:15 A.M			
		Note : A	Answer to	wo full question	5				
Q.No		Question	15		Marks	CL	со	PO	
l.a						U	2	PO1, PO2	
1.b						Ар	2	PO1, PO2, PO3	
		1 Partie	0	R					
2.a	Illustrate for loop with an example.				5	U	2	PO1, PO2	
2.b	Explain elements of user defined functions.			7.5	U	5	PO1, PO2		
3.a	Compare whi	le loop with do while loo	p.		5	U	2	PO1, PO2	
3.b	Write a C program to implement Bubble sorting technique.					Ар	3	PO1, PO2 PO3	
			0	R					
4.a	Explain how one dimensional arrays are declared and initiali		ed and initialized	1 5	U	3	PO1, PO2		
4.b	Write a C program to multiply two matrices of order 2X2.			7.5	Ар	3	PO1, PO2 PO3		

CL: Cognitive Level (R: Remember, U: Understand, Ap : Apply, A : Analyze, E : Evaluating, C: Creating) CO: Course outcomes, PO: Program outcomes.

COURSE OUTCOMES

CO 1: Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.

CO 2: Apply programming constructs of C language to solve the real world problem.

CO 3: Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting

CO 4: Explore user-defined data structures like structures, unions and pointers in implementing solutions. CO 5: Design and Develop Solutions to problems using modular programming constructs using functions.

Academic Coordinator

Department Of Computer Science STMIT, Chitradurpe





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extmont of Computer Science & Engineer

Department of Computer Science & Engineering Third Internal Assessment Question Paper (2023-24)

Cours	e Name: "Prin	ciples of Programming U	sing C"	Course Code:	BPOPS	103	M	lax. M	larks: 25
Semester: 1 st Sem. Section: 'A' & 'B' Date: 11/01/2024 Time:						e: 9:15 A.M to 10:15 A.M			
		Note : A	Inswer to	wo full questions	_				
Q.No		Questio	ns			Marks	CL	CO	PO
l.a	Describe the evolution of Computers by mentioning how computers in onegeneration are better than their predecessors.						U	1	PO1
1.b	List at least a	ny five Input and Output	devices e	ach	58,	5	R	1	PO1
		10	0	R	hel is	57. 14	15		
2.a	Define a structure. How structures are defined, declared and initialized?					7.5	U	4	PO1, PO2
2.b		ous operations that can be ions.Explain any two fund		ed on strings usir	ng	5	U	3	PO1, PO2
3.a	Write the diff	ference between structure	and unio	ns.	7	5	U	4	PO1, PO2
3.b	Write a program to store the details (Name, Rollno and Marks) of n students using array of structures.					7.5	Ap	4	PO1, PO2 PO3
			0	R					
4.a	What is a pointer? Write a C program to implement Pointer arithmetic.					6	Ар	4	PO1, PO2 PO3
4.b	What are the different modes of opening a file? Briefly explain.					6.5	U	5	PO1, PO2

CL: Cognitive Level (R: Remember, U: Understand, Ap : Apply, A : Analyze, E : Evaluating, C: Creating) CO: Course outcomes, PO: Program outcomes.

COURSE OUTCOMES

CO 1: Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.

CO 2: Apply programming constructs of C language to solve the real world problem.

 CO 3: Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
CO 4: Explore user-defined data structures like structures, unions and pointers in implementing solutions.

CO 5: Design and Develop Solutions to problems using modular programming constructs using functions.

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"HOD Department Of Computer Science SJMIT, Chitradurga





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Sample of COs written in Internal Test Answer Book

A SUPERIOR	zed by A	S.J.M. Vidyapeetha (R) adguru Mallikarjuna Murugharajendra Institute of Technology ICTE, New Delhi and Affiliated to Visvesvaraya Technological University, Belagavi) NAAC Accredited with "B++" Grade Bypass, P. B. No: 73, CHITRADURGA - 577502, Karnataka State, INDIA. Year : 2023 -2024
Name	Kus	uma.T.S
USN	4	SMQQCS049
Course	•	BE
Branc	n	computer science and Engineering.
Subject	Name	DBWS
Subject	Code	BCS403
Semeste Section	er /	卫 8
Interr	nal As	sessment Record Final 2-3 Marks 40-25
		(For Institute's Internal Use Only)





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COURSE OUTCOME'S (COs) (01: Describe the base demends of a subational database management lighten (02: Design entity relationship for the given scenario. vorious structured Query language (SQL). Apply 63:-Statements for database manipulation. Analyte uporious molimalization folions for the given 604:application. Develop diatabase applications to the given seal word. (OS :problem. (06: understand the concepts related to NOBAL database.



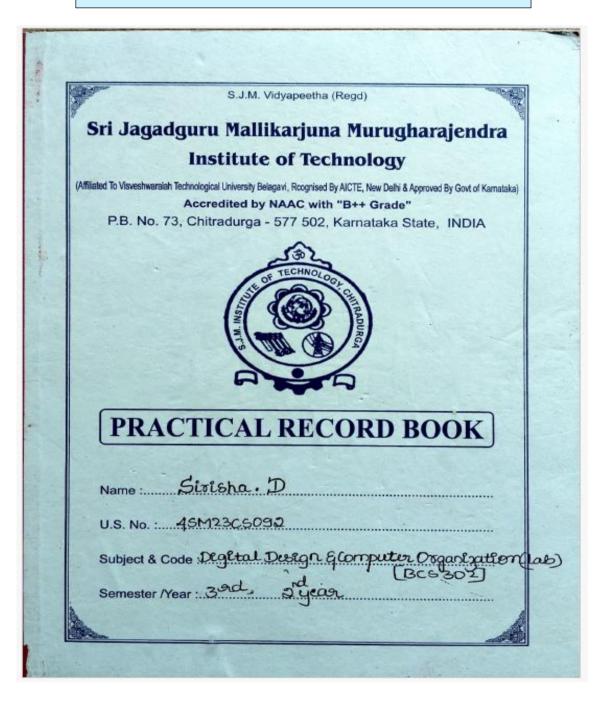


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Sample of COs written in Laboratory Record Book







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Course outcomes :-Co1: Apply the K-map techniques to simplify various boolean expressions. cos: design different type of combinational and sequential circuits along with verilog programs. CO3: describe the fundamentals of machine instructions, addressing model & processor performance. CO4: explain the approaches involved in activing communication between processor and 1/0' denices. CO5: Analyze internal Organization of memory and impat of tre cache pipelinning on processor performance.





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POs and PSOs displayed during INDUCTION Program



