

<b>Academic Year</b>	<b>2022-23</b>
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**B.P.H.E. Society's  
Ahmednagar College, Ahmednagar  
Internal Quality Assurance Cell  
CO, PO, and PSO Attainment Sheet**

<b>Department Name</b>	<b>Computer Science</b>
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<b>Program Name</b>	<b>B.Sc.(CS)</b>
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<b>Program Outcomes(PO)</b>
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<b>PO1</b>	Develop ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.
<b>PO2</b>	To build the necessary skill set and analytical abilities for developing computer based solutions for real life problems.
<b>PO3</b>	To train students in professional skills related to Software Industry.
<b>PO4</b>	To prepare necessary knowledge base for research and development in Computer Science.
<b>PO5</b>	Graduates should have a strong understanding of the fundamental concepts of computer science
<b>PO6</b>	They should be effective communicators, both in writing and orally, and be able to document and present their work effectively.
<b>PO7</b>	To train students to be proficient in data analysis, statistical skills, machine learning algorithms, and proficiency in Python.
<b>PO8</b>	To train students be able to tell compelling stories with data, conveying insights to non-technical stakeholders.
<b>PO9</b>	Describe the mathematics fundamentals,including discrete structures ,statistics and calculus
<b>PO10</b>	To be able to apply Mathematical techniques to find the optimum solution of complex real world Problems using computers.
<b>PO11</b>	To apply knowledge to design and conduct experiments ,analyze,synthesize and interpret the data to electronics engineering and arrive at valid
<b>PO12</b>	Construct ,choose and apply the techniques ,resources and modern engineering tools required for electronics and communication engineering

<b>Program Specific Outcome(PSO)</b>
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<b>PSO1</b>	Proficiency in programming, development and data management.
<b>PSO2</b>	Develop problem-solving abilities using computer.
<b>PSO3</b>	Be well-prepared for careers in computer science and related fields, with skills that are in demand by industry.

<b>Academic Year :</b> 2022-23
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Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PROBLEM SOLVING USING COMPUTER AND 'C' PROGRAMMING		CO1	3	3	3	3	3	0	2	2	3	2	1	2	2	3	3
Semester No	1		CO2	3	3	2	3	2	1	3	3	3	3	2	1	3	3	3
Teacher Name	RAUT SMITA		CO3	3	2	2	3	3	0	3	2	3	3	1	1	2	3	3
Course Outcomes			CO4	3	3	2	3	2	1	2	3	2	3	1	1	3	2	3
	CO1	Student should understand the foundation of computing, programming and problem- solving using computers.	CO5	3	3	2	3	3	0	3	3	2	2	1	2	3	3	3
	CO2	Illustrate the ability to analyse a problem and devise an algorithm to solve it.	Average	3.00	2.80	2.20	3.00	2.60	0.40	2.60	2.60	2.60	2.60	1.20	1.40	2.60	2.80	3.00
	CO3	Write an algorithm, and flowcharts for arithmetic and logical problems																
	CO4	Recognize structured programming approach.																
	CO5	Describe the algorithms using the 'C' language, debug and execute programs.																

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 112			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	DATABASE MANAGEMENT SYSTEMS		CO1	2	2	2	2	3	0	1	2	1	1	0	1	2	3	2
Semester No	1		CO2	2	3	3	1	2	0	1	2	2	1	1	0	3	3	3
Teacher Name	SAWANT UJWALA		CO3	2	2	2	2	2	0	1	2	1	2	1	0	2	2	3
Course Outcomes			CO4	3	3	3	3	3	0	1	2	2	1	0	0	3	2	3
	CO1	Interpret the fundamental concepts of DBMS	CO5															
	CO2	Develop an ability to understand database management operations	Average	2.25	2.50	2.50	2.00	2.50	0.00	1.00	2.00	1.50	1.25	0.50	0.25	2.50	2.50	2.75

	CO3	Understand the data security methods for database protection.
	CO4	Analyse the raw data and design data dependencies
	CO5	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 113			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS101 AND CS102		CO1	2	2	3	2	3	1	1	1	2	2	0	1	3	3	2
Semester No	1		CO2	2	2	3	2	2	0	2	2	1	3	1	1	3	3	3
Teacher Name	RAUT SMITA & SAWANT UJWALA		CO3	2	3	3	2	3	2	1	1	2	2	1	1	3	3	3
Course Outcomes			CO4	2	2	2	2	2	0	1	1	1	2	0	0	3	2	3
	CO1	Understand the program development life cycle.	CO5															
	CO2	Solve simple computational problems using modular design and basic features of the 'C' language.	Average	2.00	2.25	2.75	2.00	2.50	0.75	1.25	1.25	1.50	2.25	0.50	0.75	3.00	2.75	2.75
	CO3	Solve real world problem.																
	CO4	Understand basic query processing operations. Design E-R Model for given requirements and convert the same into database tables.																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	MATRIX ALGEBRA		CO1	1	1	1	2	2	0	1	1	3	2	1	0	2	2	1
Semester No	1		CO2	2	2	2	3	2	0	2	1	3	3	0	1	1	2	1
Teacher Name	CHAKRANARAYAN LEAH		CO3	1	2	2	2	2	0	2	1	3	3	0	1	3	1	2
Course Outcomes			CO4															
	CO1	Students should be able to work with graphs and identify certain parameters and properties of the given graphs.	CO5															
	CO2	Perform certain algorithms, justify why these algorithms work, and give some estimates of the running times of these algorithms.	Average	1.33	1.67	1.67	2.33	2.00	0.00	1.67	1.00	3.00	2.67	0.33	0.67	2.00	1.67	1.33

	CO3	Solve basic exercises of the type: given a graph with properties X, prove that the graph also has property Y.
	CO4	
	CO5	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 112			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	DISCRETE MATHEMATICS		CO1	1	1	1	2	2	0	1	1	3	2	1	1	3	3	1
Semester No	1		CO2	1	1	2	1	2	0	1	0	2	2	1	1	1	1	1
Teacher Name	DEVYANI WAGHMARE		CO3	2	1	1	1	2	0	1	1	3	3	0	1	2	2	2
Course Outcomes			CO4	1	1	1	1	1	0	1	1	3	3	1	0	1	2	1
	CO1	Construct a solid foundation in some of the new and different branches of Mathematics like Logic, Set Theory and Lattices.	CO5															
	CO2	Distinguish among various counting principles and apply them accordingly.	Average	1.25	1.00	1.25	1.25	1.75	0.00	1.00	0.75	2.75	2.50	0.75	0.75	1.75	2.00	1.25
	CO3	Determine properties of relations, identify equivalence and partial order relations, sketch relations.																
	CO4	Inculcate a positive attitude towards Mathematics and enjoy triumph of solving interesting problems from different areas of the subject.																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 113			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	MATHEMATICS PRACTICAL I		CO1	2	2	2	2	2	1	1	0	3	3	1	1	1	2	2
Semester No	1		CO2	2	1	3	1	1	0	2	1	2	3	0	1	2	2	1
Teacher Name	CHAKRANARAYAN LEAH		CO3	2	2	2	1	1	0	1	1	3	3	1	0	2	2	1
Course Outcomes			CO4	1	1	1	1	2	0	1	0	3	3	1	0	1	2	1
	CO1	Problem solving skills of students are enhanced.	CO5															
	CO2	Theoretical concepts are strengthened by solving maximum no. of problems	Average	1.75	1.50	2.00	1.25	1.50	0.25	1.25	0.50	2.75	3.00	0.75	0.50	1.50	2.00	1.25
	CO3	To learn basic matrix algebra and method to find solutions to system of linear equations.																

	CO4	Also to learn eigenvalues and eigenvectors of matrix.
	CO5	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC 111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	SEMICONDUCTOR DEVICES AND BASIC ELECTRONIC SYSTEMS		CO1	1	1	1	2	1	0	1	1	1	1	3	2	1	2	1
Semester No	1		CO2	1	1	1	1	2	0	0	1	1	0	3	3	2	1	2
Teacher Name	FRANCIS SANDRA		CO3	1	1	2	1	1	0	1	1	1	1	2	3	1	2	2
Course Outcomes			CO4	1	1	2	1	2	0	0	1	0	1	3	3	1	2	2
	CO1	Know the basic knowledge of semiconductor devices and their working characteristics.	CO5															
	CO2	Differentiate between different types of rectifiers, Know the concept of filter identify different voltage regulator circuits	Average	1.00	1.00	1.50	1.25	1.50	0.00	0.50	1.00	0.75	0.75	2.75	2.75	1.25	1.75	1.75
	CO3	Describe working about BJT and its I-V Characteristics and compare different transistor configuration and amplifier																
	CO4	Differentiate between E-MOSFET and D-MOSFET																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC 112			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRINCIPLES OF DIGITAL ELECTRONICS		CO1	1	1	2	1	2	0	0	1	0	1	3	3	2	1	1
Semester No	1		CO2	1	1	1	1	1	0	0	0	1	1	3	3	1	2	1
Teacher Name	SANDHYA HIRE		CO3	1	1	1	1	2	0	0	1	1	0	3	2	1	2	2
Course Outcomes			CO4															
	CO1	Understand and represent numbers in powers of base and translate one number system to another and solve binary arithmetic problems	CO5															

	CO2	Identify gates, examine and solve Boolean Algebraic expressions for designing digital circuits using K-Maps	Average	1.00	1.00	1.33	1.00	1.67	0.00	0.00	0.67	0.67	0.67	3.00	2.67	1.33	1.67	1.33
	CO3	Analyse, design and construct combinational logic circuits																
	CO4																	
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC 113			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	ELECTRONICS LAB IA		CO1	1	1	1	1	2	0	0	1	0	1	3	3	2	1	2
Semester No	1		CO2	2	1	2	1	2	0	0	0	1	1	3	2	2	1	1
Teacher Name	FRANCIS SANDRA		CO3	1	1	2	2	1	0	0	1	1	1	3	3	2	1	2
Course Outcomes			CO4	2	2	1	2	2	0	0	1	1	0	3	3	1	1	1
	CO1	To identify and measure different components, measure ac/dc voltages, frequency and amplitude of a signal, relate to the electronic communication between devices, Know the basics of analog and digital electronics	CO5															
	CO2	Describe the characteristics of semiconductor devices, illustrate applications in voltage regulated power supplies and amplifiers.	Average	1.50	1.25	1.50	1.50	1.75	0.00	0.00	0.75	0.75	0.75	3.00	2.75	1.75	1.00	1.50
	CO3	Construct basic combinational circuits and verify their functionalities.																
	CO4	To analyse and interpret data of electronics in computer science																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CSST 111			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	DESCRIPTIVE STATISTICS I		CO1	3	2	3	3	2	0	3	1	2	3	1	1	1	2	1
Semester No	1		CO2	2	2	2	2	2	0	3	0	3	2	0	1	2	1	2
Teacher Name	KHAN FARHEEN		CO3	2	2	2	2	2	0	3	0	3	3	0	0	1	2	1
Course Outcomes			CO4	2	2	2	1	2	0	3	1	3	3	0	0	1	1	1

	CO1	Organize, manage and present data. Analyse statistical data graphically using frequency distributions and cumulative frequency distributions.	CO5															
	CO2	To calculate and apply measures of central tendency for grouped and ungrouped data. Represent mode, median, quartiles graphically.	Average	2.25	2.00	2.25	2.00	2.00	0.00	3.00	0.50	2.75	2.75	0.25	0.50	1.25	1.50	1.25
	CO3	Calculate and apply measures of dispersion for grouped and ungrouped data																
	CO4	Calculate and apply measures of skewness and kurtosis. Analyse natures of skewness and kurtosis using graphs.																
	CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CSST 112		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	MATHEMATICAL STATISTICS	CO1	3	2	2	2	2	0	3	0	3	3	1	0	2	2	2	
Semester No	1	CO2	2	3	3	1	3	0	3	1	2	3	1	0	1	2	2	
Teacher Name	PATARE SHWETA	CO3	3	3	2	2	2	0	3	0	3	2	0	0	2	2	2	
Course Outcomes		CO4	3	2	2	2	2	0	3	1	3	3	0	1	2	2	2	
	CO1	To understand and apply methods of Counting Principles, Permutation, and Combination to real life situations	CO5															
	CO2	Understand concepts of experiments, sample space, events to be applied further in the calculation of probabilities.	Average	2.75	2.50	2.25	1.75	2.25	0.00	3.00	0.50	2.75	2.75	0.50	0.25	1.75	2.00	2.00
	CO3	Use the basic probability rules, including additive and multiplicative laws, using the terms, independent and mutually exclusive events.																
	CO4	Understand and apply discrete and continuous probability distributions to real-life problems.																
	CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CSST 113		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	STATISTICS PRACTICAL PAPER I	CO1	3	3	1	2	2	0	3	0	3	3	1	1	1	2	2

Semester No	1	CO2	3	2	2	1	2	0	3	0	3	3	1	0	2	1	2	
Teacher Name	PATARE SHWETA & KHAN FARHEEN		CO3	3	2	1	1	2	0	3	1	3	3	0	0	2	2	2
Course Outcomes		CO4	2	3	2	2	2	2	0	3	1	3	3	0	0	2	1	2
CO1	Student should be able to tabulate and make frequency distribution of the given data.		CO5	3	2	1	2	1	0	3	0	2	3	0	0	2	2	2
CO2	Compute various measures of central tendency, dispersion, skewness and kurtosis.		Average	2.80	2.40	1.40	1.60	1.80	0.00	3.00	0.40	2.80	3.00	0.40	0.20	1.80	1.60	2.00
CO3	Fit the Binomial and Poisson distributions.																	
CO4	Study free statistical softwares and use them for data analysis in projects.																	
CO5	The process of collection of data, its condensation and representation for real life data.																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 121		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	ADVANCED 'C' PROGRAMMING	CO1	3	3	1	2	3	0	2	1	2	2	1	0	2	1	2	
Semester No	2	CO2	2	2	2	1	2	0	2	0	2	2	1	0	1	2	2	
Teacher Name	KULKARNI SARIKA	CO3	2	2	2	1	2	0	2	1	2	2	1	1	1	2	2	
Course Outcomes		CO4	3	3	1	2	3	0	2	0	1	2	1	0	2	2	2	
CO1	Control the sequence of the program and give logical outputs		CO5	3	2	2	1	3	0	2	1	2	1	0	2	1	1	
CO2	Repeat the sequence of instructions and points for a memory location. Apply code reusability with functions and pointers		Average	2.60	2.40	1.60	1.40	2.60	0.00	2.00	0.60	1.80	1.80	1.00	0.20	1.60	1.60	1.80
CO3	File management and dynamic memory allocation																	
CO4	Performing Mathematical and Logical functions: Operators and Expressions																	
CO5	Controlling the Program Order: Decision Making.Repeating Sequence of Instructions: Loops																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 122		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3



Subject Name	RELATIONAL DATABASE MANAGEMENT SYSTEMS		CO1	2	2	2	2	3	0	1	0	0	0	0	0	1	1	2
Semester No	2		CO2	2	2	2	1	2	0	1	1	1	0	0	0	2	2	1
Teacher Name	SAWANT UJWALA		CO3	2	2	2	2	3	0	1	0	1	0	0	0	1	2	1
Course Outcomes			CO4															
	CO1	Understand the basic concepts and the applications of database systems.	CO5															
	CO2	Master the basics of SQL and construct queries using SQL	Average	2.00	2.00	2.00	1.67	2.67	0.00	1.00	0.33	0.67	0.00	0.00	0.00	1.33	1.67	1.33
	CO3	Understand the relational database design principles.																
	CO4																	
	CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 123		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	PRACTICAL COURSE BASED ON CS201 AND CS202	CO1	3	3	3	2	2	0	1	1	2	3	1	1	2	2	3	
Semester No	2	CO2	3	2	3	3	3	0	2	0	3	3	1	0	3	3	3	
Teacher Name	KHAN FAHEMIYA ,TODKAR KOMAL & SAWANT UJWALA	CO3	3	3	2	2	2	0	1	1	2	2	2	0	2	2	3	
Course Outcomes			CO4	2	2	3	2	3	0	2	0	2	2	1	0	3	3	2
	CO1	Read, understand and trace the execution of programs written in C language	CO5															
	CO2	Implement Programs with pointers and arrays, perform pointer arithmetic, and use the pre-processor.	Average	2.75	2.50	2.75	2.25	2.50	0.00	1.50	0.50	2.25	2.50	1.25	0.25	2.50	2.50	2.75
	CO3	Demonstrate their understanding of key notions of query evaluation and optimization techniques.																
	CO4	Familiar with database storage structures and access techniques																
	CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 121		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	LINEAR ALGEBRA	CO1	2	1	1	1	2	0	2	0	3	3	2	2	2	1	2

Semester No	2	CO2	1	1	1	1	2	0	3	1	3	2	2	0	1	2	2
Teacher Name	SHAIKH SADIYA	CO3	1	2	1	1	1	0	2	1	2	3	1	0	2	3	2
Course Outcomes		CO4	1	1	2	1	2	0	3	0	3	3	2	2	2	2	1
CO1	Understand algebraic and geometric representations of vectors in $R^n$ and their operations, including addition, scalar multiplication and dot product.	CO5															
CO2	Solve systems of linear equations using Gauss-Jordan elimination to reduce to echelon form	Average	1.25	1.25	1.25	1.00	1.75	0.00	2.50	0.50	2.75	2.75	1.75	1.00	1.75	2.00	1.75
CO3	Provide an axiomatic description of an abstract vector space																
CO4	Compute the orthogonal projection of a vector onto a subspace, given a basis for the subspace																
CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 122		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	GRAPH THEORY	CO1	1	2	2	1	2	0	2	1	3	3	2	0	2	1	2
Semester No	2	CO2	2	1	1	1	2	0	2	1	2	3	2	0	3	1	1
Teacher Name	CHAKRANARAYAN LEAH	CO3	3	3	1	1	1	0	2	1	3	2	1	0	2	1	1
Course Outcomes		CO4	2	2	1	1	1	0	3	0	3	3	1	1	2	2	2
CO1	Model problems using graphs and to solve these problems algorithmically.	CO5	1	2	1	1	1	0	2	0	3	2	1	0	2	2	2
CO2	Paths cycles, connectivity, homomorphism and isomorphism of graphs,connectivity in digraphs.	Average	1.80	2.00	1.20	1.00	1.40	0.00	2.20	0.60	2.80	2.60	1.40	0.20	2.20	1.40	1.60
CO3	Students will understand and apply the core theorems and algorithms																
CO4	Understanding Basics: equivalent characterizations of trees, forests ,Spanning trees and 2-switches c,Distance and center																
CO5	Optimization: Kruskal's Theorem and Dijkstra's Algorithym																

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC 123		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	MATHEMATICS PRACTICAL II	CO1	2	3	3	2	1	0	2	1	3	2	1	0	1	2	2

Semester No	2	CO2	2	2	2	2	2	0	3	0	3	3	2	1	2	2	2	
Teacher Name	CHAKRANARAYAN LEAH	CO3	2	2	2	3	1	0	2	1	3	3	1	0	1	2	1	
Course Outcomes		CO4	2	2	2	2	2	0	2	0	3	3	2	1	2	1	2	
	CO1	A student be able to apply their skills and knowledge ,that is, translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.	CO5															
	CO2	Perform certain algorithms, justify why these algorithms work, and give some estimates of the running times of these algorithms.	Average	2.00	2.25	2.25	2.25	1.50	0.00	2.25	0.50	3.00	2.75	1.50	0.50	1.50	1.75	1.75
	CO3	To write cohesive and comprehensive solutions to exercises .																
	CO4	To achieve proficiency in writing proofs, including those using basic graph theory proof techniques.																
	CO5																	

Class	FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	ELC 121		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	INSTRUMENTATION SYSTEM	CO1	1	1	2	2	1	0	2	1	1	0	3	3	2	2	2	
Semester No	2	CO2	1	2	1	1	2	0	2	1	1	0	2	3	2	2	2	
Teacher Name	SHAIKH IRAM	CO3	2	2	1	1	2	0	2	0	0	1	3	3	1	1	2	
Course Outcomes		CO4	1	2	3	1	1	0	2	0	1	0	2	3	2	1	2	
	CO1	To get familiar with concepts of digital electronics .	CO5															
	CO2	To learn number systems and their representation	Average	1.25	1.75	1.75	1.25	1.50	0.00	2.00	0.50	0.75	0.25	2.50	3.00	1.75	1.50	2.00
	CO3	To understand basic logic gates, Boolean algebra and K-maps.																
	CO4	To study arithmetic circuits, combinational circuits and sequential circuits																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code		ELC 122		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		BASICS OF COMPUTER ORGANISATION	CO1	1	1	2	1	1	0	2	1	0	1	3	3	2	1	2
Semester No		2	CO2	2	1	2	2	1	0	3	0	0	0	3	3	2	1	1
Teacher Name		FRANCIS SANDRA	CO3	2	2	2	2	2	0	2	0	0	0	2	3	1	1	1
Course Outcomes			CO4															
	CO1	Identify, understand and apply different number systems and codes	CO5															
	CO2	Understand the digital representation of data in a computer system	Average	1.67	1.33	2.00	1.67	1.33	0.00	2.33	0.33	0.00	0.33	2.67	3.00	1.67	1.00	1.33
	CO3	Understand the general concepts in digital logic design, including logic elements, and their use in combinational and sequential logic circuit design.																
	CO4																	
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code		ELC 123		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		ELECTRONICS LAB II	CO1	1	1	2	1	1	0	2	1	0	0	3	3	2	1	2
Semester No		2	CO2	2	2	2	2	2	0	2	0	0	0	3	3	2	1	1
Teacher Name		FRANCIS SANDRA	CO3	1	2	2	1	2	0	2	1	1	0	3	3	2	1	2
Course Outcomes			CO4	1	1	2	1	2	0	2	1	0	1	2	3	2	2	1
	CO1	Understand the basic terminology/definitions of electrical and electronics engineering	CO5															
	CO2	Apply the knowledge of theorems/laws to analyze the simple circuits	Average	1.25	1.50	2.00	1.25	1.75	0.00	2.00	0.75	0.25	0.25	2.75	3.00	2.00	1.25	1.50
	CO3	basic organization, design, and programming of a simple digital computer and introduces simple register transfer language to specify various computer operations.																
	CO4	Apply the techniques, analyse and use engineering tools required for electronics and communication applications																
	CO5																	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CSST 121		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		METHODS OF APPLIED STATISTICS	CO1	2	2	2	1	2	0	3	1	3	3	1	1	2	3	2
Semester No		2	CO2	2	2	2	2	3	0	3	0	2	2	0	0	2	2	2
Teacher Name		KHAN FARHEEN	CO3	3	3	2	3	2	0	3	0	2	3	1	0	1	2	2
Course Outcomes			CO4	3	3	3	2	1	0	3	1	3	2	1	0	2	1	1
	CO1	Fit simple and multiple linear regression models and demonstrate model parameters.	CO5	3	3	3	2	2	0	3	1	2	3	0	0	2	2	2
	CO2	Explain in detail the relationships between a response variable and a covariate or covariates.	Average	2.60	2.60	2.40	2.00	2.00	0.00	3.00	0.60	2.40	2.60	0.60	0.20	1.80	2.00	1.80
	CO3	Perform model selection in a multiple linear regression modelling context.																
	CO4	Use appropriate experimental designs to analyze experimental data																
	CO5	Understand time series data, its components and its applications to various fields. Fitting and plotting of growth curves, trend and also measurement of seasonal indices.																

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code		CSST 122		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		CONTINUOUS PROBABILITY DISTRIBUTIONS AND TESTING OF HYPOTHESIS	CO1	2	2	2	2	2	0	3	0	2	3	1	1	1	1	2
Semester No		2	CO2	2	1	2	2	1	0	2	1	3	2	2	1	2	2	2
Teacher Name		PATARE SHWETA	CO3	2	2	1	1	2	0	3	0	3	3	2	0	2	2	1
Course Outcomes			CO4	2	2	2	1	2	0	3	1	2	3	1	0	1	2	1
	CO1	Students should be able to fit various discrete and continuous probability distributions and to study various real life situations.	CO5															
	CO2	To compute multiple, partial and correlation coefficients.	Average	2.00	1.75	1.75	1.50	1.75	0.00	2.75	0.50	2.50	2.75	1.50	0.50	1.50	1.75	1.50

	CO3	To fit probability distributions such as Negative binomial, Normal, to carry out large sample and small sample tests of significance
	CO4	Use the normal probability distribution including standard normal curve calculations of appropriate areas.
	CO5	

Class		FYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CSST 123			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	STATISTICS PRACTICAL II		CO1	2	2	2	1	2	0	3	1	3	3	2	0	2	2	1
Semester No	2		CO2	2	2	2	2	2	0	3	1	3	2	1	0	1	2	2
Teacher Name	KHAN FARHEEN & PATARE SHWETA		CO3	2	1	2	1	1	0	3	0	2	3	2	0	2	1	1
Course Outcomes			CO4	3	2	1	2	2	0	3	1	3	3	1	1	1	1	2
	CO1	To understand the relationship between two variables using scatter plot. To compute coefficient of correlation, coefficient of regression.	CO5															
	CO2	To fit various regression models and to find best fit. To fit the Normal distribution.	Average	2.25	1.75	1.75	1.50	1.75	0.00	3.00	0.75	2.75	2.75	1.50	0.25	1.50	1.50	1.50
	CO3	To understand the trend in time series and how to remove it. To apply inferential methods for real data sets.																
	CO4	To understand the importance and functions of different statistical organizations in the development of nation.																
	CO5																	

<b>Academic Year :</b> 2022-23
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Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 231			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Data Structures and Algorithms – I		CO1	3	3	3	2	3	0	1	0	2	1	1	1	3	3	3
Semester No	3		CO2	3	3	3	3	3	0	1	0	1	1	0	0	3	3	3
Teacher Name	Sarika Kulkarni		CO3	3	3	3	3	2	0	1	0	1	0	0	0	3	3	3
Course Outcomes			CO4															
	CO1	1. To use well-organized data structures in solving various problems.	CO5															
	CO2	2. To differentiate the usage of various structures in problem solution.	Average	3.00	3.00	3.00	2.67	2.67	0.00	1.00	0.00	1.33	0.67	0.33	0.33	3.00	3.00	3.00
	CO3	3. Implementing algorithms to solve problems using appropriate data structures																
	CO4																	
	CO5																	

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 232			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Software Engineering		CO1	3	3	3	3	3	3	1	3	0	0	1	1	3	3	3
Semester No	3		CO2	3	3	3	3	3	3	1	3	1	0	1	1	3	3	3
Teacher Name	Ujwala Sawant		CO3	3	3	3	3	3	3	1	3	0	0	1	1	3	3	3
Course Outcomes			CO4															
	CO1	1. Compare and chose a process model for a software project development.	CO5															

	CO2	2. Identify requirements analyze and prepare models.	Average	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	0.33	0.00	1.00	1.00	3.00	3.00	3.00
	CO3	3. Prepare the SRS, Design document, Project plan of a given software system.																
	CO4																	
	CO5																	

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 233			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Practical course on CS 231 and CS 232		CO1	3	3	3	3	3	0	2	0	3	2	1	1	3	3	3
Semester No	3		CO2	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Teacher Name	Sarika Kulkarni		CO3	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Course Outcomes			CO4	3	3	3	3	3	3	2	3	0	1	1	1	3	3	3
	CO1	Use different searching and sorting methods for basic data structures programs.	CO5	3	3	3	3	3	3	2	3	0	0	1	0	3	3	3
	CO2	Solve simple mathematical problems using data structure;	Average	3.00	3.00	3.00	3.00	3.00	1.20	2.00	1.20	1.40	1.40	1.00	0.80	3.00	3.00	3.00
	CO3	Implement various data structures viz. Stack, Queues and Linked Lists																
	CO4	Describe the software engineering processes such as gathering data and functional requirements in the software project;Apply feasibility study techniques for the software project;																
	CO5	Discuss the existing system, and explain the proposed system;Determine the entities, attributes and draw E-R diagram.																

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC-231			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Microcontroller Architecture & Programming		CO1	3	3	3	3	3	0	3	3	3	3	3	2	3	2	
Semester No	3		CO2	3	3	2	2	2	0	1	2	2	2	3	2	3	2	
Teacher Name	Hire Sandhya		CO3	2	3	2	3	2	0	1	3	2	3	3	2	3	2	



Course Outcomes			CO4															
CO1	1. To write programs for 8051 microcontroller	CO5																
CO2	2. To interface I/O peripherals to 8051 microcontroller	Average	2.67	3.00	2.33	2.67	2.33	0.00	1.67	2.67	2.33	2.67	3.00	3.00	2.00	3.00	2.00	
CO3	3. To design small microcontroller based projects																	
CO4																		
CO5																		

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC- 232		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Digital Communication and Networking	CO1	2	3	3	3	2	0	3	3	2	3	3	3	2	3	3
Semester No	3	CO2	2	2	2	3	2	0	2	2	2	2	3	3	2	3	3
Teacher Name	Sandra Francis	CO3	3	3	1	2	1	0	0	2	2	2	3	3	2	3	3
Course Outcomes		CO4	2	1	2	2	2	0	2	2	2	2	3	3	2	3	3
CO1	1. Define and explain terminologies of data communication	CO5	2	1	2	1	2	0	2	2	2	2	3	3	2	3	3
CO2	2. Understand the impact and limitations of various digital modulation techniques	Average	2.20	2.00	2.00	2.20	1.80	0.00	1.80	2.20	2.00	2.20	3.00	3.00	2.00	3.00	3.00
CO3	3. To acknowledge the need of spread spectrum schemes.																
CO4	4. Identify functions of data link layer and network layer while accessing communication link																
CO5	5. To choose appropriate and advanced techniques to build the computer network																

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC-233		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Practical course in Electronics	CO1	2	3	3	3	2	0	3	3	2	3	3	3	2	3	3
Semester No	3	CO2	2	2	2	3	2	0	2	2	2	2	3	3	2	3	3
Teacher Name	Hire Sandhya	CO3	3	3	1	2	1	0	0	2	2	2	3	3	2	3	3
Course Outcomes		CO4	2	1	2	2	2	0	2	2	2	2	3	3	2	3	3

CO1	1. To design and build his/her own microcontroller based projects.	CO5																
CO2	2. To acquire skills of Embedded C programming	Average	2.25	2.25	2.00	2.50	1.75	0.00	1.75	2.25	2.00	2.25	3.00	3.00	2.00	3.00	3.00	
CO3	3. To know multiplexing and modulation techniques useful in developing wireless application																	
CO4	4. Do build and test own network and do settings.																	
CO5																		

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC-231		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Groups and Coding Theory	CO1	3	2	1	1	2	0	1	1	2	3	1	0	2	2	2
Semester No	3	CO2	2	2	1	2	1	0	1	1	3	3	0	1	2	2	2
Teacher Name	Leah Chakranarayan	CO3	2	1	1	1	1	0	1	0	3	3	0	1	1	2	2
Course Outcomes		CO4	1	1	1	1	1	0	1	1	2	3	0	0	2	2	2
CO1	Use algebraic techniques to construct efficient codes	CO5															
CO2	Understand Binary block codes, Minimum distance, Error-detecting capability and error-correcting capability.	Average	2.00	1.50	1.00	1.25	1.25	0.00	1.00	0.75	2.50	3.00	0.25	0.50	1.75	2.00	2.00
CO3	Present the relationships between abstract algebraic structures with familiar numbers systems such as the integers and real numbers.																
CO4	Investigate symmetry using group theory.																
CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC-232		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Numerical Techniques	CO1	2	1	2	1	0	0	1	1	3	3	0	0	1	3	2
Semester No	3	CO2	1	2	1	1	0	0	2	2	3	3	0	0	2	2	2
Teacher Name	Devyani Waghmare	CO3	2	2	1	1	1	1	1	2	3	3	0	0	1	2	2
Course Outcomes		CO4															

	CO1	Apply numerical methods to obtain approximate solutions to mathematical problems.	CO5															
	CO2	Derive numerical methods for various mathematical operations and tasks, such as interpolation, differentiation, integration, the solution of linear and nonlinear equations, and the solution of differential equations.	Average	1.67	1.67	1.33	1.00	0.33	0.33	1.33	1.67	3.00	3.00	0.00	0.00	1.33	2.33	2.00
	CO3	Analyse and evaluate the accuracy of common numerical methods.																
	CO4																	
	CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	MTC-233		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	Mathematics Practical: Python Programming Language-I	CO1	3	3	2	1	1	1	3	2	3	3	0	0	2	3	3	
Semester No	3	CO2	2	3	2	1	0	1	3	3	3	3	0	0	2	3	2	
Teacher Name	Devyani Waghmare	CO3	3	2	1	1	1	1	1	2	3	3	0	0	1	2	3	
Course Outcomes		CO4																
	CO1	Implement numerical and mathematical methods in python.																
	CO2	To apply critical, creative and evidence-based thinking to solve real world problem.	Average	2.67	2.67	1.67	1.00	0.67	1.00	2.33	2.33	3.00	3.00	0.00	0.00	1.67	2.67	2.67
	CO3	To Study of Graphical aspects of n dimensional matrices using python.																
	CO4																	
	CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	-		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Language Communication –I	CO1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Semester No	3	CO2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Teacher Name	Poornima Behare	CO3															
Course Outcomes		CO4															

CO1	To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English.	CO5																
CO2	To enhance employability of the students by developing their linguistic competence and communicative skills.	Average	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO3																		
CO4																		
CO5																		

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 241		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Data Structures and Algorithms – II	CO1	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Semester No	4	CO2	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Teacher Name	Sarika Kulkarni	CO3	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Course Outcomes		CO4															
CO1	Implementation of different data structures efficiently	CO5															
CO2	• Usage of well-organized data structures to handle large amount of data	Average	3.00	3.00	3.00	3.00	3.00	0.00	2.00	0.00	2.00	2.00	1.00	1.00	3.00	3.00	3.00
CO3	• Usage of appropriate data structures for problem solving																
CO4																	
CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 242		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Computer Networks-I	CO1	3	3	3	3	3	0	1	0	1	1	2	3	2	3	3
Semester No	4	CO2	3	3	3	3	3	0	1	0	1	1	2	3	2	3	3
Teacher Name	Fahemiya Khan	CO3	3	3	3	3	3	0	1	0	1	1	2	3	2	3	3
Course Outcomes		CO4															
CO1	1. Have a good understanding of the OSI and TCP/IP Reference Models and inparticular have a good knowledge of Layers.	CO5															

	CO2	2. Understand the working of various protocols.	Average	3.00	3.00	3.00	3.00	3.00	0.00	1.00	0.00	1.00	1.00	2.00	3.00	2.00	3.00	3.00
	CO3	3. Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies																
	CO4																	
	CO5																	

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 243			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Practical course on CS 241 and CS 242		CO1	3	3	3	3	3	0	2	0	3	2	1	1	3	3	3
Semester No	4		CO2	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Teacher Name	Sarika Kulkarni		CO3	3	3	3	3	3	0	2	0	2	2	1	1	3	3	3
Course Outcomes			CO4															
	CO1	Implement complex data structures like trees, graphs and hash table;	CO5															
	CO2	Also Implement applications of complex data structures like trees, graphs and hash table;	Average	3.00	3.00	3.00	3.00	3.00	0.00	2.00	0.00	2.33	2.00	1.00	1.00	3.00	3.00	3.00
	CO3	Demonstrate various networking commands in Unix.																
	CO4																	
	CO5																	

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC-241			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Embedded System Design		CO1	2	3	3	3	2	0	3	3	2	3	3	2	3	3	
Semester No	4		CO2	2	2	2	3	2	0	2	2	2	2	3	2	3	3	
Teacher Name	Iram Shaikh		CO3	3	3	1	2	2	0	2	2	2	2	3	2	3	3	
Course Outcomes			CO4	2	1	2	2	2	0	2	2	2	2	3	2	3	3	
	CO1	1. To understand the difference between general computing and the Embedded systems.	CO5	2	2	2	2	2	0	2	2	2	2	3	2	3	3	

	CO2	2. To know the fundamentals of embedded systems.	Average	2.20	2.20	2.00	2.40	2.00	0.00	2.20	2.20	2.00	2.20	3.00	3.00	2.00	3.00	3.00
	CO3	3. Understand the use of Single board Computer (Such as Raspberry Pi) for an embedded system application.																
	CO4	4. Familiar with the programming environment to develop embedded systems and their interfaces with peripheral devices.																
	CO5	5. To develop familiarity with tools used to develop in an embedded environment.																

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC242			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Wireless Communication and Internet of Things		CO1	2	3	3	3	2	1	3	3	2	3	3	3	2	3	3
Semester No	4		CO2	2	2	2	3	2	1	2	2	2	2	3	3	2	3	3
Teacher Name	Sandra Francis		CO3	3	3	1	2	1	1	1	2	2	2	3	3	2	3	3
Course Outcomes			CO4	2	1	2	2	2	1	2	2	2	2	3	3	2	3	3
	CO1	1. Know working of wireless technologies such as Mobile communication, GSM, GPRS	CO5	2	1	2	1	2	1	2	2	2	2	3	3	2	3	3
	CO2	2. Become familiar with 3G and 4G Cellular Network Technologies for Data Connections.	Average	2.20	2.00	2.00	2.20	1.80	1.00	2.00	2.20	2.00	2.20	3.00	3.00	2.00	3.00	3.00
	CO3	3. Understand working principles of short range communication application																
	CO4	4. Get introduce to upcoming technology of Internet of Things																
	CO5	5. Explore themselves and develop new IoT based applications																

Class		S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	ELC-243			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Practical course in Electronics		CO1	2	3	3	3	2	0	3	3	2	3	3	3	2	3	3
Semester No	4		CO2	2	2	2	3	2	0	2	2	2	2	3	3	2	3	3

Teacher Name	Iram Shaikh	CO3	3	3	1	2	1	0	0	2	2	2	3	3	2	3	3	
Course Outcomes		CO4																
	CO1	1. To design and develop own smart applications using Raspberry-Pi	CO5															
	CO2	2. To write Python program for simple applications	Average	2.33	2.67	2.00	2.67	1.67	0.00	1.67	2.33	2.00	2.33	3.00	3.00	2.00	3.00	3.00
	CO3	3. To build own IoT based system																
	CO4																	
	CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	MTC-241		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	Computational Geometry	CO1	2	0	2	2	2	0	1	2	2	2	0	0	1	2	2	
Semester No	4	CO2	1	2	2	2	2	0	1	1	3	2	1	0	2	3	1	
Teacher Name	Sadiya Shaikh	CO3	1	1	1	1	2	0	2	1	2	3	1	0	2	3	1	
Course Outcomes		CO4	2	2	1	1	2	0	1	2	2	2	0	1	1	2	1	
	CO1	State different types of projections on an object.	CO5	1	1	2	1	2	0	2	2	2	0	0	1	3	2	
	CO2	Compute points of standard curves using recursive formulae.	Average	1.40	1.20	1.60	1.40	2.00	0.00	1.40	1.60	2.20	2.20	0.40	0.20	1.40	2.60	1.40
	CO3	Demonstrate knowledge of key notions and principles related to 2 dimensional transformations.																
	CO4	Explain and implement the basic principles and theory of geometric algorithms.																
	CO5	Evaluate 3D transformations and construct Bezier curves of order 2 and order 3.																

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC-242		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Operations Research	CO1	1	2	2	1	1	0	1	1	3	2	1	1	1	2	3
Semester No	4	CO2	1	1	1	1	2	0	2	1	3	2	1	0	2	2	2
Teacher Name	Leah Chakranarayan	CO3	1	1	1	1	1	0	2	1	3	3	1	0	2	3	2
Course Outcomes		CO4	2	1	2	1	1	0	1	2	3	3	0	1	2	2	2

	CO1	Apply operations research techniques and algorithms to solve these Network problems	CO5															
	CO2	Determine optimal strategy for Minimization of Cost of shipping of products from source to Destination. Finding initial basic feasible and optimal solution of the Transportation problems	Average	1.25	1.25	1.50	1.00	1.25	0.00	1.50	1.25	3.00	2.50	0.75	0.50	1.75	2.25	2.25
	CO3	Model competitive real-world phenomena using concepts from game theory. Analyse pure and mixed strategy games																
	CO4	Solve linear programming problems using appropriate techniques and optimization solvers, interpret the results obtained.																
	CO5																	

Class	S. Y. B. Sc.( Computer Science)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	MTC-243		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	Mathematics Practical: Python Programming Language-II	CO1	2	0	2	2	1	0	1	2	2	2	0	0	2	2	3	
Semester No	4	CO2	0	0	1	0	1	0	2	2	3	2	1	0	3	2	3	
Teacher Name	Sadiya Shaikh	CO3	1	0	0	1	1	0	2	1	2	3	0	1	3	3	2	
Course Outcomes		CO4	0	0	0	1	1	0	3	2	2	1	0	0	2	2	2	
	CO1	Recall basic facts about mathematics.	CO5	0	1	0	0	1	0	2	2	2	2	1	0	2	2	3
	CO2	Should be able to display knowlege of convention such as notations, terminology and recognize basic geometrical figures, graphical display.	Average	0.60	0.20	0.60	0.80	1.00	0.00	2.00	1.80	2.20	2.00	0.40	0.20	2.40	2.20	2.60
	CO3	State important facts resulting from their studies.																
	CO4	A relational understanding of mathematical concepts and concerned structures, and should be able to follow the patterns.																
	CO5	Should get adequte explosure to global and local concerns that explore them many aspects of mathematical science.																



Class		S. Y. B. Sc.( Computer Science)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	-	PO1	PO2		PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3		
Subject Name	Language Communication –II	CO1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0		
Semester No	4	CO2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0		
Teacher Name	Poornima Behare	CO3																	
Course Outcomes		CO4																	
	CO1	To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English.	CO5																
	CO2	To enhance employability of the students by developing their linguistic competence and communicative skills.	Average	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	CO3																		
	CO4																		
	CO5																		

<b>Academic Year :</b> 2022-23
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Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 351			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	OPERATING SYSTEMS -I		CO1	2	2	3	3	2	0	0	0	0	0	1	1	1	3	3
Semester No	5		CO2	2	1	3	3	3	0	0	0	0	0	0	0	1	3	3
Teacher Name	SHEETAL AWATE		CO3	2	1	2	2	2	0	1	1	1	1	0	0	2	3	3
Course Outcomes			CO4	2	2	2	3	3	0	0	0	0	0	0	0	1	2	3
	CO1	Processes and Thread Scheduling by operating system	CO5															
	CO2	Synchronization in process by operating system	Average	2.00	1.50	2.50	2.75	2.50	0.00	0.25	0.25	0.25	0.25	0.25	0.25	1.25	2.75	3.00
	CO3	Memory management by operating system using with the help of various schemes.																
	CO4	Synchronization in threads by operating system																
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 352			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	COMPUTER NETWORKS - II		CO1	2	1	1	2	2	0	0	0	0	0	1	0	0	0	1
Semester No	5		CO2	1	1	1	2	2	1	0	0	0	0	0	0	1	0	2
Teacher Name	SMITA RAUT		CO3	2	1	1	1	1	0	0	0	0	0	1	0	1	2	3
Course Outcomes			CO4	1	1	1	1	1	0	0	0	0	0	0	0	1	0	1
	CO1	Student will understand the different protocols of Application layer.	CO5	1	1	2	1	1	0	0	0	0	0	0	0	2	1	1

	CO2	Develop understanding of technical aspect of Multimedia Systems.	Average	1.40	1.00	1.20	1.40	1.40	0.20	0.00	0.00	0.00	0.00	0.40	0.00	1.00	0.60	1.60
	CO3	Develop various Multimedia Systems applicable in real time.																
	CO4	Identify information security goals.																
	CO5	Understand, compare and apply cryptographic techniques for data security.																

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 353			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	WEB TECHNOLOGIES -I		CO1	3	3	3	2	2	1	1	0	0	1	0	0	2	2	3
Semester No	5		CO2	2	3	2	3	3	2	1	0	0	1	0	0	3	2	2
Teacher Name	PRACHI WALUNJKAR		CO3	3	3	2	2	2	1	2	0	0	0	0	0	2	2	3
Course Outcomes			CO4	2	2	2	3	3	1	1	2	1	0	0	0	2	2	2
	CO1	Understand how to develop dynamic and interactive Web Page.	CO5															
	CO2	Understanding concepts of server side scripting	Average	2.50	2.75	2.25	2.50	2.50	1.25	1.25	0.50	0.25	0.50	0.00	0.00	2.25	2.00	2.50
	CO3	Understanding basic of web browser and web services protocols.																
	CO4	Understanding connection with databases.																
	CO5																	

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 354			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name	FOUNDATIONS OF DATA SCIENCE		CO1	3	3	3	3	1	2	3	3	3	3	1	0	3	3	3
Semester No	5		CO2	3	3	2	1	1	0	3	3	3	3	0	1	3	3	3
Teacher Name	FARHEEN KHAN		CO3	2	1	3	2	1	1	3	3	3	3	0	0	2	3	3
Course Outcomes			CO4	2	3	3	3	0	2	3	3	3	3	1	0	3	3	3
	CO1	Perform Exploratory Data Analysis.	CO5	1	3	3	2	0	3	3	3	2	3	2	0	3	3	3
	CO2	Obtain, clean/process, and transform data	Average	2.20	2.60	2.80	2.20	0.60	1.60	3.00	3.00	2.80	3.00	0.80	0.20	2.80	3.00	3.00
	CO3	Detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.																
	CO4	Demonstrate proficiency with statistical analysis of data.																
	CO5	Present results using data visualization techniques.																

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 355			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	OBJECT ORIENTED PROGRAMMING USING JAVA -I		CO1	3	3	2	3	3	1	1	0	1	0	0	0	3	1	3
Semester No	5		CO2	3	3	3	2	2	2	0	1	0	0	1	1	3	2	3
Teacher Name	ROOPALI KULKARNI		CO3	3	2	3	2	3	1	1	0	0	0	0	0	3	3	3
Course Outcomes			CO4															
	CO1	Understand the concept of classes, object, packages and Collections.	CO5															
	CO2	To develop GUI based application	Average	3.00	2.67	2.67	2.33	2.67	1.33	0.67	0.33	0.33	0.00	0.33	0.33	3.00	2.00	3.00
	CO3	To understand the basic concepts and fundamentals of object oriented language.																
	CO4																	

CO5	
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Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 356			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	THEORETICAL COMPUTER SCIENCE		CO1	1	2	2	2	3	1	0	0	0	0	0	2	2	1	
Semester No	5		CO2	2	1	2	3	2	1	0	0	0	0	0	1	1	1	
Teacher Name	RAHUL GHODKE		CO3	2	2	1	2	2	1	0	0	0	0	0	2	2	2	
Course Outcomes			CO4															
	CO1	Understand the use of automata during language design	CO5															
	CO2	Relate various automata and Languages.	Average	1.67	1.67	1.67	2.33	2.33	1.00	0.00	0.00	0.00	0.00	0.00	1.67	1.67	1.33	
	CO3	Developing sustainable computing solutions																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 357			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS 351		CO1	2	2	3	3	2	0	0	0	0	0	1	1	1	3	2
Semester No	5		CO2	2	1	3	3	3	0	0	0	0	0	0	1	3	3	
Teacher Name	SHEETAL AWATE		CO3	2	1	2	2	2	0	1	1	1	1	0	2	3	3	
Course Outcomes			CO4															
	CO1	Process synchronization	CO5															
	CO2	Processes and Thread Scheduling by operating system	Average	2.00	1.33	2.67	2.67	2.33	0.00	0.33	0.33	0.33	0.33	0.33	1.33	3.00	2.67	
	CO3	Memory management by operating system using with the help of various schemes																
	CO4																	

CO5	
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Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 358			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS 353 & CS 354		CO1	3	3	3	3	3	2	0	1	0	1	1	0	3	3	3
Semester No	5		CO2	2	3	3	2	1	2	3	3	2	2	0	0	2	3	3
Teacher Name	FARHEEN KHAN & RAHUL GHODKE		CO3	3	3	3	0	1	2	3	3	2	2	0	0	3	2	3
Course Outcomes			CO4															
	CO1	Understand how to develop dynamic and interactive Web Page	CO5															
	CO2	Prepare data for use with a variety of statistical methods and recognize how the quality of the data may affect conclusions.	Average	2.67	3.00	3.00	1.67	1.67	2.00	2.00	2.33	1.33	1.67	0.33	0.00	2.67	2.67	3.00
	CO3	Perform exploratory data analysis																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 359			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS 355		CO1	3	3	2	3	3	1	1	0	1	0	0	0	2	1	2
Semester No	5		CO2	3	3	3	2	2	2	0	1	0	0	1	1	3	2	3
Teacher Name	ROOPALI KULKARNI		CO3	3	2	3	3	3	1	1	1	0	0	0	0	2	2	2
Course Outcomes			CO4															
	CO1	Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.	CO5															

	CO2	Read and make elementary modifications to Java programs that solve real-world problems.	Average	3.00	2.67	2.67	2.67	2.67	1.33	0.67	0.67	0.33	0.00	0.33	0.33	2.33	1.67	2.33
	CO3	Validate input in a Java program.																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 3510			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PYTHON PROGRAMMING		CO1	3	3	3	3	1	2	3	3	3	3	1	0	3	3	3
Semester No	5		CO2	3	3	2	2	1	2	3	3	3	3	0	1	3	3	3
Teacher Name	SARIKA KULKARNI		CO3	2	2	3	2	1	1	3	3	3	3	0	0	2	3	3
Course Outcomes			CO4	2	3	3	3	0	2	3	3	3	3	1	0	3	3	3
	CO1	Develop logic for problem solving	CO5															
	CO2	Determine the methods to create and develop Python programs by utilizing the data structures like lists, dictionaries, tuples and sets.	Average	2.50	2.75	2.75	2.50	0.75	1.75	3.00	3.00	3.00	3.00	0.50	0.25	2.75	3.00	3.00
	CO3	To be familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.																
	CO4	To write python programs and develop a small application project																
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 3511			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	BLOCKCHAIN TECHNOLOGY		CO1	3	3	2	3	3	1	1	0	1	0	0	0	2	1	2

Semester No	5	CO2	3	3	3	2	2	1	0	0	0	0	1	1	3	2	3	
Teacher Name	KOMAL TODKAR	CO3	3	2	3	3	3	1	0	0	0	0	0	0	2	2	2	
Course Outcomes		CO4																
	CO1	Learn the fundamentals of Blockchain Technology.	CO5															
	CO2	Learn Blockchain programming	Average	3.00	2.67	2.67	2.67	2.67	1.00	0.33	0.00	0.33	0.00	0.33	0.33	2.33	1.67	2.33
	CO3	Basic knowledge of Smart Contracts and how they function																
	CO4																	
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 361		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	OPERATING SYSTEMS -II	CO1	3	3	2	3	3	1	1	0	1	0	0	0	2	1	2	
Semester No	6	CO2	3	3	3	2	2	2	0	1	0	0	1	1	3	2	3	
Teacher Name	SHEETAL AWATE	CO3	3	2	3	3	3	1	1	1	0	0	0	0	2	2	2	
Course Outcomes		CO4																
	CO1	Management of deadlocks and File System by operating system	CO5															
	CO2	Scheduling storage or disk for processes	Average	3.00	2.67	2.67	2.67	2.67	1.33	0.67	0.67	0.33	0.00	0.33	0.33	2.33	1.67	2.33
	CO3	Distributed Operating System and its architecture and the extended features in mobile OS.																
	CO4																	
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 362		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	SOFTWARE TESTING	CO1	3	3	2	3	3	1	1	1	1	0	0	0	3	2	3
Semester No	6	CO2	3	3	2	3	3	1	1	0	1	0	0	0	2	2	2
Teacher Name	FAHEMIYA KHAN	CO3	3	3	3	2	2	2	0	1	0	0	1	1	3	3	3



Course Outcomes			CO4	3	2	3	3	3	1	1	1	0	0	0	0	2	3	3
	CO1	To understand various software testing methods and strategies.	CO5	3	3	3	2	3	2	2	1	1	0	1	0	2	3	3
	CO2	To understand a variety of software metrics.	Average	3.00	2.80	2.60	2.60	2.80	1.40	1.00	0.80	0.60	0.00	0.40	0.20	2.40	2.60	2.80
	CO3	To design test cases and test plans, review reports of testing for qualitative software																
	CO4	To understand latest testing methods used in the software industries.																
	CO5	To identify defects and managing those defects for improvement in quality for given software.																

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 363		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	WEB TECHNOLOGIES -II	CO1	3	3	3	2	2	2	1	0	0	1	1	0	3	3	3	
Semester No	6	CO2	3	2	3	2	2	1	1	0	0	1	0	0	2	2	3	
Teacher Name	PRACHI WALUNJKAR	CO3	2	3	2	3	2	1	1	0	0	0	1	0	1	2	2	
Course Outcomes		CO4																
	CO1	Build dynamic website.	CO5															
	CO2	Using MVC based framework easy to design and handling the errors in dynamic website.	Average	2.67	2.67	2.67	2.33	2.00	1.33	1.00	0.00	0.00	0.67	0.67	0.00	2.00	2.33	2.67
	CO3	To build and validate client server application.																
	CO4																	
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 364		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name	DATA ANALYTICS	CO1	2	3	2	3	1	2	3	3	3	3	1	0	2	3	3	
Semester No	6	CO2	3	3	2	1	1	0	3	3	2	3	0	1	2	3	3	
Teacher Name	FARHEEN KHAN	CO3	2	1	2	2	1	1	3	3	2	2	0	0	2	3	2	
Course Outcomes		CO4	2	3	3	3	1	2	3	3	3	3	1	0	3	3	3	
	CO1	Use appropriate models of analysis, assess the quality of input, and derive insight from results.	CO5															
	CO2	Analyze data, choose relevant models and algorithms for respective applications	Average	2.25	2.50	2.25	2.25	1.00	1.25	3.00	3.00	2.50	2.75	0.50	0.25	2.25	3.00	2.75
	CO3	Understand different data mining techniques like classification, prediction, clustering and association rule mining																
	CO4	Apply modeling and data analysis techniques to the solution of real world business problems																
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 365		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	OBJECT ORIENTED PROGRAMMING USING JAVA - II	CO1	3	3	2	3	3	1	1	2	1	0	0	0	3	1	2
Semester No	6	CO2	3	3	3	2	2	2	0	1	0	0	1	1	3	2	3
Teacher Name	ROOPALI KULKARNI	CO3	2	3	2	3	3	2	1	0	0	0	1	0	3	3	3
Course Outcomes		CO4															
	CO1	To access open database through Java programs using Java Data Base Connectivity (JDBC) and develop the applications.	CO5														

	CO2	Understand and Create dynamic web pages, using Servlets and JSP.	Average	2.67	3.00	2.33	2.67	2.67	1.67	0.67	1.00	0.33	0.00	0.67	0.33	3.00	2.00	2.67
	CO3	Work with basics of framework to develop secure web applications.																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 366			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	COMPILER CONSTRUCTION		CO1	2	3	3	2	3	1	0	0	0	0	0	2	2	3	
Semester No	6		CO2	2	1	2	3	2	1	1	0	1	1	0	1	2	2	
Teacher Name	RAHUL GHODKE		CO3	3	2	2	2	2	2	0	0	0	1	0	2	2	3	
Course Outcomes			CO4															
	CO1	Understand the process of scanning and parsing of source code	CO5															
	CO2	Learn the conversion code written in source language to machine language.	Average	2.33	2.00	2.33	2.33	2.33	1.33	0.33	0.00	0.33	0.33	0.33	0.00	1.67	2.00	2.67
	CO3	Understand tools like LEX and YACC.																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 367			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS 361		CO1	3	2	3	3	2	0	0	0	0	1	1	2	3	2	
Semester No	6		CO2	2	1	3	3	3	1	0	0	0	0	0	2	3	3	
Teacher Name	SHEETAL AWATE		CO3	3	2	2	2	2	1	1	1	1	1	0	2	3	3	

Course Outcomes			CO4															
	CO1	Management of deadlocks by operating system.	CO5															
	CO2	File System management.	Average	2.67	1.67	2.67	2.67	2.33	0.67	0.33	0.33	0.33	0.33	0.33	0.33	2.00	3.00	2.67
	CO3	Disk space management and scheduling for processes																
	CO4																	
	CO5																	

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 368			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PRACTICAL COURSE BASED ON CS 363 & CS 364		CO1	3	3	2	1	1	0	3	3	2	3	0	1	2	3	3
Semester No	6		CO2	2	1	2	2	1	1	3	3	2	2	0	0	2	3	2
Teacher Name	FARHEEN KHAN & RAHUL GHODKE		CO3	2	1	3	3	3	1	0	0	0	0	0	0	2	3	3
Course Outcomes			CO4															
	CO1	Analyze data, choose relevant models and algorithms using python	CO5															
	CO2	Apply modeling and data analysis techniques to the solution of real world business problems and datasets	Average	2.33	1.67	2.33	2.00	1.67	0.67	2.00	2.00	1.33	1.67	0.00	0.33	2.00	3.00	2.67
	CO3	Using MVC based framework easy to design and handling the errors in dynamic website.																
	CO4																	
	CO5																	

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 369			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3

Subject Name	PRACTICAL COURSE BASED ON CS 365		CO1	3	3	2	3	3	1	1	2	1	0	0	0	2	2	3
Semester No	6		CO2	3	2	2	2	2	2	0	1	0	0	1	1	3	2	3
Teacher Name	ROOPALI KULKARNI		CO3	2	3	3	3	3	2	2	0	0	0	1	0	2	3	3
Course Outcomes			CO4															
	CO1	To Learn database Programming using Java	CO5															
	CO2	Understand and Create dynamic web pages using Servlets and JSP.	Average	2.67	2.67	2.33	2.67	2.67	1.67	1.00	1.00	0.33	0.00	0.67	0.33	2.33	2.33	3.00
	CO3	Work with basics of framework to develop secure web applications																
	CO4																	
	CO5																	

Class	TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 3610			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	SOFTWARE TESTING TOOLS		CO1	3	3	2	3	3	1	1	1	1	0	0	0	2	2	3
Semester No	6		CO2	2	2	2	2	2	1	1	0	1	0	0	0	2	2	3
Teacher Name	KOMAL TODKAR		CO3	2	2	3	2	2	2	0	1	0	0	1	1	3	3	3
Course Outcomes			CO4	2	2	3	3	3	1	1	1	0	0	0	2	2	3	
	CO1	To understand various software testing methods and strategies	CO5	3	3	2	3	3	2	1	1	1	0	0	0	3	2	3
	CO2	To understand a variety of software metrics.	Average	2.40	2.40	2.40	2.60	2.60	1.40	0.80	0.80	0.60	0.00	0.20	0.20	2.40	2.20	3.00
	CO3	To design test cases and test plans, review reports of testing for qualitative software																
	CO4	To understand latest testing tools used in the software industries.																

	CO5	To identify defects and managing those defects for improvement in quality for given software.
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Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 3611			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PROJECT		CO1	3	3	2	3	3	2	1	2	1	0	0	0	2	1	2
Semester No	6		CO2	3	3	3	3	3	3	0	1	0	0	1	1	3	2	3
Teacher Name	PRACHI WALUNJKAR		CO3	2	3	2	3	3	3	1	0	0	0	1	0	2	3	3
Course Outcomes			CO4															
	CO1	To develop a web application or a software	CO5															
	CO2	To be proficient in programming and different programming languages.	Average	2.67	3.00	2.33	3.00	3.00	2.67	0.67	1.00	0.33	0.00	0.67	0.33	2.33	2.00	2.67
	CO3	to document and present the project logic and presentation.																
	CO4																	
	CO5																	

		CO-PO Mapping													
		Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
		1	CS 111	3.00	2.80	2.20	3.00	2.60	0.40	2.60	2.60	2.60	2.60	1.20	1.40
		2	CS 112	2.25	2.50	2.50	2.00	2.50	0.00	1.00	2.00	1.50	1.25	0.50	0.25
		3	CS 113	2.00	2.25	2.75	2.00	2.50	0.75	1.25	1.25	1.50	2.25	0.50	0.75
		4	MTC 111	1.33	1.67	1.67	2.33	2.00	0.00	1.67	1.00	3.00	2.67	0.33	0.67
		5	MTC 112	1.25	1.00	1.25	1.25	1.75	0.00	1.00	0.75	2.75	2.50	0.75	0.75
		6	MTC 113	1.75	1.50	2.00	1.25	1.50	0.25	1.25	0.50	2.75	3.00	0.75	0.50
		7	ELC 111	1.00	1.00	1.50	1.25	1.50	0.00	0.50	1.00	0.75	0.75	2.75	2.75
		8	ELC 112	1.00	1.00	1.33	1.00	1.67	0.00	0.00	0.67	0.67	0.67	3.00	2.67
		9	ELC 113	1.50	1.25	1.50	1.50	1.75	0.00	0.00	0.75	0.75	0.75	3.00	2.75
		10	CSST 111	2.25	2.00	2.25	2.00	2.00	0.00	3.00	0.50	2.75	2.75	0.25	0.50
		11	CSST 112	2.75	2.50	2.25	1.75	2.25	0.00	3.00	0.50	2.75	2.75	0.50	0.25
		12	CSST 113	2.80	2.40	1.40	1.60	1.80	0.00	3.00	0.40	2.80	3.00	0.40	0.20
		13	CS 121	2.60	2.40	1.60	1.40	2.60	0.00	2.00	0.60	1.80	1.80	1.00	0.20
		14	CS 122	2.00	2.00	2.00	1.67	2.67	0.00	1.00	0.33	0.67	0.00	0.00	0.00
		15	CS 123	2.75	2.50	2.75	2.25	2.50	0.00	1.50	0.50	2.25	2.50	1.25	0.25
		16	MTC 121	1.25	1.25	1.25	1.00	1.75	0.00	2.50	0.50	2.75	2.75	1.75	1.00
		17	MTC 122	1.80	2.00	1.20	1.00	1.40	0.00	2.20	0.60	2.80	2.60	1.40	0.20
		18	MTC 123	2.00	2.25	2.25	2.25	1.50	0.00	2.25	0.50	3.00	2.75	1.50	0.50
		19	ELC 121	1.25	1.75	1.75	1.25	1.50	0.00	2.00	0.50	0.75	0.25	2.50	3.00
		20	ELC 122	1.67	1.33	2.00	1.67	1.33	0.00	2.33	0.33	0.00	0.33	2.67	3.00
		21	ELC 123	1.25	1.50	2.00	1.25	1.75	0.00	2.00	0.75	0.25	0.25	2.75	3.00
		22	CSST 121	2.60	2.60	2.40	2.00	2.00	0.00	3.00	0.60	2.40	2.60	0.60	0.20
		23	CSST 122	2.00	1.75	1.75	1.50	1.75	0.00	2.75	0.50	2.50	2.75	1.50	0.50
FY	FY	24	CSST 123	2.25	1.75	1.75	1.50	1.75	0.00	3.00	0.75	2.75	2.75	1.50	0.25
		1	CS 231	3.00	3.00	3.00	2.67	2.67	0.00	1.00	0.00	1.33	0.67	0.33	0.33
		2	CS 232	3.00	3.00	3.00	3.00	3.00	3.00	1.00	3.00	0.33	0.00	1.00	1.00
		3	CS 233	3.00	3.00	3.00	3.00	3.00	1.20	2.00	1.20	1.40	1.40	1.00	0.80
		4	ELC-231	2.67	3.00	2.33	2.67	2.33	0.00	1.67	2.67	2.33	2.67	3.00	3.00
		5	ELC- 232	2.20	2.00	2.00	2.20	1.80	0.00	1.80	2.20	2.00	2.20	3.00	3.00
		6	ELC-233	2.25	2.25	2.00	2.50	1.75	0.00	1.75	2.25	2.00	2.25	3.00	3.00
		7	MTC-231	2.00	1.50	1.00	1.25	1.25	0.00	1.00	0.75	2.50	3.00	0.25	0.50
		8	MTC-232	1.67	1.67	1.33	1.00	0.33	0.33	1.33	1.67	3.00	3.00	0.00	0.00
		9	MTC-233	2.67	2.67	1.67	1.00	0.67	1.00	2.33	2.33	3.00	3.00	0.00	0.00
		10	-	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
		11	CS 241	3.00	3.00	3.00	3.00	3.00	0.00	2.00	0.00	2.00	2.00	1.00	1.00
		12	CS 242	3.00	3.00	3.00	3.00	3.00	0.00	1.00	0.00	1.00	1.00	2.00	3.00
		13	CS 243	3.00	3.00	3.00	3.00	3.00	0.00	2.00	0.00	2.33	2.00	1.00	1.00
		14	ELC-241	2.20	2.20	2.00	2.40	2.00	0.00	2.20	2.20	2.00	2.20	3.00	3.00
		15	ELC242	2.20	2.00	2.00	2.20	1.80	1.00	2.00	2.20	2.00	2.20	3.00	3.00
		16	ELC-243	2.33	2.67	2.00	2.67	1.67	0.00	1.67	2.33	2.00	2.33	3.00	3.00
		17	MTC-241	1.40	1.20	1.60	1.40	2.00	0.00	1.40	1.60	2.20	2.20	0.40	0.20
		18	MTC-242	1.25	1.25	1.50	1.00	1.25	0.00	1.50	1.25	3.00	2.50	0.75	0.50
SY															

		19	MTC-243	0.60	0.20	0.60	0.80	1.00	0.00	2.00	1.80	2.20	2.00	0.40	0.20
	SY	20	-	0.00	0.00	0.00	0.00	0.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00
TY	TY	1	CS 351	2.00	1.50	2.50	2.75	2.50	0.00	0.25	0.25	0.25	0.25	0.25	0.25
		2	CS 352	1.40	1.00	1.20	1.40	1.40	0.20	0.00	0.00	0.00	0.00	0.40	0.00
		3	CS 353	2.50	2.75	2.25	2.50	2.50	1.25	1.25	0.50	0.25	0.50	0.00	0.00
		4	CS 354	2.20	2.60	2.80	2.20	0.60	1.60	3.00	3.00	2.80	3.00	0.80	0.20
		5	CS 355	3.00	2.67	2.67	2.33	2.67	1.33	0.67	0.33	0.33	0.00	0.33	0.33
		6	CS 356	1.67	1.67	1.67	2.33	2.33	1.00	0.00	0.00	0.00	0.00	0.00	0.00
		7	CS 357	2.00	1.33	2.67	2.67	2.33	0.00	0.33	0.33	0.33	0.33	0.33	0.33
		8	CS 358	2.67	3.00	3.00	1.67	1.67	2.00	2.00	2.33	1.33	1.67	0.33	0.00
		9	CS 359	3.00	2.67	2.67	2.67	2.67	1.33	0.67	0.67	0.33	0.00	0.33	0.33
		10	CS 3510	2.50	2.75	2.75	2.50	0.75	1.75	3.00	3.00	3.00	3.00	0.50	0.25
		11	CS 3511	3.00	2.67	2.67	2.67	2.67	1.00	0.33	0.00	0.33	0.00	0.33	0.33
		12	CS 361	3.00	2.67	2.67	2.67	2.67	1.33	0.67	0.67	0.33	0.00	0.33	0.33
		13	CS 362	3.00	2.80	2.60	2.60	2.80	1.40	1.00	0.80	0.60	0.00	0.40	0.20
		14	CS 363	2.67	2.67	2.67	2.33	2.00	1.33	1.00	0.00	0.00	0.67	0.67	0.00
		15	CS 364	2.25	2.50	2.25	2.25	1.00	1.25	3.00	3.00	2.50	2.75	0.50	0.25
		16	CS 365	2.67	3.00	2.33	2.67	2.67	1.67	0.67	1.00	0.33	0.00	0.67	0.33
		17	CS 366	2.33	2.00	2.33	2.33	2.33	1.33	0.33	0.00	0.33	0.33	0.33	0.00
		18	CS 367	2.67	1.67	2.67	2.67	2.33	0.67	0.33	0.33	0.33	0.33	0.33	0.33
		19	CS 368	2.33	1.67	2.33	2.00	1.67	0.67	2.00	2.00	1.33	1.67	0.00	0.33
		20	CS 369	2.67	2.67	2.33	2.67	2.67	1.67	1.00	1.00	0.33	0.00	0.67	0.33
		21	CS 3610	2.40	2.40	2.40	2.60	2.60	1.40	0.80	0.80	0.60	0.00	0.20	0.20
		22	CS 3611	2.67	3.00	2.33	3.00	3.00	2.67	0.67	1.00	0.33	0.00	0.67	0.33



<b>CO-PO ATTAINMENT</b>											
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PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2.04	1.904	1.496	2.04	1.768	0.272	1.768	1.768	1.768	1.768	0.816	0.952
1.17	1.3	1.3	1.04	1.3	0	0.52	1.04	0.78	0.65	0.26	0.13
1.466667	1.65	2.016667	1.466666667	1.833333	0.55	0.916667	0.916667	1.1	1.65	0.366667	0.55
1.12	1.4	1.4	1.96	1.68	0	1.4	0.84	2.52	2.24	0.28	0.56
0.85	0.68	0.85	0.85	1.19	0	0.68	0.51	1.87	1.7	0.51	0.51
1.47	1.26	1.68	1.05	1.26	0.21	1.05	0.42	2.31	2.52	0.63	0.42
0.52	0.52	0.78	0.65	0.78	0	0.26	0.52	0.39	0.39	1.43	1.43
0.52	0.52	0.693333	0.52	0.866667	0	0	0.346667	0.346667	0.346667	1.56	1.386667
1.5	1.25	1.5	1.5	1.75	0	0	0.75	0.75	0.75	3	2.75
1.17	1.04	1.17	1.04	1.04	0	1.56	0.26	1.43	1.43	0.13	0.26
2.75	2.5	2.25	1.75	2.25	0	3	0.5	2.75	2.75	0.5	0.25
0.56	0.48	0.28	0.32	0.36	0	0.6	0.08	0.56	0.6	0.08	0.04
1.768	1.632	1.088	0.952	1.768	0	1.36	0.408	1.224	1.224	0.68	0.136
1.04	1.04	1.04	0.866666667	1.386667	0	0.52	0.173333	0.346667	0	0	0
2.75	2.5	2.75	2.25	2.5	0	1.5	0.5	2.25	2.5	1.25	0.25
0.516667	0.516667	0.516667	0.413333333	0.723333	0	1.033333	0.206667	1.136667	1.136667	0.723333	0.413333
1.512	1.68	1.008	0.84	1.176	0	1.848	0.504	2.352	2.184	1.176	0.168
2	2.25	2.25	2.25	1.5	0	2.25	0.5	3	2.75	1.5	0.5
0.65	0.91	0.91	0.65	0.78	0	1.04	0.26	0.39	0.13	1.3	1.56
0.688889	0.551111	0.826667	0.688888889	0.551111	0	0.964444	0.137778	0	0.137778	1.102222	1.24
1.05	1.26	1.68	1.05	1.47	0	1.68	0.63	0.21	0.21	2.31	2.52
1.768	1.768	1.632	1.36	1.36	0	2.04	0.408	1.632	1.768	0.408	0.136
1.04	0.91	0.91	0.78	0.91	0	1.43	0.26	1.3	1.43	0.78	0.26
1.17	0.91	0.91	0.78	0.91	0	1.56	0.39	1.43	1.43	0.78	0.13
2.52	2.52	2.52	2.24	2.24	0	0.84	0	1.12	0.56	0.28	0.28
2.52	2.52	2.52	2.52	2.52	2.52	0.84	2.52	0.28	0	0.84	0.84
2.04	2.04	2.04	2.04	2.04	0.816	1.36	0.816	0.952	0.952	0.68	0.544
1.386667	1.56	1.213333	1.386666667	1.213333	0	0.866667	1.386667	1.213333	1.386667	1.56	1.56
0.909333	0.826667	0.826667	0.909333333	0.744	0	0.744	0.909333	0.826667	0.909333	1.24	1.24
2.25	2.25	2	2.5	1.75	0	1.75	2.25	2	2.25	3	3
2	1.5	1	1.25	1.25	0	1	0.75	2.5	3	0.25	0.5
1.222222	1.222222	0.977778	0.733333333	0.244444	0.244444	0.977778	1.222222	2.2	2.2	0	0
1.813333	1.813333	1.133333	0.68	0.453333	0.68	1.586667	1.586667	2.04	2.04	0	0
0	0	0	0	0	3	0	0	0	0	0	0
1.56	1.56	1.56	1.56	1.56	0	1.04	0	1.04	1.04	0.52	0.52
1.56	1.56	1.56	1.56	1.56	0	0.52	0	0.52	0.52	1.04	1.56
2.04	2.04	2.04	2.04	2.04	0	1.36	0	1.586667	1.36	0.68	0.68
1.144	1.144	1.04	1.248	1.04	0	1.144	1.144	1.04	1.144	1.56	1.56
1.144	1.04	1.04	1.144	0.936	0.52	1.04	1.144	1.04	1.144	1.56	1.56
1.213333	1.386667	1.04	1.386666667	0.866667	0	0.866667	1.213333	1.04	1.213333	1.56	1.56
0.728	0.624	0.832	0.728	1.04	0	0.728	0.832	1.144	1.144	0.208	0.104

0.65	0.65	0.78	0.52	0.65	0	0.78	0.65	1.56	1.3	0.39	0.26
0.6	0.2	0.6	0.8	1	0	2	1.8	2.2	2	0.4	0.2
0	0	0	0	0	1.56	0	0	0	0	0	0
1.04	0.78	1.3	1.43	1.3	0	0.13	0.13	0.13	0.13	0.13	0.13
0.728	0.52	0.624	0.728	0.728	0.104	0	0	0	0	0.208	0
1.3	1.43	1.17	1.3	1.3	0.65	0.65	0.26	0.13	0.26	0	0
1.144	1.352	1.456	1.144	0.312	0.832	1.56	1.56	1.456	1.56	0.416	0.104
1.56	1.386667	1.386667	1.213333333	1.386667	0.693333	0.346667	0.173333	0.173333	0	0.173333	0.173333
0.866667	0.866667	0.866667	1.213333333	1.213333	0.52	0	0	0	0	0	0
2	1.333333	2.666667	2.666666667	2.333333	0	0.333333	0.333333	0.333333	0.333333	0.333333	0.333333
2.666667	3	3	1.666666667	1.666667	2	2	2.333333	1.333333	1.666667	0.333333	0
3	2.666667	2.666667	2.666666667	2.666667	1.333333	0.666667	0.666667	0.333333	0	0.333333	0.333333
1.3	1.43	1.43	1.3	0.39	0.91	1.56	1.56	1.56	1.56	0.26	0.13
1.56	1.386667	1.386667	1.386666667	1.386667	0.52	0.173333	0	0.173333	0	0.173333	0.173333
1.56	1.386667	1.386667	1.386666667	1.386667	0.693333	0.346667	0.346667	0.173333	0	0.173333	0.173333
1.56	1.456	1.352	1.352	1.456	0.728	0.52	0.416	0.312	0	0.208	0.104
1.386667	1.386667	1.386667	1.213333333	1.04	0.693333	0.52	0	0	0.346667	0.346667	0
1.17	1.3	1.17	1.17	0.52	0.65	1.56	1.56	1.3	1.43	0.26	0.13
1.386667	1.56	1.213333	1.386666667	1.386667	0.866667	0.346667	0.52	0.173333	0	0.346667	0.173333
1.213333	1.04	1.213333	1.213333333	1.213333	0.693333	0.173333	0	0.173333	0.173333	0.173333	0
2.666667	1.666667	2.666667	2.666666667	2.333333	0.666667	0.333333	0.333333	0.333333	0.333333	0.333333	0.333333
2.333333	1.666667	2.333333	2	1.666667	0.666667	2	2	1.333333	1.666667	0	0.333333
2.666667	2.666667	2.333333	2.666666667	2.666667	1.666667	1	1	0.333333	0	0.666667	0.333333
1.248	1.248	1.248	1.352	1.352	0.728	0.416	0.416	0.312	0	0.104	0.104
2.666667	3	2.333333	3	3	2.666667	0.666667	1	0.333333	0	0.666667	0.333333

**Percentage CO-PO ATTAINMENT**

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
68	68	68	68	68	68	68	68	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
73.33333	73.33333	73.33333333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
84	84	84	84	84	#DIV/0!	84	84	84	84	84	84
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
84	84	84	84	84	84	84	84	84	84	84	84
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
52	52	52	52	52	#DIV/0!	#DIV/0!	52	52	52	52	52
100	100	100	100	100	#DIV/0!	#DIV/0!	100	100	100	100	100
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	52	#DIV/0!	#DIV/0!	#DIV/0!
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
41.33333	41.33333	41.33333333	41.33333	41.33333	#DIV/0!	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
84	84	84	84	84	#DIV/0!	84	84	84	84	84	84
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
41.33333	41.33333	41.33333333	41.33333	41.33333	#DIV/0!	41.33333	41.33333	#DIV/0!	41.33333	41.33333	41.33333
84	84	84	84	84	#DIV/0!	84	84	84	84	84	84
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
84	84	84	84	84	#DIV/0!	84	#DIV/0!	84	84	84	84
84	84	84	84	84	84	84	84	84	#DIV/0!	84	84
68	68	68	68	68	68	68	68	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
41.33333	41.33333	41.33333333	41.33333	41.33333	#DIV/0!	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
73.33333	73.33333	73.33333333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333	#DIV/0!	#DIV/0!
68	68	68	68	68	68	68	68	68	68	#DIV/0!	#DIV/0!
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	100	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
52	52	52	52	52	#DIV/0!	52	#DIV/0!	52	52	52	52
52	52	52	52	52	#DIV/0!	52	#DIV/0!	52	52	52	52
68	68	68	68	68	#DIV/0!	68	#DIV/0!	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52

52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	52	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
52	52	52	52	52	52	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	52	#DIV/0!
52	52	52	52	52	52	52	52	52	52	#DIV/0!	#DIV/0!
52	52	52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52	#DIV/0!	52
52	52	52	52	52	52	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100	100	#DIV/0!
100	100	100	100	100	100	100	100	100	#DIV/0!	100	100
52	52	52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	#DIV/0!	52	#DIV/0!	52
52	52	52	52	52	52	52	52	52	52	#DIV/0!	52
52	52	52	52	52	52	52	52	52	52	#DIV/0!	52
52	52	52	52	52	52	52	52	#DIV/0!	#DIV/0!	52	52
52	52	52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52	#DIV/0!	52
52	52	52	52	52	52	52	#DIV/0!	52	52	52	#DIV/0!
100	100	100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100	#DIV/0!	100
100	100	100	100	100	100	100	100	100	#DIV/0!	100	100
52	52	52	52	52	52	52	52	52	52	#DIV/0!	52
100	100	100	100	100	100	100	100	100	100	#DIV/0!	100

**CO-PSO MAPPING**

**CO-PSO ATTAINMENT**

**Percentage CO-PSO ATTAINMENT**

	Course	PSO1	PSO2	PSO3
	1 CS 111	2.60	2.80	3.00
	2 CS 112	2.50	2.50	2.75
	3 CS 113	3.00	2.75	2.75
	4 MTC 111	2.00	1.67	1.33
	5 MTC 112	1.75	2.00	1.25
	6 MTC 113	1.50	2.00	1.25
	7 ELC 111	1.25	1.75	1.75
	8 ELC 112	1.33	1.67	1.33
	9 ELC 113	1.75	1.00	1.50
	10 CSST 111	1.25	1.50	1.25
	11 CSST 112	1.75	2.00	2.00
	12 CSST 113	1.80	1.60	2.00
	13 CS 121	1.60	1.60	1.80
	14 CS 122	1.33	1.67	1.33
	15 CS 123	2.50	2.50	2.75
	16 MTC 121	1.75	2.00	1.75
	17 MTC 122	2.20	1.40	1.60
	18 MTC 123	1.50	1.75	1.75
	19 ELC 121	1.75	1.50	2.00
	20 ELC 122	1.67	1.00	1.33
	21 ELC 123	2.00	1.25	1.50
	22 CSST 121	1.80	2.00	1.80
	23 CSST 122	1.50	1.75	1.50
FY	24 CSST 123	1.50	1.50	1.50
	1 CS 231	3.00	3.00	3.00
	2 CS 232	3.00	3.00	3.00
	3 CS 233	3.00	3.00	3.00
	4 ELC-231	2.00	3.00	2.00
	5 ELC- 232	2.00	3.00	3.00
	6 ELC-233	2.00	3.00	3.00
	7 MTC-231	1.75	2.00	2.00
	8 MTC-232	1.33	2.33	2.00
	9 MTC-233	1.67	2.67	2.67
	10 -	0.00	0.00	0.00
	11 CS 241	3.00	3.00	3.00
	12 CS 242	2.00	3.00	3.00
	13 CS 243	3.00	3.00	3.00
	14 ELC-241	2.00	3.00	3.00
	15 ELC242	2.00	3.00	3.00
	16 ELC-243	2.00	3.00	3.00
	17 MTC-241	1.40	2.60	1.40
	18 MTC-242	1.75	2.25	2.25

Course	PSO1	PSO2	PSO3
CS 111	1.768	1.904	2.04
CS 112	1.3	1.3	1.43
CS 113	2.2	2.016667	2.016667
MTC 111	1.68	1.4	1.12
MTC 112	1.19	1.36	0.85
MTC 113	1.26	1.68	1.05
ELC 111	0.65	0.91	0.91
ELC 112	0.693333	0.866667	0.693333
ELC 113	1.75	1	1.5
CSST 111	0.65	0.78	0.65
CSST 112	1.75	2	2
CSST 113	0.36	0.32	0.4
CS 121	1.088	1.088	1.224
CS 122	0.693333	0.866667	0.693333
CS 123	2.5	2.5	2.75
MTC 121	0.723333	0.826667	0.723333
MTC 122	1.848	1.176	1.344
MTC 123	1.5	1.75	1.75
ELC 121	0.91	0.78	1.04
ELC 122	0.688889	0.413333	0.551111
ELC 123	1.68	1.05	1.26
CSST 121	1.224	1.36	1.224
CSST 122	0.78	0.91	0.78
CSST 123	0.78	0.78	0.78
CS 231	2.52	2.52	2.52
CS 232	2.52	2.52	2.52
CS 233	2.04	2.04	2.04
ELC-231	1.04	1.56	1.04
ELC- 232	0.826667	1.24	1.24
ELC-233	2	3	3
MTC-231	1.75	2	2
MTC-232	0.977778	1.711111	1.466667
MTC-233	1.133333	1.813333	1.813333
-	0	0	0
CS 241	1.56	1.56	1.56
CS 242	1.04	1.56	1.56
CS 243	2.04	2.04	2.04
ELC-241	1.04	1.56	1.56
ELC242	1.04	1.56	1.56
ELC-243	1.04	1.56	1.56
MTC-241	0.728	1.352	0.728
MTC-242	0.91	1.17	1.17

Course	PSO1	PSO2	PSO3
CS 111	68	68	68
CS 112	52	52	52
CS 113	73.333333	73.333333	73.333333
MTC 111	84	84	84
MTC 112	68	68	68
MTC 113	84	84	84
ELC 111	52	52	52
ELC 112	52	52	52
ELC 113	100	100	100
CSST 111	52	52	52
CSST 112	100	100	100
CSST 113	20	20	20
CS 121	68	68	68
CS 122	52	52	52
CS 123	100	100	100
MTC 121	41.333333	41.333333	41.333333
MTC 122	84	84	84
MTC 123	100	100	100
ELC 121	52	52	52
ELC 122	41.333333	41.333333	41.333333
ELC 123	84	84	84
CSST 121	68	68	68
CSST 122	52	52	52
CSST 123	52	52	52
CS 231	84	84	84
CS 232	84	84	84
CS 233	68	68	68
ELC-231	52	52	52
ELC- 232	41.333333	41.333333	41.333333
ELC-233	100	100	100
MTC-231	100	100	100
MTC-232	73.333333	73.333333	73.333333
MTC-233	68	68	68
-	#DIV/0!	#DIV/0!	#DIV/0!
CS 241	52	52	52
CS 242	52	52	52
CS 243	68	68	68
ELC-241	52	52	52
ELC242	52	52	52
ELC-243	52	52	52
MTC-241	52	52	52
MTC-242	52	52	52

SY	19	MTC-243	2.40	2.20	2.60
	20	-	0.00	0.00	0.00
	1	CS 351	1.25	2.75	3.00
	2	CS 352	1.00	0.60	1.60
	3	CS 353	2.25	2.00	2.50
	4	CS 354	2.80	3.00	3.00
	5	CS 355	3.00	2.00	3.00
	6	CS 356	1.67	1.67	1.33
	7	CS 357	1.33	3.00	2.67
	8	CS 358	2.67	2.67	3.00
	9	CS 359	2.33	1.67	2.33
	10	CS 3510	2.75	3.00	3.00
	11	CS 3511	2.33	1.67	2.33
	12	CS 361	2.33	1.67	2.33
	13	CS 362	2.40	2.60	2.80
	14	CS 363	2.00	2.33	2.67
	15	CS 364	2.25	3.00	2.75
	16	CS 365	3.00	2.00	2.67
	17	CS 366	1.67	2.00	2.67
	18	CS 367	2.00	3.00	2.67
19	CS 368	2.00	3.00	2.67	
20	CS 369	2.33	2.33	3.00	
TY	21	CS 3610	2.40	2.20	3.00
	22	CS 3611	2.33	2.00	2.67

MTC-243	2.4	2.2	2.6
-	0	0	0
CS 351	0.65	1.43	1.56
CS 352	0.52	0.312	0.832
CS 353	1.17	1.04	1.3
CS 354	1.456	1.56	1.56
CS 355	1.56	1.04	1.56
CS 356	0.866667	0.866667	0.693333
CS 357	1.333333	3	2.666667
CS 358	2.666667	2.666667	3
CS 359	2.333333	1.666667	2.333333
CS 3510	1.43	1.56	1.56
CS 3511	1.213333	0.866667	1.213333
CS 361	1.213333	0.866667	1.213333
CS 362	1.248	1.352	1.456
CS 363	1.04	1.213333	1.386667
CS 364	1.17	1.56	1.43
CS 365	1.56	1.04	1.386667
CS 366	0.866667	1.04	1.386667
CS 367	2	3	2.666667
CS 368	2	3	2.666667
CS 369	2.333333	2.333333	3
CS 3610	1.248	1.144	1.56
CS 3611	2.333333	2	2.666667

MTC-243	100	100	100
-	#DIV/0!	#DIV/0!	#DIV/0!
CS 351	52	52	52
CS 352	52	52	52
CS 353	52	52	52
CS 354	52	52	52
CS 355	52	52	52
CS 356	52	52	52
CS 357	100	100	100
CS 358	100	100	100
CS 359	100	100	100
CS 3510	52	52	52
CS 3511	52	52	52
CS 361	52	52	52
CS 362	52	52	52
CS 363	52	52	52
CS 364	52	52	52
CS 365	52	52	52
CS 366	52	52	52
CS 367	100	100	100
CS 368	100	100	100
CS 369	100	100	100
CS 3610	52	52	52
CS 3611	100	100	100