

<b>Academic Year</b>	<b>2020-21</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.</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	
<b>PO7</b>	To train students to be proficient in data analysis and statistical techniques with proficiency in Excel	
<b>PO8</b>	To apply mathematical and statistical concepts to solve real world problems.	
<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	
<b>PO11</b>	communication engineering applications	elc
<b>PO12</b>	engineering and arrive at valid conclusions	elc

<b>Program Specific Outcome(PSO)</b>
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<b>PSO1</b>	Proficiency in programming languages, data management and software development.
<b>PSO2</b>	Develop problem-solving abilities using technology.
<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> <b>2020-21</b>
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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	RAJPAL KARISHMA		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	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Semester No	1		CO2	2	2	2	2	3	0	1	2	1	1	0	1	2	3	2

Teacher Name	SAWANT UJWALA		CO3	2	3	3	1	2	0	1	2	2	1	1	0	3	3	3
Course Outcomes			CO4	2	2	2	2	2	0	1	2	1	2	1	0	2	2	3
	CO1	Interpret the fundamental concepts of DBMS	CO5	3	3	3	3	3	0	1	2	2	1	0	0	3	2	3
	CO2	Develop an ability to understand database management operations	Average															
	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		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	Program Outcomes												PSOs		
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Subject Code	MTC 111	Outcomes	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	MAHANKALE NAMRATA	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.																
	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	SALVE SHRADDHA	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.																
	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	SALVE SHRADDHA		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	JADHAV ANUJA		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	HIRE SANDHYA		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		HIRE SANDHYA & JADHAV ANUJA	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	SNEHAL SHINDE		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	SHINDE SNEHAL		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	SHINDE SNEHAL		CO3	3	2	1	1	2	0	3	1	3	3	0	0	2	2	2
Course Outcomes			CO4	2	3	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	RAJPAL KARISHMA		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	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
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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	1	1	2	
Semester No	2		CO2	2	2	2	1	2	0	1	1	1	0	0	2	2	1	
Teacher Name	SAWANT UJWALA		CO3	2	2	2	2	3	0	1	0	1	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	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	RAUT SMITA		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	SALVE SHRADDHA		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	MAHANKALE NAMRATA	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 Algorithm																

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	SALVE SHRADDHA & MAHANKALE NAMRATA	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	HIRE SANDHYA		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	HIRE SANDHYA		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	GAIKWAD DIPALI		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	SHINDE SNEHAL		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	SHINDE SNEHAL		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	SHINDE SNEHAL	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>	<b>2020-21</b>
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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, Ujwala Sawant		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	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. 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, Anuja		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	Shraddha Salve		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	Namrata Mahankale		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	Namrata Mahankale	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.	CO5														
	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
	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	En 211		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Language Communication –I	CO1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
Semester No	3	CO2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
Teacher Name	Tejal Sonawane	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	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	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	Sheetal Choudhary		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 in particular 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, Sheetal Choudhary		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	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	Sandhya Hire		CO3	3	3	1	2	2	0	2	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 understand the difference between general computing and the Embedded systems.		CO5	2	2	2	2	2	0	2	2	2	3	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	
	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	Deepali Gaikwad		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	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	
	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	Hire Sandhya		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 Rasberry-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	Shraddha Salve		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	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	Namrata Mahankale		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	Namrata Mahankale	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 knowledge 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 adequate exposure 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	En221		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Language Communication –II	CO1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1

Semester No	4	CO2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
Teacher Name	Tejal Sonawane	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	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	CO3																
	CO4																
	CO5																

<b>Academic Year :</b>	<b>2020-21</b>
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Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 331	CO1		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	SYSTEM PROGRAMMING	CO2	3	2	3	3	2	0	0	0	0	0	1	1	1	3	2	
Semester No	3	CO3	2	2	3	3	3	0	0	0	0	0	0	0	1	3	3	
Teacher Name	SHEETAL AWATE	CO4	2	3	2	2	2	0	1	1	1	1	0	0	2	3	3	
Course Outcomes		CO5	3	3	3	2	2	0	1	1	0	0	1	0	3	2	3	
	CO1	To understand the design structure of a simple editor																
	CO2	To understand the design structure of Assembler and macro processor for an hypothetical simulated computer.	Average	2.50	2.50	2.75	2.50	2.25	0.00	0.50	0.50	0.25	0.25	0.50	0.25	1.75	2.75	2.75
	CO3	To understand the working of linkers and loaders and other development utilities																
	CO4	To understand Complexity of Operating system as a software.																
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 332	CO1		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	THEORETICAL COMPUTER SCIENCE	CO2	1	2	2	2	3	1	0	0	0	1	0	0	2	2	1	
Semester No	3	CO3	2	1	2	3	2	1	0	0	0	0	0	0	1	1	1	
Teacher Name	RAHUL GHODKE	CO4	2	2	1	2	2	1	0	0	0	1	0	0	2	2	2	
Course Outcomes		CO5	2	2	3	3	3	2	0	0	0	1	0	0	3	3	2	

	CO1	To have an understanding of finite state and pushdown automata.	CO5															
	CO2	To have a knowledge of regular languages and context free languages.	Average	1.75	1.75	2.00	2.50	2.50	1.25	0.00	0.00	0.00	0.75	0.00	0.00	2.00	2.00	1.50
	CO3	To know the relation between regular language, context free language and corresponding recognizers.																
	CO4	To study the Turing machine and classes of problems.																
	CO5																	

Class		TYBSC(CS)		Program Outcomes												PSOs		
Subject Code	CS 333		Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	COMPUTER NETWORKS - I		CO1	3	1	2	2	2	0	0	0	0	0	1	0	2	1	2
Semester No	3		CO2	2	2	3	2	2	1	0	0	0	0	0	0	1	0	2
Teacher Name	NIVEDITA WAGHMARE		CO3	3	1	2	1	1	0	0	0	0	0	1	0	1	2	3
Course Outcomes			CO4	2	1	3	1	1	0	0	0	0	0	0	0	1	0	2
	CO1	Understand different types of networks, various topologies and application of networks.	CO5															
	CO2	Understand types of addresses, data communication.	Average	2.50	1.25	2.50	1.50	1.50	0.25	0.00	0.00	0.00	0.00	0.50	0.00	1.25	0.75	2.25
	CO3	Understand the concept of networking models, protocols, functionality of each layer.																
	CO4	Learn basic networking hardware and tools.																
	CO5																	

Class		TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 334				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	INTERNET PROGRAMMING - I			CO1	2	3	3	3	3	1	2	0	0	1	0	0	3	2	2
Semester No	3			CO2	3	2	3	3	2	1	2	0	0	0	0	0	2	2	3
Teacher Name	PRACHI WALUNJKAR			CO3	3	2	2	2	3	1	1	0	1	0	0	0	3	3	3
Course Outcomes				CO4															
	CO1	Learn Core-PHP, Server Side Scripting Language		CO5															
	CO2	Learn PHP-Database handling.		Average	2.67	2.33	2.67	2.67	2.67	1.00	1.67	0.00	0.33	0.33	0.00	0.00	2.67	2.33	2.67
	CO3	Design dynamic and interactive Web pages.																	
	CO4																		
	CO5																		

Class		TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 335				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	PROGRAMMING IN JAVA- I			CO1	3	3	2	3	3	1	1	0	0	2	0	0	3	2	3
Semester No	3			CO2	2	3	3	2	2	2	0	1	0	1	0	0	3	2	3
Teacher Name	ROOPALI KULKARNI			CO3	2	2	2	3	2	2	1	0	0	0	0	0	3	3	3
Course Outcomes				CO4	3	3	3	3	2	2	0	0	0	1	0	0	3	3	3
	CO1	To learn Object Oriented Programming language		CO5															
	CO2	To handle abnormal termination of a program using exception handling		Average	2.50	2.75	2.50	2.75	2.25	1.75	0.50	0.25	0.00	1.00	0.00	0.00	3.00	2.50	3.00
	CO3	To create flat files																	
	CO4	To design User Interface using Swing and AWT																	
	CO5																		

Class		TYBSC(CS)		Program Outcomes												PSOs			
Subject Code		CS 336		Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		OBJECT ORIENTED SOFTWARE ENGINEERING		CO1	3	3	2	3	3	1	1	0	1	0	0	0	3	3	3
Semester No		3		CO2	2	3	3	2	2	2	0	1	0	0	1	1	3	2	3
Teacher Name		SHEETAL CHUDHARI		CO3	2	2	3	2	3	1	1	0	0	0	0	0	2	3	2
Course Outcomes				CO4	3	3	2	3	3	2	1	0	1	0	0	0	3	2	3
	CO1	Understanding importance of Object Orientation in Software engineering		CO5	3	3	3	2	2	2	0	1	0	0	1	1	3	2	3
	CO2	Understand the components of Unified Modeling Language		Average	2.60	2.80	2.60	2.40	2.60	1.60	0.60	0.40	0.40	0.00	0.40	0.40	2.80	2.40	2.80
	CO3	Understand techniques and diagrams related to structural modeling																	
	CO4	Understand techniques and diagrams related to behavioral modeling																	
	CO5	Understand techniques of Object Oriented analysis, design and testing																	

Class		TYBSC(CS)		Program Outcomes												PSOs			
Subject Code		CS 341		Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name		OPERATING SYSTEM		CO1	3	2	3	3	3	0	0	0	0	0	0	0	2	3	3
Semester No		4		CO2	2	3	2	2	2	0	1	1	1	1	0	0	2	3	3
Teacher Name		SHEETAL AWATE		CO3	3	3	3	2	3	0	1	1	2	2	1	0	3	2	3
Course Outcomes				CO4															
	CO1	To understand design issues related to process management and various related algorithms		CO5															

	CO2	To understand design issues related to memory management and various related algorithms	Average	2.67	2.67	2.67	2.33	2.67	0.00	0.67	0.67	1.00	1.00	0.33	0.00	2.33	2.67	3.00
	CO3	To understand design issues related to File management and various related algorithms																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 342			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	COMPLIER CONSTRUCTION		CO1	2	2	2	3	2	1	0	0	0	1	0	0	2	2	2
Semester No	4		CO2	2	1	2	2	3	2	0	0	0	0	0	2	1	1	
Teacher Name	RAHUL GHODKE		CO3	3	2	1	3	3	1	0	0	0	2	0	0	3	2	3
Course Outcomes			CO4	3	2	3	3	2	2	0	0	0	2	0	0	3	3	3
	CO1	To understand design issues of a lexical analyzer and use of Lex tool	CO5															
	CO2	To understand design issues of a parser and use of Yacc tool	Average	2.50	1.75	2.00	2.75	2.50	1.50	0.00	0.00	0.00	1.25	0.00	0.00	2.50	2.00	2.25
	CO3	To understand issues related to memory allocation																
	CO4	To understand and design code generation schemes																
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 343			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	COMPUTER NETWORKS - II		CO1	3	1	2	2	2	0	0	0	0	0	1	0	2	1	2



Semester No	4	CO2	2	2	3	1	1	0	0	0	0	0	0	0	1	2	2	
Teacher Name	SMITA RAUT	CO3	3	1	2	2	1	0	0	0	0	0	1	0	1	2	3	
Course Outcomes		CO4																
	CO1	Understand Basic networking concepts.	CO5															
	CO2	Understand wired and wireless networks, its types, functionality of layer.	Average	2.67	1.33	2.33	1.67	1.33	0.00	0.00	0.00	0.00	0.00	0.67	0.00	1.33	1.67	2.33
	CO3	Understand importance of network security and cryptography.																
	CO4																	
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 344		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	INTERNET PROGRAMMING - II	CO1	3	3	2	3	2	2	1	0	0	0	0	0	3	3	2	
Semester No	4	CO2	3	2	2	2	2	1	0	0	0	0	0	0	2	2	2	
Teacher Name	PRACHI WALUNJKAR	CO3	2	2	2	2	2	1	1	0	1	0	0	0	3	3	3	
Course Outcomes		CO4	2	2	1	2	3	2	0	0	0	2	0	0	3	2	3	
	CO1	Learn different technologies used at client Side Scripting Language	CO5	3	2	3	3	2	1	0	0	2	0	0	3	3	3	
	CO2	Learn XML,CSS and XML parsers.	Average	2.60	2.20	2.00	2.40	2.20	1.40	0.40	0.00	0.20	0.80	0.00	0.00	2.80	2.60	2.60
	CO3	One PHP framework for effective design of web application.																
	CO4	Learn JavaScript to program the behavior of web pages.																
	CO5	Learn AJAX to make our application more dynamic.																

Class		TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 345		PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	PROGRAMMING IN JAVA - II		CO1	3	3	2	3	3	2	1	0	1	2	0	0	3	1	3	
Semester No	4		CO2	3	3	3	2	2	3	0	1	0	1	1	1	3	2	3	
Teacher Name	ROOPALI KULKARNI		CO3	3	2	3	3	3	2	1	0	0	1	0	0	3	3	3	
Course Outcomes			CO4	3	2	3	3	2	3	0	0	0	1	0	0	3	3	3	
	CO1	To learn database programming using Java	CO5																
	CO2	To study web development concept using Servlet and JSP	Average	3.00	2.50	2.75	2.75	2.50	2.50	0.50	0.25	0.25	1.25	0.25	0.25	3.00	2.25	3.00	
	CO3	To develop a game application using multithreading																	
	CO4	To learn socket programming concept																	
	CO5																		

Class		TYBSC(CS)		Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 346		PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	COMPUTER GRAPHICS		CO1	3	3	2	3	3	2	1	0	1	2	0	0	3	1	3	
Semester No	4		CO2	3	2	2	2	2	1	0	0	0	0	0	2	2	2		
Teacher Name	SHEETAL CHUDHARI		CO3	2	2	2	2	2	1	1	0	1	0	0	3	3	3		
Course Outcomes			CO4	3	2	3	3	2	3	0	0	0	1	0	0	3	3	3	
	CO1	To study how graphics objects are represented in Computer	CO5	3	3	2	3	2	2	1	0	0	0	0	3	3	2		
	CO2	To study how graphics system in a computer supports presentation of graphics information	Average	2.80	2.40	2.20	2.60	2.20	1.80	0.60	0.00	0.40	0.60	0.00	0.00	2.80	2.40	2.60	
	CO3	To study how interaction is handled in a graphics system																	

	CO4	To study how to manipulate graphics object by applying different transformations
	CO5	To provide the programmer's perspective of working of computer graphics

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 347			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	LAB COURSE I SYSTEM PROG.& O.S		CO1	3	2	3	3	3	2	0	0	0	0	1	1	2	3	3
Semester No	4		CO2	3	2	2	2	3	1	0	0	0	0	0	0	3	2	3
Teacher Name	SHEETAL AWATE		CO3	2	1	2	3	3	2	1	1	1	1	0	0	2	3	3
Course Outcomes			CO4															
	CO1	Design and implement System programs with minimal features to understand their complexity.	CO5															
	CO2	Design and implement simulations of operating system level procedures.	Average	2.67	1.67	2.33	2.67	3.00	1.67	0.33	0.33	0.33	0.33	0.33	0.33	2.33	2.67	3.00
	CO3	To understand the process of designing and implementing System programs and operating system components.																
	CO4																	
	CO5																	

Class		TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 348			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	LAB COURSE II PROG.IN JAVA I & II & COMP. GRAPHICS		CO1	3	3	3	2	3	2	1	0	1	0	0	0	3	3	3

Semester No	4	CO2	3	2	3	3	2	3	0	0	0	1	0	0	3	3	3	
Teacher Name	ROOPALI KULKARNI	CO3	3	3	2	3	3	3	1	0	0	0	0	0	3	3	2	
Course Outcomes		CO4																
	CO1	Implement core Java programs to solve simple problems	CO5															
	CO2	Implement Client and Server end Java programs	Average	3.00	2.67	2.67	2.67	2.67	2.67	0.67	0.00	0.33	0.33	0.00	0.00	3.00	3.00	2.67
	CO3	Understand the process of designing and implementing Core and Advanced Java programs																
	CO4																	
	CO5																	

Class	TYBSC(CS)	Course Outcomes	Program Outcomes												PSOs			
Subject Code	CS 349		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
Subject Name	LAB COURSE III INTERNET PROG.III & PROJECT	CO1	3	2	2	3	3	1	1	1	1	0	0	0	2	2	3	
Semester No	4	CO2	2	2	3	3	2	1	0	0	0	0	0	0	3	2	3	
Teacher Name	RAHUL GHODKE & PRACHI WALUNJKAR	CO3	3	3	2	3	3	1	1	0	1	0	0	0	3	1	3	
Course Outcomes		CO4																
	CO1	Implement Simple PHP programs to solve simple problems	CO5															
	CO2	To understand the process of designing Web applications, using PHP.	Average	2.67	2.33	2.33	3.00	2.67	1.00	0.67	0.33	0.67	0.00	0.00	0.00	2.67	1.67	3.00
	CO3	To understand the process of implementing Web applications, using PHP.																
	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		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
		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
FY	FY	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 En 211	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00
		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
SY														

		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
		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	En221	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00
		1	CS 331	2.50	2.50	2.75	2.50	2.25	0.00	0.50	0.50	0.25	0.25	0.50	0.25
		2	CS 332	1.75	1.75	2.00	2.50	2.50	1.25	0.00	0.00	0.00	0.75	0.00	0.00
		3	CS 333	2.50	1.25	2.50	1.50	1.50	0.25	0.00	0.00	0.00	0.00	0.50	0.00
		4	CS 334	2.67	2.33	2.67	2.67	2.67	1.00	1.67	0.00	0.33	0.33	0.00	0.00
		5	CS 335	2.50	2.75	2.50	2.75	2.25	1.75	0.50	0.25	0.00	1.00	0.00	0.00
		6	CS 336	2.60	2.80	2.60	2.40	2.60	1.60	0.60	0.40	0.40	0.00	0.40	0.40
		7	CS 341	2.67	2.67	2.67	2.33	2.67	0.00	0.67	0.67	1.00	1.00	0.33	0.00
		8	CS 342	2.50	1.75	2.00	2.75	2.50	1.50	0.00	0.00	0.00	1.25	0.00	0.00
		9	CS 343	2.67	1.33	2.33	1.67	1.33	0.00	0.00	0.00	0.00	0.00	0.67	0.00
		10	CS 344	2.60	2.20	2.00	2.40	2.20	1.40	0.40	0.00	0.20	0.80	0.00	0.00
		11	CS 345	3.00	2.50	2.75	2.75	2.50	2.50	0.50	0.25	0.25	1.25	0.25	0.25
		12	CS 346	2.80	2.40	2.20	2.60	2.20	1.80	0.60	0.00	0.40	0.60	0.00	0.00
		13	CS 347	2.67	1.67	2.33	2.67	3.00	1.67	0.33	0.33	0.33	0.33	0.33	0.33
		14	CS 348	3.00	2.67	2.67	2.67	2.67	2.67	0.67	0.00	0.33	0.33	0.00	0.00
TY	TY	15	CS 349	2.67	2.33	2.33	3.00	2.67	1.00	0.67	0.33	0.67	0.00	0.00	0.00

**CO-PO ATTAINMENT**

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1.56	1.456	1.144	1.56	1.352	0.208	1.352	1.352	1.352	1.352	0.624	0.728
0	0	0	0	0	0	0	0	0	0	0	0
2	2.25	2.75	2	2.5	0.75	1.25	1.25	1.5	2.25	0.5	0.75
0.693333	0.866667	0.866667	1.213333333	1.04	0	0.866667	0.52	1.56	1.386667	0.173333	0.346667
0.65	0.52	0.65	0.65	0.91	0	0.52	0.39	1.43	1.3	0.39	0.39
1.75	1.5	2	1.25	1.5	0.25	1.25	0.5	2.75	3	0.75	0.5
0.84	0.84	1.26	1.05	1.26	0	0.42	0.84	0.63	0.63	2.31	2.31
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
1.53	1.36	1.53	1.36	1.36	0	2.04	0.34	1.87	1.87	0.17	0.34
1.43	1.3	1.17	0.91	1.17	0	1.56	0.26	1.43	1.43	0.26	0.13
2.8	2.4	1.4	1.6	1.8	0	3	0.4	2.8	3	0.4	0.2
1.768	1.632	1.088	0.952	1.768	0	1.36	0.408	1.224	1.224	0.68	0.136
2	2	2	1.666666667	2.666667	0	1	0.333333	0.666667	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
0.65	0.65	0.65	0.52	0.91	0	1.3	0.26	1.43	1.43	0.91	0.52
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
0.85	1.19	1.19	0.85	1.02	0	1.36	0.34	0.51	0.17	1.7	2.04
0.866667	0.693333	1.04	0.866666667	0.693333	0	1.213333	0.173333	0	0.173333	1.386667	1.56
1.25	1.5	2	1.25	1.75	0	2	0.75	0.25	0.25	2.75	3
1.352	1.352	1.248	1.04	1.04	0	1.56	0.312	1.248	1.352	0.312	0.104
1.04	0.91	0.91	0.78	0.91	0	1.43	0.26	1.3	1.43	0.78	0.26
2.25	1.75	1.75	1.5	1.75	0	3	0.75	2.75	2.75	1.5	0.25
2.04	2.04	2.04	1.813333333	1.813333	0	0.68	0	0.906667	0.453333	0.226667	0.226667
2.52	2.52	2.52	2.52	2.52	2.52	0.84	2.52	0.28	0	0.84	0.84
2.52	2.52	2.52	2.52	2.52	1.008	1.68	1.008	1.176	1.176	0.84	0.672
2.666667	3	2.333333	2.666666667	2.333333	0	1.666667	2.666667	2.333333	2.666667	3	3
2.2	2	2	2.2	1.8	0	1.8	2.2	2	2.2	3	3
2.25	2.25	2	2.5	1.75	0	1.75	2.25	2	2.25	3	3
1.04	0.78	0.52	0.65	0.65	0	0.52	0.39	1.3	1.56	0.13	0.26
0.866667	0.866667	0.693333	0.52	0.173333	0.173333	0.693333	0.866667	1.56	1.56	0	0
2.666667	2.666667	1.666667	1	0.666667	1	2.333333	2.333333	3	3	0	0
1	1	1	1	1	3	1	1	1	1	1	1
3	3	3	3	3	0	2	0	2	2	1	1
3	3	3	3	3	0	1	0	1	1	2	3
2.52	2.52	2.52	2.52	2.52	0	1.68	0	1.96	1.68	0.84	0.84
2.2	2.2	2	2.4	2	0	2.2	2.2	2	2.2	3	3

2.2	2	2	2.2	1.8	1	2	2.2	2	2.2	3	3
2.333333	2.666667	2	2.666666667	1.666667	0	1.666667	2.333333	2	2.333333	3	3
1.4	1.2	1.6	1.4	2	0	1.4	1.6	2.2	2.2	0.4	0.2
1.25	1.25	1.5	1	1.25	0	1.5	1.25	3	2.5	0.75	0.5
0.6	0.2	0.6	0.8	1	0	2	1.8	2.2	2	0.4	0.2
1	1	1	1	1	3	1	1	1	1	1	1
2.5	2.5	2.75	2.5	2.25	0	0.5	0.5	0.25	0.25	0.5	0.25
1.75	1.75	2	2.5	2.5	1.25	0	0	0	0.75	0	0
2.5	1.25	2.5	1.5	1.5	0.25	0	0	0	0	0.5	0
2.24	1.96	2.24	2.24	2.24	0.84	1.4	0	0.28	0.28	0	0
2.5	2.75	2.5	2.75	2.25	1.75	0.5	0.25	0	1	0	0
2.6	2.8	2.6	2.4	2.6	1.6	0.6	0.4	0.4	0	0.4	0.4
2.666667	2.666667	2.666667	2.333333333	2.666667	0	0.666667	0.666667	1	1	0.333333	0
2.5	1.75	2	2.75	2.5	1.5	0	0	0	1.25	0	0
2.666667	1.333333	2.333333	1.666666667	1.333333	0	0	0	0	0	0.666667	0
1.768	1.496	1.36	1.632	1.496	0.952	0.272	0	0.136	0.544	0	0
1.88	1.566667	1.723333	1.723333333	1.566667	1.566667	0.313333	0.156667	0.156667	0.783333	0.156667	0.156667
2.8	2.4	2.2	2.6	2.2	1.8	0.6	0	0.4	0.6	0	0
2.666667	1.666667	2.333333	2.666666667	3	1.666667	0.333333	0.333333	0.333333	0.333333	0.333333	0.333333
2.04	1.813333	1.813333	1.813333333	1.813333	1.813333	0.453333	0	0.226667	0.226667	0	0
1.671111	1.462222	1.462222	1.88	1.671111	0.626667	0.417778	0.208889	0.417778	0	0	0



**Percentage CO-PO ATTAINMENT**

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
52	52	52	52	52	52	52	52	52	52	52	52
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	100	100	100
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	100	100	100	100	100	100	100
84	84	84	84	84	#DIV/0!	84	84	84	84	84	84
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
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
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
100	100	100	100	100	#DIV/0!	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!
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
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
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
52	52	52	52	52	#DIV/0!	52	52	#DIV/0!	52	52	52
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
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
68	68	68	68	68	#DIV/0!	68	#DIV/0!	68	68	68	68
84	84	84	84	84	84	84	84	84	#DIV/0!	84	84
84	84	84	84	84	84	84	84	84	84	84	84
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
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
52	52	52	52	52	52	52	52	52	52	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	100	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	#DIV/0!	100	#DIV/0!	100	100	100	100
100	100	100	100	100	#DIV/0!	100	#DIV/0!	100	100	100	100
84	84	84	84	84	#DIV/0!	84	#DIV/0!	84	84	84	84
100	100	100	100	100	#DIV/0!	100	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	100	#DIV/0!	100	100	100	100	100	100
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
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	100	100	#DIV/0!	#DIV/0!	#DIV/0!	100	#DIV/0!	#DIV/0!
100	100	100	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	100	#DIV/0!
84	84	84	84	84	84	84	#DIV/0!	84	84	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	#DIV/0!	100	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	#DIV/0!	100	100
100	100	100	100	100	#DIV/0!	100	100	100	100	100	#DIV/0!
100	100	100	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!	100	#DIV/0!	#DIV/0!
100	100	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	100	#DIV/0!
68	68	68	68	68	68	68	#DIV/0!	68	68	#DIV/0!	#DIV/0!
62.66667	62.66667	62.66667	62.66666667	62.66667	62.66667	62.66667	62.66667	62.66667	62.66667	62.66667	62.66667
100	100	100	100	100	100	100	#DIV/0!	100	100	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	100	100	100
68	68	68	68	68	68	68	#DIV/0!	68	68	#DIV/0!	#DIV/0!
62.66667	62.66667	62.66667	62.66666667	62.66667	62.66667	62.66667	62.66667	62.66667	#DIV/0!	#DIV/0!	#DIV/0!

## CO-PSO MAPPING

	Course	PSO1	PSO2	PSO3
1	CS 111	2.60	2.80	3.00
2	CS 112	0.00	0.00	0.00
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
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	En 211	1.00	1.00	1.00
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

## CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CS 111	1.352	1.456	1.56
CS 112	0	0	0
CS 113	3	2.75	2.75
MTC 111	1.04	0.866667	0.693333
MTC 112	0.91	1.04	0.65
MTC 113	1.5	2	1.25
ELC 111	1.05	1.47	1.47
ELC 112	0.693333	0.866667	0.693333
ELC 113	1.75	1	1.5
CSST 111	0.85	1.02	0.85
CSST 112	0.91	1.04	1.04
CSST 113	1.8	1.6	2
CS 121	1.088	1.088	1.224
CS 122	1.333333	1.666667	1.333333
CS 123	2.5	2.5	2.75
MTC 121	0.91	1.04	0.91
MTC 122	1.848	1.176	1.344
MTC 123	1.5	1.75	1.75
ELC 121	1.19	1.02	1.36
ELC 122	0.866667	0.52	0.693333
ELC 123	2	1.25	1.5
CSST 121	0.936	1.04	0.936
CSST 122	0.78	0.91	0.78
CSST 123	1.5	1.5	1.5
CS 231	2.04	2.04	2.04
CS 232	2.52	2.52	2.52
CS 233	2.52	2.52	2.52
ELC-231	2	3	2
ELC-232	2	3	3
ELC-233	2	3	3
MTC-231	0.91	1.04	1.04
MTC-232	0.693333	1.213333	1.04
MTC-233	1.666667	2.666667	2.666667
En 211	1	1	1
CS 241	3	3	3
CS 242	2	3	3
CS 243	2.52	2.52	2.52
ELC-241	2	3	3

## Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CS 111	52	52	52
CS 112	#DIV/0!	#DIV/0!	#DIV/0!
CS 113	100	100	100
MTC 111	52	52	52
MTC 112	52	52	52
MTC 113	100	100	100
ELC 111	84	84	84
ELC 112	52	52	52
ELC 113	100	100	100
CSST 111	68	68	68
CSST 112	52	52	52
CSST 113	100	100	100
CS 121	68	68	68
CS 122	100	100	100
CS 123	100	100	100
MTC 121	52	52	52
MTC 122	84	84	84
MTC 123	100	100	100
ELC 121	68	68	68
ELC 122	52	52	52
ELC 123	100	100	100
CSST 121	52	52	52
CSST 122	52	52	52
CSST 123	100	100	100
CS 231	68	68	68
CS 232	84	84	84
CS 233	84	84	84
ELC-231	100	100	100
ELC-232	100	100	100
ELC-233	100	100	100
MTC-231	52	52	52
MTC-232	52	52	52
MTC-233	100	100	100
En 211	100	100	100
CS 241	100	100	100
CS 242	100	100	100
CS 243	84	84	84
ELC-241	100	100	100

FY

SY	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
	19	MTC-243	2.40	2.20	2.60
	20	En221	1.00	1.00	1.00
	1	CS 331	1.75	2.75	2.75
	2	CS 332	2.00	2.00	1.50
	3	CS 333	1.25	0.75	2.25
	4	CS 334	2.67	2.33	2.67
	5	CS 335	3.00	2.50	3.00
	6	CS 336	2.80	2.40	2.80
	7	CS 341	2.33	2.67	3.00
	8	CS 342	2.50	2.00	2.25
9	CS 343	1.33	1.67	2.33	
10	CS 344	2.80	2.60	2.60	
11	CS 345	3.00	2.25	3.00	
12	CS 346	2.80	2.40	2.60	
13	CS 347	2.33	2.67	3.00	
14	CS 348	3.00	3.00	2.67	
TY	15	CS 349	2.67	1.67	3.00

ELC242	2	3	3
ELC-243	2	3	3
MTC-241	1.4	2.6	1.4
MTC-242	1.75	2.25	2.25
MTC-243	2.4	2.2	2.6
En221	1	1	1
CS 331	0.723333	1.136667	1.136667
CS 332	1.04	1.04	0.78
CS 333	0.85	0.51	1.53
CS 334	2.666667	2.333333	2.666667
CS 335	3	2.5	3
CS 336	2.8	2.4	2.8
CS 341	2.333333	2.666667	3
CS 342	2.1	1.68	1.89
CS 343	1.333333	1.666667	2.333333
CS 344	2.8	2.6	2.6
CS 345	3	2.25	3
CS 346	2.8	2.4	2.6
CS 347	2.333333	2.666667	3
CS 348	2.04	2.04	1.813333
CS 349	1.671111	1.044444	1.88

ELC242	100	100	100
ELC-243	100	100	100
MTC-241	100	100	100
MTC-242	100	100	100
MTC-243	100	100	100
En221	100	100	100
CS 331	41.333333	41.333333	41.333333
CS 332	52	52	52
CS 333	68	68	68
CS 334	100	100	100
CS 335	100	100	100
CS 336	100	100	100
CS 341	100	100	100
CS 342	84	84	84
CS 343	100	100	100
CS 344	100	100	100
CS 345	100	100	100
CS 346	100	100	100
CS 347	100	100	100
CS 348	68	68	68
CS 349	62.66667	62.66667	62.66667