Academic Year	2019-20

B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet

Department Name	Computer Science

Program Name	B.Sc.

Program Outcomes(PO)

PO1	Develop ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its soluti
PO2	To build the necessary skill set and analytical abilities for developing computer based solutions for real life problems.
PO3	To train students in professional skills related to Software Industry.
PO4	To prepare necessary knowledge base for research and development in Computer Science.
PO5	Graduates should have a strong understanding of the fundamental concepts of computer science
PO6	They should be effective communicators, both in writing and orally, and be able to document and present their work
PO7	To train students to be proficient in data analysis and statistical techniques with proficiency in Excel
PO8	To apply mathematical and statistical concepts to solve real world problems.
PO9	Describe the mathematics fundamentals,including discrete structures ,statistics and calculus
PO10	To be able to apply Mathematical techniques to find the optimum solution of complex real world Problems
PO11	communication engineering applications
PO12	engineering and arrive at valid conclusions

Program Specific Outcome(PSO)

PSO1	Proficiency in programming languages, data management and software development.
PSO2	Develop problem-solving abilities using technology.
PSO3	Be well-prepared for careers in computer science and related fields, with skills that are in demand by industry.

Academic Year :	**2019-20**

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	AMERA SAYYAD	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 anddevise 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		KULKARNI SARIKA	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 databaseprotection.																
	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		AMERA SAYYAD ,KULKARNI SARIKA & PRIYA LASGARE	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 problems.																

	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	NAMRATA MAHANKALE	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 withproperties 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
Teacher Name	SALVE SHRADDHA
Course Outcomes	
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.
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	

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO2	1	1	2	1	2	0	1	0	2	2	1	1	1	1	1
CO3	2	1	1	1	2	0	1	1	3	3	0	1	2	2	2
CO4	1	1	1	1	1	0	1	1	3	3	1	0	1	2	1
CO5															
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

Class	FYBSC(CS)
Subject Code	MTC 113
Subject Name	MATHEMATICS PRACTICAL I
Semester No	1
Teacher Name	MAHANKALE NAMRATA
Course Outcomes	
CO1	Problem solving skills of students are enhanced.
CO2	Theoretical concepts are strengthened by solving maximum no. of problems
CO3	To learn basic matrix algebra and method to find solutions to system of linear equations.

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	2	2	1	1	0	3	3	1	1	1	2	2
CO2	2	1	3	1	1	0	2	1	2	3	0	1	2	2	1
CO3	2	2	2	1	1	0	1	1	3	3	1	0	2	2	1
CO4	1	1	1	1	2	0	1	0	3	3	1	0	1	2	1
CO5															
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

	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	NAGARE SHRUTIKA	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	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 digitals 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	SHINDE SNEHAL	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)
Subject Code	CSST 112
Subject Name	MATHEMATICAL STATISTICS
Semester No	1
Teacher Name	SHINDE SNEHAL

Course Outcomes		
	CO1	To understand and apply methods of Counting Principles, Permutation, and Combination to real life situations
	CO2	Understand concepts of experiments, sample space, events to be applied further in the calculation of probabilities.
	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	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	0	3	0	3	3	1	0	2	2	2
CO2	2	3	3	1	3	0	3	1	2	3	1	0	1	2	2
CO3	3	3	2	2	2	0	3	0	3	2	0	0	2	2	2
CO4	3	2	2	2	2	0	3	1	3	3	0	1	2	2	2
CO5															
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

Class	FYBSC(CS)
Subject Code	CSST 113
Subject Name	STATISTICS PRACTICAL PAPER I
Semester No	1
Teacher Name	SHINDE SNEHAL

Course Outcomes		
	CO1	Student should be able to tabulate and make frequency distribution of the given data.
	CO2	Compute various measures of central tendency, dispersion, skewness and kurtosis.
	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.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	1	2	2	0	3	0	3	3	1	1	1	2	2
CO2	3	2	2	1	2	0	3	0	3	3	1	0	2	1	2
CO3	3	2	1	1	2	0	3	1	3	3	0	0	2	2	2
CO4	2	3	2	2	2	0	3	1	3	3	0	0	2	1	2
CO5	3	2	1	2	1	0	3	0	2	3	0	0	2	2	2
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

Class	FYBSC(CS)
Subject Code	CS 121
Subject Name	ADVANCED 'C' PROGRAMMING
Semester No	2
Teacher Name	SAYYAD AMERA

Course Outcomes		
	CO1	Control the sequence of the program and give logical outputs

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	1	2	3	0	2	1	2	2	1	0	2	1	2
CO2	2	2	2	1	2	0	2	0	2	2	1	0	1	2	2
CO3	2	2	2	1	2	0	2	1	2	2	1	1	1	2	2
CO4	3	3	1	2	3	0	2	0	1	2	1	0	2	2	2
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																

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	KULKARNI SARIKA	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)
Subject Code	CS 123
Subject Name	PRACTICAL COURSE BASED ON CS201 AND CS202
Semester No	2
Teacher Name	AMERA SAYYAD & KULKARNI SARIKA

Course Outcomes		
	CO1	Read, understand and trace the execution of programs written in C language
	CO2	Implement Programs with pointers and arrays, performpointer arithmetic, and use the pre-processor.
	CO3	Demonstrate their understanding of key notions ofquery evaluation and optimization techniques.
	CO4	Familiar with database storage structures and access techniques
	CO5	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	0	1	1	2	3	1	1	2	2	3
CO2	3	2	3	3	3	0	2	0	3	3	1	0	3	3	3
CO3	3	3	2	2	2	0	1	1	2	2	2	0	2	2	3
CO4	2	2	3	2	3	0	2	0	2	2	1	0	3	3	2
CO5															
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

Class	FYBSC(CS)
Subject Code	MTC 121
Subject Name	LINEAR ALGEBRA
Semester No	2
Teacher Name	MAHANKALE NAMRATA

Course Outcomes		
	CO1	Understand algebraic and geometric representations of vectors in R^n and their operations, including addition, scalar multiplication and dot product.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	1	2	0	2	0	3	3	2	2	2	1	2
CO2	1	1	1	1	2	0	3	1	3	2	2	0	1	2	2
CO3	1	2	1	1	1	0	2	1	2	3	1	0	2	3	2
CO4	1	1	2	1	2	0	3	0	3	3	2	2	2	2	1
CO5															

	CO2	Solve systems of linear equations using Gauss-Jordanelimination 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 asubspace, 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	SALVE SHRADDHA	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 theseproblems algorithmically.	CO5	1	2	1	1	1	0	2	0	3	2	1	0	2	2	2
	CO2	Paths cycles, connectivity, homomorphism andisomorphism 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 theoremsand algorithms																
	CO4	Understanding Basics: equivalent characterizationsof trees, forests ,Spanning trees and2-switches c ,Distance and center																
	CO5	Optimization: Kruskal’s Theorem and Dijkstra’s Algorithm																

Class	FYBSC(CS)	Course	Program Outcomes	PSOs

Subject Code	MTC 123
Subject Name	MATHEMATICS PRACTICAL II
Semester No	2
Teacher Name	MAHANKALE NAMRATA

Course Outcomes		
	CO1	A student be able to apply their skills and knowledge , 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.
	CO2	Perform certain algorithms, justify why these algorithms work, and give some estimates of the running times of these algorithms.
	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	

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	3	2	1	0	2	1	3	2	1	0	1	2	2
CO2	2	2	2	2	2	0	3	0	3	3	2	1	2	2	2
CO3	2	2	2	3	1	0	2	1	3	3	1	0	1	2	1
CO4	2	2	2	2	2	0	2	0	3	3	2	1	2	1	2
CO5															
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

Class	FYBSC(CS)
Subject Code	ELC 121
Subject Name	INSTRUMENTATION SYSTEM
Semester No	2
Teacher Name	NAGARE SHRUTIKA
Course Outcomes	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	2	2	1	0	2	1	1	0	3	3	2	2	2
CO2	1	2	1	1	2	0	2	1	1	0	2	3	2	2	2
CO3	2	2	1	1	2	0	2	0	0	1	3	3	1	1	2
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 numbersystems and codes	CO5														
	CO2	Understand the digital representation of data in acomputer 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	HIRE SANDHYA	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 analyzeexperimental 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 theNormal 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																

Academic Year :	2019-20

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS- 211		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Data Structures using 'C'	CO1	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Semester No	1	CO2	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Teacher Name	Nikita Munot	CO3	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Course Outcomes		CO4	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
CO1	1. To learn the systematic way of solving proble	CO5															
CO2	2. To understand the different methods of organi	Average	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00	3.00	3.00	3.00
CO3	3. To efficiently implement the different data structures																
CO4	4. To efficiently implement solutions for specific problems																
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 212		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Relational Database Management Syster	CO1	2	2	2	2	3	0	1	0	0	1	0	0	3	3	3
Semester No	1	CO2	2	2	2	1	2	0	1	0	1	1	0	0	3	3	3
Teacher Name	Ujwala Kale	CO3	3	2	2	2	3	0	1	0	1	1	0	0	3	3	3
Course Outcomes		CO4	3	2	2	2	2	0	1	0	1	1	1	1	3	3	3
CO1	To teach fundamental concepts of RDBMS (PL/	CO5	3	2	2	2	2	0	1	0	1	1	1	1	3	3	3
CO2	-To teach principles of databases	Average	2.60	2.00	2.00	1.80	2.40	0.00	1.00	0.00	0.80	1.00	0.40	0.40	3.00	3.00	3.00
CO3	-To teach database management operations																
CO4	-To teach data security and its importance																
CO5	-To teach client server architecture																

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	MTC: 211		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Applied Algebra	CO1	3	3	2	3	2	0	2	3	3	3	2	2	2	2	3

Semester No	1	CO2	2	2	2	2	2	0	2	2	2	3	1	2	3	3	2
Teacher Name	Shraddha Salve	CO3	2	2	1	3	2	1	3	2	2	3	2	2	2	3	3
Course Outcomes		CO4	2	1	1	2	2	0	3	3	3	3	1	1	2	3	3
CO1	Discuss the concepts of vector spaces and subsp	CO5															
CO2	Define linearly independent and dependent vect	Average	2.25	2.00	1.50	2.50	2.00	0.25	2.50	2.50	2.50	3.00	1.50	1.75	2.25	2.75	2.75
CO3	Determine eigenvalues and eigenvectors of a given matrix.																
CO4	Apply concept of diagonalization (factorization) of a matrix using eigenvalues and eigenvectors.																
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	MTC: 212		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	1	CO2	1	2	1	1	0	0	2	2	3	3	0	0	2	2	2
Teacher Name	Mahankale Namrata	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	ELC 211		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Digital System Hardware	CO1	2	2	2	2	2	0	2	2	2	3	3	3	2	3	3
Semester No	1	CO2	2	2	2	2	2	0	2	2	2	2	3	3	2	3	3
Teacher Name	Hire Sandhya	CO3	2	2	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 study the applications of logic gates.	CO5															
CO2	2. To use K-maps for digital circuit design.	Average	2.00	1.75	1.75	2.00	1.75	0.00	1.50	2.00	2.00	2.25	3.00	3.00	2.00	3.00	3.00
CO3	3. To study and understand basics of microprocessors																

	CO4	4. To understand fundamentals of multicore technology
	CO5	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	ELC 212		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Analog Systems	CO1	2	2	2	2	2	0	2	2	2	2	3	3	2	3	3
Semester No	1	CO2	2	2	2	2	2	0	2	2	2	2	3	3	2	3	3
Teacher Name	Nagare Shrutika	CO3	3	2	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	To understand basics of analog electronics	CO5	2	1	2	1	2	0	2	2	2	2	3	3	2	3	3
CO2	2) To study different types of sensors	Average	2.20	1.60	1.80	1.80	1.80	0.00	1.60	2.00	2.00	2.00	3.00	3.00	2.00	3.00	3.00
CO3	3) To understand different types of signal conditioning circuits																
CO4	4) To learn data conversion techniques																
CO5	5) To apply knowledge of analog systems in different applications																

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	English	CO1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
Semester No	1	CO2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
Teacher Name	Sonawane Tejal	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	1.00
CO3																	
CO4																	
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CS 221		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Object Oriented Concepts using C++	CO1	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3

Semester No	2	CO2	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Teacher Name	Nikita Munot	CO3															
Course Outcomes		CO4															
CO1	Acquire an understanding of basic object oriente	CO5															
CO2	C++ programs that use object oriented concepts	Average	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00	3.00	3.00	3.00
CO3																	
CO4																	
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CS - 222		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Software Engineering	CO1	2	2	2	2	3	1	1	0	0	1	0	0	3	3	3
Semester No	2	CO2	2	2	2	1	2	1	1	0	1	1	0	0	3	3	3
Teacher Name	Ujwala Kale	CO3	3	2	2	2	3	1	1	0	1	1	0	0	3	3	3
Course Outcomes		CO4	3	2	2	2	2	1	1	0	1	1	1	1	3	3	3
CO1	To teach basics of System Analysis and Design.	CO5	3	2	2	2	2	1	1	0	1	1	1	1	3	3	3
CO2	To teach principles of Software Engineering	Average	2.60	2.00	2.00	1.80	2.40	1.00	1.00	0.00	0.80	1.00	0.40	0.40	3.00	3.00	3.00
CO3	To teach various process models used in practice																
CO4	To know about the system engineering and requirement engineering																
CO5	To build analysis model																

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CS-223		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Data structures Practicals and C++ Practi	CO1	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Semester No	2	CO2	3	3	3	3	3	0	0	0	2	2	1	1	3	3	3
Teacher Name	Nikita Munot	CO3															
Course Outcomes		CO4															
CO1	1. Design and implement Data structures and rel	CO5															
CO2	2. Understand several ways of solving the same	Average	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00	3.00	3.00	3.00
CO3																	
CO4																	
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course	Program Outcomes	PSOs

Subject Code	CS-224
Subject Name	Database Practicals & Mini Project using
Semester No	2
Teacher Name	Sawant Ujwala

Course Outcomes	
CO1	Understanding the use of cursors, triggers, views
CO2	Understanding the steps of system analysis and d
CO3	Understanding Data requirements for a specific problem domain
CO4	Designing Data base as per the Data requirements
CO5	Designing queries as per the functional requirements

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	2	3	0	1	0	0	1	0	0	3	3	3
CO2	2	2	2	1	2	0	1	0	1	1	0	0	3	3	3
CO3	2	2	2	2	3	0	1	0	0	1	0	0	3	3	3
CO4	2	2	2	1	2	0	1	0	1	1	0	0	3	3	3
CO5	2	2	2	2	3	0	1	0	0	1	0	0	3	3	3
Average	2.00	2.00	2.00	1.60	2.60	0.00	1.00	0.00	0.40	1.00	0.00	0.00	3.00	3.00	3.00

Class	S.Y.B.Sc.(Computer Science)
Subject Code	MTC:221
Subject Name	Computational Geometry
Semester No	2
Teacher Name	Shraddha Salve

Course Outcomes	
CO1	State different types of projections on an object.
CO2	Compute points of standard curves using recursive formulae.
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.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	0	2	2	2	0	1	2	2	2	0	0	1	2	2
CO2	1	2	2	2	2	0	1	1	3	2	1	0	2	3	1
CO3	1	1	1	1	2	0	2	1	2	3	1	0	2	3	1
CO4	2	2	1	1	2	0	1	2	2	2	0	1	1	2	1
CO5	1	1	2	1	2	0	2	2	2	2	0	0	1	3	2
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

Class	S.Y.B.Sc.(Computer Science)
Subject Code	MTC:222
Subject Name	Operations Research
Semester No	2
Teacher Name	Mahankale Namrata

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	2	1	1	0	1	1	3	2	1	1	1	2	3
CO2	1	1	1	1	2	0	2	1	3	2	1	0	2	2	2
CO3	1	1	1	1	1	0	2	1	3	3	1	0	2	3	2
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:223		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Mathematics practical	CO1	2	0	2	2	1	0	1	2	2	2	0	0	2	2	3
Semester No	2	CO2	0	0	1	0	1	0	2	2	3	2	1	0	3	2	3
Teacher Name	Salve Shraddha	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 geomertical 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	ELC 221		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	The 8051 Architecture, Interfacing & Pro	CO1	2	3	3	3	2	0	1	3	2	3	3	3	2	3	3

Semester No	2	CO2	2	2	2	3	2	0	1	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	1	2	2	2	3	3	2	3	3
CO1	1. To study the basics of 8051 microcontroller	CO5															
CO2	2. To study the Programming and interfacing tec	Average	2.25	2.25	2.00	2.50	1.75	0.00	0.75	2.25	2.00	2.25	3.00	3.00	2.00	3.00	3.00
CO3	3. To apply knowledge of 8051 to design different application circuits																
CO4	4. To introduce the basic concepts of advanced Microcontrollers																
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	ELC 222		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Communication Principles	CO1	2	3	3	3	2	0	1	3	2	3	3	3	2	3	3
Semester No	2	CO2	2	2	2	3	2	0	1	2	2	2	3	3	2	3	3
Teacher Name	Nagare Shrutika	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	1	2	2	2	3	3	2	3	3
CO1	1. To understand basics of communication syste	CO5															
CO2	2. To understand modulation, demodulation and	Average	2.25	2.25	2.00	2.50	1.75	0.00	0.75	2.25	2.00	2.25	3.00	3.00	2.00	3.00	3.00
CO3	3. To understand digital communication techniques																
CO4	4. To introduce concepts in advanced wireless communication.																
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	ELC-223		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	Practical Course	CO1	2	2	2	2	2	0	2	3	2	3	3	3	2	3	3
Semester No	2	CO2	2	2	2	2	2	0	2	2	2	2	3	3	2	3	3
Teacher Name	Nagare Shrutika	CO3	2	2	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 use basic concepts for building various ap	CO5															
CO2	2. To understand design procedures of different	Average	2.00	1.75	1.75	2.00	1.75	0.00	1.50	2.25	2.00	2.25	3.00	3.00	2.00	3.00	3.00
CO3	3. To build experimental setup and test the circuits.																
CO4	4. To develop skills of analyzing test results of given experiments.																
CO5																	

Class	S.Y.B.Sc.(Computer Science)	Course	Program Outcomes	PSOs

Subject Code	EN 221
Subject Name	English
Semester No	2
Teacher Name	Sonawane Tejal

Course Outcomes		
	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.
	CO2	To enhance employability of the students by developing their linguistic competence and communicative skills.
	CO3	
	CO4	
	CO5	

Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
CO2	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1
CO3															
CO4															
CO5															
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	1.00

Academic Year :	2019-20

Class	TYBSC(CS)	Course Outcomes	Program Outcomes											PSOs		
Subject Code	CS 331		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Subject Name	SYSTEM PROGRAMMING	CO1	3	2	3	3	2	0	0	0	0	0	1	1	1	3	2
Semester No	3	CO2	2	2	3	3	3	0	0	0	0	0	0	0	1	3	3
Teacher Name	SHEETAL AWATE	CO3	2	3	2	2	2	0	1	1	1	1	0	0	2	3	3
Course Outcomes		CO4	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	CO5															
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		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	1	0	0	2	2	1
Semester No	3	CO2	2	1	2	3	2	1	0	0	0	0	0	0	1	1	1
Teacher Name	RAHUL GHODKE	CO3	2	2	1	2	2	1	0	0	0	1	0	0	2	2	2
Course Outcomes		CO4	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)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 333		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	KULSUM SAYYED	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
Semester No	3
Teacher Name	PRACHI WALUNJKAR
Course Outcomes	
CO1	Learn Core-PHP, Server Side Scripting Language
CO2	Learn PHP-Database handling.
CO3	Design dynamic and interactive Web pages.
CO4	
CO5	

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3	3	3	3	1	2	0	0	1	0	0	3	2	2
CO2	3	2	3	3	2	1	2	0	0	0	0	0	2	2	3
CO3	3	2	2	2	3	1	1	0	1	0	0	0	3	3	3
CO4															
CO5															
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

Class	TYBSC(CS)
Subject Code	CS 335
Subject Name	PROGRAMMING IN JAVA- I
Semester No	3
Teacher Name	ROOPALI KULKARNI
Course Outcomes	
CO1	To learn Object Oriented Programming language
CO2	To handle abnormal termination of a program using exception handling
CO3	To create flat files
CO4	To design User Interface using Swing and AWT
CO5	

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	1	1	0	0	2	0	0	3	2	3
CO2	2	3	3	2	2	2	0	1	0	1	0	0	3	2	3
CO3	2	2	2	3	2	2	1	0	0	0	0	0	3	3	3
CO4	3	3	3	3	2	2	0	0	0	1	0	0	3	3	3
CO5															
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

Class	TYBSC(CS)
Subject Code	CS 336
Subject Name	OBJECT ORIENTED SOFTWARE ENGINEERING
Semester No	3
Teacher Name	NAGARKAR V V

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	1	1	0	1	0	0	0	3	3	3
CO2	2	3	3	2	2	2	0	1	0	0	1	1	3	2	3
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)	Course Outcomes	Program Outcomes												PSOs		
Subject Code	CS 341		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)
Subject Code	CS 342
Subject Name	COMPLIER CONSTRUCTION
Semester No	4
Teacher Name	RAHUL GHODKE

Course Outcomes

CO1	To understand design issues of a lexical analyzer and use of Lex tool
CO2	To understand design issues of a parser and use of Yacc tool
CO3	To understand issues related to memory allocation
CO4	To understand and design code generation schemes
CO5	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	2	3	2	1	0	0	0	1	0	0	2	2	2
CO2	2	1	2	2	3	2	0	0	0	0	0	0	2	1	1
CO3	3	2	1	3	3	1	0	0	0	2	0	0	3	2	3
CO4	3	2	3	3	2	2	0	0	0	2	0	0	3	3	3
CO5															
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

Class	TYBSC(CS)
Subject Code	CS 343
Subject Name	COMPUTER NETWORKS - II
Semester No	4
Teacher Name	KULSUM SAYYED

Course Outcomes

CO1	Understand Basic networking concepts.
CO2	Understand wired and wireless networks, its types, functionality of layer.
CO3	Understand importance of network security and cryptography.
CO4	
CO5	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	2	2	2	0	0	0	0	0	1	0	2	1	2
CO2	2	2	3	1	1	0	0	0	0	0	0	0	1	2	2
CO3	3	1	2	2	1	0	0	0	0	0	1	0	1	2	3
CO4															
CO5															
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

Class	TYBSC(CS)
Subject Code	CS 344
Subject Name	INTERNET PROGRAMMING - II
Semester No	4
Teacher Name	PRACHI WALUNJKAR

Course Outcomes		
	CO1	Learn different technologies used at client Side Scripting Language
	CO2	Learn XML,CSS and XML parsers.
	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.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	2	1	0	0	0	0	0	3	3	2
CO2	3	2	2	2	2	1	0	0	0	0	0	0	2	2	2
CO3	2	2	2	2	2	1	1	0	1	0	0	0	3	3	3
CO4	2	2	1	2	3	2	0	0	0	2	0	0	3	2	3
CO5	3	2	3	3	2	1	0	0	0	2	0	0	3	3	3
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

Class	TYBSC(CS)
Subject Code	CS 345
Subject Name	PROGRAMMING IN JAVA - II
Semester No	4
Teacher Name	ROOPALI KULKARNI

Course Outcomes	
CO1	To learn database programming using Java
CO2	To study web development concept using Servlet and JSP
CO3	To develop a game application using multithreading
CO4	To learn socket programming concept
CO5	

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	2	1	0	1	2	0	0	3	1	3
CO2	3	3	3	2	2	3	0	1	0	1	1	1	3	2	3
CO3	3	2	3	3	3	2	1	0	0	1	0	0	3	3	3
CO4	3	2	3	3	2	3	0	0	0	1	0	0	3	3	3
CO5															
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

Class		TYBSC(CS)
Subject Code		CS 346
Subject Name		COMPUTER GRAPHICS
Semester No		4
Teacher Name		SHEETAL CHUDHARI
Course Outcomes		
	CO1	To study how graphics objects are represented in Computer
	CO2	To study how graphics system in a computer supports presentation of graphics information
	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

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	2	1	0	1	2	0	0	3	1	3
CO2	3	2	2	2	2	1	0	0	0	0	0	0	2	2	2
CO3	2	2	2	2	2	1	1	0	1	0	0	0	3	3	3
CO4	3	2	3	3	2	3	0	0	0	1	0	0	3	3	3
CO5	3	3	2	3	2	2	1	0	0	0	0	0	3	3	2
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

Class		TYBSC(CS)
Subject Code		CS 347
Subject Name		LAB COURSE I SYSTEM PROG.& O.S
Semester No		4
Teacher Name		SHEETAL AWATE & PRIYA LASGARE
Course Outcomes		
	CO1	Design and implement System programs with minimal features to understand their complexity.
	CO2	Design and implement simulations of operating system level procedures.

Course Outcomes	Program Outcomes												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	2	0	0	0	0	1	1	2	3	3
CO2	3	2	2	2	3	1	0	0	0	0	0	0	3	2	3
CO3	2	1	2	3	3	2	1	1	1	1	0	0	2	3	3
CO4															
CO5															
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 & KULSUM SAYYED	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																	
	CO1	Implement Simple PHP programs to solve simple problems	CO4														
	CO2	To understand the process of designing Web applications, using PHP.	CO5														
	CO3	To understand the process of implementing 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
	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- 211	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00
		2	CS 212	2.60	2.00	2.00	1.80	2.40	0.00	1.00	0.00	0.80	1.00	0.40	0.40
		3	MTC: 211	2.25	2.00	1.50	2.50	2.00	0.25	2.50	2.50	2.50	3.00	1.50	1.75
		4	MTC: 212	1.67	1.67	1.33	1.00	0.33	0.33	1.33	1.67	3.00	3.00	0.00	0.00
		5	ELC 211	2.00	1.75	1.75	2.00	1.75	0.00	1.50	2.00	2.00	2.25	3.00	3.00
		6	ELC 212	2.20	1.60	1.80	1.80	1.80	0.00	1.60	2.00	2.00	2.00	3.00	3.00
		7	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
		8	CS 221	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00
		9	CS - 222	2.60	2.00	2.00	1.80	2.40	1.00	1.00	0.00	0.80	1.00	0.40	0.40
		10	CS-223	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	2.00	2.00	1.00	1.00
		11	CS-224	2.00	2.00	2.00	1.60	2.60	0.00	1.00	0.00	0.40	1.00	0.00	0.00
SY		12	MTC:221	1.40	1.20	1.60	1.40	2.00	0.00	1.40	1.60	2.20	2.20	0.40	0.20
		13	MTC:222	1.25	1.25	1.50	1.00	1.25	0.00	1.50	1.25	3.00	2.50	0.75	0.50
		14	MTC:223	0.60	0.20	0.60	0.80	1.00	0.00	2.00	1.80	2.20	2.00	0.40	0.20
		15	ELC 221	2.25	2.25	2.00	2.50	1.75	0.00	0.75	2.25	2.00	2.25	3.00	3.00

		16	ELC 222	2.25	2.25	2.00	2.50	1.75	0.00	0.75	2.25	2.00	2.25	3.00	3.00
		17	ELC-223	2.00	1.75	1.75	2.00	1.75	0.00	1.50	2.25	2.00	2.25	3.00	3.00
	SY	18	EN 221	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
0.92	0.858667	0.674666667	0.92	0.797333	0.122667	0.797333	0.797333	0.797333	0.797333	0.368	0.429333
0.45	0.5	0.5	0.4	0.5	0	0.2	0.4	0.3	0.25	0.1	0.05
0.613333	0.69	0.843333333	0.613333	0.766667	0.23	0.383333	0.383333	0.46	0.69	0.153333	0.23
0.551111	0.688889	0.688888889	0.964444	0.826667	0	0.688889	0.413333	1.24	1.102222	0.137778	0.275556
0.383333	0.306667	0.383333333	0.383333	0.536667	0	0.306667	0.23	0.843333	0.766667	0.23	0.23
0.91	0.78	1.04	0.65	0.78	0.13	0.65	0.26	1.43	1.56	0.39	0.26
0.2	0.2	0.3	0.25	0.3	0	0.1	0.2	0.15	0.15	0.55	0.55
0.306667	0.306667	0.408888889	0.306667	0.511111	0	0	0.204444	0.204444	0.204444	0.92	0.817778
0.3	0.25	0.3	0.3	0.35	0	0	0.15	0.15	0.15	0.6	0.55
0.69	0.613333	0.69	0.613333	0.613333	0	0.92	0.153333	0.843333	0.843333	0.076667	0.153333
0.55	0.5	0.45	0.35	0.45	0	0.6	0.1	0.55	0.55	0.1	0.05
1.456	1.248	0.728	0.832	0.936	0	1.56	0.208	1.456	1.56	0.208	0.104
1.490667	1.376	0.917333333	0.802667	1.490667	0	1.146667	0.344	1.032	1.032	0.573333	0.114667
0.613333	0.613333	2	1.666667	2.666667	0	1	0.333333	0.666667	0	0	0
1.43	1.3	1.43	1.17	1.3	0	0.78	0.26	1.17	1.3	0.65	0.13
0.716667	0.716667	0.716666667	0.573333	1.003333	0	1.433333	0.286667	1.576667	1.576667	1.003333	0.573333
1.224	1.36	0.816	0.68	0.952	0	1.496	0.408	1.904	1.768	0.952	0.136
2	2.25	2.25	2.25	1.5	0	2.25	0.5	3	2.75	1.5	0.5
1.05	1.47	1.47	1.05	1.26	0	1.68	0.42	0.63	0.21	2.1	2.52
1.222222	0.977778	1.466666667	1.222222	0.977778	0	1.711111	0.244444	0	0.244444	1.955556	2.2
1.25	1.5	2	1.25	1.75	0	2	0.75	0.25	0.25	2.75	3
1.074667	1.074667	0.992	0.826667	0.826667	0	1.24	0.248	0.992	1.074667	0.248	0.082667
0.826667	0.723333	0.723333333	0.62	0.723333	0	1.136667	0.206667	1.033333	1.136667	0.62	0.206667
2.25	1.75	1.75	1.5	1.75	0	3	0.75	2.75	2.75	1.5	0.25
1.08	1.08	1.08	1.08	1.08	0	0	0	0.72	0.72	0.36	0.36
0.52	0.4	0.4	0.36	0.48	0	0.2	0	0.16	0.2	0.08	0.08
1.17	1.04	0.78	1.3	1.04	0.13	1.3	1.3	1.3	1.56	0.78	0.91
0.866667	0.866667	0.693333333	0.52	0.173333	0.173333	0.693333	0.866667	1.56	1.56	0	0
0.613333	0.536667	0.536666667	0.613333	0.536667	0	0.46	0.613333	0.613333	0.69	0.92	0.92
0.44	0.32	0.36	0.36	0.36	0	0.32	0.4	0.4	0.4	0.6	0.6
0.306667	0.306667	0.306666667	0.306667	0.306667	0.92	0.306667	0.306667	0.306667	0.306667	0.306667	0.306667
0.92	0.92	0.92	0.92	0.92	0	0	0	0.613333	0.613333	0.306667	0.306667
1.768	1.36	1.36	1.224	1.632	0.68	0.68	0	0.544	0.68	0.272	0.272
3	3	3	3	3	0	0	0	2	2	1	1
0.4	0.4	0.4	0.32	0.52	0	0.2	0	0.08	0.2	0	0
0.429333	0.368	0.490666667	0.429333	0.613333	0	0.429333	0.490667	0.674667	0.674667	0.122667	0.061333
0.25	0.25	0.3	0.2	0.25	0	0.3	0.25	0.6	0.5	0.15	0.1
0.6	0.2	0.6	0.8	1	0	2	1.8	2.2	2	0.4	0.2

0.45	0.45	0.4	0.5	0.35	0	0.15	0.45	0.4	0.45	0.6	0.6
0.93	0.93	0.826666667	1.033333	0.723333	0	0.31	0.93	0.826667	0.93	1.24	1.24
2	1.75	1.75	2	1.75	0	1.5	2.25	2	2.25	3	3
0.52	0.52	0.52	0.52	0.52	1.56	0.52	0.52	0.52	0.52	0.52	0.52
1.033333	1.033333	1.136666667	1.033333	0.93	0	0.206667	0.206667	0.103333	0.103333	0.206667	0.103333
0.35	0.35	0.4	0.5	0.5	0.25	0	0	0	0.15	0	0
2.5	1.25	2.5	1.5	1.5	0.25	0	0	0	0	0.5	0
1.813333	1.586667	1.813333333	1.813333	1.813333	0.68	1.133333	0	0.226667	0.226667	0	0
1.966667	2.163333	1.966666667	2.163333	1.77	1.376667	0.393333	0.196667	0	0.786667	0	0
1.768	1.904	1.768	1.632	1.768	1.088	0.408	0.272	0.272	0	0.272	0.272
2.097778	2.097778	2.097777778	1.835556	2.097778	0	0.524444	0.524444	0.786667	0.786667	0.262222	0
2.233333	1.563333	1.786666667	2.456667	2.233333	1.34	0	0	0	1.116667	0	0
1.386667	0.693333	1.213333333	0.866667	0.693333	0	0	0	0	0	0.346667	0
2.184	1.848	1.68	2.016	1.848	1.176	0.336	0	0.168	0.672	0	0
3	2.5	2.75	2.75	2.5	2.5	0.5	0.25	0.25	1.25	0.25	0.25
2.501333	2.144	1.965333333	2.322667	1.965333	1.608	0.536	0	0.357333	0.536	0	0
1.386667	0.866667	1.213333333	1.386667	1.56	0.866667	0.173333	0.173333	0.173333	0.173333	0.173333	0.173333
2.52	2.24	2.24	2.24	2.24	2.24	0.56	0	0.28	0.28	0	0
2.666667	2.333333	2.333333333	3	2.666667	1	0.666667	0.333333	0.666667	0	0	0

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
30.66667	30.66667	30.66666667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
30.66667	30.66667	30.66666667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
41.33333	41.33333	41.33333333	41.33333	41.33333	#DIV/0!	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
52	52	52	52	52	52	52	52	52	52	52	52
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	#DIV/0!	30.66667	30.66667	30.66667	30.66667	30.66667
20	20	20	20	20	#DIV/0!	#DIV/0!	20	20	20	20	20
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
57.33333	57.33333	57.33333333	57.33333	57.33333	#DIV/0!	57.33333	57.33333	57.33333	57.33333	57.33333	57.33333
30.66667	30.66667	100	100	100	#DIV/0!	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!
52	52	52	52	52	#DIV/0!	52	52	52	52	52	52
57.33333	57.33333	57.33333333	57.33333	57.33333	#DIV/0!	57.33333	57.33333	57.33333	57.33333	57.33333	57.33333
68	68	68	68	68	#DIV/0!	68	68	68	68	68	68
100	100	100	100	100	#DIV/0!	100	100	100	100	100	100
84	84	84	84	84	#DIV/0!	84	84	84	84	84	84
73.33333	73.33333	73.33333333	73.33333	73.33333	#DIV/0!	73.33333	73.33333	#DIV/0!	73.33333	73.33333	73.33333
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
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
36	36	36	36	36	#DIV/0!	#DIV/0!	#DIV/0!	36	36	36	36
20	20	20	20	20	#DIV/0!	20	#DIV/0!	20	20	20	20
52	52	52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52	#DIV/0!	#DIV/0!
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
30.66667	30.66667	30.66666667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	#DIV/0!	#DIV/0!	30.66667	30.66667	30.66667	30.66667
68	68	68	68	68	68	68	#DIV/0!	68	68	68	68
100	100	100	100	100	#DIV/0!	#DIV/0!	#DIV/0!	100	100	100	100
20	20	20	20	20	#DIV/0!	20	#DIV/0!	20	20	#DIV/0!	#DIV/0!
30.66667	30.66667	30.66666667	30.66667	30.66667	#DIV/0!	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
20	20	20	20	20	#DIV/0!	20	20	20	20	20	20
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
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
52	52	52	52	52	52	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
20	20	20	20	20	20	#DIV/0!	#DIV/0!	#DIV/0!	20	#DIV/0!	#DIV/0!
100	100	100	100	100	100	#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!
78.66667	78.66667	78.66666667	78.66667	78.66667	78.66667	78.66667	78.66667	#DIV/0!	78.66667	#DIV/0!	#DIV/0!
68	68	68	68	68	68	68	68	68	#DIV/0!	68	68
78.66667	78.66667	78.66666667	78.66667	78.66667	#DIV/0!	78.66667	78.66667	78.66667	78.66667	78.66667	#DIV/0!
89.33333	89.33333	89.33333333	89.33333	89.33333	89.33333	#DIV/0!	#DIV/0!	#DIV/0!	89.33333	#DIV/0!	#DIV/0!
52	52	52	52	52	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	52	#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	100	100	100	100
89.33333	89.33333	89.33333333	89.33333	89.33333	89.33333	89.33333	#DIV/0!	89.33333	89.33333	#DIV/0!	#DIV/0!
52	52	52	52	52	52	52	52	52	52	52	52
84	84	84	84	84	84	84	#DIV/0!	84	84	#DIV/0!	#DIV/0!
100	100	100	100	100	100	100	100	100	#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	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- 211	3.00	3.00	3.00
	2	CS 212	3.00	3.00	3.00
	3	MTC: 211	2.25	2.75	2.75
	4	MTC: 212	1.33	2.33	2.00
	5	ELC 211	2.00	3.00	3.00
	6	ELC 212	2.00	3.00	3.00
	7	En 211	1.00	1.00	1.00
	8	CS 221	3.00	3.00	3.00
	9	CS - 222	3.00	3.00	3.00
	10	CS-223	3.00	3.00	3.00
	11	CS-224	3.00	3.00	3.00
	12	MTC:221	1.40	2.60	1.40
	13	MTC:222	1.75	2.25	2.25
	14	MTC:223	2.40	2.20	2.60

CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CS 111	0.797333	0.858667	0.92
CS 112	0.5	0.5	0.55
CS 113	0.92	0.843333	0.843333
MTC 111	0.826667	0.688889	0.551111
MTC 112	0.536667	0.613333	0.383333
MTC 113	0.78	1.04	0.65
ELC 111	0.25	0.35	0.35
ELC 112	0.408889	0.511111	0.408889
ELC 113	0.35	0.2	0.3
CSST 111	0.383333	0.46	0.383333
CSST 112	0.35	0.4	0.4
CSST 113	0.936	0.832	1.04
CS 121	0.917333	0.917333	1.032
CS 122	0.408889	0.511111	0.408889
CS 123	1.3	1.3	1.43
MTC 121	1.003333	1.146667	1.003333
MTC 122	1.496	0.952	1.088
MTC 123	1.5	1.75	1.75
ELC 121	1.47	1.26	1.68
ELC 122	1.222222	0.733333	0.977778
ELC 123	2	1.25	1.5
CSST 121	0.744	0.826667	0.744
CSST 122	0.62	0.723333	0.62
CSST 123	1.5	1.5	1.5
CS- 211	1.08	1.08	1.08
CS 212	0.6	0.6	0.6
MTC: 211	1.17	1.43	1.43
MTC: 212	0.693333	1.213333	1.04
ELC 211	0.613333	0.92	0.92
ELC 212	0.4	0.6	0.6
En 211	0.306667	0.306667	0.306667
CS 221	0.92	0.92	0.92
CS - 222	2.04	2.04	2.04
CS-223	3	3	3
CS-224	0.6	0.6	0.6
MTC:221	0.429333	0.797333	0.429333
MTC:222	0.35	0.45	0.45
MTC:223	2.4	2.2	2.6

Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CS 111	30.66667	30.66667	30.66667
CS 112	20	20	20
CS 113	30.66667	30.66667	30.66667
MTC 111	41.33333	41.33333	41.33333
MTC 112	30.66667	30.66667	30.66667
MTC 113	52	52	52
ELC 111	20	20	20
ELC 112	30.66667	30.66667	30.66667
ELC 113	20	20	20
CSST 111	30.66667	30.66667	30.66667
CSST 112	20	20	20
CSST 113	52	52	52
CS 121	57.33333	57.33333	57.33333
CS 122	30.66667	30.66667	30.66667
CS 123	52	52	52
MTC 121	57.33333	57.33333	57.33333
MTC 122	68	68	68
MTC 123	100	100	100
ELC 121	84	84	84
ELC 122	73.33333	73.33333	73.33333
ELC 123	100	100	100
CSST 121	41.33333	41.33333	41.33333
CSST 122	41.33333	41.33333	41.33333
CSST 123	100	100	100
CS- 211	36	36	36
CS 212	20	20	20
MTC: 211	52	52	52
MTC: 212	52	52	52
ELC 211	30.66667	30.66667	30.66667
ELC 212	20	20	20
En 211	30.66667	30.66667	30.66667
CS 221	30.66667	30.66667	30.66667
CS - 222	68	68	68
CS-223	100	100	100
CS-224	20	20	20
MTC:221	30.66667	30.66667	30.66667
MTC:222	20	20	20
MTC:223	100	100	100

	15	ELC 221	2.00	3.00	3.00
	16	ELC 222	2.00	3.00	3.00
	17	ELC-223	2.00	3.00	3.00
SY	18	EN 221	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

ELC 221	0.4	0.6	0.6
ELC 222	0.826667	1.24	1.24
ELC-223	2	3	3
EN 221	0.52	0.52	0.52
CS 331	0.91	1.43	1.43
CS 332	1.04	1.04	0.78
CS 333	0.65	0.39	1.17
CS 334	0.533333	0.466667	0.533333
CS 335	1.24	1.033333	1.24
CS 336	0.56	0.48	0.56
CS 341	2.333333	2.666667	3
CS 342	1.7	1.36	1.53
CS 343	1.048889	1.311111	1.835556
CS 344	1.904	1.768	1.768
CS 345	2.36	1.77	2.36
CS 346	2.501333	2.144	2.322667
CS 347	1.213333	1.386667	1.56
CS 348	2.52	2.52	2.24
CS 349	2.666667	1.666667	3

ELC 221	20	20	20
ELC 222	41.33333	41.33333	41.33333
ELC-223	100	100	100
EN 221	52	52	52
CS 331	52	52	52
CS 332	52	52	52
CS 333	52	52	52
CS 334	20	20	20
CS 335	41.33333	41.33333	41.33333
CS 336	20	20	20
CS 341	100	100	100
CS 342	68	68	68
CS 343	78.66667	78.66667	78.66667
CS 344	68	68	68
CS 345	78.66667	78.66667	78.66667
CS 346	89.33333	89.33333	89.33333
CS 347	52	52	52
CS 348	84	84	84
CS 349	100	100	100