

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

<b>Department Name</b>	<b>Computer Science</b>
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<b>Program Name</b>	<b>BBA CA</b>
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<b>Program Outcomes(PO)</b>
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<b>PO1</b>	To produce skill oriented human resource.
<b>PO2</b>	To impart practical skills among students.
<b>PO3</b>	To make industry ready resource.
<b>PO4</b>	To bring the spirit of entrepreneurship.
<b>PO5</b>	To give students an solid academic basis on which to build a successful career in computer applications.
<b>PO6</b>	To give conceptual foundation for computer use and actual commercial application.
<b>PO7</b>	
<b>PO8</b>	
<b>PO9</b>	
<b>PO10</b>	
<b>PO11</b>	
<b>PO12</b>	

<b>Program Specific Outcome(PSO)</b>
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<b>PSO1</b>	Students will be able to use modern methods and techniques in open-ended programming environments to create high-quality products t
<b>PSO2</b>	Students would be able to learn about design and control strategies, information security approaches, and how to adapt to the rapidly cha
<b>PSO3</b>	students should be able to aaply management and recent trends in the commerce match the industry and market requirement

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Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-101			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Business Communication		CO1	3	3	2	1	2	1	2	1	2
Semester No	1		CO2	3	3	2	1	1	3	2	1	3
Teacher Name	Poornima Behere		CO3	3	2	3	3	1	2	3	2	3
Course Outcomes			CO4	3	2	3	2	3	2	2	2	2
	CO1	To understand what is the role of communication in personal and business world	CO5									
	CO2	To understand system and communication and their utility	Average	3.00	2.50	2.50	1.75	1.75	2.00	2.25	1.50	2.50
	CO3	To develop proficiency in how to write business letters and other communications in required Business										
	CO4	To equip the students with necessary communication skills for recruitment process										
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-102			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Principles of Management		CO1	3	2	3	2	3	2	1	2	3
Semester No	1		CO2	2	3	3	3	3	3	1	2	3
Teacher Name	Sayyed Ayesah		CO3	3	3	2	3	2	3	1	1	3
Course Outcomes			CO4	3	3	2	2	3	3	1	1	3
	CO1	To understand basic concept regarding org. Business Administration	CO5									
	CO2	To examining how various management principles	Average	2.75	2.75	2.50	2.50	2.75	2.75	1.00	1.50	3.00
	CO3	To develop managerial skills among the students										
	CO4	To apply the managerial functions in different business setup										
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-103			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	C Language		CO1	3	3	2	1	3	3	3	3	2
Semester No	1		CO2	2	2	2	1	3	3	3	3	2
Teacher Name	Mrs.Priyanka khandagle		CO3	3	2	3	1	3	3	3	3	1
Course Outcomes			CO4	3	3	3	1	3	3	3	3	2
	CO1	To understand the concept of Procedural Programming	CO5									
	CO2	To acquire basic programming skills using C Programming Language	Average	2.75	2.50	2.50	1.00	3.00	3.00	3.00	3.00	1.75
	CO3	To make students easily switch over to any other language in future										
	CO4	Students will Improve logical thinking through practical knowledge of C Programming										
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-104			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Database Management System		CO1	3	2	3	1	2	3	3	3	2
Semester No	1		CO2	3	3	3	1	2	3	3	3	2
Teacher Name	Pathan Aaliya		CO3	3	3	3	1	3	3	3	3	1
Course Outcomes			CO4	3	3	3	1	3	3	3	3	1
	CO1	To develop skills related with Database basic Concepts.	CO5									
	CO2	To understand role and importance File Structures and Organization	Average	3.00	2.75	3.00	1.00	2.50	3.00	3.00	3.00	1.50
	CO3	To Learn about Relational Database Designing.										
	CO4	To Develop right understanding of various Data models										
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-105			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Statstics		CO1	3	3	2	1	3	2	3	1	1
Semester No	1		CO2	3	3	2	1	2	2	3	2	2
Teacher Name	Pathare Shweta		CO3	2	2	2	2	2	2	2	1	2
Course Outcomes			CO4									
	CO1	To understand role and importance of statistics in various business situations	CO5									

	CO2	To develop skills related with basic statistical technique	Average	2.67	2.67	2.00	1.33	2.33	2.00	2.67	1.33	1.67
	CO3	Develop right understanding regarding regression, correlation and data interpretation										
	CO4											
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-106			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Computer laboratry based on 103-104		CO1	3	3	2	1	2	3	3	3	2
Semester No	1		CO2	3	3	3	1	3	3	3	3	1
Teacher Name	Mrs.Priyanka khandagle & Aliya Pathan		CO3	3	3	3	1	3	3	3	3	1
Course Outcomes			CO4	3	3	2	1	2	3	3	3	2
	CO1	To assess the knowledge of student in C and DBMS	CO5									
	CO2	To make students proficient in application of theory into the practical	Average	3.00	3.00	2.50	1.00	2.50	3.00	3.00	3.00	1.50
	CO3	To acquire knowledge on writing computer programs using C Language										
	CO4	To create and manage Database using SQL										
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-017			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Add-On (PPA)		CO1	3	3	2	1	3	3	3	2	1
Semester No	1		CO2	3	3	3	1	2	3	3	3	1
Teacher Name	Madhuri Sasane		CO3	3	3	3	1	2	3	2	3	1
Course Outcomes			CO4									
	CO1	To know the fundamentals of programming and designing.	CO5									
	CO2	To learn the algorithm analysis and notations	Average	3.00	3.00	2.67	1.00	2.33	3.00	2.67	2.67	1.00
	CO3	To understand the concept, problem and algorithm										
	CO4											
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
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Subject Code	CA-201	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	Organization Behavior & Human Resource Management	CO1	3	2	2	3	1	1	2	1	3	
Semester No	2	CO2	3	2	3	3	1	1	1	1	3	
Teacher Name	Sayyed Ayeshah	CO3	3	2	3	3	1	1	1	1	3	
Course Outcomes		CO4	2	3	2	3	1	2	2	1	3	
	CO1	To understand basic concept of HRM & OB	CO5	2	3	2	3	1	1	2	1	3
	CO2	To make aware students about traditional & modern methods of procurement & development in organization.	Average	2.60	2.40	2.40	3.00	1.00	1.20	1.60	1.00	3.00
	CO3	To know the major trends in HRM & OB										
	CO4	To make aware students about the recruitment and selection process for future										
	CO5	To make students undersatnd modern HRM processes										

Class	FY BBA CA	Course Outcomes	Program Outcomes						PSOs			
Subject Code	CA-202		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	Financial Accounting	CO1	3	2	2	2	1	1	2	1	3	
Semester No	2	CO2	3	3	2	3	1	1	2	1	3	
Teacher Name	Sayyed Ayeshah	CO3	3	2	2	2	1	2	1	2	2	
Course Outcomes		CO4	2	3	2	3	1	2	2	2	3	
	CO1	To develop right understanding regarding role and importance of monetary and financial transactions in business	CO5									
	CO2	To make the students understand the basic concept of finacial accounting	Average	2.75	2.50	2.00	2.50	1.00	1.50	1.75	1.50	2.75
	CO3	To cultivate right approach towards classifications of different transactions and their implications										
	CO4	To develop proficiency preparation of basic financial as to how to write basis accounting statement - Trading and P&L										
	CO5											

Class	FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-203		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Business Mathematics	CO1	3	2	3	1	1	2	2	2	2
Semester No	2	CO2	3	3	2	1	1	2	2	2	2
Teacher Name	Shaikh Sadiya	CO3									
Course Outcomes		CO4									

	CO1	To understand role and importance of Mathematics in various business situations and while developing softwares.	CO5									
	CO2	To develop skills related with basic mathematical technique	Average	3.00	2.50	2.50	1.00	1.00	2.00	2.00	2.00	2.00
	CO3											
	CO4											
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-204			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Rational Database		CO1	3	3	2	1	3	3	3	3	2
Semester No	2		CO2	3	3	2	1	3	2	3	3	2
Teacher Name	Khanchandani Naina		CO3	2	3	3	1	3	3	3	3	1
Course Outcomes			CO4	3	3	3	1	3	3	3	3	1
	CO1	Enables students to understand relational database concepts and transaction management concepts in database system.	CO5	3	3	3	1	3	2	3	3	1
	CO2	Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.	Average	2.80	3.00	2.60	1.00	3.00	2.60	3.00	3.00	1.40
	CO3	Enables students to understand transaction management concepts in database system.										
	CO4	To Understand SQL/PLSQL the programming language of oracle										
	CO5	Get Fundamental Knowledge of subject in Brief along with Software.										

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-205			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Web Technology HTML-JS-CSS		CO1	3	2	3	1	3	3	3	3	2
Semester No	2		CO2	3	3	2	1	3	2	3	3	1
Teacher Name	Bhagat Priyanka		CO3									
Course Outcomes			CO4									
	CO1	To know & understand concepts of internet programming.	CO5									
	CO2	To know & understand concepts of internet programming.	Average	3.00	2.50	2.50	1.00	3.00	2.50	3.00	3.00	1.50
	CO3											
	CO4											
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-206			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Computer Laboratory based on 204-205		CO1	3	2	3	1	3	3	3	3	2
Semester No	2		CO2	3	2	3	1	3	2	3	3	1
Teacher Name	Khanchandani Naina & Priyanka Bhagat		CO3	2	3	2	1	3	3	3	3	1
Course Outcomes			CO4									
	CO1	To assess the knowledge of student in RDBMS and Web Technology	CO5									
	CO2	To acquire knowledge on writing computer programs using concept of Web Technology	Average	2.67	2.33	2.67	1.00	3.00	2.67	3.00	3.00	1.33
	CO3	To create and manage Database using concept of RDBMS										
	CO4											
	CO5											

Class		FY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-207			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Add-on (Advance C)		CO1	3	2	3	1	3	3	3	3	2
Semester No	2		CO2	3	3	3	1	3	3	3	3	2
Teacher Name	Priyanka Khandagle		CO3									
Course Outcomes			CO4									
	CO1	To understand code organization with complex data types and structures.	CO5									
	CO2	To work with files.	Average	3.00	2.50	3.00	1.00	3.00	3.00	3.00	3.00	2.00
	CO3											
	CO4											
	CO5											

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Class		SY BBA CA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-301			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	DIGITAL MARKETING		CO1	3	2	2	2	2	1	2	2	1
Semester No	III		CO2	3	2	2	3	2	2	3	1	1
Teacher Name	SAYYED AYESHA		CO3									
Course Outcomes			CO4									
	CO1	Students will be able to understand the new digital market and its terminology	CO5									
	CO2	Students will get greatest benefit of Digital marketing which will allow to target the ideal buyer,through social media or with any digital platform	Average	3.00	2.00	2.00	2.50	2.00	1.50	2.50	1.50	1.00
	CO3											
	CO4											
	CO5											

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-302			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	DATA STRUCTURE		CO1	3	3	3	2	3	3	3	2	2
Semester No	III		CO2	3	3	3	3	3	3	3	2	1
Teacher Name	Mrs.DETHE MADHAVI		CO3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	2	2	2	2	2	2	2	2	3
	CO1	Students will be able to understand the concepts of ADTs and linear data structures-lists,stacks,queues	CO5									
	CO2	Students will be able to understand the sorting,searchingand hashing algorithmsand applytree and graph structures.	Average	2.75	2.75	2.75	2.50	2.75	2.75	2.75	2.25	2.25
	CO3	To learn linear data structures - list,stack and queue										
	CO4	To apply Tree and Graph structures										
	CO5											



Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-303			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	SOFTWARE ENGINEERING		CO1	3	2	3	3	3	2	3	2	3
Semester No	III		CO2	2	2	3	2	1	2	2	2	3
Teacher Name	KHANDAGALE PRIYANKA		CO3									
Course Outcomes			CO4									
	CO1	Students will be able to understand the system concepts and learn software engineering concepts	CO5									
	CO2	Students will be able to understand the applications of software engineering concepts and design in software development	Average	2.50	2.00	3.00	2.50	2.00	2.00	2.50	2.00	3.00
	CO3											
	CO4											
	CO5											

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-304			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	PHP		CO1	3	2	2	3	3	3	3	3	2
Semester No	III		CO2	3	2	3	2	3	3	2	2	3
Teacher Name	KHANCHANDANI NAINA		CO3	3	1	2	2	2	3	2	2	2
Course Outcomes			CO4	3	2	1	2	3	3	3	2	2
	CO1	Students understand how server side programming works on the web	CO5									
	CO2	To learn use of PHP built-in functions and creating custom functions	Average	3.00	1.75	2.00	2.25	2.75	3.00	2.50	2.25	2.25
	CO3	To understand form processing and submission of data										
	CO4	To read and process data in a MySQL database										
	CO5											

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-305			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	BIG DATA		CO1	2	2	3	2	2	3	2	2	3
Semester No	III		CO2	3	2	2	3	1	3	3	3	2
Teacher Name	SASANE MADHURI		CO3	2	1	3	2	2	3	1	2	2

Course Outcomes			CO4									
CO1	Students understand and are able to develop analytical skills in current an developing areas of analysis statistics and machine learning	CO5										
CO2	Students can be able to identify,develop and apply detailed analytical,creative,problem solving skills	Average	2.33	1.67	2.67	2.33	1.67	3.00	2.00	2.33	2.33	
CO3	Course provides a comprehensive platform for career development and innovation to the students											
CO4												
CO5												

Class	SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-306		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	COMPUTER LABORATORY BASED ON CA 302,CA 304 AND CA 305	CO1	3	3	3	2	2	2	3	2	3
Semester No	III	CO2	3	3	2	2	3	3	3	3	2
Teacher Name	DETHE MADHAVI,KHANCHANDANI NAINA,SASANE MADHURI	CO3	2	2	3	3	2	2	2	2	2
Course Outcomes		CO4	2	3	3	2	3	3	2	3	3
CO1	To understand different methods of organising large amounts of data	CO5	2	2	3	2	3	2	2	2	2
CO2	To efficiently implement different data structures	Average	2.40	2.60	2.80	2.20	2.60	2.40	2.40	2.40	2.40
CO3	To understand server side programming and database connectivity										
CO4	To understand the concepts of XML and AJAX										
CO5	To be aware of webservices										

Class	SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA 401		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	NETWORKING	CO1	2	1	2	2	2	3	3	2	2
Semester No	IV	CO2	1	2	1	1	2	2	3	2	1
Teacher Name	KHANDAGALE PRIYANKA	CO3	2	2	1	1	2	2	1	1	1
Course Outcomes		CO4									
CO1	To gain knowledge of computer network concepts	CO5									
CO2	To know about working on networking models, addresses,transmission media and connectivity devices	Average	1.67	1.67	1.33	1.33	2.00	2.33	2.33	1.67	1.33
CO3	To acquire information about network security and cryptography										

	CO4	
	CO5	

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA 402			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	OBJECT ORIENTED CONCEPTS THROUGH CPP		CO1	3	2	3	3	2	3	3	2	3
Semester No	IV		CO2	2	3	3	3	3	3	2	2	1
Teacher Name	DETHE MADHAVI		CO3									
Course Outcomes			CO4									
	CO1	To understand the basic concepts of object oriented concepts and issues involved in effective class design	CO5									
	CO2	To enable students to write programs using C++ features like operator overloading, constructor and destructor , inheritance, polymorphism and exception handling	Average	2.50	2.50	3.00	3.00	2.50	3.00	2.50	2.00	2.00
	CO3											
	CO4											
	CO5											

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA 403			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	OPERATING SYSTEM		CO1	1	2	1	1	2	3	1	2	1
Semester No	IV		CO2	2	1	2	1	2	2	2	1	1
Teacher Name	BHAGANNAVAR CHETNA		CO3	2	2	1	1	1	2	1	1	1
Course Outcomes			CO4	2	1	1	2	2	2	2	2	1
	CO1	To know the services provided by Operating System	CO5									
	CO2	To know the scheduling concept	Average	1.75	1.50	1.25	1.25	1.75	2.25	1.50	1.50	1.00
	CO3	To understand design issues related to memory management and various related algorithms										
	CO4	To understand design issues related to File management and various related algorithms										
	CO5											

Class		SY BBACA	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA 404			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	ADVANCE PHP		CO1	2	2	3	3	3	3	2	2	3
Semester No	IV		CO2	3	3	2	3	3	3	2	3	3
Teacher Name	KHANCHANDANI NAINA		CO3	2	1	1	3	3	3	1	2	1

Course Outcomes			CO4									
	CO1	To know and understand concepts of internet programming	CO5									
	CO2	To understand how server-side programming works on the web	Average	2.33	2.00	2.00	3.00	3.00	3.00	1.67	2.33	2.33
	CO3	To understand how to use PHP framework(Joomla/Drupal)										
	CO4											
	CO5											

Class	SY BBACA	Course Outcomes	Program Outcomes						PSOs			
Subject Code	CA 405	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	PROJECT	CO1	3	2	2	3	1	3	2	1	1	
Semester No	IV	CO2	2	2	1	3	2	3	1	2	2	
Teacher Name	Aliya Pathan	CO3	2	3	2	3	3	3	1	1	1	
Course Outcomes		CO4										
	CO1	To develop a software for a given problem domain	CO5									
	CO2	To document the project development cycle	Average	2.33	2.33	1.67	3.00	2.00	3.00	1.33	1.33	1.33
	CO3	To work as a team member for the software project completion										
	CO4											
	CO5											

Class	SY BBACA	Course Outcomes	Program Outcomes						PSOs			
Subject Code	CA 406	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	COMPUTER LABORATORY BASED ON CA 402,CA 404	CO1	3	3	3	3	3	3	3	3	3	
Semester No	IV	CO2	2	2	2	3	3	3	3	2	3	
Teacher Name	Sasane Madhuri, KHANCHANDANI NAINA	CO3	3	3	3	3	3	3	3	3	2	
Course Outcomes		CO4										
	CO1	To solve basic programs on class and objects	CO5									
	CO2	To understand function overloading and use the concept to solve the programs	Average	2.67	2.67	2.67	3.00	3.00	3.00	3.00	2.67	2.67
	CO3	To use basic PHP framework										
	CO4											
	CO5											

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Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-501	PO1		PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	CYBER SECURITY	CO1	3	2	2	3	3	3	2	3	2	
Semester No	III	CO2	1	1	1	2	2	2	3	2	1	
Teacher Name	Mrs. Madhuri Sasane	CO3	1	1	1	1	1	1	1	2	1	
Course Outcomes		CO4	1	1	1	1	3	3	2	3	2	
	CO1	Have a good understanding of cyber security and the tools	CO5	2	3	2	1	2	2	3	3	
	CO2	Identify different types of cyber crime	Average	1.60	1.60	1.40	1.60	2.20	2.20	2.20	2.60	1.80
	CO3	Have a good understanding of cyber laws										
	CO4	To develop cyber forensic awareness										
	CO5	Identify attacks, security policies, credit cards frauds in mobile and wireless era										

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-502	PO1		PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	OBJECT ORIENTED SOFTWARE ENGINEERING	CO1	2	1	2	3	1	1	2	2	3	
Semester No	III	CO2	1	0	1	2	3	3	1	3	2	
Teacher Name	KHANCHANDANI NAINA	CO3	3	2	3	2	2	2	3	2	2	
Course Outcomes		CO4										
	CO1	Students will able to give Design specification for project	CO5									
	CO2	Students will acquire knowledge in basic modelling	Average	2.00	1.00	2.00	2.33	2.00	2.00	2.00	2.33	2.33
	CO3	Students will acquire project management skills										
	CO4											
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-503	PO1		PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	
Subject Name	CORE JAVA	CO1	2	3	3	3	2	3	3	3	3	

Semester No	III	CO2	2	3	2	3	3	2	2	2	2
Teacher Name	Mrs.Madhavi Dethe	CO3	2	3	3	2	2	2	2	3	2
Course Outcomes		CO4	3	2	2	3	2	2	3	2	2
	CO1	Students will able to solve real world probems using OOP technique	CO5	3	2	3	3	3	3	3	2
	CO2	Students will able to understand use of abstract classes	Average	2.40	2.60	2.60	2.80	2.40	2.40	2.60	2.20
	CO3	Able to understand the use of abstract classes.									
	CO4	Able to develop multithreaded applications with synchronization.									
	CO5	Able to develop applets for web applications. Able to design GUI based applications									

Class	TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-504		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	MONGO DB	CO1	3	2	3	2	3	2	3	3	2
Semester No	III	CO2	2	3	3	2	2	2	3	2	3
Teacher Name	Mrs. Priyanka Bhagat	CO3	2	2	3	2	3	3	2	2	2
Course Outcomes		CO4	3	3	3	3	2	3	2	2	3
	CO1	Learned to work with MongoDB shell and MongoDB tools.	CO5								
	CO2	Able to do Schema design, Data modelling and all sorts of CRUD Operations.	Average	2.50	2.50	3.00	2.25	2.50	2.50	2.25	2.50
	CO3	Learned to optimize query performance									
	CO4	Become capable to analyze the data stored in MongoDB.									
	CO5										

Class	TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-505		PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	PROJECT	CO1	3	2	3	3	3	3	3	2	3
Semester No	IV	CO2	3	3	3	2	2	2	3	3	2
Teacher Name	Dethe Madhavi	CO3	3	3	3	3	3	3	2	3	2
Course Outcomes		CO4									
	CO1	Apply techniques for project management	CO5								
	CO2	Demonstrate a sound technical knowledge of selected project topic	Average	3.00	2.67	3.00	2.67	2.67	2.67	2.67	2.33
	CO3	Create various documents used during the development of the project and a project report									
	CO4										
	CO5										

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-506			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Computer Laboratory Based on 503 and 504		CO1	3	3	3	3	3	3	3	3	2
Semester No	III		CO2	3	3	3	3	2	2	3	3	2
Teacher Name	Dethe Madhavi, Priyanka Bhagat		CO3	3	2	3	3	3	3	2	3	2
Course Outcomes			CO4	2	3	3	3	3	3	3	3	3
	CO1	To learn implementation of object-oriented concepts with Java	CO5	3	3	3	3	3	3	3	3	3
	CO2	To know the process of application development using Graphical User Interface (GUI).	Average	2.80	2.80	3.00	3.00	2.80	2.80	2.80	3.00	2.40
	CO3	To acquire knowledge about handling databases using Java.										
	CO4	To study web components for developing web applications.										
	CO5	To learn skill of storing NOSQL data in MongoDB										

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-507			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	IOT(Internet of Things)		CO1	2	2	2	2	3	2	3	3	1
Semester No	IV		CO2	2	2	1	2	2	2	2	3	2
Teacher Name	Mrs Priyanka Khandagale		CO3	2	2	2	2	2	2	2	2	1
Course Outcomes			CO4	2	2	2	2	2	2	2	2	2
	CO1	To understand Technical aspects of Internet of things.	CO5									
	CO2	To describe smart objects and IoT Architecture.	Average	2.00	2.00	1.75	2.00	2.25	2.00	2.25	2.50	1.50
	CO3	To study and compare different Application protocols ofIoT.										
	CO4	To understand IoT platform using Arduino Uno.										
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-601			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Recent Trends in IT		CO1	1	1	1	2	3	2	3	3	2
Semester No	IV		CO2	2	2	2	2	2	2	2	2	1
Teacher Name	KHANCHANDANI NAINA		CO3	3	2	2	2	2	2	3	2	2
Course Outcomes			CO4									
	CO1	To discuss the basic concepts AI.	CO5									
	CO2	To apply basic, intermediate and advanced techniques to mine the data.	Average	2.00	1.67	1.67	2.00	2.33	2.00	2.67	2.33	1.67
	CO3	To provide an overview of the concept of Spark programming										
	CO4											
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-602			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Software Testing		CO1	2	3	2	2	3	3	3	3	2
Semester No	IV		CO2	1	2	3	2	2	2	2	2	2
Teacher Name	Mrs. Priyanka Khandagale		CO3	3	3	3	3	2	3	1	2	1
Course Outcomes			CO4									
	CO1	Students will be introduced to testing tools.	CO5									
	CO2	Students will acquire Knowledge of Basic SQA.	Average	2.00	2.67	2.67	2.33	2.33	2.67	2.00	2.33	1.67
	CO3	Students will be able to design basic Test Cases										
	CO4											
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-603			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Advance Java Programming		CO1	3	3	3	3	3	3	3	3	3
Semester No	IV		CO2	3	3	2	2	3	3	2	2	2
Teacher Name	Dethe Madhavi		CO3	2	3	3	3	2	3	3	3	2
Course Outcomes			CO4	3	3	3	2	3	3	3	3	2,
	CO1	Students will know the concepts of JDBC Programming	CO5									
	CO2	Students will know the concepts of Multithreading and Socket Programming.	Average	2.75	3.00	2.75	2.50	2.75	3.00	2.75	2.75	2.33
	CO3	Students will know the concepts of Spring and Hibernate.										
	CO4	Students will develop the project by using JSP and JDBC.										
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-604			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Android Programming		CO1	3	3	3	3	3	3	3	3	3
Semester No	IV		CO2	3	3	2	2	3	3	3	2	2
Teacher Name	Pathan Aaliya		CO3	2	3	3	3	2	2	2	3	2
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3
	CO1	Student will be able to write simple GUI applications, use built-in widgets and components,	CO5									
	CO2	work with the database to store data locally, and much more.	Average	2.75	3.00	2.75	2.75	2.75	2.75	2.75	2.75	2.50



	CO3	Demonstrate their understanding of the fundamentals of Android operating systems
	CO4	Demonstrate their skills of using Android software development tools
	CO5	

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-605			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Project		CO1	3	3	3	3	3	3	3	2	
Semester No	IV		CO2	3	2	3	3	3	2	2	3	
Teacher Name	Dethe Madhavi		CO3	3	3	3	3	3	3	3	2	
Course Outcomes			CO4									
	CO1	Demonstrate a sound technical knowledge of selected project topic.	CO5									
	CO2	Apply techniques for project management	Average	3.00	2.67	3.00	3.00	3.00	2.67	2.67	2.33	
	CO3	Create various documents used during the development of the project and a project report										
	CO4											
	CO5											

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-606			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Computer Laboratory Based on 603 and 604(		CO1	3	3	3	3	3	3	3	3	
Semester No	IV		CO2	2	3	3	2	3	3	3	2	
Teacher Name	Dethe Madhavi, Pathan Aaliya		CO3	3	3	3	3	3	3	3	2	
Course Outcomes			CO4	3	3	3	3	3	3	3	3	
	CO1	Design end to end applications using object oriented constructs	CO5	3	3	3	3	3	3	3	2	
	CO2	Use Java APIs for program development	CO6	3	3	3	3	3	3	3	2	
	CO3	Identify classes, objects, class members and relationships for a given problem.	Average	2.83	3.00	3.00	2.83	3.00	3.00	3.00	2.33	
	CO4	Create mobile applications on the Android Platform										
	CO5	Design and implement mobile applications involving data storage in SQLite databas										
	CO6	Use location-based services while developing applications										

Class		TYBBA(CA)	Course Outcomes	Program Outcomes						PSOs		
Subject Code	CA-607			PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
Subject Name	Soft skill		CO1	1	1	2	2	2	2	3	2	2
Semester No	IV		CO2	2	2	2	2	2	2	2	3	2
Teacher Name	Mrs Poornima Behre		CO3	2	2	2	2	2	2	3	3	3
Course Outcomes			CO4	2	2	2	2	2	2	2	2	3
	CO1	Understand the significance and essence of a wide range of soft skills	CO5									
	CO2	Learn how to apply soft skills in a wide range of routine social and professional settings	Average	1.75	1.75	2.00	2.00	2.00	2.00	2.50	2.50	2.50
	CO3	Learn how to employ soft skills to improve interpersonal relationships										
	CO4	Learn how to employ soft skills to enhance employability and ensure workplace and career success.										
	CO5											

		CO-PO Mapping						
		Course	PO1	PO2	PO3	PO4	PO5	PO6
FY	FY	1 CA-101	3.00	2.50	2.50	1.75	1.75	2.00
		2 CA-102	2.75	2.75	2.50	2.50	2.75	2.75
		3 CA-103	2.75	2.50	2.50	1.00	3.00	3.00
		4 CA-104	3.00	2.75	3.00	1.00	2.50	3.00
		5 CA-105	2.67	2.67	2.00	1.33	2.33	2.00
		6 CA-106	3.00	3.00	2.50	1.00	2.50	3.00
		7 CA-017	3.00	3.00	2.67	1.00	2.33	3.00
		8 CA-201	2.60	2.40	2.40	3.00	1.00	1.20
		9 CA-202	2.75	2.50	2.00	2.50	1.00	1.50
		10 CA-203	3.00	2.50	2.50	1.00	1.00	2.00
		11 CA-204	2.80	3.00	2.60	1.00	3.00	2.60
		12 CA-205	3.00	2.50	2.50	1.00	3.00	2.50
		13 CA-206	2.67	2.33	2.67	1.00	3.00	2.67
		14 CA-207	3.00	2.50	3.00	1.00	3.00	3.00
SY	SY	1 CA-301	3.00	2.00	2.00	2.50	2.00	1.50
		2 CA-302	2.75	2.75	2.75	2.50	2.75	2.75
		3 CA-303	2.50	2.00	3.00	2.50	2.00	2.00
		4 CA-304	3.00	1.75	2.00	2.25	2.75	3.00
		5 CA-305	2.33	1.67	2.67	2.33	1.67	3.00
		6 CA-306	2.40	2.60	2.80	2.20	2.60	2.40
		7 CA 401	1.67	1.67	1.33	1.33	2.00	2.33
		8 CA 402	2.50	2.50	3.00	3.00	2.50	3.00
		9 CA 403	1.75	1.50	1.25	1.25	1.75	2.25
		10 CA 404	2.33	2.00	2.00	3.00	3.00	3.00
		11 CA 405	2.33	2.33	1.67	3.00	2.00	3.00
		12 CA 406	2.67	2.67	2.67	3.00	3.00	3.00
TY	TY	1 CA-501	1.60	1.60	1.40	1.60	2.20	2.20
		2 CA-502	2.00	1.00	2.00	2.33	2.00	2.00
		3 CA-503	2.40	2.60	2.60	2.80	2.40	2.40
		4 CA-504	2.50	2.50	3.00	2.25	2.50	2.50
		5 CA-505	3.00	2.67	3.00	2.67	2.67	2.67
		6 CA-506	2.80	2.80	3.00	3.00	2.80	2.80
		7 CA-507	2.00	2.00	1.75	2.00	2.25	2.00
		8 CA-601	2.00	1.67	1.67	2.00	2.33	2.00
		9 CA-602	2.00	2.67	2.67	2.33	2.33	2.67
		10 CA-603	2.75	3.00	2.75	2.50	2.75	3.00
		11 CA-604	2.75	3.00	2.75	2.75	2.75	2.75
		12 CA-605	3.00	2.67	3.00	3.00	3.00	2.67
		13 CA-606	2.83	3.00	3.00	2.83	3.00	3.00
		14 CA-607	1.75	1.75	2.00	2.00	2.00	2.00

CO-PO ATTAINMENT					
PO1	PO2	PO3	PO4	PO5	PO6
1.72	1.433333	1.433333	1.003333333	1.003333	1.146667
2.31	2.31	2.1	2.1	2.31	2.31
1.576667	1.433333	1.433333	0.573333333	1.72	1.72
2.04	1.87	2.04	0.68	1.7	2.04
1.102222	1.102222	0.826667	0.551111111	0.964444	0.826667
2.2	2.2	1.833333	0.733333333	1.833333	2.2
2.04	2.04	1.813333	0.68	1.586667	2.04
2.184	2.016	2.016	2.52	0.84	1.008
2.31	2.1	1.68	2.1	0.84	1.26
0.6	0.5	0.5	0.2	0.2	0.4
1.008	1.08	0.936	0.36	1.08	0.936
1.08	0.9	0.9	0.36	1.08	0.9
0.533333	0.466667	0.533333	0.2	0.6	0.533333
3	2.5	3	1	3	3
0.6	0.4	0.4	0.5	0.4	0.3
0.55	0.55	0.55	0.5	0.55	0.55
1.3	1.04	1.56	1.3	1.04	1.04
1.24	0.723333	0.826667	0.93	1.136667	1.24
0.466667	0.333333	0.533333	0.466666667	0.333333	0.6
2.4	2.6	2.8	2.2	2.6	2.4
0.866667	0.866667	0.693333	0.693333333	1.04	1.213333
1.3	1.3	1.56	1.56	1.3	1.56
0.536667	0.46	0.383333	0.383333333	0.536667	0.69
0.964444	0.826667	0.826667	1.24	1.24	1.24
2.333333	2.333333	1.666667	3	2	3
2.666667	2.666667	2.666667	3	3	3
0.832	0.832	0.728	0.832	1.144	1.144
1.04	0.52	1.04	1.213333333	1.04	1.04
1.248	1.352	1.352	1.456	1.248	1.248
1.3	1.3	1.56	1.17	1.3	1.3
2.04	1.813333	2.04	1.813333333	1.813333	1.813333
1.456	1.456	1.56	1.56	1.456	1.456
2	2	1.75	2	2.25	2
0.826667	0.688889	0.688889	0.826666667	0.964444	0.826667
1.146667	0.817778	0.817778	0.715555556	0.715556	0.817778
2.016667	2.2	2.016667	1.833333333	2.016667	2.2
1.136667	1.24	1.136667	1.136666667	1.136667	1.136667
1.08	0.96	1.08	1.08	1.08	0.96
0.868889	0.92	0.92	0.868888889	0.92	0.92
1.75	1.75	2	2	2	2

Percentage CO-PO ATTAINMENT					
PO1	PO2	PO3	PO4	PO5	PO6
57.33333	57.33333	57.33333	57.33333	57.33333	57.33333
84	84	84	84	84	84
57.33333	57.33333	57.33333	57.33333	57.33333	57.33333
68	68	68	68	68	68
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
68	68	68	68	68	68
84	84	84	84	84	84
84	84	84	84	84	84
20	20	20	20	20	20
36	36	36	36	36	36
36	36	36	36	36	36
20	20	20	20	20	20
100	100	100	100	100	100
20	20	20	20	20	20
20	20	20	20	20	20
52	52	52	52	52	52
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
20	20	20	20	20	20
100	100	100	100	100	100
52	52	52	52	52	52
52	52	52	52	52	52
30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
100	100	100	100	100	100
100	100	100	100	100	100
52	52	52	52	52	52
52	52	52	52	52	52
52	52	52	52	52	52
52	52	52	52	52	52
68	68	68	68	68	68
52	52	52	52	52	52
100	100	100	100	100	100
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
57.33333	30.66667	30.66667	30.66667	30.66667	30.66667
73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
36	36	36	36	36	36
30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
100	100	100	100	100	100

## CO-PSO MAPPING

	Course	PSO1	PSO2	PSO3
FY	1 CA-101	2.25	1.50	2.50
	2 CA-102	1.00	1.50	3.00
	3 CA-103	3.00	3.00	1.75
	4 CA-104	3.00	3.00	1.50
	5 CA-105	2.67	1.33	1.67
	6 CA-106	3.00	3.00	1.50
	7 CA-017	2.67	2.67	1.00
	8 CA-201	1.60	1.00	3.00
	9 CA-202	1.75	1.50	2.75
	10 CA-203	2.00	2.00	2.00
	11 CA-204	3.00	3.00	1.40
	12 CA-205	3.00	3.00	1.50
	13 CA-206	3.00	3.00	1.33
	14 CA-207	3.00	3.00	2.00
SY	1 CA-301	2.50	1.50	1.00
	2 CA-302	2.75	2.25	2.25
	3 CA-303	2.50	2.00	3.00
	4 CA-304	2.50	2.25	2.25
	5 CA-305	2.00	2.33	2.33
	6 CA-306	2.40	2.40	2.40
	7 CA 401	2.33	1.67	1.33
	8 CA 402	2.50	2.00	2.00
	9 CA 403	1.50	1.50	1.00
	10 CA 404	1.67	2.33	2.33
	11 CA 405	1.33	1.33	1.33
	12 CA 406	3.00	2.67	2.67
	1 CA-501	2.20	2.60	1.80
	2 CA-502	2.00	2.33	2.33
3 CA-503	2.60	2.60	2.20	
4 CA-504	2.50	2.25	2.50	
5 CA-505	2.67	2.67	2.33	
6 CA-506	2.80	3.00	2.40	
7 CA-507	2.25	2.50	1.50	
8 CA-601	2.67	2.33	1.67	
9 CA-602	2.00	2.33	1.67	
10 CA-603	2.75	2.75	2.33	
11 CA-604	2.75	2.75	2.50	
12 CA-605	2.67	3.00	2.33	
13 CA-606	3.00	3.00	2.33	
TY	14 CA-607	2.50	2.50	2.50

## CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CA-101	1.29	0.86	1.433333
CA-102	0.84	1.26	2.52
CA-103	1.72	1.72	1.003333
CA-104	2.04	2.04	1.02
CA-105	1.102222	0.551111	0.688889
CA-106	2.2	2.2	1.1
CA-017	1.813333	1.813333	0.68
CA-201	1.344	0.84	2.52
CA-202	1.47	1.26	2.31
CA-203	0.4	0.4	0.4
CA-204	1.08	1.08	0.504
CA-205	1.08	1.08	0.54
CA-206	0.6	0.6	0.266667
CA-207	3	3	2
CA-301	0.5	0.3	0.2
CA-302	0.55	0.45	0.45
CA-303	1.3	1.04	1.56
CA-304	1.033333	0.93	0.93
CA-305	0.4	0.466667	0.466667
CA-306	2.4	2.4	2.4
CA 401	1.213333	0.866667	0.693333
CA 402	1.3	1.04	1.04
CA 403	0.46	0.46	0.306667
CA 404	0.688889	0.964444	0.964444
CA 405	1.333333	1.333333	1.333333
CA 406	3	2.666667	2.666667
CA-501	1.144	1.352	0.936
CA-502	1.04	1.213333	1.213333
CA-503	1.352	1.352	1.144
CA-504	1.3	1.17	1.3
CA-505	1.813333	1.813333	1.586667
CA-506	1.456	1.56	1.248
CA-507	2.25	2.5	1.5
CA-601	1.102222	0.964444	0.688889
CA-602	1.146667	1.337778	0.955556
CA-603	2.016667	2.016667	1.711111
CA-604	1.136667	1.136667	1.033333
CA-605	0.96	1.08	0.84
CA-606	0.92	0.92	0.715556
CA-607	2.5	2.5	2.5

## Percentage CO-PSO ATTAINMENT

Course	PSO1	PSO2	PSO3
CA-101	57.333333	57.333333	57.333333
CA-102	84	84	84
CA-103	57.333333	57.333333	57.333333
CA-104	68	68	68
CA-105	41.333333	41.333333	41.333333
CA-106	73.333333	73.333333	73.333333
CA-017	68	68	68
CA-201	84	84	84
CA-202	84	84	84
CA-203	20	20	20
CA-204	36	36	36
CA-205	36	36	36
CA-206	20	20	20
CA-207	100	100	100
CA-301	20	20	20
CA-302	20	20	20
CA-303	52	52	52
CA-304	41.333333	41.333333	41.333333
CA-305	20	20	20
CA-306	100	100	100
CA 401	52	52	52
CA 402	52	52	52
CA 403	30.666667	30.666667	30.666667
CA 404	41.333333	41.333333	41.333333
CA 405	100	100	100
CA 406	100	100	100
CA-501	52	52	52
CA-502	52	52	52
CA-503	52	52	52
CA-504	52	52	52
CA-505	68	68	68
CA-506	52	52	52
CA-507	100	100	100
CA-601	41.333333	41.333333	41.333333
CA-602	57.333333	57.333333	57.333333
CA-603	73.333333	73.333333	73.333333
CA-604	41.333333	41.333333	41.333333
CA-605	36	36	36
CA-606	30.666667	30.666667	30.666667
CA-607	100	100	100