

<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>BCA(SCIENCE)</b>
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<b>Program Outcomes(PO)</b>
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<b>PO1</b>	APPLY COMPUTER LITERACY OF STUDENTS AND BASIC UNDERSTANDING OF OPERATIVE SYSTEMS AND
<b>PO2</b>	UTILIZE KNOWLEDGE OF ORGANIZE INFORMATION EFFICIENTLY IN THE FORMS OF OUTLINES, CHARTS, ETC. BY
<b>PO3</b>	DEVELOP PROGRAMMING SKILLS TO PRESENT IDEAS EFFECTIVELY AND EFFICIENTLY IN ANDROID
<b>PO4</b>	DESIGNING AND DELIVERING AN EFFECTIVE PRESENTATION IN INTERNET OF THINGS(IoT)
<b>PO5</b>	APPLY SYSTEMS ANALYSIS DESIGN PARADIGM TO CRITICALLY ANALYZE A ERRORS RELATED TO SOFTWARE
<b>PO6</b>	SOLVE PROBLEMS(PROGRAMMING NETWORKING DATABASE AND WEB DESIGN) IN INFORMATION TECHNOLOGY
<b>PO7</b>	APPLY PROFESSIONAL BEHAVIOR IN PROFESSIONAL IT ENVIRONMENT RELATED TO EMPLOYABILITY.
<b>PO8</b>	APPLY NETWORKING TECHNOLOGIES IN INTEGRATED IT SYSTEMS IN AN IT ENVIRONMENT.
<b>PO9</b>	SYSTEMS AS WELL AS PROVIDE SUPPORT TO AUTOMATED SYSTEMS OR APPLICATIONS.
<b>PO10</b>	ENTERPRISES.
<b>PO11</b>	
<b>PO12</b>	

<b>Program Specific Outcome(PSO)</b>
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<b>PSO1</b>	FUNDAMENTAL KNOWLEDGE OF COMPUTERS, COMPUTER ORGANIZATION AND C PROGRAMMING.
<b>PSO2</b>	SYSTEM.
<b>PSO3</b>	PROGRAMMING AND GO PROGRAMMING

<b>Academic Year :</b>	<b>2022-23</b>
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Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA111		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		FUNDAMENTALS OF COMPUTER	CO1	2	2	1	1	1	1	2	2	2	2	3	3	3
Semester No		I	CO2	3	3	3	2	3	2	3	2	3	2	3	3	3
Teacher Name		GANDHI DARSHANA	CO3	3	2	3	3	2	3	3	2	3	2	3	3	3
Course Outcomes			CO4	3	3	3	2	2	3	2	2	3	2	3	3	3
	CO1	DEFINE WORKING OF COMPUTERS AND PERIPHERALS, TYPES OF SOFTWARE AND LANGUAGE	CO5													
	CO2	TROUBLESHOOT THE COMPUTER SYSTEMS AND USE UTILITY SOFTWARE	Average	2.75	2.50	2.50	2.00	2.00	2.25	2.50	2.00	2.75	2.00	3.00	3.00	3.00
	CO3	CHOOSE COMMANDS AND FEATURES OF OPERATING SYSTEMS AND APPLICATION SOFTWARE														
	CO4	USE OPEN SOURCE SOFTWARE														
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA112		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		PROBLEM SOLVING AND C PROGRAMMING	CO1	3	3	3	3	3	3	2	2	3	3	3	3	3
Semester No		I	CO2	2	3	3	3	3	2	3	2	3	3	3	3	3
Teacher Name		PARDESHI SUVARNA	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	2	2	2	3	3	3	2	2	2	2	3	3	3

	CO1	DEFINE ALGORITHMS AND EXPLAIN THEIR CHARACTERISTICS	CO5													
	CO2	FORMULATE ALGORITHM AND DRAW FLOW CHART TO SOLVE A GIVEN PROBLEM	Average	2.50	2.75	2.75	3.00	3.00	2.75	2.50	2.25	2.75	2.75	3.00	3.00	3.00
	CO3	EXPLAIN USE OF APPROPRIATE DATA TYPES, CONTROL STATEMENTS														
	CO4	DEMONSTRATE ABILITY TO USE TOP-DOWN PROGRAM DESIGN														
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA113		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		APPLIED MATHEMATICS	CO1	2	2	2	2	3	3	2	2	2	2	3	3	3
Semester No		I	CO2	2	2	2	2	3	3	2	2	2	2	3	3	3
Teacher Name		LEAH CHAKRANARAYAN	CO3	2	2	2	2	3	3	2	2	2	2	3	3	3
Course Outcomes			CO4	1	1	1	1	3	3	1	1	1	1	0	0	0
	CO1	RELATE AND APPLY TECHNIQUES FOR CONSTRUCTING MATHEMATICAL PROOFS AND MAKE USE OF APPROPRIATE SET OPERATIONS, PROPOSITIONAL LOGIC TO SOLVE PROBLEMS	CO5	2	2	2	1	1	1	2	2	3	3	0	0	0
	CO2	USE FUNCTION OR RELATION MODELS TO INTERPRET ASSOCIATED RELATIONSHIPS	Average	1.80	1.80	1.80	1.60	2.60	2.60	1.80	1.80	2.00	2.00	1.80	1.80	1.80
	CO3	APPLY BASIC COUNTING TECHNIQUES AND USE PRINCIPLES OF PROBABILITY														
	CO4	GIVEN A DATA, COMPUTE VARIOUS STATISTICAL MEASURES OF CENTRAL TENDENCY														

CO5	USE APPROPRIATE SAMPLING TECHNIQUES
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Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA114		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		BUSINESS COMMUNICATION	CO1	3	3	2	2	3	2	3	3	3	2	3	3	3
Semester No		I	CO2	2	2	3	3	3	2	3	3	3	2	3	3	3
Teacher Name		BEHRE POORNIMA	CO3	2	3	2	3	3	3	2	2	3	3	3	3	3
Course Outcomes			CO4	3	3	2	3	3	3	2	2	3	3	0	0	0
	CO1	APPLY BUSINESS COMMUNICATION STRATEGIES AND PRINCIPLES TO PREPARE EFFECTIVE COMMUNICATION FOR DOMESTIC AND INTERNATIONAL BUSINESS SITUATIONS.	CO5													
	CO2	IDENTIFY ETHICAL, LEGAL, CULTURAL, AND GLOBAL ISSUES AFFECTING BUSINESS COMMUNICATION.	Average	2.50	2.75	2.25	2.75	3.00	2.50	2.50	2.50	3.00	2.50	2.25	2.25	2.25
	CO3	PARTICIPATE IN TEAM ACTIVITIES USING COLLABORATIVE WORK SKILLS.														
	CO4	COMMUNICATE VIA ELECTRONIC MAIL, INTERNET, AND OTHER TECHNOLOGIES														
	CO5	DELIVER AN EFFECTIVE ORAL BUSINESS PRESENTATION														

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA115		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		FUNDAMENTALS OF COMPUTERS LABORATORY	CO1	3	3	3	3	2	2	2	2	2	3	3	3	

Semester No		I	CO2	3	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		GANDHI DARSHANA	CO3	3	3	3	3	3	3	2	2	2	2	3	3	3
Course Outcomes			CO4	3	3	3	3	2	2	3	2	3	2	0	0	0
	CO1	INSTALL OPERATING SYSTEM AND EXECUTE VARIOUS COMMANDS	CO5													
	CO2	EFFECTIVELY USE VARIOUS FEATURES OF APPLICATION SOFTWARE	Average	3.00	3.00	3.00	3.00	2.50	2.50	2.50	2.25	2.50	2.25	2.25	2.25	2.25
	CO3	CREATE AND USE SPREADSHEETS EFFECTIVELY														
	CO4	PREPARE EFFECTIVE PRESENTATION														
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA116		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		C PROGRAMMING LABORATORY	CO1	3	3	3	3	2	2	2	2	3	3	3	3	3
Semester No		I	CO2	3	3	3	3	3	3	2	2	2	3	3	3	3
Teacher Name		NIVEDITA WAGHMARE	CO3	3	3	3	3	3	3	2	2	2	2	3	3	3
Course Outcomes			CO4													
	CO1	FORMULATE AN ALGORITHM AND DRAW FLOWCHAARAT FOR THE GIVEN PROBLEM	CO5													
	CO2	IMPLEMENT THE GIVEN ALGORITHM IN C	Average	3.00	3.00	3.00	3.00	2.67	2.67	2.00	2.00	2.33	2.67	3.00	3.00	3.00
	CO3	WRITE PROGRAMS USING APPROPRIATE DATA TYPES AND CONTROL STRUCTURES IN C														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA117		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		APPLIED MATHEMATICS LABORATORY	CO1	2	2	3	3	3	3	2	2	3	3	2	2	2
Semester No		I	CO2	2	2	2	2	2	3	3	3	3	3	2	2	2
Teacher Name		LEAH CHAKRANARAYAN	CO3											3	3	3
Course Outcomes			CO4													
	CO1	APPLY MATHEMATICAL AND STATISTICAL CONCEPTS TO SOLVE PROBLEMS	CO5													
	CO2	USE R TO PERFORM STATISTICAL OPERATIONS AND DATA VISUALIZATION	Average	2.00	2.00	2.50	2.50	2.50	3.00	2.50	2.50	3.00	3.00	2.33	2.33	2.33
	CO3															
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA118		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		BUSINESS COMMUNICATION LABORATORY	CO1	3	3	3	3	3	2	2	2	2	2	2	2	2
Semester No		I	CO2	2	3	2	3	2	3	2	2	2	2	2	2	2
Teacher Name		BEHRE POORNIMA	CO3	3	2	2	3	2	2	2	2	2	2	3	3	3
Course Outcomes			CO4	3	2	2	2	3	3	3	3	3	3	0	0	0
	CO1	EFFECTIVELY LISTEN TO LECTURES, PUBLIC ANNOUNCEMENTS AND NEWS ON TV AND RADIO.	CO5	3	3	3	3	3	3	3	3	3	3	0	0	0
	CO2	ENGAGE IN TELEPHONIC CONVERSATION	Average	2.80	2.60	2.40	2.80	2.60	2.60	2.40	2.40	2.40	2.40	1.40	1.40	1.40
	CO3	COMMUNICATE EFFECTIVELY AND ACCURATELY IN ENGLISH														

	CO4	USE SPOKEN LANGUAGE FOR VARIOUS PURPOSES
	CO5	DEMONSTRATE ABILITY TO PREPARE DOCUMENTS USED IN BUSINESS CORRESPONDECE

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA121		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		COMPUTER ORGANIZATION	CO1	3	2	2	3	2	2	3	3	3	3	2	2	2
Semester No		II	CO2	2	3	2	2	2	2	3	3	3	3	2	2	2
Teacher Name		HIRE SANDHYA	CO3	3	3	3	3	3	3	2	2	2	2	3	3	3
Course Outcomes			CO4													
	CO1	DESIGN OF COMBINATIONAL CIRCUITS	CO5													
	CO2	DESIGN OF SEQUENTIAL CIRCUITS	Average	2.67	2.67	2.33	2.67	2.33	2.33	2.67	2.67	2.67	2.67	2.33	2.33	2.33
	CO3	EXPLAIN BLOCK DIAGRAM OF CPU, MEMORY AND TYPES OF I/O TRANSFERS														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA122		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		ADVANCED C PROGRAMMING	CO1	3	3	3	3	2	2	2	3	3	2	3	3	3
Semester No		II	CO2	2	3	3	3	3	3	2	2	2	3	3	3	3
Teacher Name		IRAM PATHAN	CO3	3	2	2	3	3	3	2	3	2	3	3	3	3
Course Outcomes			CO4	3	3	3	3	3	3	3	2	2	3	0	0	0

	CO1	WRITE PROGRAMS USING POINTERS, STRUCTURES AND UNIONS	CO5													
	CO2	USE PRE-PROCESSOR DIRECTIVES	Average	2.75	2.75	2.75	3.00	2.75	2.75	2.25	2.50	2.25	2.75	2.25	2.25	2.25
	CO3	MANIPULATE STRINGS USING LIBRARY FUNCTIONS														
	CO4	WRITE PROGRAMS TO PERFORM OPERATIONS ON FILES														
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA123		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		OPERATING SYSTEMS CONCEPTS	CO1	3	3	3	3	3	2	3	3	2	3	2	2	2
Semester No		II	CO2	2	2	2	2	2	3	3	2	3	2	2	2	2
Teacher Name		WAGHMARE NIVEDITA	CO3	3	3	3	3	2	3	3	2	2	3	3	3	3
Course Outcomes			CO4													
	CO1	EXPLAIN BASIC CONCEPTS OF OPERATING SYSTEM	CO5													
	CO2	USE BASIC LINUX COMMANDS AND LINUX DOCUMENTATION	Average	2.67	2.67	2.67	2.67	2.33	2.67	3.00	2.33	2.33	2.67	2.33	2.33	2.33
	CO3	WRITE SHELL SCRIPTS														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA124		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		DATABASE MANAGEMENT SYSTEM	CO1	3	3	3	3	2	2	2	3	2	3	2	2	2
Semester No		II	CO2	3	2	2	3	3	3	2	2	3	3	3	3	3
Teacher Name		GANDHI DARSHANA	CO3	2	3	3	3	3	3	2	2	2	3	3	3	3



Course Outcomes			CO4													
	CO1	DESIGN E-R MODEL FOR GIVEN REQUIREMENTS AND CONVERT THE SAME INTO DATABASE TABLES	CO5													
	CO2	FORMULATES DATABASE QUERIES USING SQL	Average	2.67	2.67	2.67	3.00	2.67	2.67	2.00	2.33	2.33	3.00	2.67	2.67	2.67
	CO3	DESIGN A DATABASE IN APPROPRIATE NORMAL FORM														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA125		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		COMPUTER ORGANIZATION LABORATORY	CO1	3	2	2	2	2	2	2	2	2	2	3	3	3
Semester No		II	CO2	3	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		HIRE SANDHYA	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4													
	CO1	DESIGN AND IMPLEMENT COMBINATIONAL CIRCUITS	CO5													
	CO2	DESIGN AND IMPLEMENT SEQUENTIAL CIRCUITS	Average	3.00	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	3.00	3.00	3.00
	CO3	TRANSLATE REAL WORLD PROBLEMS INTO DIGITAL LOGIC FORMULATIONS														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA126		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		ADVANCED C PROGRAMMING LABORATORY	CO1	3	2	3	3	3	3	3	3	3	3	3	3	3

Semester No		II	CO2	2	3	2	3	2	3	2	3	2	3	3	3	3
Teacher Name		PATHAN IRAM	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	2	3	2	3	2	3	2	3	2	3	0	0	0
	CO1	WRITE PROGRAMS USING POINTERS, STRUCTURES AND UNIONS	CO5													
	CO2	USE PRE-PROCESSOR DIRECTIVES	Average	2.50	2.75	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00	2.25	2.25	2.25
	CO3	MANIPULATE STRINGS USING LIBRARY FUNCTIONS														
	CO4	WRITE PROGRAMS TO PERFORM OPERATIONS ON FILES														
	CO5															

Class		FYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA127		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		OPERATING SYSTEMS CONCEPTS	CO1	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No		II	CO2	3	3	3	3	3	3	3	3	3	3	3	3	
Teacher Name		JAGTAP ABHIJITA	CO3	3	2	2	3	2	2	3	2	2	3	3	3	
Course Outcomes			CO4													
	CO1	INSTALL LINUX AND PACKAGES, CONFIGURE ENVIROMENT	CO5													
	CO2	USE COMMANDS AND EDITORS AND USE DOCUMENTATION	Average	2.67	2.33	2.33	2.67	2.33	2.33	2.67	2.33	2.33	2.67	3.00	3.00	3.00
	CO3	CONFIGURE SECURITY AND NETWORK ENVIRONMENT														
	CO4															
	CO5															

Class		FYBCA(SCIENCE)		Program Outcomes										PSOs		
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Subject Code		BCA128	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		DATABASE MANAGEMENT SYSTEM - I LABORATORY	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		II	CO2	3	2	3	2	3	2	3	2	3	3	3	3	3
Teacher Name		GANDHI DARSHANA	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4													
	CO1	PREPARE E-R DIAGRAM FOR THE GIVEN PROBLEM STATEMENT	CO5													
	CO2	FORMULATE APPROPRIATE SQL DDL QUERIES	Average	3.00	2.67	3.00	2.67	3.00	2.67	3.00	2.67	3.00	3.00	3.00	3.00	3.00
	CO3	FORMULATE APPROPRIATE SQL DML QUERIES														
	CO4															
	CO5															

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Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA231		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		Data Structures	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No		III	CO2	3	3	3	3	3	3	3	3	3	3	3	3	3
Teacher Name		GANDHI DARSHANA	CO3	2	2	2	2	2	2	2	2	2	2	2	2	2
Course Outcomes			CO4													
	CO1	Apply appropriate data structures for the given problem	CO5													
	CO2	Design an efficient algorithm for the given problem	Average	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
	CO3	Determine the time and space complexity of a given algorithm														
	CO4															
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA232		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		Database Management Systems-II	CO1	3	2	2	2	2	2	2	2	2	2	2	2	2
Semester No		III	CO2	3	2	3	3	2	3	3	2	3	2	3	3	3
Teacher Name		PATHAN AALIYA	CO3	3	2	2	2	2	2	3	2	2	3	2	2	2
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3	3	3	3	3
	CO1	Formulate SQL queries using advanced SQL features.	CO5	2	2	2	2	2	2	2	2	2	2	3	3	3
	CO2	Perform Database operations using PL/PostgreSQL	Average	2.80	2.20	2.40	2.40	2.20	2.40	2.60	2.20	2.40	2.40	2.60	2.60	2.60
	CO3	Compare and contrast different concurrency control and recovery techniques.														
	CO4	Apply mechanisms for database security														
	CO5	Analyze various database system architectures.														

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA233		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3

Subject Name	Computer Networks	CO1	3	2	3	2	3	2	3	2	3	2	3	3	3
Semester No	III	CO2	3	2	3	3	3	2	2	3	2	3	2	2	2
Teacher Name	KARISHMA RAJPAL	CO3	3	2	2	2	3	2	3	2	3	3	3	3	3
Course Outcomes		CO4	3	2	2	2	3	3	2	2	2	3	3	3	3
CO1	Analyze the requirements for a given organization and select appropriate network architecture, topologies, transmission mediums and technologies	CO5													
CO2	Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols	Average	3.00	2.00	2.50	2.25	3.00	2.25	2.50	2.25	2.50	2.75	2.75	2.75	2.75
CO3	Illustrate applications of Computer Network														
CO4	Compare and contrast different routing and switching algorithms														
CO5															

Class	SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA234		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Data Structures Laboratory	CO1	2	2	2	2	2	2	2	2	2	3	2	3	3
Semester No	III	CO2	3	3	3	3	3	3	2	2	2	3	3	3	3
Teacher Name	GANDHI DARSHANA	CO3	3	3	3	3	3	2	2	2	3	2	3	2	2
Course Outcomes		CO4													
CO1	Apply appropriate data structures for the given problem	CO5													
CO2	Design an efficient algorithm for the given problem and implement it using C Programming	Average	2.67	2.67	2.67	2.67	2.67	2.33	2.00	2.00	2.33	2.67	2.67	2.67	2.67
CO3	Determine the time and space complexity of a given algorithm														
CO4															
CO5															

Class	SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA235		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Database Management Systems-II Laboratory	CO1	2	2	2	3	3	2	2	3	2	3	3	3	2
Semester No	III	CO2	3	3	3	3	2	2	3	2	3	3	2	2	3
Teacher Name	NAINA KHANCHANDANI	CO3	2	2	2	3	3	3	2	2	2	2	3	3	3
Course Outcomes		CO4													
CO1	Formulate SQL queries using advanced features	CO5													
CO2	Write stored procedures, cursors and triggers using PL/Postgre SQL.	Average	2.33	2.33	2.33	3.00	2.67	2.33	2.33	2.33	2.33	2.67	2.67	2.67	2.67
CO3	Design a database using database normalization technique														

	CO4	
	CO5	

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA236		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		Computer Networks and Web Programming Laboratory	CO1	3	3	3	3	2	2	2	2	2	3	3	3	
Semester No		III	CO2	2	2	2	2	3	2	2	2	3	3	2	2	
Teacher Name		SHAHEEN SHAIKH	CO3	3	3	3	3	2	2	3	3	3	3	3	3	
Course Outcomes			CO4	2	2	2	2	2	3	3	3	3	3	2	2	
	CO1	Use Networking commands, identify network devices and topology	CO5													
	CO2	Design a website using HTML and CSS.	Average	2.50	2.50	2.50	2.50	2.25	2.25	2.50	2.50	2.50	2.75	3.00	2.50	2.50
	CO3	Write java scripts														
	CO4	Interpret and formulate XML queries														
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA237		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		EVS	CO1	3	3	2	3	3	2	3	2	3	2	2	2	
Semester No		III	CO2	3	3	3	3	3	2	2	3	2	3	2	2	
Teacher Name		BAWAKE SAGAR	CO3	3	3	3	3	3	3	3	3	3	3	3	3	
Course Outcomes			CO4													
	CO1		CO5													
	CO2		Average	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00	2.33	2.67	2.33
	CO3															
	CO4															
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA238		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		LANGUAGE COMMUNICATION	CO1	3	3	3	3	2	2	2	3	2	3	2	2	2
Semester No		III	CO2	3	3	3	3	3	2	2	3	3	2	3	3	3
Teacher Name		POORNIMA BEHERE	CO3	2	2	2	3	3	2	2	2	2	3	2	2	2
Course Outcomes			CO4													
	CO1		CO5													
	CO2		Average	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67	2.33	2.33	2.33
	CO3															
	CO4															

CO5	
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Class	SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs			
Subject Code	BCA241		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	Object Oriented Programming and C++	CO1	3	3	2	3	3	2	3	2	3	3	2	2	2	
Semester No	IV	CO2	3	3	3	3	3	2	2	3	2	3	2	3	2	
Teacher Name	SUVARNA PARDESHI	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3	
Course Outcomes		CO4														
	CO1	Compare and contrast procedural and object oriented programming														
	CO2	Apply principles of OOP	Average	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00	2.33	2.67	2.33
	CO3	Design and develop applications using object oriented programming language C++														
	CO4															
	CO5															

Class	SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs			
Subject Code	BCA242		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	Web Technology	CO1	3	3	3	3	2	2	2	3	2	3	2	2	2	
Semester No	IV	CO2	3	3	3	3	3	2	2	3	3	2	3	3	3	
Teacher Name	SHAKIH SHAHEEN	CO3	2	2	2	3	3	2	2	2	2	3	2	2	2	
Course Outcomes		CO4														
	CO1	Develop web based application using suitable client side and server side web technologies.														
	CO2	Build Dynamic web site using server side PHP Programming and Database connectivity.	Average	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67	2.33	2.33	2.33
	CO3	Build applications using AJAX and XML														
	CO4															
	CO5															

Class	SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA243		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Software Engineering	CO1	3	3	3	3	3	3	2	3	2	3	3	3	3
Semester No	IV	CO2	2	3	3	3	2	3	3	3	3	3	2	2	2
Teacher Name	GANDHI DARSHANA	CO3	3	2	3	2	3	1	1	2	2	2	3	3	3
Course Outcomes		CO4	3	3	2	3	3	2	2	2	2	3	2	2	3

	CO1	Compare and contrast various Software Engineering models	CO5	3	3	3	3	3	3	2	2	3	2	3	3	3
	CO2	Decide on appropriate process model for a developing a software project	Average	2.80	2.80	2.80	2.80	2.80	2.40	2.00	2.40	2.40	2.60	2.60	2.60	2.80
	CO3	Classify software applications and Identify unique features of various domains														
	CO4	Prepare System Requirement Specification (SRS) for the given problem														
	CO5	Design and analyze Data Flow diagrams														

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA244		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		C++ Programming Laboratory	CO1	3	2	3	2	3	2	2	1	2	3	3	3	3
Semester No		IV	CO2	3	3	2	3	2	2	3	2	3	2	2	3	3
Teacher Name		GANDHI DARSHANA	CO3	3	2	2	3	2	3	2	3	2	3	3	3	3
Course Outcomes			CO4													
	CO1	Compare and contrast procedural and object oriented programming	CO5													
	CO2	Apply principles of OOP	Average	3.00	2.33	2.33	2.67	2.33	2.33	2.33	2.00	2.33	2.67	2.67	3.00	3.00
	CO3	Design and develop applications using object oriented programming language C++														
	CO4															
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA245		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		Web Technology Laboratory	CO1	3	2	3	3	3	3	2	2	2	1	3	3	3
Semester No		IV	CO2	3	3	3	2	2	3	3	3	3	2	3	3	3
Teacher Name		SHAHEEN SHAIKH	CO3	3	3	3	2	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4													
	CO1	Design and implement static and dynamic websites using appropriate client side and server side technologies.	CO5													
	CO2	Build Dynamic web site using PHP Programming and Database connectivity.	Average	3.00	2.67	3.00	2.33	2.67	3.00	2.67	2.67	2.67	2.00	3.00	3.00	3.00
	CO3	Build applications using AJAX and XML and web services.														
	CO4															
	CO5															



Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA246		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		Python Programming Laboratory	CO1	3	3	2	2	2	3	3	3	3	3	3	3	3
Semester No		IV	CO2	2	2	3	3	3	3	2	2	2	3	3	3	3
Teacher Name		WAGHMARE NIVEDITA	CO3	3	3	3	3	3	3	2	2	2	3	3	3	3
Course Outcomes			CO4													
	CO1	Write programs using Python programming constructs	CO5													
	CO2	Develop applications using Python programming	Average	2.67	2.67	2.67	2.67	2.67	3.00	2.33	2.33	2.33	3.00	3.00	3.00	3.00
	CO3															
	CO4															
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA247		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		EVS II	CO1	3	3	2	3	3	2	3	2	3	3	2	2	2
Semester No		IV	CO2	3	3	3	3	3	2	2	3	2	3	2	3	2
Teacher Name		BAWAKE SAGAR	CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes		Design and implement static and dynamic websites using appropriate client side and server side technologies.	CO4													
	CO1	Build Dynamic web site using PHP Programming and Database connectivity.	CO5													
	CO2	Build applications using AJAX and XML and web services.	Average	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00	2.33	2.67	2.33
	CO3															
	CO4															
	CO5															

Class		SYBCA(SCIENCE)	Course Outcomes	Program Outcomes										PSOs		
Subject Code		BCA248		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name		LANGUAGE COMMUNICATION II	CO1	3	3	3	3	2	2	2	3	2	3	2	2	2
Semester No		IV	CO2	3	3	3	3	3	2	2	3	3	2	3	3	3
Teacher Name		POORNIMA BEHERE	CO3	2	2	2	3	3	2	2	2	2	3	2	2	2
Course Outcomes			CO4													
	CO1	Design and implement static and dynamic websites using appropriate client side and server side technologies.	CO5													

	CO2	Build Dynamic web site using PHP Programming and Database connectivity.	Average	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67	2.33	2.33	2.33
	CO3	Build applications using AJAX and XML and web services.														
	CO4															
	CO5															

<b>Academic Year :</b>	<b>2022-23</b>
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Class	TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA 351			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	DSE I (Programming in java)		CO1	2	1	2	1	1	2	2	2	1	1	3	3	3
Semester No	IV		CO2	0	2	1	1	1	1	2	1	2	1	3	3	3
Teacher Name	PARDESHI SUVARNA		CO3	2	0	2	2	1	1	2	1	1	1	3	3	3
Course Outcomes			CO4	1	1	0	1	1	2	1	1	1	1	0	0	0
	CO1	Identify classes object, class members and relationship for given problem	CO5	1	1	1	1	1	1	1	1	1	1	0	0	0
	CO2	Design end to end application using oject oriented constructs	Average	1.20	1.00	1.20	1.20	1.00	1.40	1.60	1.20	1.20	1.00	1.80	1.80	1.80
	CO3	Apply collection classes for storing java objects														
	CO4	Use java API for program deveopment														
	CO5	handle abnormal termination of a program using exeption handling														

Class	TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA 352			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	DSE-II Data mining and Data science		CO1	2	1	2	1	1	2	2	2	1	1	3	3	3
Semester No	IV		CO2	0	2	1	1	1	1	2	1	2	1	3	3	3
Teacher Name	ABHIJITA JAGTAP		CO3	2	0	2	2	1	1	2	1	1	1	3	3	3
Course Outcomes			CO4	1	1	0	1	1	2	1	1	1	1	0	0	0
	CO1	Identify the key proess of the data mining ,data warehousing and knowledge discovery	CO5	1	1	1	1	1	1	1	1	1	1	0	0	0
	CO2	Design data warehouse with dimensional modeling and apply OLAP operations	Average	1.20	1.00	1.20	1.20	1.00	1.40	1.60	1.20	1.20	1.00	1.80	1.80	1.80
	CO3	Identify appropriate data mining algorithms to solve real world problems														
	CO4	Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining														
	CO5	Choose an appropriate method to perform exploratory analysis.														

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-353	PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	DSE III (Principles of Operating Systems)	CO1	2	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No	V	CO2	3	3	3	3	3	3	3	3	3	3	3	3	3	
Teacher Name	WAGHMARE NIVEDITA	CO3	2	2	2	2	2	2	2	2	2	2	3	3	3	
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	0	0	0	
	CO1	Describe algorithms for process, memory and disk scheduling	CO5	2	2	2	2	2	2	2	2	2	0	0	0	
	CO2	Apply technique for inter-process communication and Multithreading	Average	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	1.80	1.80	1.80	
	CO3	Implement concept of critical-section														
	CO4	Compare and contrast deadlock avoidance and prevention														
	CO5	Use functions for file system management														

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-354	PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	Artificial Intelligence	CO1	2	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No	IV	CO2	3	3	3	3	3	3	3	3	3	3	2	2	2	
Teacher Name	SHAIKH SHAHEEN	CO3	3	3	3	3	3	3	3	3	3	3	2	2	2	
Course Outcomes		CO4	2	2	2	3	2	2	2	2	2	2	0	0	0	
	CO1	Apply the suitable algorithms to solve AI problems	CO5													
	CO2	Identify and apply suitable Intelligent agents for various AI applications	Average	2.50	2.50	2.50	2.75	2.50	2.50	2.50	2.50	2.50	1.75	1.75	1.75	
	CO3	Build smart system using different informed search / uninformed search or heuristic approaches														
	CO4	Represent complex problems with expressive language of representation														
	CO5															

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-354	PO1		PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	
Subject Name	Cloud Computing	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3	
Semester No	IV	CO2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Teacher Name	RAJPAL KARISHMA	CO3	3	3	3	3	3	3	3	3	3	3	2	2	2	
Course Outcomes		CO4														
	CO1	Explain the core issues in cloud computing such as security, privacy, and interoperabilit	CO5													

	CO2	Choose the appropriate technologies, algorithms, and approaches for the given application	Average	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.33	2.33	2.33
	CO3	Compare and contrast various cloud services														
	CO4															
	CO5															

Class	TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA356			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	DSE I Laboratory (Programming in JAVA)		CO1	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	V		CO2	2	2	2	2	2	2	2	2	2	2	3	3	3
Teacher Name	PARDESHI SUVARNA		CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3	3	0	0	0
	CO1	Identify classes, objects, class members and relationships for a given problem	CO5	2	2	2	2	2	2	2	2	2	2	0	0	0
	CO2	Design end to end applications using object oriented constructs.	Average	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	1.80	1.80	1.80
	CO3	Apply collection classes for storing java objects.														
	CO4	Use Java APIs for program development.														
	CO5	Handle abnormal termination of a program using exception handling.														

Class	TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA357			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Laboratory (Data mining)		CO1	2	2	2	2	2	2	2	2	2	2	3	3	3
Semester No	V		CO2	2	2	2	2	2	2	2	2	2	2	3	3	3
Teacher Name	ABHIJITA JAGTAP		CO3	3	3	3	3	3	3	3	3	3	3	3	3	3
Course Outcomes			CO4													
	CO1	Implement data mining tasks using R	CO5													
	CO2	Use the python packages to carry out data mining tasks	Average	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	3.00	3.00	3.00
	CO3	Perform data analysis and data visualization using python packages														
	CO4															
	CO5															

Class	TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA 358			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3

Subject Name	Implement algorithms for Process scheduling and Memory management	CO1	2	2	2	2	2	2	2	2	2	2	2	3	3	3
Semester No	V	CO2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
Teacher Name	WAGHMARE NIVEDITA	CO3	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Course Outcomes		CO4	2	2	2	2	2	2	2	2	2	2	2	0	0	0
	CO1	Implement algorithms for Process scheduling and Memory management	CO5	2	2	2	2	2	2	2	2	2	2	0	0	0
	CO2	Describe process synchronization and multithreading	Average	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	1.60	1.60	1.60
	CO3	Compare and contrast the algorithms for memory management and its allocation policies														
	CO4	Use searching algorithms														
	CO5	Design a simple Expert system														

Class	TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-361		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Android Programming	CO1	3	3	3	3	3	3	3	3	3	3	3	3	3
Semester No	VI	CO2	2	2	2	2	2	2	2	2	2	2	3	3	3
Teacher Name	GANDHI DARSHANA	CO3	3	3	3	3	3	3	3	3	3	3	2	2	2
Course Outcomes		CO4	3	3	3	3	3	3	3	3	3	3	0	0	0
	CO1	Describe the process of developing mobile applications.	CO5												
	CO2	Create mobile applications on the Android Platform	Average	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.00	2.00	2.00
	CO3	Design and implement mobile applications involving data storage in SQLite database													
	CO4	Use location-based services while developing applications													
	CO5														

Class	TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-362		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Programming in Go	CO1	3	2	3	2	3	2	3	2	3	2	3	3	3
Semester No	VI	CO2	2	3	2	3	2	3	2	3	2	3	3	3	3
Teacher Name	PARDESHI SUVARNA	CO3	3	2	3	2	3	2	3	2	3	2	3	3	3
Course Outcomes		CO4	2	3	2	3	2	3	2	3	2	3	0	0	0
	CO1	Describe the core features and concepts in Go	CO5	3	2	3	2	3	2	3	2	3	2	0	0
	CO2	Write simple Go programs using functions	Average	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	1.80	1.80
	CO3	Apply defining methods and Go Interfaces													
	CO4	Use Go routines and Channels													
	CO5	Explore Go Packages													

Class		TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-363				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Software Project Management			CO1	3	2	3	2	3	2	3	2	3	2	3	3	3
Semester No	VI			CO2	2	3	2	3	2	3	2	3	2	3	3	3	3
Teacher Name	GANDHI DARSHANA			CO3	3	2	3	2	3	2	3	2	3	2	2	2	2
Course Outcomes				CO4	2	3	2	3	2	3	2	3	2	3	0	0	0
	CO1	Comprehend Software Project Management Concepts		CO5	3	2	3	2	3	2	3	2	3	2	0	0	0
	CO2	Use various tools for Software Project Management Schedule various activities in software projects		Average	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	1.60	1.60	1.60
	CO3	Track a project and manage changes															
	CO4	Apply Agile Project Management concepts															
	CO5	Analyze staffing process for team building and decision making															

Class		TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-364				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Management Information System			CO1	2	3	2	3	2	3	3	2	3	1	3	3	3
Semester No	VI			CO2	2	3	2	2	3	2	2	3	2	3	3	3	3
Teacher Name	WAGHMARE NIVEDITA			CO3	2	3	2	3	2	3	3	2	3	3	2	2	2
Course Outcomes				CO4	2	3	2	2	3	2	2	3	2	2	0	0	0
	CO1	Describe MIS, BPR, EMS		CO5	2	3	3	3	2	3	3	2	3	2	0	0	0
	CO2	Compare MIS with BPR, DSS and EMS		Average	2.00	3.00	2.20	2.60	2.40	2.60	2.60	2.40	2.60	2.20	1.60	1.60	1.60
	CO3	Identify various ERP modules for a given application															
	CO4	List the applications of MIS in Manufacturing and service sectors															
	CO5																

Class		TYBCA		Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-365				PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	Internet of Things (IoT)			CO1	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No	VI			CO2	2	2	2	2	2	2	2	2	2	2	2	2	
Teacher Name	ABHIJITA JAGTAP			CO3	2	3	2	2	2	2	2	2	2	2	2	2	
Course Outcomes				CO4	2	2	2	2	2	2	2	2	2	0	0	0	
	CO1	Define Embedded Systems and the Internet of Things		CO5	2	3	3	3	3	3	3	3	3	0	0	0	
	CO2	Apply enabling technologies for developing IoT systems		Average	2.00	2.40	2.20	2.20	2.20	2.20	2.20	2.20	2.20	1.40	1.40	1.40	
	CO3	Design simple IoT applications															

	CO4	Analyze protocols for communication among IoT devices
	CO5	Describe cloud-based IoT systems

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-366	Laboratory (Android Programming)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	VI	GANDHI DARSHANA	CO1	3	3	3	3	3	3	3	3	3	3	3	3	
Semester No	VI	GANDHI DARSHANA	CO2	3	3	3	3	3	3	3	3	3	3	3	3	
Teacher Name	GANDHI DARSHANA	GANDHI DARSHANA	CO3	2	2	2	2	2	2	2	2	2	2	2	2	
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3	3	0	0	
	CO1	Describe the process of developing mobile applications	CO5													
	CO2	Create mobile applications on the Android Platform	Average	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.00	2.00	
	CO3	Design and implement mobile applications involving data storage in SQLite database														
	CO4	Use location-based services while developing applications														
	CO5															

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-367	Laboratory (Programming in GO and IoT)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	VI	PARDESHI SUVARNA	CO1	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No	VI	PARDESHI SUVARNA	CO2	3	3	3	3	3	3	3	3	3	3	3	3	
Teacher Name	PARDESHI SUVARNA	PARDESHI SUVARNA	CO3	2	2	2	2	2	2	2	2	2	2	2	2	
Course Outcomes			CO4	3	3	3	3	3	3	3	3	3	0	0	0	
	CO1	Write programs using features supported in GO	CO5	2	2	2	2	2	2	2	2	2	0	0	0	
	CO2	Handle errors and utilize Goroutines and Channels	Average	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	1.60	1.60	1.60	
	CO3	Write programs on File handling														
	CO4	Compare and contrast features of GO with other object oriented language														
	CO5	Design Simple IoT application														

Class		TYBCA	Course Outcomes	Program Outcomes										PSOs		
Subject Code	BCA-368	Project Laboratory		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3
Subject Name	VI	AWATE SHEETAL	CO1	2	2	2	2	2	2	2	2	2	3	3	3	
Semester No	VI	AWATE SHEETAL	CO2	3	3	3	3	3	3	3	3	3	3	3	3	
Teacher Name	AWATE SHEETAL	AWATE SHEETAL	CO3	2	2	2	2	2	2	2	2	2	2	2	2	
Course Outcomes			CO4													



	CO1	Demonstrate a sound technical knowledge of selected project topic	CO5													
	CO2	Apply techniques for project management	Average	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.67	2.67	2.67
	CO3	Create various documents used during the development of the project and a project report														
	CO4															
	CO5															

**CO-PO Mapping**

		Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
		1 BCA111	2.75	2.50	2.50	2.00	2.00	2.25	2.50	2.00	2.75	2.00
		2 BCA112	2.50	2.75	2.75	3.00	3.00	2.75	2.50	2.25	2.75	2.75
		3 BCA113	1.80	1.80	1.80	1.60	2.60	2.60	1.80	1.80	2.00	2.00
		4 BCA114	2.50	2.75	2.25	2.75	3.00	2.50	2.50	2.50	3.00	2.50
		5 BCA115	3.00	3.00	3.00	3.00	2.50	2.50	2.50	2.25	2.50	2.25
		6 BCA116	3.00	3.00	3.00	3.00	2.67	2.67	2.00	2.00	2.33	2.67
		7 BCA117	2.00	2.00	2.50	2.50	2.50	3.00	2.50	2.50	3.00	3.00
		8 BCA118	2.80	2.60	2.40	2.80	2.60	2.60	2.40	2.40	2.40	2.40
		9 BCA121	2.67	2.67	2.33	2.67	2.33	2.33	2.67	2.67	2.67	2.67
		10 BCA122	2.75	2.75	2.75	3.00	2.75	2.75	2.25	2.50	2.25	2.75
		11 BCA123	2.67	2.67	2.67	2.67	2.33	2.67	3.00	2.33	2.33	2.67
		12 BCA124	2.67	2.67	2.67	3.00	2.67	2.67	2.00	2.33	2.33	3.00
		13 BCA125	3.00	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
		14 BCA126	2.50	2.75	2.50	3.00	2.50	3.00	2.50	3.00	2.50	3.00
		15 BCA127	2.67	2.33	2.33	2.67	2.33	2.33	2.67	2.33	2.33	2.67
FY	FY	16 BCA128	3.00	2.67	3.00	2.67	3.00	2.67	3.00	2.67	3.00	3.00
		1 BCA231	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
		2 BCA232	2.80	2.20	2.40	2.40	2.20	2.40	2.60	2.20	2.40	2.40
		3 BCA233	3.00	2.00	2.50	2.25	3.00	2.25	2.50	2.25	2.50	2.75
		4 BCA234	2.67	2.67	2.67	2.67	2.67	2.33	2.00	2.00	2.33	2.67
		5 BCA235	2.33	2.33	2.33	3.00	2.67	2.33	2.33	2.33	2.33	2.67
		6 BCA236	2.50	2.50	2.50	2.50	2.25	2.25	2.50	2.50	2.50	2.75
		7 BCA237	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00
		8 BCA238	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67
		9 BCA241	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00
		10 BCA242	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67
		11 BCA243	2.80	2.80	2.80	2.80	2.80	2.40	2.00	2.40	2.40	2.60
		12 BCA244	3.00	2.33	2.33	2.67	2.33	2.33	2.33	2.00	2.33	2.67
		13 BCA245	3.00	2.67	3.00	2.33	2.67	3.00	2.67	2.67	2.67	2.00
		14 BCA246	2.67	2.67	2.67	2.67	2.67	3.00	2.33	2.33	2.33	3.00
		15 BCA247	3.00	3.00	2.67	3.00	3.00	2.33	2.67	2.67	2.67	3.00
		16 BCA248	2.67	2.67	2.67	3.00	2.67	2.00	2.00	2.67	2.33	2.67
		1 BCA 351	1.20	1.00	1.20	1.20	1.00	1.40	1.60	1.20	1.20	1.00
		2 BCA 352	1.20	1.00	1.20	1.20	1.00	1.40	1.60	1.20	1.20	1.00
		3 BCA-353	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
		4 BCA-354	2.50	2.50	2.50	2.75	2.50	2.50	2.50	2.50	2.50	2.50
		5 BCA-354	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67	2.67
		6 BCA356	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
		7 BCA357	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
		8 BCA 358	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
		9 BCA-361	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75

TY	TY	10	BCA-362	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40
		11	BCA-363	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40	2.60	2.40
		12	BCA-364	2.00	3.00	2.20	2.60	2.40	2.60	2.60	2.40	2.60	2.20
		13	BCA-365	2.00	2.40	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
		14	BCA-366	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
		15	BCA-367	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
		16	BCA-368	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33

**CO-PO ATTAINMENT**

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
0.843333	0.766667	0.766667	0.613333333	0.613333	0.69	0.766667	0.613333	0.843333	0.613333
1.3	1.43	1.43	1.56	1.56	1.43	1.3	1.17	1.43	1.43
0.936	0.936	0.936	0.832	1.352	1.352	0.936	0.936	1.04	1.04
0.5	0.55	0.45	0.55	0.6	0.5	0.5	0.5	0.6	0.5
2.52	2.52	2.52	2.52	2.1	2.1	2.1	1.89	2.1	1.89
2.2	2.2	2.2	2.2	1.955556	1.955556	1.466667	1.466667	1.711111	1.955556
1.36	1.36	1.7	1.7	1.7	2.04	1.7	1.7	2.04	2.04
2.8	2.6	2.4	2.8	2.6	2.6	2.4	2.4	2.4	2.4
1.386667	1.386667	1.213333	1.386666667	1.213333	1.213333	1.386667	1.386667	1.386667	1.386667
0.55	0.55	0.55	0.6	0.55	0.55	0.45	0.5	0.45	0.55
0.533333	0.533333	0.533333	0.533333333	0.466667	0.533333	0.6	0.466667	0.466667	0.533333
0.533333	0.533333	0.533333	0.6	0.533333	0.533333	0.4	0.466667	0.466667	0.6
3	2.666667	2.666667	2.666666667	2.666667	2.666667	2.666667	2.666667	2.666667	2.666667
1.3	1.43	1.3	1.56	1.3	1.56	1.3	1.56	1.3	1.56
1.102222	0.964444	0.964444	1.10222222	0.964444	0.964444	1.102222	0.964444	0.964444	1.102222
1.56	1.386667	1.56	1.386666667	1.56	1.386667	1.56	1.386667	1.56	1.56
1.386667	1.386667	1.386667	1.386666667	1.386667	1.386667	1.386667	1.386667	1.386667	1.386667
1.456	1.144	1.248	1.248	1.144	1.248	1.352	1.144	1.248	1.248
1.24	0.826667	1.033333	0.93	1.24	0.93	1.033333	0.93	1.033333	1.136667
2.24	2.24	2.24	2.24	2.24	1.96	1.68	1.68	1.96	2.24
1.586667	1.586667	1.586667	2.04	1.813333	1.586667	1.586667	1.586667	1.586667	1.813333
2.1	2.1	2.1	2.1	1.89	1.89	2.1	2.1	2.1	2.31
1.56	1.56	1.386667	1.56	1.56	1.213333	1.386667	1.386667	1.386667	1.56
1.386667	1.386667	1.386667	1.56	1.386667	1.04	1.04	1.386667	1.213333	1.386667
2.52	2.52	2.24	2.52	2.52	1.96	2.24	2.24	2.24	2.52
0.533333	0.533333	0.533333	0.6	0.533333	0.4	0.4	0.533333	0.466667	0.533333
1.456	1.456	1.456	1.456	1.456	1.248	1.04	1.248	1.248	1.352
2.52	1.96	1.96	2.24	1.96	1.96	1.96	1.68	1.96	2.24
3	2.666667	3	2.333333333	2.666667	3	2.666667	2.666667	2.666667	2
2.666667	2.666667	2.666667	2.666666667	2.666667	3	2.333333	2.333333	2.333333	3
1.56	1.56	1.386667	1.56	1.56	1.213333	1.386667	1.386667	1.386667	1.56
2.666667	2.666667	2.666667	3	2.666667	2	2	2.666667	2.333333	2.666667
0.624	0.52	0.624	0.624	0.52	0.728	0.832	0.624	0.624	0.52
0.624	0.52	0.624	0.624	0.52	0.728	0.832	0.624	0.624	0.52
1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248	1.248
1.3	1.3	1.3	1.43	1.3	1.3	1.3	1.3	1.3	1.3
1.386667	1.386667	1.386667	1.386666667	1.386667	1.386667	1.386667	1.386667	1.386667	1.386667
2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96
1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43

1.352	1.248	1.352	1.248	1.352	1.248	1.352	1.248	1.352	1.248
1.352	1.248	1.352	1.248	1.352	1.248	1.352	1.248	1.352	1.248
1.04	1.56	1.144	1.352	1.248	1.352	1.352	1.248	1.352	1.144
1.04	1.248	1.144	1.144	1.144	1.144	1.144	1.144	1.144	1.144
2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
2.333333	2.333333	2.333333	2.33333333	2.333333	2.333333	2.333333	2.333333	2.333333	2.333333

**Percentage CO-PO ATTAINMENT**

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
30.66667	30.66667	30.66667	30.66666667	30.66667	30.66667	30.66667	30.66667	30.66667	30.66667
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
20	20	20	20	20	20	20	20	20	20
84	84	84	84	84	84	84	84	84	84
73.33333	73.33333	73.33333	73.33333333	73.33333	73.33333	73.33333	73.33333	73.33333	73.33333
68	68	68	68	68	68	68	68	68	68
100	100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52	52
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
20	20	20	20	20	20	20	20	20	20
100	100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52	52
41.33333	41.33333	41.33333	41.33333333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
41.33333	41.33333	41.33333	41.33333333	41.33333	41.33333	41.33333	41.33333	41.33333	41.33333
84	84	84	84	84	84	84	84	84	84
68	68	68	68	68	68	68	68	68	68
84	84	84	84	84	84	84	84	84	84
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
84	84	84	84	84	84	84	84	84	84
20	20	20	20	20	20	20	20	20	20
52	52	52	52	52	52	52	52	52	52
84	84	84	84	84	84	84	84	84	84
100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100
52	52	52	52	52	52	52	52	52	52
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	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
100	100	100	100	100	100	100	100	100	100
84	84	84	84	84	84	84	84	84	84
52	52	52	52	52	52	52	52	52	52

52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
52	52	52	52	52	52	52	52	52	52
100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100	100

**CO-PSO MAPPING**

**CO-PSO ATTAINMENT**

**Percentage CO-PSO ATTAINMENT**

	Course	PSO1	PSO2	PSO3
FY	1 BCA111	3.00	3.00	3.00
	2 BCA112	3.00	3.00	3.00
	3 BCA113	1.80	1.80	1.80
	4 BCA114	2.25	2.25	2.25
	5 BCA115	2.25	2.25	2.25
	6 BCA116	3.00	3.00	3.00
	7 BCA117	2.33	2.33	2.33
	8 BCA118	1.40	1.40	1.40
	9 BCA121	2.33	2.33	2.33
	10 BCA122	2.25	2.25	2.25
	11 BCA123	2.33	2.33	2.33
	12 BCA124	2.67	2.67	2.67
	13 BCA125	3.00	3.00	3.00
	14 BCA126	2.25	2.25	2.25
	15 BCA127	3.00	3.00	3.00
SY	16 BCA128	3.00	3.00	3.00
	1 BCA231	2.67	2.67	2.67
	2 BCA232	2.60	2.60	2.60
	3 BCA233	2.75	2.75	2.75
	4 BCA234	2.67	2.67	2.67
	5 BCA235	2.67	2.67	2.67
	6 BCA236	3.00	2.50	2.50
	7 BCA237	2.33	2.67	2.33
	8 BCA238	2.33	2.33	2.33
	9 BCA241	2.33	2.67	2.33
	10 BCA242	2.33	2.33	2.33
	11 BCA243	2.60	2.60	2.80
	12 BCA244	2.67	3.00	3.00
	13 BCA245	3.00	3.00	3.00
	14 BCA246	3.00	3.00	3.00
15 BCA247	2.33	2.67	2.33	
16 BCA248	2.33	2.33	2.33	
1 BCA 351	1.80	1.80	1.80	
2 BCA 352	1.80	1.80	1.80	
3 BCA-353	1.80	1.80	1.80	
4 BCA-354	1.75	1.75	1.75	
5 BCA-354	2.33	2.33	2.33	
6 BCA356	1.80	1.80	1.80	
7 BCA357	3.00	3.00	3.00	
8 BCA 358	1.60	1.60	1.60	

Course	PSO1	PSO2	PSO3
BCA111	0.92	0.92	0.92
BCA112	1.56	1.56	1.56
BCA113	0.936	0.936	0.936
BCA114	0.45	0.45	0.45
BCA115	1.89	1.89	1.89
BCA116	2.2	2.2	2.2
BCA117	1.586667	1.586667	1.586667
BCA118	1.4	1.4	1.4
BCA121	1.213333	1.213333	1.213333
BCA122	0.45	0.45	0.45
BCA123	0.466667	0.466667	0.466667
BCA124	0.533333	0.533333	0.533333
BCA125	3	3	3
BCA126	1.17	1.17	1.17
BCA127	1.24	1.24	1.24
BCA128	1.56	1.56	1.56
BCA231	1.386667	1.386667	1.386667
BCA232	1.352	1.352	1.352
BCA233	1.136667	1.136667	1.136667
BCA234	2.24	2.24	2.24
BCA235	1.813333	1.813333	1.813333
BCA236	2.52	2.1	2.1
BCA237	1.213333	1.386667	1.213333
BCA238	1.213333	1.213333	1.213333
BCA241	1.96	2.24	1.96
BCA242	0.466667	0.466667	0.466667
BCA243	1.352	1.352	1.456
BCA244	2.24	2.52	2.52
BCA245	3	3	3
BCA246	3	3	3
BCA247	1.213333	1.386667	1.213333
BCA248	2.333333	2.333333	2.333333
BCA 351	0.936	0.936	0.936
BCA 352	0.936	0.936	0.936
BCA-353	0.936	0.936	0.936
BCA-354	0.91	0.91	0.91
BCA-354	1.213333	1.213333	1.213333
BCA356	1.8	1.8	1.8
BCA357	2.52	2.52	2.52
BCA 358	0.832	0.832	0.832

Course	PSO1	PSO2	PSO3
BCA111	30.66667	30.66667	30.66667
BCA112	52	52	52
BCA113	52	52	52
BCA114	20	20	20
BCA115	84	84	84
BCA116	73.33333	73.33333	73.33333
BCA117	68	68	68
BCA118	100	100	100
BCA121	52	52	52
BCA122	20	20	20
BCA123	20	20	20
BCA124	20	20	20
BCA125	100	100	100
BCA126	52	52	52
BCA127	41.33333	41.33333	41.33333
BCA128	52	52	52
BCA231	52	52	52
BCA232	52	52	52
BCA233	41.33333	41.33333	41.33333
BCA234	84	84	84
BCA235	68	68	68
BCA236	84	84	84
BCA237	52	52	52
BCA238	52	52	52
BCA241	84	84	84
BCA242	20	20	20
BCA243	52	52	52
BCA244	84	84	84
BCA245	100	100	100
BCA246	100	100	100
BCA247	52	52	52
BCA248	100	100	100
BCA 351	52	52	52
BCA 352	52	52	52
BCA-353	52	52	52
BCA-354	52	52	52
BCA-354	52	52	52
BCA356	100	100	100
BCA357	84	84	84
BCA 358	52	52	52



TY	9	BCA-361	2.00	2.00	2.00
	10	BCA-362	1.80	1.80	1.80
	11	BCA-363	1.60	1.60	1.60
	12	BCA-364	1.60	1.60	1.60
	13	BCA-365	1.40	1.40	1.40
	14	BCA-366	2.00	2.00	2.00
	15	BCA-367	1.60	1.60	1.60
	16	BCA-368	2.67	2.67	2.67

BCA-361	1.04	1.04	1.04
BCA-362	0.936	0.936	0.936
BCA-363	0.832	0.832	0.832
BCA-364	0.832	0.832	0.832
BCA-365	0.728	0.728	0.728
BCA-366	2	2	2
BCA-367	1.6	1.6	1.6
BCA-368	2.666667	2.666667	2.666667

BCA-361	52	52	52
BCA-362	52	52	52
BCA-363	52	52	52
BCA-364	52	52	52
BCA-365	52	52	52
BCA-366	100	100	100
BCA-367	100	100	100
BCA-368	100	100	100