MES Garware College of Commerce, Pune, India (Autonomous)
T. Y. BBA-CA(NEP PATTERN 2023-24) SEMESTER – V
COURSE CURRICULUM

Note : Click on the Course Code or Course Title to access the link to Course Details

Major Core (A)

Course Code: 23BA5-A171	Subject / Course: Core Java	Marks: 100 Credits: 4

Course Objectives:

1. To develop the understanding of java language fundamentals.
2. To develop the understanding of object-oriented programming concepts in Java.
3. To develop the understanding of inheritance, packages and collections in Java
4. To develop the understanding of File handling and Exception Handling in Java
5. To develop the understanding of Graphical User Interfaces using applets, awt and swing controls.

Course Outcome:

After completing the course, the student shall be able to

CO1: Understand java language fundamentals.

CO2: Understand object oriented programming concepts in Java.

CO3: Understand inheritance, packages and collections in Java.

CO4: Understand exception handling and file handling.

CO5: Understand and create Graphical User Interfaces using applets, awt and swing controls.

Unit	Unit Title	Contents	No. of Lectures
I	Java Fundamentals	(Note: Students are requested to use IDE) 1.1 Introduction and Features of Java 1.2 Basics of Java language: - Data types, variables, expression, operators, constant. 1.3 Structure of Java Program. 1.4 Execution Process of java Program. 1.5 JDK Tools. 1.6 Command Line Arguments. 1.7 Array and String: 1.7.1 Single Array & Multidimensional Array 1.7.2 String, String Buffer	10

Unit	Unit Title	Contents	No. of Lectures
		1.8 Built In Packages and Classes : 1.8.1 java.util :- Scanner, Date, Math etc. 1.8.2 java.lang	
II	Classes, Objects and Methods	2.1 Class and Object 2.2 Object reference 2.3 Constructor: Constructor Overloading 2.4 Method: Method Overloading, Recursion, Passing and Returning object from Method 2.5 new operator, this and static keyword, finalize() method 2.6 Nested class, Inner class, and Anonymous inner class	15
III	Inheritance, Package and Collection	3.1 Overview of Inheritance 3.2 Inheritance and Constructor 3.3 Inheriting Data members and Methods 3.4 Multilevel Inheritance – Method Overriding, Handle Multilevel Constructors 3.5 Use of super and final keyword 3.6 Introduction of Interface 3.7 Creation and Implementation of an interface, Interface reference 3.8 Interface inheritance 3.9 Dynamic method dispatch 3.10 Abstract class 3.11 Comparison between Abstract Class and interface 3.12 Access control 3.13 Packages 3.13.1 Packages Concept 3.13.2 Creating user defined packages 3.13.3 Java Built in packages 3.13.4 Import statement, Static import 3.14 Collection 3.14.1 Collection Framework. 3.14.2 Interfaces: Collection, List, Set 3.14.3 Navigation: Enumeration, Iterator, ListIterator 3.14.4 Classes: LinkedList, ArrayList, Vector, HashSet	15
IV	File and Exception Handling	**Exception:** 4.1 Exception and Error	10

Unit	Unit Title	Contents	No. of Lectures
		4.2 Use of try, catch, throw, throws and finally 4.3 Built in Exception 4.4 Custom exception 4.5 Throwable Class. **File Handling:** 4.6 Overview of Different Stream (Byte Stream, Character stream) 4.7 Readers and Writers class 4.8 File Class 4.9 FileInputStream and FileOutputStream 4.10 InputStreamReader and OutputStreamWriter class 4.11 FileReader and FileWriter class 4.12 Buffered Reader class	
V	Applet , AWT and Swing Programming	5.1 Introduction 5.2 Types of applet 5.3 Applet Lifecycle 5.3.1 Creating applet 5.3.2 Applet tag 5.4 Applet Class 5.4.1 Color 5.4.2 Graphics 5.4.3 Font **AWT:** 5.5 Components and containers used in AWT 5.6 Layout managers 5.7 Listeners and Adapter classes 5.8 Event Delegation model Swing 5.9 Introduction to Swing Component and Container Classes 5.10 Exploring Swing Controls- JLabel and Image Icon, JText Field, The Swing Buttons JButton, JToggle Button, JCheck Box, JRadio Button, JTabbed Pane, JScroll Pane, JList, JTable, JComboBox, Swing Menus, Dialogs,JFileOpen,JColorChooser.	10
Total No of Lectures			**60**

Teaching Methodology:

Unit	Unit Title	Teaching methodology	Project (if any)	Outcome expected Conceptual understanding Knowledge / Skills / Attributes etc.	Weightage of Marks (%)
I	Java Fundamentals	Lecture - Demonstration and problem based learning	NA	• To develop disciplinary knowledge of Java	10%
II	Classes, Objects and Methods	Lecture - Demonstration and problem based learning	NA	• To develop disciplinary knowledge and apply analytical, creative, problem solving skills for problem solving	25%
III	Inheritance, Package and Collection	Lecture - Demonstration and problem based learning	NA	• To develop disciplinary knowledge and apply analytical, creative, problem solving skills for problem solving	25%
IV	File and Exception Handling	Lecture - Demonstration and problem based learning	NA	• To develop disciplinary knowledge and apply analytical, creative, problem solving skills for problem solving.	20%
V	Applet , AWT and Swing Programming	Lecture - Demonstration and problem based learning		• To develop disciplinary knowledge and apply analytical, creative, problem solving skills for problem solving.	20%

Evaluation Method:

Unit	Evaluation Method	Marks (100)			Project / Practical (If any)
		Formative Assessment		Summative Assessment	
		CCE I (20)	CCE II (20)	SEMESTER (60)	
I	Assignment	Assignment	Written Exam	MCQ / Written Examination	Practical in Computer Laboratory
II	Assignment	Assignment	Written Exam	MCQ / Written Examination	Practical in Computer Laboratory
III	Assignment	Assignment	Written	MCQ /	Practical in

Unit	Evaluation Method	Marks (100)			Project / Practical (If any)
		Formative Assessment		Summative Assessment	
		CCE I (20)	CCE II (20)	SEMESTER (60)	
			Exam	Written Examination	Computer Laboratory
IV	Assignment	Assignment	Written Exam	MCQ / Written Examination	Practical in Computer Laboratory
V	Assignment	Assignment	Written Exam	MCQ / Written Examination	Practical in Computer Laboratory

Suggested Readings:

Sr. No.	Name of Book	Author	Publication
1	The Complete Reference – JAVA	HerbertSchildt	McGraw Hill audio
2	Programming with JAVA	Balgurusamy	McGraw Hill
3	Programming in Java	S. Malhotra, S. Chudhary (2^{nd} edition)	Oxford Univ. Press.

Major Elective (B)

Course Code: 23BA5-B181	Subject / Course : Angular JS	Marks: 100 Credits: 4

Course Objectives :

1. To understand Core Concepts of Angular JS.
2. To understand Directives and Expressions.
3. To understand Modules, Controller, View and Scope.
4. To understand Filter, Forms and Ajax Filters.
5. To understand Dependency Injection and Services.

Course Outcome :

On completion of the course, student shall be able to,

CO1: Understand Core Concepts of Angular JS.

CO2: Design and implement Directives and Expressions.

CO3: Design and implement Modules, Controller, View and Scope.

CO4: Understand and demonstrate Filter, Forms and Ajax Filters.

CO5: Learn and demonstrate Dependency Injection and Services.

Unit	Unit Title	Contents	No. of lectures
I	Angular JS Core Concepts	1.1 Concept of AngularJS 1.2 Difference between Javasript and Angular JS 1.3 Advantages of Angular 1.4 Angular JS MVC Architecture 1.5 Introduction to SPA 1.6 Setting up the environment 1.7 First App using MVC architecture	10
II	AngularJS Directives and Expressions	2.1 ng attributes : ng-app, ng-init, ng-model, ng-controller, ng-bind, ng-repeat, ng-show, ng-readonly, ng-disabled, ng-if, ng-click 2.2 Expression and Data Binding 2.3 Working with directives	12
III	AngularJS Modules,	3.1 Angular Modules	12

Unit	Unit Title	Contents	No. of lectures
	Controller, View and Scope	3.2 Angular Controller 3.3 Angular View 3.4 Scope hierarchy	
IV	Filter, Forms and Ajax Filters	4.1 Built-in filters Upper case and lower case filters, Date, Currency and Number Formatting, OrderBy filter, Custom filter 4.2 Angular JS Forms Working with AngularJS Forms, Model Binding, Form Controller, Form Events, Custom Model, Custom Validation, $http service 4.3 Ajax implementation using $http	16
V	Dependency Injection, Services	5.1 Concept of dependency injection 5.2 Understanding services 5.3 Using built-in service 5.4 Creating custom service 5.5 Injecting dependency in service	10
Total No of Lectures			**60**

Teaching Methodology:

Unit	Unit Title	Suggestive Teaching methodology	Practical	Outcome expected		Weightage of Marks (%)
				Conceptual understanding Knowledge / Skills / Attributes etc.		
I	AngularJS Core Concepts	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To Understand Core Concepts of AngularJS	Critical thinking and problem solving skills	15%
II	AngularJS Directives and Expressions	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To Design and implement Directives and Expressions.	Critical thinking, problem solving, analytical reasoning	20%
III	AngularJS Modules, Controller, View and	Lecture - Demonstration and Practical Implementation	Practical	To Design and implement Modules,	Lifelong Learning, \Application Skills	15%

Unit	Unit Title	Suggestive Teaching methodology	Practical	Outcome expected Conceptual understanding Knowledge / Skills / Attributes etc.		Weightage of Marks (%)
	Scope	in Laboratory		Controller, View and Scope.		
IV	Filter, Forms and Ajax Filters	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To Define and demonstrate Filter, Forms and Ajax Filters.	Problem solving , Experimental Learning	25%
V	Dependency Injection, Services	Lecture - Demonstration and Practical Implementation in Laboratory	Practical	To Define and demonstrate Dependency Injection and Services.	Lifelong Learning, Experimental Learning, Application Skills	25%

Evaluation Method:

Unit	Evaluation Method	Marks (100)			Project / Practical (If any)
		Formative Assessment		Summative Assessment	
		CCE I (20)	CCE II (20)	SEMESTER (60)	
I	Test and lab course work	Assignment	Written Exam	Written Exam	Practical in Computer Laboratory
II	Assignment and Quiz	Assignment	Written Exam	Written Exam	Practical in Computer Laboratory
III	Test and Lab course work	Assignment	Written Exam	Written Exam	Practical in Computer Laboratory
IV	Test, Quiz or Lab course work	Assignment	Written Exam	Written Exam	Practical in Computer Laboratory
V	Assignment and Quiz	Assignment	Written Exam	Written Exam	Practical in Computer Laboratory

Suggested Books:

Sr. No.	Title of the Book	Author/s	Publication
1.	Beginning Angular with Typescript (updated to Angular 5)	Greg Lim	Paperback
2.	Mastering Web Application Development with AngularJS	Pawel Kozlowski, Peter Bacon Darwin	Packt Publishing Limited

Course Code : 23BA5-C211	Subject / Course : Big Data	Total Marks: 50 Credits: 2

Course Objectives :

1. To explore the fundamental concepts of **Big Data** and **Data Science**, including data types, challenges, and applications.
2. To develop an understanding of **data analytics techniques**, statistical methods, and their role in decision-making.
3. To provide hands-on experience with **R programming** for data manipulation, visualization, and analysis.

Course Outcome :

After completing the Course, the student shall be able to:

CO1: Explain the concepts of Big Data and Data Science and their applications in real-world scenarios.

CO2: Apply statistical techniques such as probability, correlation, and regression for data analysis.

CO3: Implement R programming script to manipulate, visualize, and analyze datasets effectively.

Unit	Unit Title	Contents	No. of Lectures
I	Introduction To Big Data	1.1 Introduction To Big Data 1.2 Types of Digital Data 1.3 Big Data Analytics 1.4 Challenges of Big Data 1.5 Applications of Big data	5
II	Fundamentals of Data Analytics and Statistical Modeling	2.1 Basics of Data Analytics 2.1.1 Lifecycle of Data Analytics 2.2 Types of Analytics 2.2.1 Descriptive 2.2.2 Predictive 2.2.3 Prescriptive 2.2.4 Statistical Inference 2.3 Populations and Sample 2.3.1 Statistical modeling 2.3.2 Probability 2.3.3 Distribution	10

Unit	Unit Title	Contents	No. of Lectures
		2.3.4 Correlation 2.3.5 Regression	
III	Data Analytics with R	3.1 Introduction 3.2 Data Manipulation 3.3 Data Visualization 3.4 Data Analysis	15
Total Number of Lectures			**30**

Teaching Methodology:

Unit	Unit Title	Teaching methodology	Practical (If any)	Outcome expected- Conceptual understanding Knowledge / Skills / Attributes etc.		Weightage of Marks (%)
				Course Outcome (CO)	Learning Outcome (LO)	
1	Introduction To Big Data	Lecture - Demonstration and case study based learning		1. To understand the concept of Big Data 2. To understand the applications of big data using case study		20%
2	Introduction to Data Science	Lecture - Demonstration and case study based learning		1. To develop and apply detailed analytical, creative, problem solving skills. 2. To understand the analytic techniques.		40%
3	Data Analytics with R	Lecture - Demonstration and case study based learning	Practical	1. To understand data manipulation, visualization and analysis with R programming.		40%

Evaluation Method:

Unit	Marks (50)			Project / Practical (If any)
	Formative Assessment		Summative Assessment	
	CCE I (10)	CCE II (10)	SEMESTER (30)	
I, II, III	Departmentally organized and Assigned	Centrally (College Level) organized Tests	Preferably descriptive exam based on analytical questions.	Yes

Suggested Readings:

Sr. No.	Title of the Book	Author/s	Publication	Edition	Place
1.	"Big Data Analytics"	Seema Acharya, Subhasini Chellappan	Wiley Publication	2015	-
2.	Big Data and Business Analytics	Jay Liebowitz	Auerbach Publications, CRC press	2013	-
3.	Big Data Analytics: Disruptive Technologies for Changing the Game	Arvind Sathi	MC Press,	2012	-

Suggested Web/E-learning Resources:

SR NO	Topic	Lectures (Available on Youtube / Swayam / MOOCS etc)	Link	Journals / Articles / Case studies
1	Introduction to big data	NPTEL	https://www.youtube.com/watch?v=rvJgArru8dI	Online course
2	Introduction to machine learning	MOOC	https://www.edx.org/course/machine-learning-fundamentals-2	Online course

Course Code : 23BA5-E232	Subject / Course : FP-Project Based on HTML/CSS/Java Script	Total Marks: 50 Credits: 2

Course Objectives:

- Apply information technology principles and practices to real-world solutions
- Demonstrate effective use of written, verbal, and non-verbal communication, employing relevant knowledge, skills, and judgment in a business setting
- Manage a simple project and be able to contribute to a more complex project as a team member

Course Outcome:

On completion of the course, student will be able

CO1: Program using one of the software languages to develop and evaluate software, hardware infrastructure, and network solutions to meet desired client outcomes

CO2: Work as a professional maintaining high standards of practice, making ethical/legal judgments and decisions, and sustaining a professional standing through a commitment to life-long learning

CO3: Develop and apply personal management and team member skills as a professional software developer

Guidelines:

- Students should work in a team of maximum 2 students.
- Students can choose a project based on HTML/CSS/Java Script
- Students must use Database for project.
- The student group will work independently throughout the project work including: problem identification, information searching, literature study, design and analysis, implementation, testing, and the final reporting.
- Project guide must conduct project presentations to monitor the progress of the project groups.
- At the end of the project, the group should prepare a report which should conform to international academic standards. The report should follow the style in academic journals and books, with clear elements such as: abstract, background, aim, design and implementation, testing, conclusion and full references, Tables and figures should be numbered and referenced in the report.
- The final project presentation with demonstration will be evaluated by the project guide and External examiner.

Evaluation Guidelines:

IA (20 marks)			EE (30 marks)		
First Presentation	Second Presentation	Documentation	Project Logic / Presentation	Documentation	Viva
05	05	10	10	10	10

Recommended Documentation contents:

Abstract

Introduction

- Problem Statement
- Purpose / objective and goals
- Literature survey
- Project scope and limitation

System analysis

- Existing systems
- Scope and limitations of existing systems
- Project perspective, features
- Requirement analysis – Functional requirements, performance requirements, security requirements etc.

System Design

- Design constraints
- System Model: DFD
- Data Model
- User interfaces

Implementation details

- Software/hardware specifications

Outputs and Reports Testing

Test Plan, Black Box Testing or Data Validation Test Cases, White Box Testing or Functional Validation Test cases and results

Conclusion and Recommendations

Future Scope

Bibliography and References

Course Code: 23BA5-F241	Subject / Course : Cyber Security	Marks: 50 Credits: 2

Course Objectives:

1. To understand the fundamentals of cyber security.
2. To understand different Cyber offenses and categories of Cybercrime
3. To understand various tools and methods used in cybercrime

Course Outcome:

After completing the course, the student shall be able to

CO1: Have a good understanding of Cyber Security.

CO2: Identify the different types of Cyber Crimes.

CO3: Identify attacks, and security policies and understand various tools

Unit	Unit Title	Contents	No. of Lectures
I	Introduction to Cyber Crime and Cyber Security	1.1 Introduction 1.2 Cybercrime: Definition and Origin of the Word 1.3 Cybercrime and Information Security 1.4 Who are Cybercriminals? 1.5 Classifications of Cybercrimes: E-Mail Spoofing, Spamming, Cyber defamation, Internet Time Theft, Salami Attack/Salami Technique, Data Diddling, Forgery, Web Jacking, Newsgroup, Spam/Crimes Emanating from Usenet Newsgroup, Industrial Spying/Industrial Espionage, Hacking, Online Frauds, Computer Sabotage, Email Bombing/Mail Bombs, Computer Network Intrusions, Password Sniffing, Credit Card Frauds, Identity Theft 1.6 Definition of Cyber Security 1.7 Vulnerability, Threats and Harmful acts 1.8 CIA Triad	10
II	Cyber offenses and Cyberstalking	2.1 Criminals Plan: Categories of Cybercrime Cyber Attacks: Reconnaissance, Passive Attack, Active Attacks,	10

Unit	Unit Title	Contents	No. of Lectures
		Scanning/Scrutinizing gathered Information, Attack (Gaining and Maintaining the System Access), Social Engineering, and Classification of Social Engineering. 2.2 Cyberstalking: Types of Stalkers, Cases Reported on Cyberstalking, Working of Stalking 2.3 Real-Life Incident of Cyber stalking 2.4 Cybercafe and Cybercrimes 2.5 Botnets: The Fuel for Cybercrime, Botnet, Attack Vector 2.6 Cybercrime: Mobile and Wireless Devices – Proliferation - Trends in Mobility 2.7 Credit Card Frauds in Mobile and Wireless Computing Era 2.8 Security Challenges Posed by Mobile Devices 2.9 Authentication Service Security 2.10 Attacks on Mobile/Cell Phones	
III	Tools and Methods Used in Cybercrime	3.1 Introduction 3.2 Proxy Servers and Anonymizers 3.3 Phishing 3.4 Password Cracking 3.5 Keyloggers and Spywares 3.6 Virus and Worms 3.7 Trojan Horses and Backdoors 3.8 Steganography 3.9 DoS and DDoS Attacks 3.10 SQL Injection	10
Total No of Lectures			**30**

Teaching Methodology:

Unit	Unit Title	Suggestive teaching methodology	Project (If any)	Outcome expected Conceptual understanding Knowledge / Skills / Attributes etc.	Weightage of Marks (%)
I	Introduction to Cyber Crime and Cyber Security	Lecture		1. Information/Digital Literacy 2. Professional Skills 3. Critical thinking 4. Moral and Ethical Awareness/Reasoning	30%
II	Cyber offenses and Cyberstalking	Lecture and Guest Lectures		1. Problem Solving 2. Analytical Reasoning 3. Reflective Thinking 4. Application Skills 5. Employability	35%
III	Tools and Methods Used in Cybercrime	Lecture		1. Problem Solving 2. Critical thinking 3. Reflective Thinking 4. Professional Skills 5. Application Skills	35%

Evaluation Method:

Unit	Evaluation Method	Marks (50)			Project / Practical (If any)
		Formative Assessment		Summative Assessment	
		CCE I (10)	CCE II (10)	SEMESTER (30)	
1	MCQ on	MCQ	MCQ / Written Examination	MCQ / Written Examination	Nil
2	MCQ	MCQ	MCQ / Written Examination	MCQ / Written Examination	Nil
3	MCQ	Assignment	MCQ / Written Examination	MCQ / Written Examination	Nil

Suggested Readings :

Sr. No.	Name of the Book	Author	Publication	Edition	Place
1	Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives	Nina Godbole, Sunit Belapure, Wiley	India Publications Released	April 2011	--
2	Principles of Information Security	Michael E Whitman	Herbert J Mattord	3rd Edition 2011	--
3	Computer Security: Principles and Practice	William Stallings and Lawrie Brown	Pearson	3rd Edition 2015	--
	Cyber Security Essentials	James Graham Richard Howard Ryan Olson			

Suggested Web/E-Learning Resources:

Sr. No.	Topic of the course	Lectures (Available on Youtube / Swayam / MOOCS etc.)	Films	Journals / Articles / Case studies
1	Introduction to Cyber Security	https://onlinecourses.swayam2.ac.in/nou22_cs07/preview		
2	Cyber Security Tools Techniques and Counter Measures	https://onlinecourses.swayam2.ac.in/nou22_ge67/preview		
3	Cyber Security	https://onlinecourses.swayam2.ac.in/cec22_cs21/preview		

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MES Garware College of Commerce, Pune, India (Autonomous)

T. Y. BBA-CA(NEP PATTERN 2023-24) SEMESTER – V

LAB COURSES PRACTICAL SLIPS

Note : Click on the Course Code or Course Title to access the link to Course Details

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a 'java' program to copy only non-numeric data from one file to another file. **[10]**

B) Write a 'java' program to display characters from 'A' to 'Z'. **[20]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Design a screen in Java to handle the Mouse Events such as MOUSE_MOVED and MOUSE_CLICK and display the position of the Mouse_Click in a TextField. (Use Swings) **[20]**

B) Write a java program to display all the vowels from a given string. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Define an abstract class Shape with abstract methods area () and volume (). Derive abstract class Shape into two classes Cone and Cylinder. Write a java Program to calculate area and volume of Cone and Cylinder.(Use Super Keyword.) **[20]**

B) Write a 'java' program to check whether given number is Armstrong or not. (Use static keyword) **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program using Applet to implement a simple arithmetic calculator/ **[20]**

B) Write a java program to display alternate character from a given string. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to accept list of file names through command line. Delete the files having extension .txt. Display name, location and size of remaining files. **[20]**

B) Write a java program to display following pattern: **[10]**

5

4 5

3 4 5

2 3 4 5

1 2 3 4 5

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to display transpose of a given matrix. **[20]**

B) Write a java program to accept a number from user, if it zero then throw user defined Exception "Number Is Zero", otherwise calculate the sum of first and last digit of that number. (Use static keyword). **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to accept details of 'n' cricket player (pid, pname, totalRuns, InningsPlayed, NotOuttimes). Calculate the average of all the players. Display the details of player having maximum average. (Use Array of Object) **[20]**

B) Write a java AWT program to display Label with text "Dr. D Y Patil College", background color Red and font size 20 on the frame. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to display files having extension .txt from a given directory. **[20]**

B) Define an Interface Shape with abstract method area(). Write a java program to calculate an area of Circle and Sphere.(use final keyword) **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to validate PAN number and Mobile Number. If it is invalid then throw user defined Exception "Invalid Data", otherwise display it. **[20]**

B) Write a java Program to display Fibonacci series of n nos. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

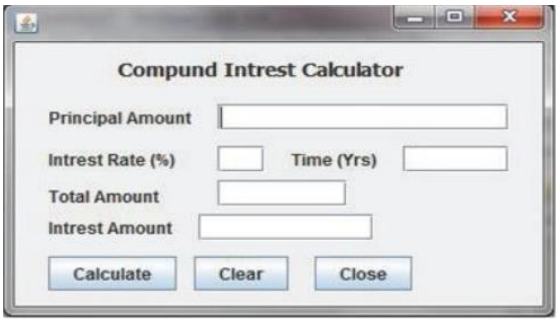
Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program for the following: Use Swings **[20]**



B) Write a java program to count the frequency of each character in a given string. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

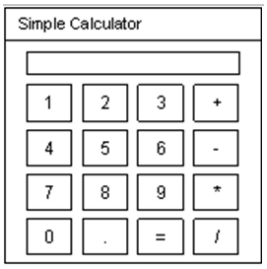
Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Create a calculator with functionality in an Applet. **[20]**



B) Write a menu driven java program using command line arguments for the following:

1. Addition
2. Subtraction
3. Multiplication
4. Division. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to display multiplication table of a given number into the List box by clicking on button. **[20]**

B) Write a java program to display each String in reverse order from a String array. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program that asks the user name, and then greets the user by name. Before outputting the user's name, convert it to upper case letters. For example, if the user's name is Raj, then the program should respond "Hello, RAJ, nice to meet you!". **[20]**

B) Write a java program to accept 'n' integers from the user & store them in an ArrayList collection. Display the elements of ArrayList collection in reverse order. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java AWT program to accept the details of employee (Eno, EName, Sal) and display it on next frame using appropriate event. **[20]**

B) Write a Java program to calculate power of a number using recursion. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

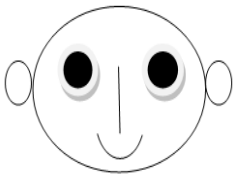
Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write an applet application to display smiley face. **[20]**



B) Write a java program to search given name into the array, if it is found then display. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to accept n employee names from user. Sort them in ascending order and Display them.(Use array of object and Static keyword) **[20]**

B) Write a java program to calculate sum of digits of a given number using recursion. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Define a class Product (pid, pname, price, qty). Write a function to accept the product details, display it and calculate total amount. (use array of Objects) **[20]**

B) Write a java Program to accept 'n' no's through command line and store only armstrong no's into the array and display that array. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to copy the data from one file into another file, while copying change the case of characters in target file and replaces all digits by '*' symbol. **[20]**

B) Write a Java program to calculate area of Circle, Triangle & Rectangle.(Use Method Overloading) **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Create an Applet that displays the x and y position of the cursor movement using Mouse and Keyboard. (Use appropriate listener) **[20]**

B) Write a Java program to display Fibonacci series using function. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Construct a Linked List containing name: CPP, Java, Python and PHP. Then extend your java program to do the following: i. Display the contents of the List using an Iterator ii. Display the contents of the List in reverse order using a ListIterator. **[20]**

B) Write a java program using AWT to create a Frame with title "TYBBACA", background color RED. If user clicks on close button then frame should close. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Create a hashtable containing city name & STD code. Display the details of the hashtable. Also search for a specific city and display STD code of that city. **[20]**

B) Write a java program to display each word from a file in reverse order. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program for the following: **[20]**

1. To create a file.
2. To rename a file.
3. To delete a file.
4. To display path of a file.

B) Write a Java program to calculate factorial of a number using recursion. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to design following Frame using Swing. **[20]**

B) Write a java program to check whether given file is hidden or not. If not then display its path, otherwise display appropriate message. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Create a package named Series having three different classes to print series: i. Fibonacci series ii. Cube of numbers iii. Square of numbers. Write a java program to generate 'n' terms of the above series. **[20]**

B) Write a java program to count number of digits, spaces and characters from a file. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to check whether given string is palindrome or not. **[10]**

B) Create a package named Series having three different classes to print series: i. Fibonacci series ii. Cube of numbers iii. Square of numbers Write a java program to generate 'n' terms of the above series. **[20]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to display ASCII values of the characters from a file. **[10]**

B) Write a java program using applet to draw Temple. **[20]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to accept a number from user, If it is greater than 1000 then throw user defined exception "Number is out of Range" otherwise display the factors of that number. (Use static keyword) **[10]**

B) Write a java program to accept directory name in TextField and display list of files and subdirectories in List Control from that directory by clicking on Button. **[20]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to count the number of integers from a given list. (Use Command line arguments). **[10]**

B) Write a java Program to accept the details of 5 employees (Eno, Ename, Salary) and display it onto the JTable. **[20]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program using Applet to display a smiley. **[20]**

B) Write a java program to check whether given candidate is eligible for voting or not. Handle user defined as well as system defined Exception. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Core Java

Course Code: 23BA5-A073

Credits: 2 Marks:50

Q.1 Core Java:

A) Write a java program to design a following GUI (Use Swing). **[20]**

B) Write a java program to accept a number from a user, if it is zero then throw user defined Exception "Number is Zero". If it is non-numeric then generate an error "Number is Invalid" otherwise check whether it is palindrome or not. **[10]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Write an AngularJS script to display list of games stored in an array on click of button using ng-click. And also Demonstrate ng-init, ng-bind directive of AngularJS. **[15]**

B) Using AngularJS create a SPA for eLearning System. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Write a HTML code using AngularJS to generate the following output

Undergraduate Courses (hint : use ng-repeat, ng-init directive)
- i. BBA(CA)
- ii. BCA(Science)
- iii. B.Sc.(Computer Science)

Post Graduate Courses
- i. M.Sc.(Computer Science)
- ii. M.Sc.(CA)
- iii. MCA **[15]**

B) Using AngularJS create a SPA for a Recipe Book. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS display the 10 student details in Table format (using ng-repeat directive use Array to store data) **[15]**

B) Using AngularJS create a SPA that clone the "Hacker News" website. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Write an AngularJS script to print details of bank (bank name, MICR code, IFC code, address etc.) in tabular form using ng-repeat **[15]**

B) Using AngularJS Develop Online School System. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Write an AngularJS script for addition of two numbers using ng-init, ng-model & ng-bind. And also Demonstrate ng-show, ng-disabled, ng-click directives on button component. **[15]**

B) Using AngularJS Implement E-commerce Website. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA that show Syllabus content of all subjects of SYBBA (CA)(use ng-view) **[15]**

B) Write an AngularJS script to display list of games stored in an array on click of button using ng-click. And also Demonstrate ng-init, ng-bind directive of AngularJS. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA that show Syllabus content of all subjects of SYBBA (CA)(use ng-view) **[15]**

B) Write a HTML code using AngularJS to generate the following output

Undergraduate Courses (hint : use ng-repeat, ng-init directive)

i. BBA(CA)
ii. BCA(Science)
iii. B.Sc.(Computer Science)

Post Graduate Courses

i. M.Sc.(Computer Science)
ii. M.Sc.(CA)
iii. MCA

[15]

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Create an HTML form using AngularJS that contain the Student Registration details and validate Student first and last name as it should not contain other than alphabets and age should be between 18 to 50 and display greeting message depending on current time using ng-show (e.g. Good Morning, Good Afternoon, etc.)(use AJAX). **[15]**

B) Using AngularJS display the 10 student details in Table format (using ng-repeat directive use Array to store data) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Create an HTML form using AngularJS that contain the Employee Registration details and validate DOB, Joining Date, and Salary and also create a simple arithmetic calculator using radio buttons (use ng-switch, ng-switch-when) **[15]**

B) Write an AngularJS script to print details of bank (bank name, MICR code, IFC code, address etc.) in tabular form using ng-repeat **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA that show address and contact details of Some 5-10 top Hotels which are in pune location.(use ng-view)

[15]

B) Write an AngularJS script for addition of two numbers using ng-init, ng-model & ng-bind. And also Demonstrate ng-show, ng-disabled, ng-click directives on button component.

[15]

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA that show History of some(4-8) Historical Places (use MVC).

[15]

B) Using AngularJS Create a SPA that show Syllabus content of all subjects of SYBBA (CA)(use ng-view)

[15]

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA for customer registration visiting a departmental store. Form should consists of fields such as name, contact no., gender, favourite item(to be selected from a list of items with Quantity) and suggestions. Display the Bill with total no of items selected and total amount to be paid.(use filter) **[15]**

B) Using AngularJS Create a SPA that show Syllabus content of all subjects of SYBBA (CA)(use ng-view) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that accept the details of student and display mark sheet (roll_ no, student_ name, class, sub1, sub2, sub3, total, percentage, grade) **[15]**

B) Create an HTML form using AngularJS that contain the Student Registration details and validate Student first and last name as it should not contain other than alphabets and age should be between 18 to 50 and display greeting message depending on current time using ng-show (e.g. Good Morning, Good Afternoon, etc.)(use AJAX). **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA to take the information of a customer for booking a plan consisting of fields such as name, address, contact no., gender, Date of booking, date of journey, no of passenger, name of passenger etc. Display the e –Ticket. **[15]**

B) Create an HTML form using AngularJS that contain the Employee Registration details and validate DOB, Joining Date, and Salary and also create a simple arithmetic calculator using radio buttons (use ng-switch, ng-switch-when) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Create a SPA for Bus Ticket Reservation consisting of fields : Name, Address, contact no, source station(Dropdown list), Destination station, Date of booking, date of journey, no of passenger, name of passenger, gender of passenger etc. Display the e –Ticket. **[15]**

B) Using AngularJS Create a SPA that show address and contact details of Some 5-10 top Hotels which are in pune location.(use ng-view) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS display the student details who are live in pune in Table format (using ng-repeat directive, use Array to store data, use filter) **[15]**

B) Using AngularJS Create a SPA that show History of some(4-8) Historical Places (use MVC). **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Write an AngularJS script to search student name according to the character typed and display details(use array and filter). **[15]**

B) Using AngularJS Create a SPA for customer registration visiting a departmental store. Form should consists of fields such as name, contact no., gender, favourite item(to be selected from a list of items with Quantity) and suggestions. Display the Bill with total no of items selected and total amount to be paid.(use filter) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that shows Teacher Profile who are teaching SYBBA (CA) with photo. **[15]**

B) Using AngularJS create a SPA that accept the details of student and display mark sheet (roll_ no, student_ name, class, sub1, sub2, sub3, total, percentage, grade) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS display the Employee details order by salary in Table format (using ng-repeat directive, use Array to store data, use filter) **[15]**

B) Using AngularJS Create a SPA to take the information of a customer for booking a plan consisting of fields such as name, address, contact no., gender, Date of booking, date of journey, no of passenger, name of passenger etc. Display the e –Ticket. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that to accept the details such as name, mobile number, pin-code and email address and make validation. Name should contain character only, mobile number should contain only 10 digit, Pin code should contain only 6 digit, email id should contain only one @, . Symbol **[15]**

B) Using AngularJS Create a SPA to take the information of a customer for booking a plan consisting of fields such as name, address, contact no., gender, Date of booking, date of journey, no of passenger, name of passenger etc. Display the e –Ticket. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that to accept the details of doctor(5-6) having field's dno, dname, address, and phone number. Display those in table format. (use MVC.) **[15]**

B) Using AngularJS display the student details who are live in pune in Table format (using ng-repeat directive, use Array to store data, use filter) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that accept Voters details and check proper validation for (name, age, and nationality) as Name should be in upper case letters, Age should not be less than 18 yrs and Nationality should be Indian. **[15]**

B) Write an AngularJS script to search student name according to the character typed and display details(use array and filter). **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA to carry out validation for a username entered in textbox. If the textbox is blank, alert 'Enter username'. If the number of characters is less than three, alert ' Username is too short'. If value entered is appropriate the print 'Valid username' and password should be minimum 8 characters. **[15]**

B) Using AngularJS create a SPA that shows Teacher Profile who are teaching SYBBA (CA) with photo. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA to fetch suggestions when is user is typing in a textbox. (eg like google suggestions. Hint create array of suggestions and matching string will be displayed). **[15]**

B) Using AngularJS display the Employee details order by salary in Table format (using ng-repeat directive, use Array to store data, use filter) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Create an HTML form Using AngularJS for Login system and validate email ID using Regular Expression and password should be minimum 8 characters. **[15]**

B) Using AngularJS create a SPA that to accept the details such as name, mobile number, pin-code and email address and make validation. Name should contain character only, mobile number should contain only 10 digit, Pin code should contain only 6 digit, email id should contain only one @, . Symbol **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA for eLearning System. **[15]**

B) Using AngularJS create a SPA that to accept the details of doctor(5-6) having field's dno, dname, address, and phone number. Display those in table format. (use MVC.) **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA for a Recipe Book. **[15]**

B) Using AngularJS create a SPA that accept Voters details and check proper validation for (name, age, and nationality) as Name should be in upper case letters, Age should not be less than 18 yrs and Nationality should be Indian. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS create a SPA that clone the "Hacker News" website. **[15]**

B) Using AngularJS create a SPA to carry out validation for a username entered in textbox. If the textbox is blank, alert 'Enter username'. If the number of characters is less than three, alert ' Username is too short'. If value entered is appropriate the print 'Valid username' and password should be minimum 8 characters. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS:

A) Using AngularJS Develop Online School System. **[15]**

B) Using AngularJS create a SPA to fetch suggestions when is user is typing in a textbox. (eg like google suggestions. Hint create array of suggestions and matching string will be displayed). **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on AngularJS

Course Code: 23BA5-A074

Credits: 2 Marks:50

Q.1 AngularJS::

A) Using AngularJS Implement E-commerce Website. **[15]**

B) Create an HTML form Using AngularJS for Login system and validate email ID using Regular Expression and password should be minimum 8 characters. **[15]**

Q.2 Viva **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to find Sum, Mean and Product of a Vector. **[15]**

B) Write a script in R to create inner, outer, left, right join from given two data frames. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to sort a Vector in ascending and descending order **[15]**

B) Write a script in R to drop column(s) by name from a given data frame **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to find Sum, Mean and Product of a Vector. **[15]**

B) Write a script in R to compare two data frames to find the elements in first data frame that are not present in second data frame. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to extract first 10 English letter in lower case and last 10 letters in uppercase and extract letters between 22nd to 24th letters in upper case. **[15]**

B) Write a script in R to create a Dataframes which contain details of 5 employees and display the details in ascending order. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to create a simple bar plot of five subject's marks. **[15]**

B) Write a script in R to find unique elements across multiple vectors using Function. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to calculate Multiplication Table **[15]**

B) Write a script in R to detect, remove, or impute missing data. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Consider the inbuilt iris dataset

i) Create a variable "y" and attach to it the output attribute of the "iris" dataset.

ii) Create a barplot to breakdown your output attribute.

iii) Create a density plot matrix for each attribute by class value.

[15]

B) Write a script in R to create two vectors of different lengths and give these vectors as input to array and print addition and subtraction of those matrices.

[15]

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to draw an empty plot and an empty plot specify the axes limits of the graphic. **[15]**

B) Write a script in R to change the first level of a factor with another level of a given factor. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to print the numbers from 1 to 100 and print "SY" for multiples of 3, print "BBA" for multiples of 5, and print "SYBBA" for multiples of both. **[15]**

B) Write a script in R to create two vectors of different lengths and give these vectors as input to array and print second row of second matrix of the array. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to create three vectors a,b,c with 3 integers. Combine the three vectors to become a 3×3 matrix where each column represents a vector. Print the content of the matrix. **[15]**

B) Write a script in R to create new features & transform data **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to create an array, passing in a vector of values and a vector of dimensions. Also provide names for each dimension.

[15]

B) Consider Weather dataset

i) Selecting using the column number

ii) Selecting using the column name

iii) Make a scatter plot to compare Wind speed and temperature

[15]

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to create a list of cities and perform the following **[15]**

1) Give names to the elements in the list.
2) Add an element at the end of the list.
3) Remove the last element.
4) Update the 3rd Element

B) Write a script in R to find & remove duplicate rows and removing Outliers. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to detect outliers using Boxplot & IQR Method. **[15]**

B) Write a script in R to count the number of NA values in a DataFrame column in R. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to normalize a Vector (Scaling to Range 0-1) **[15]**

B) Write a script in R to calculate binary into Decimal of a given number using function. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Consider Weather dataset **[15]**

i) Selecting using the column number

ii) Selecting using the column name

iii) Make a scatter plot to compare Wind speed and temperature

B) Write a script in R to concatenate two given factors in a single factor and display in descending order. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to extract the five of the levels of factor created from a random sample from the LETTERS **[15]**

B) Write a script in R to concatenate two given factors in a single factor and display in descending order. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Consider the inbuilt iris dataset **[15]**

i) Create a variable "y" and attach to it the output attribute of the "iris" dataset.
ii) Create a barplot to breakdown your output attribute.
iii) Create a density plot matrix for each attribute by class value.

B) Write a script in R to calculate Decimal into binary of a given number. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Consider the inbuilt mtcar dataset **[15]**

i) Subset the vector, "mtcars[,1]", for values greater than "15.0".
ii) Subset "airquality" for "Ozone" greater than "28", or "Temp" greater than "70". Return the first five rows.
iii) Subset "airquality" for "Ozone" greater than "100". Select the columns "Ozone", "Temp", "Month" and "Day" only.

B) Write a script in R to convert a given matrix to a list and print list in ascending order. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Write a script in R to create a simple bar plot of five subject's marks. **[15]**

B) Write a script in R to change the first level of a factor with another level of a given factor. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----

MES Garware College Of Commerce

T.Y.B.B.A.(C.A.) Semester-V

Lab Course: Lab Based on Big Data

Course Code: 23BA5-A075

Credits: 2 Marks:50

Q.1 Big Data:

A) Consider the plantGrowth inbuilt dataset **[15]**

i) Create a variable "y" and attach to it the output attribute of the "plantGrowth" dataset.
ii) Create a barplot to breakdown your output attribute.
iii) Create a density plot matrix for each attribute by class value.

B) Write an R program to sort a Vector in ascending and descending order. **[15]**

Q.2 Viva / Oral **[10]**

Q.3 Lab Book **[10]**

----- X -----