

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Object Oriented Programming Using Java
Course Code:	14-CAM216-2C
Pre-requisite Course:	Basic Knowledge of Object-Oriented Programming

Course Objective (CO):

This course is intended to make the students:

- To apply object-oriented concepts such as classes, objects, inheritance, polymorphism, and encapsulation to design and implement.
- To understand the fundamentals of Java programming language such as syntax, data types, control structures, etc.
- To learn various terminologies related to Java programming such as JVM, JDK, constructor, etc.
- To formulate a program using inheritance, interfaces, package and solve it.
- To understand and use Java's exception handling mechanisms to handle errors and exceptions in Java programs.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No	Topics	Total Hours	Weightage (%)
1.	Fundamentals of Object Oriented Programming (OOP): • Basic concepts of OOP, Benefits and Applications of OOP. Introduction to Java: • History of Java, Features of Java, JDK and its Components / tools, Byte code, Java Virtual Machine (JVM), JAVA program structure, Compiling and executing Java Program. Basics of Java: • Tokens: Keywords, Identifiers, Literals, Operators. • Data Types, Variables, Scope of variables, Creating Constants (final variable), Type Conversion, Garbage Collection, Command Line Arguments, Arrays. • Selection Statements (if, switch, etc.), Iteration/Looping Statements (while, for, do...while), Jump Statements (break, continue, return).	9	20
2.	Creating Classes, Objects and Methods: • Defining classes, defining methods, creating objects, accessing class members, static members, method overloading, nesting of methods, use of 'this', object as method argument, method returning an object. Constructors: • Introduction to Constructors, Default & Parameterized Constructors, Constructor Overloading.	9	20
3.	Inheritance: • Introduction, types of inheritance, method overriding, final method, final class, use of super, abstract methods and abstract class. Interfaces (Multiple Inheritance): • Defining an Interface, Implementing Interfaces, Extending Interfaces.	10	20

4.	Packages: • Introduction to Java API Packages (java.applet, java.awt, java.io, java.lang, java.net, java.util). • Defining Package, Adding a Class to Package, Understanding of CLASSPATH, Importing Packages. • Access Modifiers (Visibility Controls) – public, private, default, protected. java.lang package : Math,String, Wrapper classes. java.util package : Vector,Stack, Date.	10	20
5.	Exception Handling: • Introduction to Error and its types, Exception, Exception Handling, Types of Exceptions, Java's Built-in Exceptions, Exception Handling (using try, catch, finally, throw, throws), Multiple catch, etc., throwing your own Exception.	10	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- CLO.1 : To solve a problem using object-oriented concepts such as classes, objects, inheritance, polymorphism, and encapsulation.
- CLO.2 : To have fundamental knowledge of the Java programming language such as syntax, data types, control structures, etc.
- CLO.3 : To understand basic terminologies related to Java programming such as JVM, JDK, constructor, etc.
- CLO.4 : To develop practical skills including writing, compiling and executing programs.
- CLO.5 : To design Java programs using inheritance, interfaces, packages, etc.
- CLO.6 : To develop exception handling applications using Java.

List Text Book:

1. Programming with JAVA By E Balagurusamy, Tata McGraw Hill .

List of Reference Book:

1. The Complete Reference JAVA By Herbert Schildt, Tata McGraw Hill .
2. Teach Yourself JAVA. By Joseph O'Neil & Herb Schildt, Tata McGraw Hill .

E-Resource / Web Links:

- <https://www.tutorialspoint.com/java/>
- <https://www.javatpoint.com/java-tutorial>
- <https://www.w3resource.com/java-tutorial/>
- <https://www.w3schools.in/java-tutorial/>
- <https://www.guru99.com/java-tutorial.html>
- <https://beginnersbook.com/java-tutorial-for-beginners-with-examples/>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. Write a program to display the message "My First Java Program".
2. Write a program to find the Area of circle.
3. Write a program that accepts Command-line Arguments and displays the same.
4. Write a program to find the largest no from the given Two Nos.
5. Write a program to find the largest no from the given Three Nos.
6. Write a program to implement the use of Switch Statement.
7. Write a program to find the Sum of the Digits of a given Number.
8. Write a program to display the Factorial of the given number.
9. Write a program to implement the use of break and continue statements.
10. Write a program to create a Student class and generate results of students (Total, Per, Grade).

11. Write a program to create an Employee class and generate Salary Slip for the employee.
12. Write a program which shows the use of Static Members.
13. Write a program which shows the use of Method Overloading.
14. Write a program which shows the Nesting of Methods.
15. Write a program that passes an object as a method argument.
16. Write a program for returning an object.
17. Write a program to implement the default constructors.
18. Write a program to implement the parameterized constructors.
19. Write a program to implement the overloading of constructors.
20. Write a Program to implement single inheritance.
21. Write a Program to implement multilevel inheritance.
22. Write a Program to implement hierarchical inheritance.
23. Write a program to implement method overriding.
24. Write a Program to implement the final method.
25. Write a Program to implement the final class.
26. Write a Program to implement the "super" keyword.
27. Write a Program to implement abstract class and abstract method.
28. Write a program to implement an interface.
29. Write a program to implement multiple inheritance.
30. Write a program to access classes within the same package.
31. Write a Program to import classes from other packages.
32. Write a Program to implement visibility controls (private, public, friendly, protected) by using packages.
33. Write a program to implement the methods of Math class.
34. Write a program to implement the methods of String class.
35. Write a program to implement the methods of Vector class.
36. Write a program to implement the methods of Stack class.
37. Write a program using try and catch for exception handling.
38. Write a program which uses finally statement.
39. Write a program which uses multiple catch blocks.
40. Write a program which shows the use of a throw statement.
41. Write a program which shows the use of throws clause.
42. Write a program which shows throwing our own exceptions.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
CLO1				H	H		M						L		
CLO2	H			H	H		M			M	M		M	L	M
CLO3				M	H								M		
CLO4	H				H								M		
CLO5				H	H	H	M	M	M		H		M	M	H
CLO6				H	H	H	M	M	M		H		M	M	H

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Advanced Database Management System
Course Code :	14-CAM217-2C
Pre-requisite Course:	Fundamentals of Database Management System

Course Objective (CO):

- This course is intended to make the students familiar with advance concepts of Database Management Systems (DBMS).
- It aims to make students understand the role of DBMS in organization and understand the advance database concept, structure and operation using relational data model.
- This course explains the role of the database administrator (DBA) in an organization.

Teaching and Examination Scheme:

Teaching Scheme Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	4	4	25	25	25	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Introduction of RDBMS/ADBMS: Introduction to RDBMS/ADBMS, Introduction of oracle, E. F. Codd's rules of RDBMS, Advantages and Disadvantages of RDBMS, Features of RDBMS , DBMS Vs. RDBMS, Data Types.	10	20
2.	Introduction of SQL, Features of SQL , Rules of SQL Components of SQL:- DDL Commands – Create, Alter, Drop, Rename, Truncate, DML Commands- Insert, Update, Delete, Select DCL Commands – Grant, Revoke TCL Commands- Commit , Rollback, Save point Select Clause, Order By and Group By Clause.	10	20
3.	Data Constraints , Functions: Data Constraints – I/O Constraints , Business(Domain) Rules Constraints Functions: Aggregate functions, Numeric Functions, Date Functions, String Function	10	20
4.	Joins, Set operators, Sub query: Joins and its Types, Set operators, Sub query. Indexes, Views, Sequences	10	20
5.	PL/SQL: Introduction to PL/SQL: Structure of PL/SQL Block, Data Types, Variables, Control Structure, Stored Procedure and Function ,Basic concept of Cursor and Trigger	8	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- CLO.1 To understand event driven programming concept.
- CLO.2 To understand and implement client side designing.
- CLO.3 To understand and implement types of tools for Graphic User Interface (GUI)
- CLO.4 To understand the major tools, tools types with its properties, method and events.
- CLO.5 To understand and implement Desktop Application Development environment software.
- CLO.6 To understand with concept of Project development as Client level.

List Text Book:

1. SQL, PL/SQL: Evan Bayross
2. Database Management System (SQL)

List of Reference Book:

1. Introduction to Database System: C. J. Date (7th edition) Low Price Edition
2. SQL, PL/SQL: Evan Bayross (2nd edition) BPB
3. Database Management System A C Shah & A R Patel, MacMillan Publication.
4. Database system concepts Henry F. Korth (3rd edition) TMH Publications.

E-Resource / Web Links:

- <https://www.w3schools.com/sql>
- <http://www.tutorialspoint.com/listtutorials/oracle/1>
- <https://www.javatpoint.com/oracle-tutorial>
- <http://www.studytonight.com/dbms/>
- <http://www.plsqltutorial.com/>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Create following Three Tables.

1. Salesman

SNUM	SNAME	CITY	COMMISSION
1001	PINAL	LONDON	12%
1002	JINAL	SURAT	13%
1003	KINJAL	LONDON	11%
1004	PRIYANK	BARODA	15%
1005	AMI	NEW DELHI	10%
1006	ANY	PATAN	10%
1007	VRAJ	BOMBAY	09%

SNUM: A Unique number assign to each salesman.

SNAME: The name of salesman.

CITY: The location of salesman.

COMMISSION: The salesman commission on order.

2. Customer

CNUM	CNAME	CITY	RATING	SNUM
2001	HARSH	LONDON	100	1001
2002	NIRALI	ROME	200	1003
2003	LAX	SURAT	200	1002
2004	PRIT	BOMBAY	300	1002
2005	SAHIL	LONDON	100	1001
2006	PRIYA	SURAT	300	1007
2007	BHOOMI	ROME	100	1004

CNUM: A Unique number assign to each customer.

CNAME: The name of customer.

CITY: The location of customer.

RATING: A level of preference indicator given to this customer.

SNUM: A salesman number assign to this customer.

3. Order1

ONUM	AMOUNT	ODATE	CNUM	SNUM
3001	18.69	03/05/16	2007	1007
3002	767.19	03/05/16	2001	1001
3003	1900.10	03/05/16	2007	1004
3004	5160.45	03/05/16	2003	1002
3005	1098.25	04/05/16	2007	1007
3006	1713.12	04/05/16	2002	1003
3007	75.75	05/05/16	2004	1002
3008	4723.00	05/05/16	2006	1001
3009	1309.95	05/05/16	2004	1002
3010	9898.87	06/05/16	2006	1001

ONUM: A Unique number assign to each Order.

AMOUNT: Amount of order in Rs.

ODATE: The date of order.

CNUM: The number of customer making the order.

SNUM: The number of salesman credited with the sale.

Note: "date must be insert in **dd-mon-yyyy EX:-03/MAY/2016**"

Solve following request with the help of SQL query.

1. Produce the order no, a mount and date of all orders.
2. Give all the information about all the customers with salesman number 1001.
3. Display the information in the sequence of city, sname, snum, and Commission.
4. List of rating followed by the name of each customer in Surat.
5. List of snum of all salesmen with orders in order table without duplicates.
6. List of all orders for more than Rs. 1000.
7. List out names and cities of all salesmen in London with commission above 10%
8. List all customers whose names begins with letter 'A' to 'B'
9. List all orders with zero or NULL amount.
10. Find out the largest orders of salesman 1002 and 1007.
11. Count all orders of 03-May-16.
12. Calculate the total amount ordered.
13. Calculate the average amount ordered.
14. Find the largest order taken by each salesman on each date.
15. Count the no. of salesmen registering orders for each day.
16. Display the no. of order for each day in the following format. DD-MON-YY.
17. List all customers in descending order of rating.
18. Calculate the total of orders for each day.
19. Show the name of all customers with their salesman's name.
20. List all customers and salesmen who shared a same city.
21. List all customers serviced by salesman with commission above 12%.
22. Find all orders of the salesman who services 'HARSH'
23. Find all orders attributed to salesmen in 'London'.
24. List the commission of all salesmen serving customers in 'London'.
25. List all orders of the customer 'Nirali'.
26. List the name and number of all salesmen who has more than Zero customer.
27. Select the name and number of all salesmen who have customers their cities.
28. Find all customers having rating greater than any customer in 'Rome'.
29. Find out which salesman produce largest and smallest orders on each date.
30. Create another table London staff having same structure as salesman table.
31. Insert all the rows of salesmen table with city London in the London staff table.
32. Create another table Day totals with two attributes date and total and insert rows into this table from order table.
33. Create a duplicate of the salesmen table with a name Multicust. Now delete all the rows from the salesmen table.
34. Double the commission of all salesmen of London.

35. Set ratings for all customers in London to NULL.
36. New Delhi office has closed. Remove all customer assigned to salesman in New Delhi.
37. Delete the salesmen who produce the lowest order for each day.
38. Create a view called Big orders which stores all orders larger than Rs.4000.
39. Create a view Rate count that gives the count of no. of customers at each rating.
40. Create a view that shows all the customers who have the highest ratings.
41. Create a view that shows all the number of salesmen in each city.
42. Create a view that shows all the number of salesmen in each city.
43. Create a view that shows all the salesmen with multiple customers.
44. Create a view Show name that for each order the order no, amount, salesman name and the customer's name.
45. Create a view same city that shows the no and name and city of the customers along with the city of the salesman serving them.

PL/SQL BLOCK: -

01. Write a PL/SQL Block to Display Student No, Name and Address on the Screen.
02. Write a PL/SQL Block to Perform Arithmetic Operation.
03. Write a PL/SQL Block to Find Maximum Number from Given two Numbers.
04. Write a PL/SQL Block to Find out Odd and Even no from given no.
- 05 Write a PL/SQL Block to Display first 25 numbers
06. Write a PL/SQL Block to make Sum Of first 100 natural numbers.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	M	M		L	H		L		L					L		
CLO2	L		M		M	M		H						M		
CLO3	H	M	L				M	L							M	
CLO4	M			M	L	L			M					M		
CLO5	L		M		M		M		L				L	M		
CLO6	L	M	H		L	L	M	M	H				M	H		

H:High, M:Medium, L:Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title :	Desktop Application Development
Course Code :	14-CAM218-2C
Pre-requisite Course:	VB.NET Form Designing, Properties, Database connectivity

Course Objective (CO):

This course is intended to make the students:

- To focus about client side designing concept using VB.NET with Visual Basic language.
- To focus on all major tools use as properties, methods and events driven programming.
- This course is focus to make the students aware of Client – Server architecture.
- Understand the concept of ADO.NET architecture.
- Data store into SQL server with all major process

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Basic Concepts of Framework : • .NET Framework components like (CTS, CLS, and CLR, CL, BCL). • IDE components (Solution explorer, Form, Toolbox, Property windows). • Programming Concept : Variable declaration , Operator , Form based event and Mouse based event • Control statement – Decision making, Looping, Branching, Basic Tools Types.	10	20
2.	Basic Tools : • Data Entry tools : Textbox , Rich Textbox • Data Selection Tools : Combo box , List box , Radio Button , Check Box • Data Display tools : Label , Picture Box , Scroll Bar , Track Bar Auto • Execution Tool : Timer All tools Common properties , Special properties , Method / Functions and Events with examples • Data items managing tools: Tree view, List View.	10	20
3.	Introduction of Client – Server Process: • Introduction of Client – Server Process, Client – Server architecture • Characteristics of client process and server process • Comparison of Front-end and Back-end.	10	20
4.	ADO.NET Architecture: • Difference between ADO and ADO.NET • Use of ADO.NET with its features • ADO.NET architecture • Classes of ADO.NET – Connection, Command, Adapter, Dataset, Data Reader with all the methods of each.	9	20
5.	Reports and Charts : • Introduction of report, Creating Simple report. • Introduction to chart, Creating chart. • Comparison of Report and Chart.	9	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- CLO.1 To focus on all major tools use as properties, methods and events driven programming.
- CLO.2 To understand Client – Server process for software development.

- CLO.3 To learn importance of Front-End and Back-End in software development.
- CLO.4 To understand and implement Data storing techniques. (Insert, update, delete, search) with backend.
- CLO.5 To understand signup and login process with authentication and authorization.
- CLO.6 To understand reports – charts and implementing in software development.

List Text Book:

1. Mastering in Visual Basic .NET by Evangelos Petroustos – BPB publication
2. An Introduction to programming using Visual Basic .NET by David I. Schneider – PHI Publications

List of Reference Book:

1. Mastering in Visual Basic .NET by Evangelos Petroustos – BPB publication
2. An Introduction to programming using Visual Basic .NET by David I. Schneider – PHI Publications
3. Programming in VB.NET for Beginners by Keyur Shah & Parimal Patel – Books India Publication
4. Programming by VB.NET by Dr. Shyam Chavda – Books India Publication.

E-Resource / Web Links:

- <https://www.tutorialspoint.com/vb.net/index.html>
- <https://www.javatpoint.com/vb-net>
- <https://www.guru99.com/vb-net-tutorial.html>
- <https://docs.microsoft.com/en-us/dotnet/visual-basic/>
- <http://vb.net-informations.com/>
- <https://www.youtube.com/user/abhijeetwithnewlearn>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. Create VB.NET application as simple calculator.
2. Create VB.NET application as message box and Form load event.
3. Create VB.NET application as student admission form. (Use all basic controls)
4. Create VB.NET application as student marksheet. (count SGPA)
5. Create VB.NET application as compare two dates.
6. Create VB.NET application suitable as List view.
7. Create VB.NET application suitable as Tree view.
8. Create VB.NET application to insert, update, delete and Search Form record into SQL Database using coding method.
9. Create VB.NET application to Signup Form record into SQL Database using coding method
10. Create VB.NET application to Login Form record into SQL Database using coding method
11. Create VB.NET application to insert, update, delete and search data using wizard method
12. Create VB.NET application to create simple report.
13. Create VB.NET application to create formatted simple report.
14. Create VB.NET application to create simple chart.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	L	H		H	H	M		M	M				M		
CLO2			L	M	M	L		H						M	
CLO3		H	L	H	H	M	L	L							M
CLO4	L	L		M	M	L	L		M					L	
CLO5		M	H		H		M		L				M	H	
CLO6	M	M	M	H	H	M	M	H	H				H	H	M

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Advanced JavaScript
Course Code:	14-CAE219-2C
Pre-requisite Course:	Basic Knowledge of HTML, JavaScript & CSS

Course Objective (CO):

This course is intended to make the students:

- Understand the utility of JavaScript with HTML
- Understand pedagogy of JavaScript
- JavaScript utilize in HTML for various purpose
- Understand DOM and BOM with React JS.
- Explore JSX and JSON with React JS.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Objects in JavaScript : Introduction to objects, Type of objects in JavaScript, Creating objects, Accessing Object Properties, Object Methods, Maths and String methods	7	20
2.	Document Object Model (DOM) and Browser Object Model (BOM) : Introduction to DOM and BOM , DOM vs BOM differences, Types of DOM, DOM standards and methods ,Manipulating documents using DOM, Window object and methods ,BOM navigator ,BOM history ,BOM location	10	20
3.	Overview of React JS : Need of React JS , Various platform integration with React JS , NPM and React Js, Environment of React JS in Windows and Ubuntu File folder and script management in React JS (Files and folder in React JS) , Package and JSON in React JS , Class Components and JSX in React Js.	8	20
4.	Introduction to JSX : Overview of Event handling architecture process in React JS , Props and Function implementation in React JS , Overview of GUI implementation in React JS (Textbox , Checkbox , button etc)	7	20
5.	Case study implementation : Assessment and validation in React JS , Concept of OOPs utilizing function in React JS , Rendering life cycle of React JS , Mount and Unmount component of React JS , provide case study of React JS on (simple implementation , layout implementation , GUI base , Validation base to various group of student s)	8	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able :

- To focus on web base application using Java Script.
- To experiment of OOPs base validation using Advance JavaScript
- To analyze various types of Advance JavaScript and explore React Js
- To explore and experiment about JSX GUI base process.
- To focus on Case Study base learning for experience learning.
- To understand the advance JS concept with React JS

List Text Book:

1. Full Stack React : The Complete Guide to React JS and Friends , by Anthony Accommozo , Publisher FullStack.io
2. Learning React by Azat Mardan , Publisher Manning

List of Reference Book:

1. Learning React : Functional Web Development with React and Redux , O'Reilly ,
2. Learning React : A Hands On Guide to Building Web Application Using React and Redux , by Kirupa Chinnathambhi , Publisher Pearson

E-Resource / Web Links:

- https://www.youtube.com/watch?v=9Tz2tY-ZEwQ&list=PL8p2I9GklV47BCAjiCtuV_liN9IwAl8pM
- <https://www.youtube.com/watch?v=tiLWCNFzThE&list=PLwGdqUZWnOp3aROg4wypcRhZqJG3ajZWJ>
- https://www.youtube.com/watch?v=-mJFZp84TIY&list=PLu0W_9lII9agx66oZnT6IyhcmIbUMNMdt

List of Experiments:

Practical List

1. Create a basic React component that renders a simple “Hello, World!” message.
2. State and Props in React JS
3. Handling various events in React JS
4. Fetching Data from Array using React JS
5. Various user interface building using React JS

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	L		H		H	M		L		H		L	L		H
CLO2		H		L	L		M		M	L	M			M	
CLO3	M		L		H			L		H		M	H	L	
CLO4	H	L			M	L		L		M	M			L	H
CLO5			M	H			L		H			M	L		M
CLO6	M	H			L	M		H			L		L	H	

H:High, M:Medium, L:Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Principals of Cyber Security
Course Code:	14-CAE220-2C
Pre-requisite Course:	Basic Computer Science Skills, Networking and operating system knowledge

Course Objective (CO):

This course is intended to make the students:

- Develop a foundational understanding of key cyber security concepts and terminology.
- Identify and analyze common cyber threats, understanding their motivations and characteristics.
- Learn the importance of security policies and procedures in maintaining a secure environment.
- Understand fundamental principles and techniques for securing computer networks.
- Explore the role of cryptography, authentication, and access control in cyber security.
- Gain skills in assessing and managing cyber security risks.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Defining Cyberspace and Overview of Computer and Web-technology , Architecture of cyberspace, Communication and web technology, Internet, World wide web, Advent of internet, Internet infrastructure for data transfer and governance, Internet society, Regulation of cyberspace, Concept of cyber security, Issues and challenges of cyber security.	9	20
2.	Classification of cyber-crimes , Common cyber crimes- cybercrime targeting computers and mobiles, cybercrime against women and children, financial frauds, social engineering attacks, malware and ransomware attacks, zero day and zero click attacks, Reporting of cybercrimes, Remedial and mitigation measures, Legal perspective of cyber-crime, IT Act 2000 and its amendments, Cybercrime and offences, Cyber security in India, Case studies.	9	20
3.	Introduction to Social networks . Types of Social media, Social media platforms, Social media monitoring, Hashtag, Viral content, Social media marketing, Social media privacy, Challenges, opportunities and pitfalls in online social network, Security issues related to social media, Laws regarding posting of inappropriate content, Best practices for the use of Social media, Case studies.	10	20
4.	Introduction to digital payments . Components of digital payment and stake holders, Modes of digital payments- Banking Cards, Unified Payment Interface (UPI), e-Wallets, Unstructured Supplementary Service Data (USSD), Aadhar enabled payments, Digital payments related common frauds and preventive measures. RBI guidelines on digital payments and customer protection in unauthorized banking transactions. Relevant provisions of Payment Settlement Act,2007	10	20
5.	End Point device and Mobile phone security , Password policy, Security patch management, Data backup, Downloading and management of third party software, Device security policy, Cyber Security best practices, Significance of host firewall and Ant-virus, Management of host firewall and Anti-virus, Wi-Fi security, Configuration of basic security policy and permissions.	10	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- After completion of this module, students would be able to understand the concept of Cyber security and issues and challenges associated with it.
- Students, at the end of this module, should be able to understand the cybercrimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures.
- On completion of this module, students should be able to appreciate various privacy and security concerns on online Social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of Social media platforms.
- After the completion of this module, students would be able to understand the basic concepts related to E-Commerce and digital payments. They will become familiar with various digital payment modes and related cyber security aspects, RBI guidelines and preventive measures against digital payment frauds.
- Students, after completion of this module will be able to understand the basic security aspects related to Computer and Mobiles. They will be able to use basic tools and technologies to protect their devices.
- Students will demonstrate proficiency in configuring and managing host firewall and antivirus software

List Text Book:

1. Introduction To Cyber Security Concepts Principles Technologies and Practices by Ajay Singh
2. Introduction to Cyber Security : Guide to the World of Cyber Security, Anand Shinde (Author)
3. Cyber Security for Beginners by Lucas Glisson

List of Reference Book:

1. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd.
2. Information Warfare and Security by Dorothy F. Denning, Addison Wesley.
3. Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver, Create Space Independent Publishing Platform.
4. Data Privacy Principles and Practice by Natraj Venkataramanan and Ashwin Shriram, CRC Press.
5. Information Security Governance, Guidance for Information Security Managers by W. KragBrothy, 1st Edition, Wiley Publication.
6. Auditing IT Infrastructures for Compliance By Martin Weiss, Michael G. Solomon, 2nd Edition, Jones Bartlett Learning.

E-Resource / Web Links:

- [https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20\(R18A0521\).pdf](https://mrcet.com/pdf/Lab%20Manuals/IT/CYBER%20SECURITY%20(R18A0521).pdf)
- https://www.ftc.gov/system/files/attachments/cybersecurity-small-business/cybersecurity_sb_factsheets_all.pdf
- <https://www.w3schools.com/cybersecurity/>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. Checklist for reporting cybercrime at Cybercrime Police Station.
2. Checklist for reporting cybercrime online.
3. Reporting phishing emails.
4. Demonstration of email phishing attack and preventive measures.
5. Basic checklist, privacy and security settings for popular Social media platforms.
6. Reporting and redressal mechanism for violations and misuse of Social media platforms.
7. Basic checklist, privacy and security settings for popular Social media platforms.
8. Reporting and redressal mechanism for violations and misuse of Social media platforms.
9. Setting, configuring and managing three password policy in the computer (BIOS, Administrator and Standard User).
10. Setting and configuring two factor authentications in the Mobile phone.
11. Security patches management and updates in Computer and Mobiles.
12. Managing Application permissions in Mobile phone.
13. Installation and configuration of computer Anti-virus.
14. Installation and configuration of Computer Host Firewall.
15. Wi-Fi security management in computer and mobile.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1			H	L	M	H	M		H		M	L	H	L	M
CLO2		L	H	M	L	L		L	H		H	M	H	L	L
CLO3		L	M	H	M		H		H		M	H	M	M	
CLO4	L	L	M	L		M	L	H		M	M	H	M		M
CLO5	L		M				M	L	H			M	M		L
CLO6	L	L	H			M	M	H	H		M	L	L	H	M

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title :	Server Administrator – I
Course Code :	14-CAE221-2C
Pre-requisite Course:	Basic of Computer Network terminology

Course Objective (CO) :

This course is intended to make the students :

- To learn window configuration and components
- To learn windows components and configuration
- To learn server configuration
- To learn user rights , groups in server
- To learn disaster recovery

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Introduction and installation of UNIX and Windows-based operating system: Installing Chapter 1 3 Servers and Deploying and Configure the DNS Services. Installation of NOS Servers and Service packs; Booting process, Boot Manager; run levels; Disk Partition Selection; Protocol Selection, Virtualization and Troubleshooting Installation Problems.	8	20%
2.	Configuring Network Services and Protocols: Configuring Servers. Understanding TCP/IP, DNS, DHCP and Identifying the logical Structures of Windows Server and UNIX-based Network	7	20%
3.	Administration of User and Group using Management Tools: Review of the basic administrative and Domain infrastructure; Built- in Users; Creating of new user, groups and Organizational Units; work with User environment needs; user rights and security	9	20%
4.	Storage Management: Configure Local Storage File Systems and Extended File System: The FAT Systems, NTFS; Working with Volumes, ext2/ext3/ext4, XFS, VFAT, RAID System, Virtual Machine Storage, Disk Quota; DFS, Journaling Systems; Package management, and creating Disaster Recovery Backups.	8	20%
5.	Managing Computers and Users Thorough Group Policy: Active Directory Design: Site and Replication; Design Standards; and Organizational Units.	8	20%

Course Learning Outcomes (CLO):

At the end of this course, the student would be able :

- To focus on windows installation and Unix installation with trouble shooting
- To exposure the components of Windows server and its utility.
- To create and manage user level configuration with rights and permissions
- To focus and virtual machine storage.
- To implement active group policy and standard for windows server
- To adopt and implement various file system in windows os.

List Text Book:

1. CompTIA Network+ Certification , All in One Guide By Eleen Flich , Tata Machgrow Hill
2. Essential System Administration Tools and Techniques for windows OS by Stuart Kenzi , Orelley

List of Reference Book:

1. IPv6 Network Administration: Teaching the Turtle to Dance By David Malon , Orelly
2. TCP/IP Network Administration: Help for Unix System Administrators 3rd Edition, Kindle , author by Craig Hunt

E-Resource / Web Links:

- <https://www.youtube.com/watch?v=5avzdlRg670&list=PLKIhEhF7ds89F0zyAZOyIDqcOwRwgFdi0>
- https://www.youtube.com/watch?v=lrYDS5WKR0&list=PLYogJ_kxL1wTesq-vNxEc8tjDOHvszeWf
- https://www.youtube.com/watch?v=3aT4qqTSHfQ&list=PLS0spxc8nUsAeOUIKifT_qdPzozhMAyk5

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

1. Introduce the functions of an Windows and UNIX System Administrator and explain differences between UNIX and NT.
2. Enable students to install several services on various types of computers (Windows and UNIX O.S environment)
3. Reinforce basic Windows and X utilities for administration and demonstrate advanced utilities.
4. Provide students with the ability to configure a Web Server (IIS and Apache), DHCP and printer Servers.
5. Introduce students to installation and updates of service packs/patches.
6. Provide students with the skills to use Script programming

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	H		L	L		L		L	M		L		L		H	
CLO2	L	L		M			M			L		H	L			H
CLO3	L	M			L	L		L	L		M			H		
CLO4		L	L		M		M		L	L			L	L		
CLO5	L			L		M		M			L	L			M	
CLO6	H		L		M		M	L		L	L					

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title :	Digital Marketing
Course Code :	14-AEC110-2C
Pre-requisite Course:	-

Course Objective (CO) :

This course is intended to make the students :

- To aware of digital marketing concepts.
- To learn various concepts related to digital marketing such as online marketing, search engine optimization, social media marketing, mobile marketing etc.
- To learn PPC, SEO, SEM and order processing steps.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	-	2	25	25	-	-	50

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Introduction to Digital Marketing: Digital Marketing, Why Digital Marketing?, Digital Marketing Platforms – Organic and Paid Digital Marketing, Benefits of digital marketing, traditional marketing vs. digital marketing, future of digital marketing.	5	20
2.	Search Engine Marketing (SEM): Search Engine – introduction of Google, Bing, Yahoo, How search engine works? definition of SEM, definition of search engine Optimization (SEO), advantages and disadvantages of SEO.	5	20
3.	The Internet marketing mix: product and branding, place e.g. channels, virtual Organizations, price e.g. auctions, promotions, people, processes, physical evidence.	5	20
4.	Trending Digital Marketing Skills: Social Media Marketing, Email Marketing, Website Designing and Development, Product Marketing, Content Writing, Blogging, Google AdWords, Campaign Management, Keyword advertising, pay per click advertising (PPC), Mobile and SMS Marketing.	5	20
5.	Interactive order processing: choosing a supplier, selecting a product, check stock availability, placing order, authorization of payment, input of data, data transfer, order processing, online confirmation and delivery information, tracking of order, order delivery, data integrity and security systems.	5	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- CLO.1: To have fundamental knowledge of various terminology – digital marketing, search engine, etc.
- CLO.2: To understand various concepts such as mobile marketing, social media marketing, PPC, etc.
- CLO.3: To understand SEO, SEM.
- CLO.4: To learn order processing steps.

List Text Book:

1. Digital Marketing by Seema Gupta, Mcgraw Hill.

List of Reference Book:

1. Digital Marketing; by Vandana Ahuja; Oxford University Press.
2. Internet Marketing and e-Commerce; by Ward Hanson; Cengage.
3. Digital Marketing Analytics: Making Sense of Consumer Data in a Digital World; by Chuck Hemann Ken Burbary; Que Publishing.
4. The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns; by Ian Dodson; Wiley publication.

E-Resource / Web Links:

- <https://www.simplilearn.com/tutorials/digital-marketing-tutorial>
- https://www.tutorialspoint.com/digital_marketing/index.htm
- <https://intellipaath.com/blog/digital-marketing-tutorial/>
- <https://www.javatpoint.com/digital-marketing>
- <https://www.edureka.co/blog/digital-marketing-tutorial/>

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
CLO1		M	L			M	L	M	L			M	L	M	L
CLO2		M	L			M	L	M	L			M	M	L	M
CLO3		M	L			M	M	M	L			M	L	L	M
CLO4		M	L			M	M	M	L			M	M	M	L

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Graphic Design Tools
Course Code:	14-SEC115-2C
Pre-requisite Course:	Knowledge of Paint

Course Objective (CO):

This course is intended to make the students:

- To familiarize students with the fundamental features and tools of Photoshop and PageMaker.
- To develop proficiency in editing, enhancing, and manipulating images using various tools and techniques available in Photoshop and PageMaker.
- To teach efficient workflow practices, including shortcuts, automation, and best practices for organizing and managing files within Photoshop and PageMaker
- To introduce advanced editing techniques such as retouching, masking, compositing, and special effects to create complex and visually compelling images.
- To apply learned skills through practical projects, encouraging creativity and problem-solving in real-world scenarios.

Teaching and Examination Scheme:

Teaching Scheme Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
-	-	4	2	-	-	25	25	50

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	PageMaker :- Overview of PageMaker work area and tools , Page setup dialog box, adding and deleting pages , naming and saving a publication , setting up rulers	10	20
2.	Different drawing tools, text tools, character formatting, paragraph formatting , Placing graphics, sizing and cropping graphics	8	20
3.	Photoshop: Overview of Photoshop interface and tools , Page setup dialog box, Understanding layers and basic image adjustments Selection tools and techniques, Image resizing, cropping, and resolution , Blur , Sharpen tool	10	20
4.	Understanding color modes and color adjustments, Using adjustment layers and masks, Pattern Stamp tool , Patch tool, Healing Brush tool , Text tools and formatting options, Blending Option for Text	10	20
5.	Retouching techniques for portraits and photos , Restoring old or damaged photographs, Using filters and effects creatively , Incorporating advanced editing techniques	8	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- **CLO-1** : Students will demonstrate proficiency in using Photoshop tools and PageMaker Tools and functionalities to edit, enhance, and manipulate images effectively.
- **CLO-2** : Students will apply design principles such as color theory , composition, and visual hierarchy to create visually appealing images and designs.
- **CLO-3** : Students will execute advanced editing techniques including retouching, masking, layering, and compositing to produce complex and high-quality images.
- **CLO-4** : Students will develop problem-solving skills by employing critical thinking to troubleshoot and find creative solutions to editing challenges within Photoshop and PageMaker.
- **CLO-5** : Students will demonstrate the ability to manage workflows efficiently by organizing files, using shortcuts, and employing non-destructive editing techniques within Photoshop and Page Maker.

List Text Book:

1. PageMaker 7, Training Guide-Satish Jain, BPB Publications.
2. Photoshop 7 Savvy, Steve Romaniello, BPB Publication.

List of Reference Book:

1. Online Book “ An Introduction to adobe Photoshop “ Steve Bark
Link: <https://www.otcbahrain.com/wp-content/uploads/2017/12/An-Introduction-to-Adobe-Photoshop.pdf>
2. ADOBE PHOTOSHOP 2024 : Beginners to Expert Guide to Explore all ... Photoshop 2024 Features, Layers, Color Techniques, Typography, Selection Tools, Masking, Photo Corrections, Plus Pro Tips and Tricks Kindle Edition by SAMMIE SMITH (Author)
3. Adobe PageMaker 7.0 Classroom in a Book Paperback – 25 October 2001, by . Adobe Creative Team (Author)

E-Resource / Web Links:

- https://www.youtube.com/watch?v=rSitQiZWB_Q
- <https://www.youtube.com/watch?v=lsZiQJRfiXk>
- <https://youtu.be/PkI4n8EPjJY?si=PG71d9cQAU5wRAOG>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List

Text Editing Software like PageMaker Students must be trained by discussing various case studies.

1. Create a ID card in PageMaker
2. Insert the Image in Page.
3. Create FrontPage of Journal in PageMaker.
4. Create a CD Label in PageMaker.
5. Create FrontPage of BOOK in PageMaker.

Photo Editing Software like Photoshop Students must be trained by discussing various case studies.

- a. Marge two picture into one image
4. Write a name of picture on the picture
5. Create a friendship card
6. Convert color photo into black and white
7. Give them some extra effect on the photo
8. Create an Advertisement
9. Crete a Calendar
10. To convert black & white photo to color photo
11. Create 3D graphics text with different effects

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	H		M	H		L	M		L	L		L	M	L	
CLO2	M	H	L		H	M		L	M		L	L		H	
CLO3	H	M			L	H		M	H		M	L	H		L
CLO4	L	L		M		M	L		H	M			L		L
CLO5	M		H		M	L		H		M	L	L		L	H

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title :	Integrated Personality Development Course
Course Code :	14-VAC112-2C
Pre-requisite Course:	-

Course Objective (CO):

1. To provide students with a holistic education – focused on increasing their intelligence quotient, spiritual quotient, emotional quotient and physical quotient.
2. To provide students with hard and soft skills, making them more marketable when entering the workforce.
3. To educate students on their social responsibilities as citizens of India and have a greater sense of social responsibility.
4. To provide students with a value-based education which will enable them to be successful in their family, professional, and social relationships by improving their moral and ethical values.
5. To teach self-analysis and self-improvement exercises to enhance the potential of the participants.
6. To have a broader sense of self-confidence and a defined identity.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	-	2	25	25	-	-	50

Course Contents:

Lecture No.	Module Lecture	Lecture Description	Hours
Induction	The Need for Values	Students will learn about the need for values as part of their holistic development to become successful in their many roles - as ambitious students, reliable employees, caring family members, and considerate citizens.	2
1	Remaking Yourself Restructuring Yourself	Students learn how self-improvement enables them to secure a bright future for themselves. They will learn 6 powerful thought-processes that can develop their intellectual, physical, emotional, and spiritual quotients.	2
2	Remaking Yourself Power of Habit	Students will undergo a study of how habits work, the habits of successful professionals, and the practical techniques that can be used to develop good habits in their life.	2
3	Learning from Legends Tendulkar & Tata	Students will learn from the inspirational lives of India's two legends, Sachin Tendulkar and Ratan Tata. They will implement these lessons through relatable case studies.	2
4	From House to Home Listening & Understanding	Active listening is an essential part of academic progress and communications. Students will learn to listen with their eyes, ears, mind, and heart.	2
5	Facing Failures Welcoming Challenges	This lecture enables students to revisit the way in which they approach challenges. Through the study of successful figures such as Disney, Lincoln and Bachchan, students will learn to face difficulties through a positive perspective.	2
6	Facing Failures Significance of Failures	Failure is a student's daily source of fear, negativity, and depression. Students will be given the constructive skills to understand failure as formative learning experiences.	2

7	My India My Pride Glorious Past - Part 1	India's ancient Rishis, scholars, and intellectuals have made tremendous contributions to the world, they developed an advanced, sophisticated culture and civilization which began thousands of years ago. Students will learn the importance of studying India's glorious past so that they could develop a strong passion and pride for our nation.	2
8	My India My Pride Glorious Past - Part 2	Our ancient concepts can be used to seek revolutionary ideas and to generate inspiration. Students will develop a deeper interest in India's Glorious Past – by appreciating the need to read about it, research it, write about it, and share it.	2
9	Learning from Legends A.P.J. Abdul Kalam	Dr Kalam's inspirational life displayed legendary qualities which apply to students (1) Dare to Dream (2) Work Hard (3) Get Good Guidance (4) Humility (5) Use Your Talents for the Benefit of Others	2
10	Soft Skills Networking & Leadership	Students are taught the means of building a professional network and developing a leadership attitude.	2
11	Soft Skills Project Management	Students will learn the secrets of project management through the Akshardham case study. They will then practice these skills through an activity relevant to student life.	2
12	Remaking Yourself Handling Social Media	Students will learn how social media can become addictive and they will imbibe simple methods to take back control.	2
13	Facing Failures Power of Faith	Students will learn about the power and necessity of faith in our daily lives.	2
14	From House to Home Bonding the Family	Students will understand the importance of strong family relationships. They will learn how to overcome the generation gap and connect with their family more.	2
15	Selfless Service Seva	Students will learn that performing seva is beneficial to one's health, wellbeing, and happiness. It also benefits and inspires others.	2

Course Material / Main Course Workbook:

IPDC Workbook-1 (Presented by B.A.P.S. Swaminarayan Sanstha)

List of Reference Book:

These are the reference material for the IPDC lectures. This is not compulsory reading for the students as the essential information is contained in the workbooks.

Module No.	Module	References
1	Facing Failures	1. Thomas Edison's factory burns down, New York Times Archives, Page 1, 10/12/1914 2. Lincoln Financial Foundation, Abraham Lincoln's "Failures": Critiques, Forgotten Books, 2017 3. J.K. Rowling Harvard Commencement Speech Harvard University Commencement, 2008 4. Born Again on the Mountain: A Story of Losing Everything and Finding It Back, Arunima Sinha, Penguin, 2014 5. Failing Forward: Turning Mistakes Into Stepping Stones for Success, John C. Maxwell, Thomas Nelson, 2007 6. Steve Jobs: The Exclusive Biography Paperback, Walter Isaacson, Abacus, 2015 7. Failing Forward: Turning Mistakes Into Stepping Stones for Success, John C. Maxwell, Thomas Nelson, 2007

2	Learning from Legends	1. Chase Your Dreams: My Autobiography, Sachin Tendulkar, Hachette India, 2017 2. Playing It My Way: My Autobiography, Sachin Tendulkar, Hodder & Stoughton, 2014 3. The Wit and Wisdom of Ratan Tata, Ratan Tata, Hay House, 2018 4. The Tata Group: From Torchbearers to Trailblazers, Shashank Shah, Penguin Portfolio, 2018 5. The Leader Who Had No Title, Robin Sharma, Jaico Publishing House, 2010 6. In the Joy of Others: A Life-Sketch of Pramukh Swami Maharaj, Mohanlal Patel and BAPS Sadhus, Swaminarayan Aksharpith, 2013
3	My India My Pride	1. Rishis, Mystics, and Heroes of India, Sadhu Mukundcharandas, Swaminarayan Aksharpith, 2011 2. Physics in Ancient India, <u>Narayan Dongre, Shankar Nene</u>, National Book Trust, 2016 3. <u>The Rise of Civilization in India and Pakistan</u>, Raymond Allchin, Bridget Allchin, <u>Cambridge University Press</u>, 1982 4. <u>The Āryabhaṭīya of Āryabhata: An Ancient Indian Work on Mathematics and Astronomy</u> (1930), <u>Walter Eugene Clark</u>, University of Chicago Press, reprint, Kessinger Publishing, 2006
4	Remaking Yourself	1. Power of Habit, Charles Duhigg, Random House Trade Paperbacks, 2014 2. Change Your Habit, Change Your Life, Tom Corley, North Loop Books, 2016 3. The Seven Habits of Highly Effective People, Stephen Covey, Simon & Schuster, 2013 4. Seven Habits of Highly Effective Teens, Sean Covey, Simon & Schuster, 2012 5. Atomic Habits, James Clear, Random House, 2018 6. How a handful of tech companies control billions of minds every day, Tristan Harris, TED Talk, 2017
5	From House to Home	1. “What Makes a Good Life? Lessons from the Longest Study on Happiness”, R. Waldinger, Ted Talks, 2015 2. Long Walk To Freedom, <u>Nelson Mandela</u>, Back Bay Books, 1995 3. Outliers, Malcolm Gladwell, Back Bay Books, 2011
6	Soft Skills	1. The 17 Indisputable Laws of Teamwork, John Maxwell, HarperCollins, 2013 2. Team of Teams: New Rules of Engagement for a Complex World, Stanley McChrystal, Portfolio, 2015 3. Predictably Irrational, Revised and Expanded Edition: The Hidden Forces That Shape Our Decisions, <u>Dan Ariely</u>, Harper Perennial, 2010
7	Selfless Service	1. Open: An Autobiography, Andre Agassi, Vintage, 10 August 2010 2. The Physiological Power of Altruism [online], James Hamblin, The Atlantic, December 30, 2015, https://www.theatlantic.com/health/archive/2015/12/altruism-for-a-better-body/422280/ [last accessed June 10, 2020] 3. TBI Blogs: From Entrepreneurs to Doorkeepers, Everybody Serves with Love & Warmth at This Ahmedabad Café [online], <u>The People Place Project</u>, The Better India, May 29, 2017, https://www.thebetterindia.com/102551/small-way-serve-ahmedabad-seva-cafe/, [last accessed June 10, 2020]

Course Learning Outcomes (CLO):

CLO	Description	Bloom's Taxonomy Level
CLO1	To provide students with a holistic value-based education that will enable them to be successful in their academic, professional, and social lives.	1 Remembering 2 Understanding 3 Applying
CLO2	To give the students the tools to develop effective habits, promote personal growth, and improve their wellbeing, stability, and productivity.	1 Remembering 2 Understanding 3 Applying
CLO3	To allow students to establish a stronger connection with their family through critical thinking and devolvment of qualities such as unity, forgiveness, empathy, and effective communication.	1 Remembering 2 Understanding 3 Applying
CLO4	To provide students with soft skills that complement their hard skills, making them more marketable when entering the workforce.	1 Remembering 2 Understanding 3 Applying
CLO5	To enhance awareness of India's glory and global values, and to create considerate citizens who strive for the betterment of their family, college, workforce, and nation.	1 Remembering 2 Understanding 3 Applying
CLO6	To inspire students to strive for a higher sense of character by learning from role models who have lived principled, disciplined, and value-based lives.	1 Remembering 2 Understanding 3 Applying

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	L					H		H		M			L		L
CLO2				L								M		M	
CLO3		M				M		L	H				H		
CLO4				M		L				L				H	
CLO5	H			H							H		M		H
CLO6		L				M			L					L	

H:High, M:Medium, L:Low