DEPARTMENT OF BCA

SYLLABUS 2020-2021

SEM	SUB.CODE	SUBJECT TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT Mks
I		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J1CC1	PROGRAMMING IN C	6	4	40	60	100
	19J1ACG1	DISCRETE MATHEMATICS	5	5	40	60	100
	19J1CC2	LAB IN C	6	3	40	60	100
	19J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	2	2	40	60	100
		TOTAL	30	21			
II		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J2CC3	OBJECT ORIENTED PROGRAMMING IN C++	6	4	40	60	100
	19J2ACG2	OPERATIONS RESEARCH	5	5	40	60	100
	19J2CC4	LAB IN C++	6	3	40	60	100
	19J2NME2	NON MAJOR ELECTIVE – II MULTIMEDIA LAB – FLASH	2	2	40	60	100
		TOTAL	30	21			

DEPARTMENT OF BCA

SEM	SUB.CODE	SUBJECT TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT Mks
III		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J3CC5	OPERATING SYSTEMS	6	4	40	60	100
	19J3CC6	LAB IN RELATIONAL DATABASE MANAGEMENT SYSTEMS	5	5	40	60	100
	19AC3ACJ3	PRINCIPLES OF FINANCIAL ACCOUNTING AND ACCOUNTING PACKAGE	6	3	40	60	100
	19J3SB1	SKILL BASED – I QUANTITATIVE APTITUDE	2	2	40	60	100
		TOTAL	**30**	**21**			
IV		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J4CC7	DATA STRUCTURES AND ALGORITHMS	6	4	40	60	100
	19J4CC8	LAB IN WEB PROGRAMMING	5	5	40	60	100
	19J4AC4	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	6	3	40	60	100
	19J4SB2	SKILL BASED – II DATA ANALYSIS USING SPREADSHEETS	2	2	40	60	100
		TOTAL	**30**	**21**			

SEM	SUB. CODE	SUBJECT TITLE	HRS	CREDIT	INTERNAL				EXT.	TOT.
					T	A	Q	AGG.		
V	**J5CC11**	COMPUTER NETWORKS	5	5	15	5	5	25	75	100
	J5CC12	JAVA PROGRAMMING	5	5	15	5	5	25	75	100
	J5CC13	LAB V – JAVA PROGRAMMING	6	4				40	60	100
	J5CC14	LAB VI – DOT NET PROGRAMMING	5	4				40	60	100
	J5ME1 **J5ME2**	**MAJOR ELECTIVE – I** DOT NET PROGRAMMING COMPUTER GRAPHICS	5	5	15	5	5	25	75	100
	J5SB3	**SKILL BASED – III** CORELDRAW	2	2				50	**50**	**100**
	J5SB4	**SKILL BASED – IV** PHP	2	2				50	**50**	**100**
		TOTAL	**30**	**27**						**700**
VI	**J6CC15**	PYTHON	5	5	15	5	5	25	75	100
	J6CC16	LAB VII – PYTHON LAB	6	4				40	60	100
	J6ME3 **J6ME4**	**MAJOR ELECTIVE – II** ARTIFICIAL INTELLIGENCE DATA MINING	5	5	15	5	5	25	75	100
	J6ME5 **J6ME6**	**MAJOR ELECTIVE – III** CLOUD COMPUTING MOBILE COMPUTING	5	5	15	5	5	25	75	100
	J6SB5	**SKILL BASED – V**	2	2				50	**50**	**100**

		ANIMATION TECHNIQUE – I – ALICE						
J6SB6		**SKILL BASED – VI** LINUX	2	2		50	**50**	**100**
J6CC17		PROJECT	5	4		40	**60**	**100**
		TOTAL	**30**	**27**				**700**
		NSS/JUNIOR JAYCEE – PART V		**1**				
		GRAND TOTAL		**140**				**1400**

III BCA
V SEMESTER
J5CC12– JAVA PROGRAMMING

HRS/WEEK: 5   **CREDITS: 5**

Objectives:
1. To develop OO Programming
2. To develop Multithreaded Programs
3. To develop GUI Applications

UNIT I: OVERVIEW   **[15 HRS]**

The genesis of Java –An overview of Java – Object Oriented Programming – A First simple program – Lexical issues. Data Types, Variables – Operators.

UNIT II: OO PROGRAMMING   **[15 HRS]**

Control Statements – Java's Selection Statements-Iteration Statements-Jump Statements-Introducing classes - A closer look at methods and classes – Inheritance

UNIT III: EXCEPTION, I/O APPLETS AND STRING HANDLING   **[15 HRS]**

Exception Handling – Exception Handling Fundamentals-Exception Types-Uncaught Exceptions-Using try an catch-Multiple catch Clauses-Nested try statements-Java's Built-in Exceptions-Creating your own Exception Subclasses-Chained Exceptions-Using Exceptions-I/O Applets – I/O Basics-Reading Console Input-Writing Console Input-The PrintWriterClass-Reading and Writing Files-Applet Fundamentals-The transient and volatile modifiers-Using instanceof-strictfp-Native Methods-Using assert-String Handling

UNIT IV: PACKAGE AND INTERFACES   **[15 HRS]**

Packages-Access Protection-Importing Packages-Interfaces-The Java Thread Model-The Main Thread-Creating a Thread-Creating Multiple Threads-Using isAlive() and join()-Thread Priorities-Synchronization-Interthread Communication-Suspending, Resuming and Stopping Threads-Using Multithreading

UNIT V: APPLET CLASS AND EVENT HANDLING   **[15 HRS]**

Applet Basics-Applet Architecture-An Applet Skeleton-Simple Applet Display Methods-Requesting Repainting-Using the status window-The HTML Applet Tag-Passing Parameters to Applets-getDocumentationBase() and getCodeBase()-AppletContext and showDocument()-The AudioClip Interface-The AppletStub Interface-Outputing to the Console-Two Event Handling Mechanisms-The Delegation Event Model-Event Classes-Sources of Events-Event Listener Interfaces-Using the Delegation Event Model-Adapter Classes-Inner Classes

Self Study: The genesis of Java – Data Types, Variables

TEXT BOOKS :

Herbert Schildt, Java 2 - The Complete Reference, V Edition
   Unit 1: Chapters 1-4;   Unit 2: Chapters 5-8;   Unit 3: Chapters 10,12-13;
   Unit 4: Chapters 9,11;   Unit 5: Chapters 19,20

REFERENCE BOOKS:
1. Herbert Schildt with Joe 'O' Neil, Java Programmer's Reference, Tata McGraw-Hill, 1999
2. Jamie Jaworski, Java Unleashed, Techmedia, 1999

NEW

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SEMESTER V

JAVA PROGRAMMING – J5CC12

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45%

5 Hrs /week   **Credit: 5**

OBJECTIVE :

- ❖ **To develop OO Programming**
- ❖ **To develop Multithreaded Programs**
- ❖ **To develop GUI Applications**

UNIT I: Overview   **(15 Hrs)**   **5%**

The genesis of Java –An overview of Java – Object Oriented Programming – A First simple program – Lexical issues. Data Types, Variables – Operators – Control Statements

UNIT II: OO Programming   **(15 Hrs)**   **5%**

Introducing classes –-A closer look at methods and classes – Inheritance – I/O Streams.

UNIT III : Packages, Exception & Multithreading   **(15 Hrs)**
                                                                              5%
Packages and Interfaces – Packages - Exception Handling - Multithreaded Programming.

UNIT IV: Applets   **(15 Hrs)**
                                                                              10%
The applet class - Event Handling – Two event handling mechanisms – The delegation event model – Event classes (Action Event, Component Event, Focus Event, Item Event, Key Event, Text Event, Window Event) – Sources of events – Event listener interfaces – Using the delegation event model.

UNIT V: GUI Programming   **(15 Hrs)**   **20%**

Introducing the AWT – AWT classes – Window fundamentals – Working with frame windows – Creating a frame window in an Applet – Creating a windowed program – Displaying information within a window –Using AWT Controls, Layout Managers and Menus – Control fundamentals – Labels – Using Buttons – Applying check boxes – Choice controls – Using lists – Managing scrollbars – Using a text field - Using a TextArea – Understanding Layout Managers – Menu Bars and Menus – Dialog boxes – File Dialog .

TEXT BOOK:

The Complete Reference – Java 2 – Herbert Schildt – Eighth Edition.

Unit I – Chapter 2 – 5, Unit II – Chapter 6 -8, 13, Unit III – Chapter 9 -11

Unit IV – Chapter 22,23, Unit V – Chapter 24, 25

REFERENCES:

1. Java Programmer's Reference – Herbert Schildt with JOE 'O' NEIL, Tata MCGraw Hill ,99.

2. Java Unleashed – Jamie Jaworski, Techmedia - 1999

SEMESTER - V

J5CC13 – LAB V - JAVA PROGRAMMING
5 Hours/Week Credits: 5

HRS/WEEK:6   CREDITS: 3

Objective: To develop object oriented and GUI programming skills in Java.

1.   Write a Java Program to Implement arrays

2.   Write a Java Program to implement Conditional statements

3.   Write a Java Program to implement Looping statements

4.   Write a Program using constructors.(parameter passing, return value)

5.   Write a Program to perform stack operations. (use static)

6.   Write a Program using Interfaces

7.   Write a Program using Packages

8.   Write a Program using Applets

9.   Write a program to handle Exceptions.

10.   Write a program to perform multithreading

SEMESTER - V

J5CC13 – LAB V - JAVA PROGRAMMING
5 Hours/Week Credits: 5

45%

HRS/WEEK:6   CREDITS: 3

Objective: To develop object oriented and GUI programming skills in Java.

1.   Write a Java Program to Implement arrays

2.   Write a Java Program to implement Conditional statements

3.   Write a Java Program to implement Looping statements

4.   Write a Program using constructors.(parameter passing, return value) using Interfaces

5.   Write a Program to perform stack operations. (use static) using Packages

6.   Write a Program using Interfaces

7.   Write a Program using Packages

8.   Write a Program using Applets

9.   Write a program to handle Exceptions in Applets

10.   Write a program to perform multithreading

SEMESTER - V
MAJOR ELECTIVE - I
J5CC14 - LAB VI – DOT NET PROGRAMMING
5 Hours/Week Credits: 5

HRS/WEEK:5   CREDITS: 3

Objective: To develop web programming skills through the use of Dot Net Frameworks.

Visual Basic

1.   Sample programs in VB using Control statements.

2.   Sample programs in VB using different controls.

3.   Sample programs using database.

VB.NET

4.   Program using Console Application.

5.   Program using windows application using different controls.

6.   Program using windows application for conditional statements.

7.   Program using windows application for Looping statements.

ASP.NET

8.   Create Simple application using web controls

9.   Programs working with forms using ASP.NET with Databases

10.   Creating websites with Databases

SEMESTER - V
MAJOR ELECTIVE - I
J5CC14 - LAB VI – DOT NET PROGRAMMING
5 Hours/Week Credits: 5

HRS/WEEK:5   CREDITS: 3

Objective: To develop web programming skills through the use of Dot Net Frameworks.

Visual Basic

1.   Sample programs in VB using Control statements.

2.   Sample programs in VB using different controls.

3.   Sample programs using database.

VB.NET

4.   Program using Console Application.

5.   Program using windows application using different controls using MS Access

6.   Program using windows application for conditional statements using MS Access

7.   Program using windows application for Looping statements using MS Access

ASP.NET

8.   Create Simple application using web controls using using MS Access

9.   Programs working with forms using ASP.NET with Databases using Wizards

10.   Creating websites with Databases using Wizards

III BCA
V SEMESTER
MAJOR ELECTIVE – I
J5ME1 – DOT NET PROGRAMMING

HRS/WEEK: 5
CREDITS: 5
Objective: To know the rapid development of powerful Window applications and Web application which makes the web development easier.

UNIT I: INTRODUCTION TO .NET [**15HRS**]
.Net framework overview - Common type system - Common intermediate language – Namespace - Languages in .Net - C# - Encapsulation – Polymorphism – Interfaces –XML - ADO.NET. OurFirst VB.Net Program: The solution explorer window - Class view window – Toolbox - Output Window- Task list Window. DataTypes and Operators: Literals – Variables - Data types - Declaration of Variables – Constants – Statements – Operators – Keywords – Comments - Scope of Variables - Console application in VB.Net.

UNIT II: CONTROL STATEMENTS [**15HRS**]
If Statement – Looping - Select Case- Go To statement- Intrinsic Control list- form control- Events- label- Textbox- Group box- check box- radio button- Scroll bar- Ctype- Track bar- Timer- Picture box- Working with mouse input- Link Label- Date time Picker- Month Calendar. Arrays: One dimensional Array- Array Initialization- Redim Statement- Multi dimensional Array- Array of array- List box control- Checked list box control- Combo Box control.

UNIT III: PROCEDURES & STRUCTURES [**15HRS**]
Subroutine procedures- Functions- Value returned by its function name- the return statement- Calling a function- Call by reference- Functions with arrays- Functions with Param arrays- Function Overloading- Sub Procedure- Structure- Functions inside the Structure- Nested Structures- Message box functions- Input box function.**Creating Menus and using Dialog boxes:** Menu- MDI form- Context Menu- Rich Text box- Color Dialog control- Font Dialog control.

UNIT IV: DATA ACCESS WITH ADO.NET [**15 HRS**]
What is database? - What is Relational database- Table Creation- Record insertion- Displaying data- Deleting Data- Modifying Data- Drop Table- Special Features of ADO.NET- Difference between ADO & ADO.NET- Connections- Commands- Data Reader- Data Set- Using Data Grid- Using Data Adapter configuration wizard- XML &ADO.NET- XML document to ADO.NET data- Filtering data using Data View- Complex data binding- Command parameters property- Using stored procedures with a command.

UNIT V:WEB APPLICATION WITH VB.NET & ASP.NET [**15HRS**]
Our first web application- Server controls- Validation Summary Control- ADO.NET& Data Binding. Advanced Controls and Making Reports in VB.NET: Tab Control- Toolbar Control- Error Provider Control- Tree View Control- Creating a user control in VB.NET- Adding a user control in VB.NET- Making Reports in VB.NET.
Self-Study: Creating Menus and using Dialog boxes

TEXT BOOKS :

1) VB.NET by P.Radhaganesan, Scitech Publications, Chennai.

     Unit I: Chapters 1, 2, 3

     Unit II: Chapters 4, 5

     Unit III: Chapters 6, 7

     Unit IV: Chapter 10

     Unit V: Chapter 11, 13

REFERENCE BOOK:

1. Visual Basic .Net Programming Black Book by STEVEN HOLZNER, Dreamtech Press
2. Visual Basic 6 from the Ground Up by *Gary Cornell,Osborne Mcgraw Hill.*
3. Greg Buczek, "ASP .NET Developer's Guide", Tata McGraw – Hill.
4. Programming VB .NET: A Guide for Experienced Programmers Gary Cornell and Jonathan Morrison

NEW

SEMESTER - V
MAJOR ELECTIVE - I
<u>J5ME1 – DOT NET PROGRAMMING</u>
5 Hours/Week Credits: 5

70 %

Objective: To know the rapid development of powerful Window applications and Web application which makes the web development easier.

Unit 1
(15 Hours)

20 %

Introduction to .Net Frame work 3.5 –Versions of .Net framework-Benefits of .Net framework-Architecture of .Net frame work 3.5-Components of .Net frame work3.5-ASP.NET and ASP.NET AJAX-ADO.NET-Introducing visual studio 2008-Installing visual studio 2008-Visual studio Integrated development Environment.

Unit 2
(15 Hours)isual Basic 2008-Getting started with visual basic2008-New features vb2008-

10 %

Keywords-Operators-Operator precedence-Data types-Variables-Constants-Selection statements-Iteration statements-Arrays-Enumerations-Working with windows form controls-I.

Unit3
Hours)

20 % (15

Visual Basic .Net2008-Developing Visual studio 2008 Applications-Console Applications-Windows Applications-Web Applications-Working with ADO.NET.

Unit 4
(15 Hours)

20 %

ASP.NET3.5: ASP.NET 3.5 Essentials-Versions of ASP.NET-Benefits of ASP.NET-New features in ASP.NET3.5-Introducing the VS2008 IDE-Exploring the VS 2008 IDE-Creating sample web site.

Unit 5 (15
Hours)
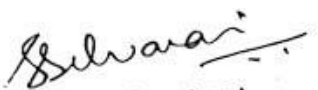Developing a web applications-Web forms: Standard Controls-Navigation Controls-Validation Controls-Login Controls.

Text Books :
   1. Vikas Gupta, .NET Programming, Dream Tech, VB2008
      Unit 1: Pages 11-23;   Unit 2: Pages 45-68 and 135-158;   Unit 3: Pages 30-42 and 251-272;
      Unit 4: Pages 321-334;   Unit 5: Pages 335-420

Reference Books:
   1. Greg Buczek, ASP.NET Developer's Guide, Tata McGraw-Hill, 2002
   2. Jeff Kent, Visual C# 2008, Tata McGraw-Hill, 2006
   3. Kogent, .NET Programming Black Book, Dream Tech
   4. C.Muthu, Visual C# .NET, Vijay Nicole Imprints Pvt. Ltd., 2007
   5. Steven Holzner, Visual Basic.Net Programming, DreamTech

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