Syllabus prescribed for B.Sc. Part III (Semester-V & VI) Computer Science to be implemented from the Academic Session 2019-20 & onwards.

B.Sc.Part-III (Semester-V)

The Examination in Computer Science of Fifth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks.

The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mars for practical examination is as under:

1. Program writing / execution (on group A & B) : 30 Marks

2. Practical record   : 10 Marks

3. Viva Voce   : 10 Marks

                                                       Total 50 Mars

5S: Computer Science

. Net Technology and Java Programming

Unit I: Introduction to .NET Framework: NET framework, MSIL, CLR, CLS, CTS, Namespaces, Assemblies The Common Language Implementation, Assemblies, Garbage Collection, The End to DLL Hell - Managed Execution

Unit II: Introduction to visual programming: Concept of event driven programming - Introduction to VB.Net environment, The .NET Framework and the Common Language Runtime. Building VB.NET Applications, The Visual Basic Integrated Development - Basic Language - Console application and windows application, Data types, Declaring Variables, scope of variables, operators and statements.

Unit III: Decisions and loop : Making Decisions with If . . . Else Statements, Using Select Case, Making Selections with Switch and Choose, Loop statements - Do Loop, for, while - The With Statement - Handling Dates and Times - Converting between Data Types - Arrays - declaration and manipulation - Strings & string functions - Sub Procedures and Functions.

Unit IV : Introduction to AVA : History and evolution ,Feature, JDK, JVM, Difference between C++ and Java, Structure of Java Program, Keywords, Variable, Data types and Literals, Operators Control of Flow, (Selection Statements, Iteration Statements),Command Line Argument, One dimensional and two dimensional array

Unit V: Classes and inheritance: Class, Object, Method, Overloading Method, Constructor, Constructor Overloading, this Keyword, Inheritance: Introduction to Inheritance, Super, Multilevel Hierarchy, method overriding, Abstract class, Using Final (variables, methods and classes).

Unit VI: String, Package and Interface: String: String operation, String comparison, Searching and modifying string, Package: Package concept, Defining Package, Finding Package, Java In-built Packages Interface: Interface concept, Defining, and Implementing of Interface.

Boos Recommended:

1) .NET Framework, OREILY Publication.

2) Steven Holzner, Visual Basic .NET Black Book

3) Rebecca Riordan, VB.NET for Developers, Keith Franklin, SAMS

4) Jason Beres, Sams Teach Yourself Visual Studio .NET 2005 in 21 Days,

5) Jesse Liberty, Learning Visual Basic .NET

6) The Complete Reference JAVA2 by Herbert Schildt (Tata McGraw)

7) The Complete Reference JAVA by Patrik Noughton

8) Programming with JAVA - A Primer : By E.Balguruswamy (Tata McGraw)

9) Programming in JAVA : By S.S.Khandare (S.Chand)

10) Teach Yourself 'Java' in 2 Hrs : By Sams.

11) Java for You : By P. Koparkar

Practical : Minimum 16 Practical base on

A: Unit II and Unit III (Minimum 8 practical)

B: Unit IV, Unit V and Unit VI (Minimum 8 practical)

B.Sc. Part-III (Semester-VI)

The Examination in Computer Science of Sixth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks.

The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of marks for practical examination is as under:

1. Program writing / execution (on group A & B) : 30 Marks

2. Practical record   : 10 Marks

3. Viva Voce   : 10 Marks

                                                                     Total 50 Marks

6S: Computer Science Advanced Java and VB.net

Unit I : Exception Handling and Multithreading : Exception Handling: Concept of Exception handling, Type of Exception, Try, Catch, and Finally. Multiple Catch blocks, Nested Try Statements, throw, throws. Multithreading: Multithreading concept, life cycle, creating and running thread, thread priority.

Unit II : Applet: Introduction to Applet, Applet life cycle, HTML applet tag with all attributes, Running the applet, Passing parameters to applets, Displaying using applet viewer, getDocumentBase() and getCodeBase() methods, Applet context, Applet vs Application, Graphics introduction, Graphic class, draw lines, circle, rectangle, ellipse.

Unit III: Event Handling and AWT: Introduction, Event delegation model, Java AWT event description, sources of event, Event listener interfaces, Adapter classes, Inner classes. AWT (Abstract Window Toolkit): Introduction, AWT Controls Label, Button, Checkboxes, Lists, ScrollBar, TextField, TextArea, Layout manager.

Unit IV: Windows Applications: Forms: Adding Controls to Forms, Handling Events, MsgBox, InputBox , Working with Multiple Forms, Setting the Startup Form, SDI & MDI Forms, Handling Mouse & Keyboard Events, Common controls: Text Boxes, Rich Text Boxes, Labels, Buttons, Checkboxes, Radio Buttons, Group Boxes, List Boxes, Checked List Boxes, Combo Boxes, Picture Boxes, Scroll Bars, Tool Tips, Timers, properties – methods

UNIT V: Object Oriented Programming: Classes and Objects: Class definition, Creating objects, Defining Member functions, Methods and Events, Attaching a class with form, Delegates. Eceptions Handling: Exception classes in .net framework, Structured and Unstructured exceptions, tracing errors, breakpoints, watch, Quick watch.

UNIT VI: Data Access with ADO.Net, accessing data with Server Explorer, Accessing Data with data Adaptors and Data sets, Creating a new data connection, creating and populating Data set, displaying data in Data Grid, selecting a data provider, Data accessing using Data adapter Control, Binding Data to Controls.

Boos Recommended:

1. Steven Holzner, Visual Basic .NET Black Book

2. Rebecca Riordan, VB.NET for Developers, Keith Franklin, SAMS

3. Jason Beres, Sams Teach Yourself Visual Studio .NET 2005 in 21 Days,

4. Jesse Liberty, Learning Visual Basic

5. The Complete Reference JAVA2 by Herbert Schildt (Tata McGraw)

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7. Programming with JAVA - A Primer : By E.Balguruswamy (Tata McGraw)

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9. Teach Yourself 'Java' in 2 Hrs : By Sams.

10. Java for You : By P. Koparkar

Practical : Minimum 16 Practical base on

A: Unit I , Unit II and Unit. III (Minimum 8 practical)

B: Unit IV, Unit V and Unit VI (Minimum 8 practical)