DEPARTMENT OF COMPUTER SCIENCE
ACADEMIC ACTION PLAN FOR 2012-2013
B.Sc III SEMESTER(Programming in JAVA)

Month	Topics to be covered as per syllabus	Topics included otherthan state level common-core syllabus	Beyond syllabus	General Lectures/ Seminars
June	**Fundamentals of Object Oriented programming:** Object Oriented paradigm – Basic concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP. **Java Evolution :** Java Features – How Java differs from C and C++ - Java and Internet – Java and World Wide Web – Web Browsers – Hardware and Software Requirements – Java Environment. **Overview of Java Language:** Simple Java Program – Java Program Structure – Java Tokens- Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Java Editions- Java Card, Standard Edition - Enterprise Edition - Micro Edition-Java Development Kit & Tools	Java Editions- Java Card, Standard Edition - Enterprise Edition - Micro Edition-Java Development Kit & Tools	Differences Development phases of Application-Structured programming & Object Oriented programming	
	Constants, Variables and Data types: Constants – Variables – Data types – Declaration of Variables-Giving Values to variables- Scope of Variables-Symbolic Constants-Type Casting-Naming & coding Conventions	Naming & coding Conventions		
July	**Operators and Expressions:** Arithmetic Operators – Relational Operators- Logical Operators – Assignment Operators – Increment and Decrement Operators – Conditional Operators – Bitwise Operators – Special Operators – Arithmetic Expressions – Evaluation of Expressions – Precedence of Arithmetic Operators – Operator Precedence and Associativity. **Decision Making and Branching:** Decision Making with If statement – Simple If Statement-If else Statement-Nesting If Else Statement- the ElseIf Ladder-The switch Statement – The ?: operator. **Decision Making and Looping:** The while statement – The do statement – The for statement – Jumps in Loops-Labeled Breaks and Continue.	Labeled Break and Continue		

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August	**Class, Objects and Methods:** Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance – Overriding Methods – Final Variables and Methods – Final Classes – Abstract Methods and Classes – Anonyoumous Inner Classes -Visibility Control	Anonymous Inner Classes	Application of Interfaces & Abstract Classes	
	creating an Array – Two dimensional Arrays – Strings – Vectors -Enumeration- Iterators-List Iterators– Wrapper Classes – -Autoboxing and Unboxing Enumerated Types. **Interfaces:Multiple Inheritance** : Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing Interface Variables. **Packages:** Java API Packages – Using system Packages – Naming Conventions – Creating Packages – Accessing a Package – Using a Package – Adding a Class to a Package – Hiding Classes – Static Import.	Enumeration-Iterators- List Iterators, Autoboxing and Unboxing	Evolution of Collections	
	Multithreaded Programming: Creating Threads – Extending the Thread Class – Stopping and Blocking a Thread – Life Cycle of a Thread – Using Thread Methods – Thread Exceptions – Thread Priority – Synchronization - Critical Factor in Thread - Dead Lock - Inter Thread Communication	Critical Factor in Thread - Dead Lock -Inter Thread Communication		
September	**Managing Errors and Exceptions:** Types of Errors – Exceptions – Syntax of Exception Handling Code – Multiple Catch Statements – Using Finally Statement – Throwing our own Exceptions – Using Exceptions for debugging. Assertions-Uses of Assertions **Applet Programming:** How Applets differ from Applications – Preparing to write Applets – Building Applet Code – Applet Life Cycle – Creating an executable Applet – Designing a WebPage – Applet Tag – Adding Applet to HTML file – Running the Applet – More about Applet Tag – Passing parameters to Applets– Aligning the display – More about HTML tags – Displaying Numerical Values – Getting Input from the user.	Assertions -Uses of Assertions	Difference between AWT and Swing Applets	