



College of Engineering Roorkee

Course Blow-Up

Foundation Course

Day	Course Content	Hours
1	<p>Basics Concepts: Concept of flow chart and algorithm; Algorithms to programs, structured Programming, Use of high level programming language for the systematic development of programs, programmability and programming languages, Object codes, compilers.</p> <p>Introduction to java: Features of java, java virtual machine, parts of java.</p> <p>First steps towards programming: Starting a java program, importing classes, Formatting the output</p> <p>Naming conventions and datatypes: Data types and literals</p> <p>Operators: Arithmetic, unary, Relational, logical, new , cast</p>	4
2	<p>Control statements: If else, for, do while, while, switch, break, return, and continue.</p> <p>Introduction to oops: Problem in procedure oriented approach</p> <p>Features of oops: Class and object, inheritance, encapsulation, polymorphism, abstraction.</p> <p>Classes and objects: Object creation, variable initialization and declaration, constructors and access specifiers.</p>	2
3.	<p>Methods in java: Static method, instance, passing parameter to methods.</p> <p>Inheritance: Super keyword, protected keyword, types of inheritance.</p> <p>Polymorphism: Static and dynamic polymorphism, Type casting and Object class</p>	2
4	<p>Abstract classes: abstract method and abstract class</p> <p>Interface: Multiple inheritance using interface</p> <p>Exception handling: Types of errors and exceptions, Handling multiple exceptions.</p> <p>Threads: Single tasking and multi tasking.</p>	2
5	<p>Input and output: Accepting input from the keyboard, Displaying output.</p> <p>Awt: Components, window and frame, event delegation model, filling with colours, Displaying text in frame, displaying images in the frame, push buttons, check boxes, radio button, text field, text area, label, Choice and list class.</p> <p>Swing.</p>	4
6	<p>Android: Android Introduction, What is Android, History and Version, Android Architecture, Dalvik VM, AndroidManifest.xml, R.java, Activity Lifecycle, Implicit Intent, Explicit Intent.</p>	2.5
7	<p>Introduction of Cloud Computing, Big Data Analytics, Business Intelligence</p>	1.5