

SYLLABUS

Panjab University, Chandigarh

Internet Programming and Java

Paper Code : BCA-20

Paper Title : Internet Programming

Theory Marks : 90

Number of Lectures : 100

(45 minutes duration)

- Note :** (i) The question paper will consist of three Section A, B and C comprising of total of **nine** questions.
- (ii) Examiner will set **four** questions each in Section A and B and one question in Section C. The examiner will set 9 short answer type questions on Section C covering the whole syllabus. Each question will carry 18 marks.
- (iii) The students are required to attempt **five** questions in all by selecting **two** questions each from Section A and B and Section C is compulsory.

Section-A

1. HTML: Introduction to HTML, Building blocks of HTML, Lists, Links, Tables, Images, Frames, Layers, Forms. Introduction to Cascading Style Sheets (CSS), defining and applying CSS. (No. of periods : 14)

2. Java Script: Features, tokens, data types, variables, operations, control structures, strings, arrays, functions, core language objects, client side objects, event handling, application related to client side form validation (No. of periods : 16)

3. Fundamentals of Java: Java v/s C++, Byte Code, Java Virtual Machine, Constants, variables, data types, operators, expressions, control structures, defining classes, creating objects, accessing class members, constructors, method overloading (No. of periods : 20)

Section-B

4. Inheritance: Basics, Member access, using super to call super class constructors, creating a multilevel hierarchy, method overriding, dynamic method dispatch, using abstract classes, using Final. (No. of periods : 10)

5. Packages and Interfaces: Defining a package, understanding CLASSPATH, access protection, importing packages, interfaces, defining an interface, implementing an interface, applying, interface, variables in interface. *(No. of periods : 10)*

6. Exception Handling: Fundamentals, Exception types using try and catch block, multiple try and catch clauses, nested try statements, built-in exceptions *(No. of periods : 10)*

7. Multithreading programming: The Java Thread model, Thread priorities, synchronization, messaging, the thread class and runnable interface, the main thread, creating a thread, implementing runnable, Extending thread, creating multiple threads, thread priorities

Synchronization: Methods, statements, Interthread communication, Deadlocks, Suspending, Resuming and Stopping threads *(No. of periods : 10)*

8. I/O and Applets: I/O Basics, streams, the predefined streams, reading console input, Writing console output, the printwriter class, reading and writing files, Applet Fundamentals, using AWT controls, Layout managers and menus, string fundamentals, event handling. *(No. of periods : 10)*