H.E.J.S Department

SYLLABUS PLAN

Bca sem 5

Subject : JAVA PROGRAMMING

Session 2022-2023

Month	Topic
Aug (Month 1)	**Week 1** Introduction to java: evolution, features, comparison with C and C++1
	Week 2 Java program structure; tokens, keywords, constants, variables
	Week 3 data types, type casting, statements. **Operators and expressions:** arithmetic, relational, logical, assignment, increment, decrement, conditional, bitwise and special operators.
	Week 4 Operator precedence & associativity rules.
Sep (Month 2)	**Week 1** Control statements: if else, switch case, for, while, do while
	Week 2 break, continue, labelled loops
	Week 3 Class: syntax, instance variable, class variables, methods, constructors, overloading of constructors and methods.
	Week 4 MST
Oct (Month 3)	**Week 1** Inheritance: types of inheritance, use of super, method overriding
	Week 2 final class, abstract class, wrapper classes.
	Week 3 Arrays, Strings and Vectors, Packages and Interfaces, visibility controls
	Week 4 Class: syntax, instance variable, class variables, methods, constructors, overloading of constructors and methods.
Nov (Month 4)	**Week 1** Exception handling in java, use of try, catch, finally, throw and throws. Taking user input
	Week 2 Command line arguments, **Multithreaded Programming:** Creating Threads
	Week 3, Life cycle of thread, Thread priority, Thread synchronization,
	Week 4 Inter-thread communication.

Teacher

Jatinb Sn
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Class BCA 5th sem

LESSON PLAN (2022-23)

Subject Software Engineering

SESSION	TOPIC	REFERENCES
Week 1	Introduction to Software Engineering : Origin, Definition and goals of Software Engineering.	.
Week 2	Comparison with traditional Engineering Disciplines Software development process.	
Week 3	Process Models : Waterfall, Spiral	
Week 4	. Prototyp Model ,Iterative Model. Error distribution	
Week 5	Mid semester Test-I	
Week 6	Effort distribution, Role of metrics and measurements.	
Week 7	Software Project Planning : Planning activities, Team structure (Democratic, Chief-programmer, Hierarchical).	
Week 8	Software Requirement Specification : Role, characteristics and components of SRS. Problem Analysis : Structuring Information, DFD and Data Dictionary	
Week 9	Software Design : Design Objectives and principles, Design concepts - Abstraction, Information hiding, Concurrency.	.
Week 10	Modularity, Coupling-Cohesion criteria. Structured design methodology. Design specification, Metrics	
Week 11	Mid semester Test-II	
Week 12	Coding. Structured coding techniques : Data Encapsulation, Go to statement, Recursion, Single Entry Single Exit criteria, Structured programming.	
Week 13	Testing Fundamentals : Error, Fault, Failure and Reliability. ,	
Week 14	Levels of testing, Test case and Test criteria	
Week 15	Top-down and bottom-up approach, Test case execution and analysis, Test report.	
Week 16	Revision	

Teacher

Jatah Su
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LESSON PLAN

Session(2022-23)

(Sem 5)

Subject: BCA-315: Web Designing using HTML and DHTML

SESSION	TOPIC
August **(Month 1)**	**Week 1** Introduction to HTML: Basic HTML concepts, an overview of HTML markup.
	Week 2 What is good Web design; the process of Web publishing; implementation; the phases of Web site development; HTML's role in the Web;
	Week 3 HTML overview: the structure of HTML documents; document types; the <HTML> element; the <HEAD> element; the <BODY> element; Issues facing HTML and the Web.
	Week 4 Links and Addressing: Linking basics; what are URLs; linking in HTML; anchor attributes; images and anchors; image maps; semantic linking with the <LINK> element; meta-information;
September **(Month 2)**	**Week 5** Mid semester Test-I
	Week 6 HTML and Images: The role of images on the Web; image preliminaries; obtaining images; HTML image basics;
	Week 7 Image downloading issues;
	Week 8 Images as buttons; and image maps.
	Week 9 Introduction to Layout: Backgrounds, Colors, and Text; design requirements; HTML approach to Web design; fonts; colors in HTML; document-wide color attributes for <BODY>; and background images. Introduction to tables, LISTS; frames
October **(Month 3)**	**Week 10** Style Sheets: style sheets basics; style sheet example; style sheet properties; positioning with style sheets;
	Week11 Mid semester Test-II
	Week 12 Basic Interactivity and HTML: Forms form preliminaries; the <FORM> element; form controls;
	Week 13 Introduction to Server-Side Programming: This chapter covers: overview of client/server programming on the Web; server-side programming;

	common gateway interface (CGI);
November **(Month 4)**	**Dynamic HTML (DHTML):** dynamic HTML and document object model; HTML and scripting access; rollover buttons; moving objects with DHTML; and ramifications of DHTML.
	Revision

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SYLLABUS PLAN
CLASS : BCA Sem-V

Subject : System Analysis & Design

SEP 2022 TO DEC 2022

Month	Topic
Sep (Month 1)	**Week 1** Systems concepts: Definition and characteristics of a system, Elements of a system
	Week 2 Types of systems. The system development life cycle: Introduction to various phases.
	Week 3. The role of the Systems Analyst: Qualifications of a systems analyst, various roles of the systems analyst.
	Week 4 Systems analysis: Initial investigation, needs identification, determining the user's information requirements
Oct (Month 2)	**Week 1** Information-gathering tools.
	Week 2 Structured analysis tools: Data flow diagram, Data dictionary, Decision tree,
	Week 3 Structured English, Decision tables. **Feasibility study:** Feasibility considerations,
	Week 4 Steps in Feasibility analysis.
Nov (Month 3)	**Week 1** Systems Design: The process and stages of systems design, Input/output and forms design,
	Week 2 Database design. **Implementation and software maintenance:** Conversion, Post-implementation review. Software maintenance:
	Week 3 maintenance or enhancement, Primary activities of a maintenance procedure.
	Week 4 Hardware and software selection: Procedure and major phases in selection.
Dec (Month 4)	**Week 1** Revision
	Week 2 Revision

HOD

Manpreet Singh

Principal

SYLLABUS PLAN
CLASS : BCA Sem-V

Subject : System Analysis & Design

SEP 2022 TO DEC 2022

Month	Topic
Sep (Month 1)	**Week 1** Systems concepts: Definition and characteristics of a system, Elements of a system
	Week 2 Types of systems. The system development life cycle: Introduction to various phases.
	Week 3. The role of the Systems Analyst: Qualifications of a systems analyst, various roles of the systems analyst.
	Week 4 Systems analysis: Initial investigation, needs identification, determining the user's information requirements
Oct (Month 2)	**Week 1** Information-gathering tools.
	Week 2 Structured analysis tools: Data flow diagram, Data dictionary, Decision tree,
	Week 3 Structured English, Decision tables. **Feasibility study:** Feasibility considerations.
	Week 4 Steps in Feasibility analysis.
Nov (Month 3)	**Week 1** Systems Design: The process and stages of systems design, Input/output and forms design,
	Week 2 Database design. **Implementation and software maintenance:** Conversion, Post-implementation review. Software maintenance:
	Week 3 maintenance or enhancement, Primary activities of a maintenance procedure.
	Week 4 Hardware and software selection: Procedure and major phases in selection.
Dec (Month 4)	**Week 1** Revision
	Week 2 Revision

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Manpreet Singh

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LESSON PLAN

CLASS: BCA SEM VI

Subject : English Literary Skills- II

Session: 2022- 23

Month	Topic
Feb(Month 1)	**Week 3** Introduction to the syllabus The Guide- Text
	Week 4 The Guide- Text
March (Month 2)	**Week1** The Guide- Text
	Week 2 The Guide- Text
	Week 3 The Guide- Characters
	Week 4 The Guide- Themes
April (Month 3)	**Week 1** The Guide- Incidents
	Week 2 The Guide- Summary
	Week 3 Job Applications
	Week 4 Job Applications
May (Month 4)	**Week 1** CV Writing
	Week 2 CV Writing
	Week 3 Revision
	Week 4 Revision
June (Month 5)	**Week 1** Revision

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Department of Computer Science (HEIS), Government College. Ropar (2022-23)
Class BCA Sem. 6Th Subject Software Engineering

Time Period	Topics to be Covered
Week1	Introduction to Software Engineering, Problem Domain, Challenges, and Approach
Week2	Software Development Life Cycle (SDLC), - Phases of SDLC: Requirements Gathering, Design
Week3	Software Development Life Cycle (SDLC) (contd.), - Phases of SDLC: Implementation, Testing
Week4	Software Development Life Cycle (SDLC) (contd.), - Phases of SDLC: Deployment, Maintenance
Week5	Software Development Process Models, - Waterfall Model
Week6	Software Development Process Models (contd.), - Characteristics of Software Process
Week7	Project Management Process, - Software Configuration Management Process, - Software Requirements Analysis, - Software Design
Week8	MST (Mid-Semester Test)
Week9	MST (Mid-Semester Test)
Week10	Software Metrics. - Definition and Importance, - Categories of Metrics: Size, Complexity, Quality, and Performance
Week11	Software Quality- Attributes and Importance, - Introduction to Cyclomatic Complexity Metric
Week12	Coding, - Programming Principles and Guidelines, - Verification: Code Inspections and Static Analysis
Week13	Software Testing Fundamentals, - Black Box Testing Techniques: Equivalence Class Partitioning, Boundary Value Analysis, Cause-Effect Graphing
Week14	Software Testing Fundamentals (contd.), - White Box Testing Techniques: Control Flow and Data Flow-Based Testing, Mutation Testing, - Levels of Testing

Teacher's Signature

HOD's Signature

Subject: BCA-325: Web Designing using ASP.NET   (Sem 6)

SESSION	TOPIC
January (Month 1)	Week 1 INTRODUCTION TO .NET FRAMEWORK Genesis of .Net Features of .Net - .Net binaries - Microsoft Intermediate Languages - Meta Data - .Net types and .net name spaces
	Week 2 Common Language Runtime - Common Type System - Common Language Specification - .Net Applications using command line compiler and visual studio .net IDE.
	Week 3 ASP .NET Introducing ASP .NET - Creating and deploying ASP .NET applications - Web forms
	Week 4 BASICS Web controls - working with events - Rich web controls
February (Month 2)	Week 5 Mid semester Test-I
	Week 6 Custom web controls - Validation controls - Debugging ASP .NET pages.
	Week 7 ADVANCED ASP .NET ASP .NET configuration Business objects - UI BUILDING WEB SERVICES Introduction to web services - Web services Infrastructure
	Week 8 SOAP - Building a web service - Deploying and publishing web services
March (Month 3)	Week 9 Finding web services - Consuming web services.
	Week 10 Deploying and publishing web services - Finding web services - Consuming web services.
	Week 11 Mid semester Test-II
April (Month 4)	Week 12 ADO .NET Basics of ADO .NET - Changes from ADO - Data
	Week 13 Table - Data Views - Data Set
	Week 14 Data Relation Type - ADO .NET Managed Providers - OleDb and SQL Managed Providers
	Week 15 OleDb Data Adapter Type.
	Week 16 Revision

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(Head of Deptt.)

Subject: **BCA-325: Web Designing using ASP.NET** **(Sem 6)**

SESSION	TOPIC
January (Month 1)	Week 1 INTRODUCTION TO .NET FRAMEWORK Genesis of .Net – Features of .Net – .Net binaries – Microsoft Intermediate Language – Meta Data – .Net types and .net name spaces
	Week 2 Common Language Runtime – Common Type System – Common Language Specification – .Net Applications using command line compiler and visual studio .net IDE.
	Week 3 ASP. NET Introducing ASP .NET – Creating and deploying ASP .NET applications – Web forms
	Week 4 BASICS– Web controls – working with events – Rich web controls
February (Month 2)	Week 5 Mid semester Test-I
	Week 6 Custom web controls – Validation controls – Debugging ASP .NET pages.
	Week 7 ADVANCED ASP .NET ASP .NET configuration – Business objects – H1 BUILDING WEB SERVICES Introduction to web services – Web services Infrastructure
	Week 8 SOAP – Building a web service – Deploying and publishing web services
March (Month 3)	Week 9 Finding web services – Consuming web services.
	Week10 Deploying and publishing web services – Finding web services – Consuming web services.
	Week 11 Mid semester Test-II
	Week 12 ADO .NET Basics of ADO .NET – Changes from ADO – Data
April (Month 4)	Week 13 Table – Data Views – Data Set
	Week 14 Data Relation Type – ADO .NET Managed Providers – OleDb and SQL Managed Providers
	Week 15 OleDb Data Adapter Type.
	Week 16 Revision

Teacher Signature

(Head of Deptt.)

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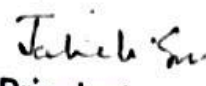
SYLLABUS PLAN
BCA sem 6

Subject : E-Commerce

Session 2022-2023

Month	Topic
Jan (Month 1)	**Week 1** Introduction to E-commerce: Definition of E-commerce, Advantages and disadvantages of E-commerce
	Week 2 E-commerce versus traditional commerce. Internet and WWW
	Week 3 Electronic commerce framework, Electronic commerce and media convergence, The anatomy of E-commerce applications.
	Week 4. Architectural framework for E-commerce
Feb (Month 2)	**Week 1** World Wide Web as the architecture.
	Week 2 Web background: Hypertext publishing.
	Week 3 Security and the Web.
	Week 4 Consumer-oriented E-commerce: Consumer-oriented applications
March (Month 3)	**Week 1** Mercantile Process Models – consumer's perspective, Merchant's perspective
	Week 2 Advertising and Marketing on the Internet: The new age information based marketing
	Week 3 Advertising on the Internet – Active or push-based advertising models, Passive or pull-based advertising models
	Week 4 Guidelines for Internet advertising. Online marketing process.
April (Month 4)	**Week 1** Types of Electronic Payment Systems, Digital token-based electronic payment systems, Smart cards and electronic payment systems
	Week 2 Credit card-based electronic payment systems, Risk and electronic payment systems.
	Week 3 Electronic Data Interchange and its applications in business.
	Week 4 Legal, Ethical and other public policy issues related to e-commerce. queries from students

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