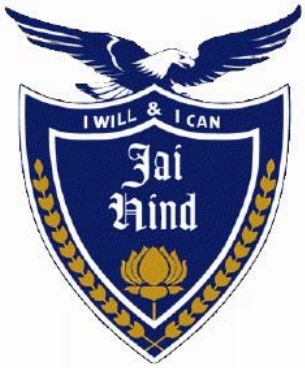
JAI HIND COLLEGE AUTONOMOUS



Syllabus for F.Y.BVOC

Course :Software Development

Semester : I

Credit Based Semester & Grading System

With effect from Academic Year 2018-19

List of Courses

Course: Software Development **Semester: I**

SR. NO.	COURSE CODE	COURSE TITLE	NO. OF LECTURES / WEEK	NO. OF CREDITS
		FY		
1	SBSD101	Communication Skill, Meet and Greet & Professional Etiquettes	3	4
2	SBSD102	French Language, Culture, Historical Milestone and Local Etiquettes	3	4
3	SBSD103	Office Automation	3	4
5	SBSD104	Web Designing & Programming	3	3
6	SBSD104 PR	Web Designing & Programming	3	1.5
7	SBSD105	Logics & Algorithm	3	3
8	SBSD105 PR	Logics & Algorithm	3	1.5
9	SBSD106	Software Engineering	3	3
10	SBSD106 PR	Software Engineering	3	1.5
11	SBSD107	Object Oriented Programming with C++	3	3
12	SBSD107 PR	Object Oriented Programming with C++	3	1.5

Semester I – Theory

Course: SBSD101	**Course Title: Communication Skills, Meet & Greet Professional Etiquettes (Credits :04 Lectures/Week:03)**	
	Objectives: ➢ Students will demonstrate competency in communication skills related to production and presentation of messages in multiple formats. ➢ Students will demonstrate competency in critical thinking skills related to the analysis, interpretation, and criticism of messages. ➢ Students will demonstrate competency in skills related to the construction and analysis of argumentation and persuasive discourse. ➢ Students will demonstrate competency in research skills related to the use of the field's professional literature and in systematic research design and implementation. ➢ Students will demonstrate an understanding of multiple theoretical perspectives and diverse intellectual traditions in Communication **Outcomes:** This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion.Students should also demonstrate the speaking, listening, and interpersonal skills necessary to be effective communicators in academic settings, in the workplace, and in the community	
Unit I	**Basics of Communication** Concept-7Cs, Process, Need, Feedback Barriers to Communication Channels of Communication Basic Reporting & Documentation Letters-Formal & Informal	**11 L**
Unit II	**Parts of Grammar** Prepositions & Articles Similes and metaphors Proverbs and Idioms	**10 L**
Unit III	**Speaking Skills &Listening, First Impression & Body Language** Pronunciation, diction and accents, Intonation & listening skills Pleasant voice culture Body Language Way to greet Importance of eye contact (Activities to be conducted)	**12 L**

Unit-IV	**Socio-Cultural Sensitization** Gender and language sensitization Cross Cultural Sensibilities-vocabulary Practices & business etiquettes Appreciating Diversity Concept and methods for inclusiveness Sustainability	**12 L**

Textbook:

1. Business Communication - K. K. Sinha - Galgotia Publishing Company, New Delhi.
2. Media and Communication Management - C. S. Rayudu - Himalaya Publishing House, Bombay.
3. Essentials of Business Communication - Rajendra Pal and J. S. Korlhalli - Sultan Chand & Sons, New Delhi.
4. Business Communication (Principles, Methods and Techniques) Nirmal Singh - Deep & Deep Publications Pvt. Ltd., New Delhi.
5. Business Communication - Dr. S.V. Kadvekar, Prin. Dr. C. N. Rawal and Prof. Ravindra Kothavade - Diamond Publications, Pune.
6. Business Correspondence and Report Writing - R. C. Sharma, Krishna Mohan - Tata McGraw-Hill Publishing Company Limited, New Delhi.
7. Communicate to Win - Richard Denny - Kogan Page India Private Limited, New Delhi.
8. Modern Business Correspondence - L. Gartside - The English Language Book Society and Macdonald and Evans Ltd
9. Business Communication - M. Balasubrahmanyan - Vani Educational Books.Creating a Successful CV - Siman Howard - Dorling Kindersley

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

(i) C.A.-I : Test – 20 Marks of 40 mins. duration

(ii) C.A.-II : Type Name (Presentation.)

II. Semester End Examination (SEE)- 60 Marks

Course: SBSD102	**Course Title: French Language, Culture, Historical milestones & local Etiquettes(Credits :04 Lectures/Week:03)**	
	Objectives: ➢ The French Section offers multiple contexts for studying the language, with many experiential opportunities for students in their individual areas of interest. ➢ While specific expectations will vary from student to student and by their co-disciplines, the French section seeks to regularly gather and report concrete evidence on what students can do based on their program of study **Outcomes:** This course introduces the fundamental elements of the French language within a cultural context. Emphasis is on the development of basic listening, speaking, reading, and writing skills.	
Unit I	**Basic Grammar** -Conjugations, Oral and Written competence in French, Situational Communication in French	**15 L**
Unit II	**Translation-** Translation –French words to English /English to French, Translation of sentences from English to French and French to English.	**15 L**
Unit III	**History and Culture** History of France under Louis XIV History of France: French Revolution and Age of Napoleon Contemporary French Society: French educational System and French society Contemporary French Society: Political Systems in France	**10 L**
Unit-IV	**Tourist Destinations & French Culture** Tourist Destinations, Regulations Museums and Art Galleries Cuisine ,Shopping ,Local Etiquettes	**5 L**

Textbook:

1. Prescribed Text :Connexions 2 (Lessons 1 to 6) Cahier d'exercises – Connexions 2 (Lessons 1 to 6) Reference Material : (Additional material to be compiled & provided by the teacher)
2. Le syndicalismeen France, collection Que sais-je, 2009, Histoire de l'enseignementen France (du I° siècle à aujourd'hui), avril 2012, 127 pages -La crise des banlieues, sociologie des quartiers sensibles, 2010, toujours da

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

(i) C.A.-I : Test – 20 Marks of 40 mins. duration

(ii) C.A.-II : Type Name (Presentation.)

III. Semester End Examination (SEE)- 60 Marks

Course: SBSD103	**Course Title: Office Automation(Credits :04 Lectures/Week:03)**	
	Objectives: ➢ To perform documentation ➢ To perform accounting operations ➢ To perform presentation skills **Outcomes:** ➢ Office tools course would enable the students in crafting professional word documents, excel spread sheets, power point presentations using the Microsoft suite of office tools. ➢ To familiarize the students in preparation of documents and presentations with office automation tools.	
Unit I	**INTRODUCTION TO MS OFFICE:** About MS Office, Why MS Office, What Are Documents and Templates **WORD:** Introduction To Document, Formatting Text, Editing Text, Creating Template, Insertion Of- Table, Image, Text Box, Cover Page, Header, Footer, Date And Time, Page Number; Margin, Page Setup, Printing Document; Mail Merge- Creating Main Document, Data Source, Adding and Removing Fields, Bulleted and Numbered Lists, Page Formatting, Graphics ,Adding tables, styles	**15 L**
Unit II	**POWERPOINT:** Introduction To Slide, Inserting Slide, Navigation In Presentation, Insert-Text, Text Style, Clip Art, Table, Chart, Picture, Audio, Video; Layout, Slide Design, Master Slide; Enhancing Presentation With Multimedia Effect -Animation, Transition, Slide Show, Recording Sound Slide By Slide, Auto Content Wizard, Template, Slide View, Printing Presentation, Sharing presentation, Working with multimedia, Formatting presentation, Editing presentation.	**10 L**
Unit III	**EXCEL**: Introduction To Spreadsheet, Rows, Columns, Cells, Navigation, Selection of Cells, Resizing Columns, Series Fill, Working with Formulas, Formatting worksheets, Formatting Cells, Editing worksheet, Alignment, Conditional Formatting, Cell Styles, Inserting Chart, Data Sort, Filters, Functions, Pivot Table, Pivot Charts, Workgroup, Protecting Worksheet, Printing Worksheet ,Data tables, Workbook security, Translate worksheet, Adding graphics, Marcos, Templates, Themes, Styles, Data validation **ACCESS:** What Is Database, Creating New Database, Database through Table Wizard, Creating New Table, Rename Columns, Creating Table through Design View, Relationship, Query, Forms, Reports, Webpage	**10 L**
Unit-IV	**OUTLOOK:** What Can Do with Outlook, Toolbars, Adding Contact, Address Book, Changing View, Finding Contact, Filtering Contact, Sorting Contacts, Calendar, Tasks, Journal, Inbox, Reviewing Email, Notes, Action on A Message, Personalizing Message with Signatures,	**10 L**

	Tracking Message, Automating Tasks Using Message Rules **PUBLISHER:** Introduction- Use The Catalogue Features, Use The Quick Publication Wizard, Creating a Letterhead, Saving Letterhead, Changing Look of Publication, Formatting Text, Aligning the Text, Manipulating Frames, Adding Object to Publication, Banners	

Textbook:

1. OFFICE 2016 for Dummies by Peter Weverkar
2. Step by Step Microsoft Word 2013 by Joan Lambert and Joyce Cox
3. Step by Step Microsoft OFFICE 2013

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

(i) C.A.-I : Test – 20 Marks of 40 mins. duration

(ii) C.A.-II : Type Name (Presentation.)

II. Semester End Examination (SEE)- 60 Marks

Course: SBSD104	**Course Title: Web designing and Programming** **(Credits :04 Lectures/Week:03)**	
	Objectives: 1. Apply critical thinking and problem solving skills required to successfully design and implement a web site. 2. Demonstrate the ability to analyze, identify and define the technology required to build and implement a web site. 3. Demonstrate knowledge of artistic and design components that are used in the creation of a web site. 4. Utilize and apply the technical, ethical and interpersonal skills needed to function in a cooperative environment. **Outcomes:** This course introduces students to basic web design using HTML (Hypertext Mark up Language) and CSS (Cascading Style Sheets). The course does not require any prior knowledge of HTML or web design. ... Enhance web pages using text formatting, color, graphics, images, and multimedia	
Unit I	a) Why HTML5? i. Difference between HTML 4 and HTML5 ii. Formatting text by using tags iii. Using lists and backgrounds. iv. Creating hyperlinks and anchors. b) Creating tables i. creating simple table ii. specifying the size of the table iii. specifying the width of the column iv. merging table cells v. using tables for page layout c) Formatting tables i. applying table borders ii. applying background and foreground fills iii. changing cell padding, spacing and alignment d) creating user forms i. creating basic form ii. using check boxes and radio buttons iii. creating lists iv. additional input types in HTML5	**15 L**

	e) Incorporating sound and video i. audio and video in HTML5 ii. HTML multimedia basics iii. embedding video clips iv. incorporating audio on web page f) Image Mapping	
Unit – II	a) Introduction to CSS i. how does CSS work? ii. syntax. iii. identification and grouping of elements iv. selectors v. color vi. background vii. fonts viii. text ix. links x. lists xi. tables b) CSS Box model i. Margin ii. Padding iii. Border iv. height and width v. floating elements vi. positioning of elements vii. align viii. dropdowns ix. navigation bar x. counters xi. Image gallery	**15 L**
Unit III	a) **Java Script** i. Client-Side JavaScript ii. Server-Side JavaScript iii. JavaScript Objects iv. JavaScript Security b) **Operators** i) Assignment Operators ii) Comparison Operators iii) Arithmetic Operators iv) % (Modulus) v) ++(Increment)	**15 L**

vi) --(Decrement)
vii) -(Unary Negation)
viii) Logical Operators
ix) Short-Circuit Evaluation
x) String Operators

xi) Special Operators
xii) ?: (Conditional operator)
xiii) , (Comma operator)
xiv) Delete
xv) New
xvi) This
xvii) Void

c) Statements

i) Break
ii) Comment
iii) Continue
iv) Delete
v) do...while
vi) for
vii) function
viii) if...else
ix) return
x) switch
xi) var
xii) while

d) **Core JavaScript (Properties and Methods of Each)**

i. Array
ii. Boolean
iii. Date
iv. Function
v. Math
vi. Number
vii. Object
viii. String

Unit IV	**a) Document and its associated objects** **i)** Document **ii)** Link **iii)** Area **iv)** Anchor **v)** Image **vi)** Applet **vii)** Layer **b) Events and Event Handlers** i) Defining Event Handlers ii) On Abort iii) On Blur iv) On Change v) On Click vi) On Dbl Click vii) On DragDrop viii) On Error ix) On Focus x) On Key Down xi) On Key Press xii) On Key Up xiii) On Load xiv) On Mouse Down xv) On Mouse Move xvi) On Mouse Out xvii) On Mouse Over xviii) On Mouse Up xix) on Move, on Reset xx) on Resize xxi) on Select xxii) on Submit xxiii) on Unload	**15 L**

Textbook:

1. Web Design the Complete Reference, Thomas Powell, Tata McGrawHill
2. HTML and XHTML the Complete Reference, Thomas Powell, Tata McGrawHill
3. JavaScript 2.0: The Complete Reference, Second Edition by Thomas Powell and Fritz Schneider
4. Styling with CSS by Charles Wyke-Smith

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

i) C.A.-I : Test – 20 Marks of 40 mins. duration

ii) C.A.-II : Type Name (Assignment on Web pages)

II. Semester End Examination (SEE)- 60 Marks

Course: SBSD105	Course Title: Logics & Algorithm (Credits :04 Lectures/Week:03)	
	Objectives: i. Use mathematically correct terminology and notation. ii. Construct correct direct and indirect proofs. iii. Use division into cases in a proof. iv. Use counterexamples. v. Apply logical reasoning to solve a variety of problems. **Outcomes:** To think analytically, creatively and critically in developing robust, extensible and highly maintainable technological solutions to simple and complex problems.	
Unit I	a) Set Theory: i. Fundamentals - Sets and subsets ii. Venn Diagrams iii. Operations on sets iv. Laws of Set Theory v. Power Sets and Products vi. Partition of set vii. The Principle of Inclusion - Exclusion. b) The Logic of Compound Statements: i. Logical Form and Logical Equivalence ii. Conditional Statements iii. Valid and Invalid Arguments c) Quantified Statements: i. Predicates and Quantified Statements ii. Statements with Multiple Quantifiers iii. Arguments with Quantified Statements	**15 L**
Unit II	a) Relations, diagraphs and lattices: a. Product sets and partitions b. relations and diagraphs c. paths in relations and diagraphs d. properties of relations e. equivalence and partially ordered relations f. computer representation of relations and diagraphs g. manipulation of relations h. Transitive closure and Warshall's algorithm i. Posets and Hasse Diagrams j. Lattice. a) Functions: i. Functions Defined on General Sets ii. One-to-One and Onto iii. Inverse Functions iv. Composition of Functions v. Cardinality with Applications to Computability	**15L**

Unit III	a) Graphs and Trees: i. Definitions and Basic Properties ii. Trails, iii. Paths and Circuits iv. Matrix Representations of Graphs v. Isomorphism's of Graphs vi. Trees vii. Rooted Trees viii. Isomorphism's of Graphs ix. Spanning trees and shortest paths.	**15 L**
Unit IV	a) Counting and Probability: i. Introduction ii. Possibility Trees and the Multiplication Rule iii. Counting Elements of Disjoint Sets: The Addition Rule iv. The Pigeonhole Principle v. Counting Subsets of a Set: Combinations, r-Combinations with Repetition Allowed vi. Probability Axioms and Expected Value vii. Conditional Probability viii. Bayes' Formula and Independent Events.	**15 L**

Textbook:

1. Discrete Mathematics with Applications Sussana S. Epp Cengage Learning 4th 2010.
2. Discrete Mathematics, Schaum's Outlines Series Seymour Lipschutz, Marc Lipson Tata MCGraw Hill 2007

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

i) C.A.-I : Test – 20 Marks of 40 mins. duration

ii) C.A.-II : Type Name (Assignment)

II. Semester End Examination (SEE)- 60 Marks

Course: SBSD106	**Course Title: Software Engineering (Credits :04 Lectures/Week:03)**	
	Objectives: ➢ Design a solution to a given problem using one or more design patterns and implement the design in a programming language. ➢ Prepare technical documentations and make presentations on various aspects of a software development project, including the technical aspects ➢ An ability to design a system, component, or process to meet desired needs within realistic constraints ➢ An ability to analyze, design, verify, validate, implement, apply, and maintain software systems. ➢ An ability to function on multi-disciplinary teams. ➢ An ability to identify, formulate, and solve engineering problems. ➢ An understanding of professional and ethical responsibility. ➢ An ability to communicate effectively. **Outcomes:** It provides training to analyze, design, verify, validate, implement, apply, and maintain software systems.	
Unit II	a) Introduction to Software Engineering: i. What is software? ii. Types of software, iii. Software Quality factors, iv. what is software engineering? v. Introduction to Soft Eng & its objectives, vi. general systems approach to problem solving. b) Approaches to software systems development - i. The Structured approach, ii. The Object Oriented Approach iii. The Information Engineering Approach c) Software Process: i. SDLC - 1. Requirement Analysis, 2. Software design, 3. coding, 4. testing, maintenance etc. ii. Software Development Life Cycle Models - 1. Waterfall Model, 2. Prototyping Model, 3. RAD Model, 4. Incremental Model, 5. Spiral Model, 6. Component Based Model, Theirfeatures,strengths, weaknesses and differences between them 7. Fourth Generation Techniques	**15 L**

Unit II	a) Project Feasibility Study: i. Operational, ii. Technical, Economic, iii. Organizational and Cultural feasibility. iv. Defining project costs and project benefits. v. Cost/Benefit Analysis for a project b) Investigating System Requirements: i. Software Requirement Specification Document, ii. Need of SRS, iii. Characteristics & Components of SRS, iv. Stakeholders, v. Identifying requirements using various techniques (such as Questionnaires, reviewing reports/forms, interviews, workflows etc) vi. building prototypes vii. Structured Walkthroughs,	**15 L**
Unit III	a) Modeling System Requirements: i. Conceptual modeling Data Modeling 1. Data entities, 2. Attributes, 3. Relationships, 4. Cardinality, 5. ERD ii. Process Modeling 1. Developing Data Flow Diagrams, Level of abstraction, Context diagram, Top level DFD, DFD fragments, 2. Physical and Logical DFD, 3. Data Dictionary, Events, b) Event Table Logic Modeling: i. Decision Tables, ii. Decision Trees, c) Structured English & Pseudo code Object Oriented Modeling: i. Object Model, ii. Elements of Object Model, iii. Basic Principles of OO Approach, iv. Association, v. Generalization, Specialization d) Aggregation UML: i. Basics of UML, ii. Types of UML Diagrams, iii. Use Case Diagram, iv. Class Diagram, v. Object Diagram,	**15 L**

	vi. Sequence diagram & Collaboration diagram, vii. State Transition & State chart diagrams	
Unit IV	a) System Design & Coding i. System Design: Problem partitioning, Abstraction, ii. Top down & Bottom-up Design, iii. Function Oriented & Object oriented Design, iv. Problem Partitioning, v. Abstraction & its type(Data & Function), vi. Modularity, vii. Coupling, Cohesion, viii. Drawing Structure Charts & Flow charts, ix. UML Activity Diagram, x. Component Diagram, b) Package & Deployment Diagram Designing Databases: i. Converting ERD to Databases, ii. Introduction to OO Databases, iii. Object Relational Databases, c) User Interface Design: i. Designing System Input, output, User Interface, ii. Characteristics of good interfaces Coding – 1. Top down VS Bottom up strategies, iii. structured programming & object oriented programming, iv. Information hiding, v. programming styles, vi. Internal documentation d) Verification & Validation: i. What is V&V, ii. Types of V&V activities 1. inspection, 2. review, 3. walkthrough, iii. V&V with respect to requirements, iv. system analysis, **v.** System design & coding.	**15 L**

Textbook:

1. System Analysis and Design, Satzinger, Jackson, Burd, Sixth Edition,
2. Software Engineering (Seventh Edition), Ian Sommerville. (2004). Addison-Wesley.
3. (2005) Software Engineering: A Practioner's Approach ,Roger S. Pressman. (Sixth Edition, International Edition). McGraw-Hill, 2005.
4. Object-Oriented Software Engineering: Practical Software Development using UML and Java ,Timothy C. Lethbridge & Robert Laganière.(2005) (Second Edition).McGraw-Hill.

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

i) C.A.-I : Test – 20 Marks of 40 mins. duration

ii) C.A.-II : Type Name (Case Study)

II. Semester End Examination (SEE)- 60 Marks

Course: SBSD107	**Course Title: Object Oriented Programming with C++** **(Credits :04 Lectures/Week:03)**	
	Objectives: ➢ Understand the features of C++ supporting object oriented programming ➢ Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation and polymorphism ➢ Understand advanced features of C++ specifically stream I/O, templates, operator overloading, Inheritance paradigm. ➢ Ability to handle possible errors during program execution. ➢ Ability to learn linear data structures **Outcomes:** This course provides in-depth coverage of object-oriented programming principles and techniques. Topics include classes, overloading, data abstraction, information hiding, encapsulation, inheritance, polymorphism, file processing, templates, exceptions, container classes. Also student will learn data structures and arrays.	
Unit I	a) Introduction i. Structure of a program ii. Compilation and Execution of a Program iii. Character Set, identifiers and keywords, data types, constants, variables and arrays, iv. declaration v. expressions vi. statements vii. Variable definition	**15 L**
	b) Operators and Expressions i. Arithmetic operator ii. unary operators iii. relational and logical operators iv. assignment operators, v. assignment operators vi. the conditional operator	
	c) Conditional Statements and Loops i. If Statement ii. If-Else Statement iii. While Loop iv. Do While v. For Loop vi. Nested Loops vii. Infinite Loops viii. Switch Statement	
	d) Functions i. Overview ii. defining a function iii. accessing a function	

	iv. passing arguments to a function v. specifying argument data types vi. function prototypes vii. recursion	
	e) Pointers i. Fundamentals ii. declarations iii. Pointers Address Operators iv. Pointer Type Declaration v. Pointer Assignment vi. Pointer Initialization vii. Pointer Arithmetic viii. Functions and Pointers	
	f) Introduction to OOP i. Need object oriented programming ii. comparison of procedural and object oriented approach iii. object iv. classes v. polymorphism vi. inheritance vii. reusability viii. data hiding and abstraction ix. applications of OOPs	
Unit II:	a) Classes and Objects i. Class declaration ii. constructors iii. constructor initialization lists iv. access functions v. private member functions vi. the copy constructor vii. the class destructor viii. pointers to object ix. static data members x. static function members xi. friend function	**15 L**
	b) Operator Overloading i. overloading the assignment operator ii. the this pointer iii. overloading arithmetic operators iv. overloading the arithmetic assignment operators v. overloading the relational operators vi. overloading the increment and decrement operators vii. overloading the subscript operator	
Unit –III	a) Inheritance i. inheritance ii. protected class members iii. overriding,	**15 L**

	iv. private access verses protected access v. virtual functions and polymorphism vi. virtual destructors vii. abstract base classes	
	b) File Handling i. Classes for file stream operations ii. opening and closing a file iii. detecting end of file iv. file modes v. file pointers and their manipulations vi. sequential input and output operations vii. random access viii. file operations error handling ix. command line argument	
Unit IV:	a) Templates i. function templates ii. class templates iii. container classes iv. subclass templates v. passing template classes to template parameters	**15 L**
	b) Exception Handling i. Introduction ii. Exception Handling Mechanism iii. Concept of throw & catch with example	
	c) Introduction to data structures and arrays i. Data and Information ii. Data Structure iii. Classification of Data Structures iv. Primitive Data Types v. Introduction to arrays vi. One Dimensional Array vii. Memory Representation of One Dimensional Array viii. Traversing ix. Insertion x. Deletion xi. Searching xii. Sorting xiii. Merging of Arrays xiv. Multidimensional Arrays xv. Memory Representation of Two Dimensional Arrays xvi. General Multi-Dimensional Arrays xvii. Advantages and Limitations of Arrays	

Textbook:

1. Object Oriented Analysis and Design,Timothy Budd(2012).: Tata McGraw Hill
2. Object Oriented Programming with C++, E. Balagurusamy.: Tata McGraw Hill
3. A Simplified Approach to Data StructuresLalit Goyal, Vishal Goyal, Pawan Kumar(2014): SPD

Evaluation Scheme

[A] Evaluation scheme for Theory courses

I. Continuous Assessment (C.A.) - 40 Marks

i) C.A.-I : Test – 20 Marks of 40 mins. duration

ii) C.A.-II : Type Name (Mini Project)

II. Semester End Examination (SEE)- 60 Marks

Semester I – Practical

Course: SBSD104 PR	**Practical Title: Web designing and Programming Practical (Credits : 1.5 Practicals /Week: 01)**

1. Design a web page using Formatting text
2. Design a web page using List tag
3. Ordered List
4. Unordered List
5. Definition list
6. Nested List
7. Design a web page table tag
8. Row span & Colspan
9. Cell spacing & cell Padding
10. Design a webpage using frames.
11. Design a webpage using forms
12. Design a webpage using Image mapping.
13. Design a webpage using Audio & video Tag.
14. Design a webpage using inline, internal and external CSS.
15. Design a webpage using Table tag so that the content appears well placed and apply CSS on it.
16. Design a webpage using HTML forms that uses all types of control and style it with CSS.
17. Design a webpage using CSS and display Horizontal and Vertical Navigation bar.
18. Write a javascript program which displays the working of operators.
19. Write a javascript program which displays the working of control statements.
20. Write a javascript program which displays the working of events and event handlers.
    i. On Abort
    ii. On Blur
    iii. On Change
    iv. On Click
    v. on Dbl Click
    vi. on Drag Drop
    vii. on Error
    viii. on Focus
    ix. on Key Down
    x. on Key Press
    xi. On Key Up
    xii. On Load
    xiii. On Mouse Down
    xiv. on Mouse Move
    xv. on Mouse Out
    xvi. on Mouse Over
    xvii. on Mouse Up
    xviii. on Move
    xix. on Reset
    xx. on Resize

	xxi. on Select xxii. on Submit xxiii. on Unload

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test) -20Marks

II. Practical Exam (30 Marks)

Course: SBSD105 PR	**Practical Title: Logics & Algorithm (Credits : 1.5 Practicals/Week: 01)**

1.Set Theory

a) Inclusion Exclusion principle.
b) Power Sets.
c) Mathematical Induction.

2. Functions and Algorithms

a) Recursively defined functions
b) Cardinality
c) Polynomial evaluation
d) Greatest Common Divisor

3.Boolean Algebra

a) Basic definitions in Boolean Algebra

4**.**Properties of integers

a) Division algorithm
b) Primes
c) Euclidean algorithm
d) Fundamental theorem of arithmetic
e) Congruence relation
f) Linear congruence equation

5. Algebraic Systems

a) Properties of operations
b) Roots of polynomials

6. Recurrence relations

a) Linear homogeneous recurrence relations with constant coefficients
b) Solving linear homogeneous recurrence relations with constant coefficients

Solving general homogeneous linear recurrence relations

7. Graph Theory

a) Paths and connectivity
b) Minimum spanning tree
c) Isomorphism

8. Directed Graphs

a) Adjacency matrix
b) Path matrix

9. Counting

a) Sum rule principle
b) Product rule principle
c) Factorial
d) Binomial coefficients
e) Permutations
f) Permutations with Repitition
g) Ordered partitions

	h) Combinations i) Combinations with repetitions j) Unordered partitions 10. Probability Theory a) Sample space and events b) Finite probability spaces c) Equiprobable spaces d) Addition Principle e) Conditional Probability f) Multiplication theorem for conditional probability g) Independent events h) Repeated trials with two outcomes

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test) -20Marks

II. Practical Exam (30 Marks)

Course: SBSD106 PR	**Practical Title: Software Engineering Practical (Credits : 1.5 Practicals/Week: 01)**
	1. Problem Definition, Identifying& Understanding the system, its functions, desired inputs, outputs etc. 2. Conducting Feasibility Study – Deciding S/W, H/W requirements, Type of system (Single-User/Multi-user etc), Limitations of current system, Benefits of the proposed 3. Requirement Analysis, Interviews, Questionnaire, Creating SRS 4. Drawing ERD & converting to tables 5. Drawing Context Diagram, DFDs for understanding process flow 6. Drawing Use Case Diagram 7. Drawing Class, Object Diagrams, 8. Drawing Sequence & Collaboration Diagrams, 9. Drawing State Transition, State chart diagrams 10. Drawing Activity Diagram 11. Drawing Component Diagram 12. Drawing Package Diagram

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test) -20Marks

II. Practical Exam (30 Marks)

Course: SBSD107PR	Practical Title Object Oriented Programming with C++ Practical(Credits : Practicals /Week: 01)

1. Classes and methods

a. Design an employee class for reading and displaying the employee information, the get Info() and display Info() methods will be used respectively. Where get Info() will be private method

b. Design the class student containing get Data() and display Data() as two of its methods which will be used for reading and displaying the student information respectively. Where get Data() will be private method.

c. Design the class Demo which will contain the following methods: read No() ,factorial() for calculating the factorial of a number, reverse No() will reverse the given number, is Palindrome() will check the given number is palindrome, is Armstrong() which will calculate the given number is arm Strong or not. Where read No() will be private method.

2. Friend functions

a. Write a friend function for adding the two complex numbers, using a single class.

b. Write a friend function for adding the two different distances and display its sum, using two classes.

c. Design a class Complex for adding the two complex numbers and also show the use of constructor.

3. Constructor and method overloading

a. Design a class Complex for adding the two complex numbers and also show the use of constructor.

b. Design a class Geometry containing the methods area() and volume() and also overload the area() function

c. Design a class Static Demo to show the implementation of static variable and static function.

4. Operator overloading

a. Overload the operator unary (-) for demonstrating operator overloading

b. Overload the operator + for adding the timings of two clocks, And also pass objects as an argument

c. Overload the + for concatenating the two strings. For e.g “c” + “++” = c++

5. Inheritance

a. Design a class for single level inheritance using public and private type derivation.

b. Design a class for multiple inheritances.

c. Implement the hierarchical inheritance.

6. Virtual function and abstract class

a. Implement the concept of method overriding.

b. Show the use of virtual function

c. Show the implementation of abstract class

	7. Exception handling a. Show the implementation of exception handling b. Show the implementation for exception handling for strings c. Show the implementation of exception handling for using the pointers. 8. File handling a. Design a class File Demo opens a file in read mode and display the total number of words and lines in the file. b. Design a class to handle multiple files and file c. Design a editor for appending and editing the files 9.Templates a. Show the implementation of template class library for swap function. b. Design the template class library for sorting ascending to descending and vice-versa c. Design the template class library for concatenating two strings 10. Data structures and array a. Write a program to store the elements in 1-D array and perform the operations like searching, sorting and reversing the elements. [Menu Driven] b. Read the two arrays from the user and merge them and display the elements in sorted order.[Menu Driven] c. Write a program to perform the Matrix addition, Multiplication and Transpose Operation. [Menu Driven]

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test) -20Marks

II. Practical Exam (30 Marks)

JAI HIND COLLEGE

BASANTSING INSTITUTE OF SCIENCE & J. T. LALVANI COLLEGE OF COMMERCE.
MUMBAI-400020.

Class: Paper-

Subject: **Time**:

Day & Date: **Total Marks :60**

PLEASE READ CAREFULLY THE WARNING PRINTED ON THE ANSWER BOOK IN CONNECTION WITH THE USE TO UNFAIR MEANS.

General Instructions:- 1. All questions are Compulsory

2. Numbers to the right indicate maximum marks

3. Answers to the sub-questions of the same question must be written together.

4. Each question carries 5 marks.

Q1)	**Answer two of the following questions (Based on Unit 1)**	**(10 marks)**
1)		(5)
2)		(5)
3)		(5)
4)		(5)
Q2)	**Answer two of the following questions (Based on Unit 2)**	**(10 marks)**
1)		(5)
2)		(5)
3)		(5)
4)		(5)
Q3)	**Answer two of the following questions (Based on Unit 3)**	**(10 marks)**
1)		(5)
2)		(5)
3)		(5)
4)		(5)
Q4)	**Answer two of the following questions (Based on Unit 4)**	**(10 marks)**
1)		(5)
2)		(5)
3)		(5)
4)		(5)
	……P.T.O	

Q5)	Answer four of the following questions (Based on Unit 4)	(20 marks)
1)		(5)
2)		(5)
3)		(5)
4)		(5)
5)		(5)
6)		(5)
7)		(5)
8)		(5)

JAI HIND COLLEGE

BASANTSING INSTITUTE OF SCIENCE & J. T. LALVANI COLLEGE OF COMMERCE.

MUMBAI 400020.

CLASS: **TIME:**

SUBJECT: **DATE:**

SEMESTER I PRACTICAL EXAMINATION

Examination Total 50 Marks:

1) Practical Examination – 30 Marks

1)	a) Questions on Practical programs	(10 marks)
	b) Questions on Practical programs	(10 marks)
	c) Journal	(5 marks)
	d) Viva	(5 marks)

2) Internal Examination- 20 Marks

2)	a) Practical Programs/case study	(10 marks)
	b) Practical Programs/case study	(10 marks)
	OR	
	a) Mini Project	(20 Marks)