JAI HIND COLLEGE
BASANTSING INSTITUTE OF SCIENCE
&
J.T.LALVANI COLLEGE OF COMMERCE
(AUTONOMOUS)
"A" Road, Churchgate, Mumbai - 400 020, India.

Affiliated to
University ofMumbai

Program :F.Y.B.Voc

Proposed Course :F.Y.B.Voc Software Development

CreditBasedSemesterandGradingSystem(CBCS)witheffectfromthe academic year2018-19

F.Y.B.Voc Software Development Syllabus

Academic year 2018-2019

Semester <II>			
Course Code	**Course Title**	**Credits**	**Lectures /Week**
	General Component		
SBSD201	Organizational Behavior, Cultural & Health Psychology	4	3
SBSD202	Principles of Marketing & Customer Service Management	4	3
SBSD203	Introduction to computer networks	4	3
	Skill Component		
SBSD204	Modern Operating Systems	3	3
SBSD205	Computational Mathematics	3	3
SBSD206	Core Java	3	3
SBSD207	Database Management System	3	3
SBSD204PR	Modern Operating Systems Practical	1.5	3
SBSD205PR	Computational Mathematics Practical	1.5	3
SBSD206PR	Core Java Practical	1.5	3
SBSD207PR	Database Management System Practical	1.5	3

Semester II – Theory

Course: SBSD201	**Course Title:Organizational Behavior, Cultural & Health Psychology(Credits :04 Lectures/Week:03)**	
	Objectives: The main objective of Organizational Behavior is to understand the human interactions in an organization, find what is driving it and influence it for getting better results in attaining business goals. **Outcomes:** ➢ Demonstrate knowledge of OB theories, models and conceptspresented in the course Demonstrate understanding of the role of individual level (micro), and group and ➢ organizational level (macro) factors in fostering organizational success Demonstrate the ability to analyze and evaluate organizationalbehaviour ➢ information Understand how evidence-based management is used to diagnosisproblems ➢ and provide solutions toorganizations	
Unit I	**Organizational Behavior& Cultural Psychology, Meaning and Scope**	**4L**
Unit II	**Individual Behavior& Personality** – Type A and B, Big five personality types, Factors influencing personality. **Values and Attitudes**– Concept and types of values: Terminal value andinstrumental value. Components of attitude, job related attitudes, measurement of attitude. **Learning** – Concept and learning theories andreinforcement. Perceptions And Emotions – Importance, factors influencing perception, perpetual distortions, emotional intelligence.	**16L**
Unit III	**Motivation** – Meaning and importance of motivation, Maslow's need hierarchy theory, Herzberg's two factor theory, Theory X Theory Y, Intrinsic and Extrinsic motivation by Ken Thomas **Introduction to Health Psychology**: components of health as social, emotional, cognitive and physical aspects, relationship between health and psychology, mind and body relationship, goals of health psychology	**15L**
Unit-IV	**Cross cultural management**: Frameworks of cross cultural managing skills – Cultural shock and acculturation – cross cultural training-managing multi-cultural teams, cultural negotiations, global leadership & motivational issues – cultural difference in ethics & decision making.	**10 L**
Textbook: 1. Robbins, S.P., OrganisationalBehaviour, Prentice Hall of India Pvt. Ltd., NewDelhi. 2. 2. Greenberg, Jerald, and Robert A Baron, OrganisationalBehaviour, Prentice Hallof India Pvt. Ltd., NewDelhi. 3. 3. Luthans, F., OrganisationalBehaviour, McGraw Hill International. NewYork		

Evaluation Scheme

[A] Evaluation scheme for Theory courses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD202	Course Title:Principles of Marketing & Customer Service Management (Credits :04Lectures/Week:03)	
Unit I	**Marketing – An Overview:** Introduction, Definition of Market, Types of Markets, Meaning and Definition of Marketing, Origin of Marketing, Scope of Marketing, Importance of Marketing, Functions of Marketing, Difference between Marketing and Selling: **Marketing Concepts:** Introduction, Exchange concept, Production concept, Product concept, Sales/selling concept, Modern marketing concept, Societal marketing concept, Impact of marketing concepts and its applicability	**10L**
Unit II	**Marketing Environment**- Introduction, Need and Importance of Environmental Analysis, Methods of Analysis – SWOT, PEST, Internal Environment of the Organization, External Environment; Marketing Mix: Introduction, Evolution of the "Marketing mix", Components of a traditional marketing mix , Additional components in the mix, Importance of marketing mix in marketing decisions	**10L**
Unit III	**Customer Relationship Management** Customer Relationship Management Fundamentals- Theoretical perspectives of relationship, Evolution of relationship marketing, Customer Satisfaction: Meaning, Definition, Significance of Customer Satisfaction, Components of Customer Satisfaction, Customer Satisfaction Models, Rationale of Customer Satisfaction, Measuring Customer Satisfaction, Cases of Customer Satisfaction	**15L**
Unit-IV	Service Quality: Concept of Quality, Meaning and Definition of Service Quality, Factors influencing customer expectation and perception,Types of Service Quality, Service Quality Dimensions, Service QualityGaps, Measuring Service Quality, Service Quality measurement Scales	**10L**

Textbook:

1. Alok Kumar Rai : Customer Relationship Management: Concepts and Cases(Second Edition)-PHILearning
2. Simon Knox, Adrian Payne, Stan Maklan: Customer Relationship Management-Routledge Inc.
3. Bhasin- Customer Relationship Management (WileyDreamtech)
4. Dyche- Customer relationship management handbook prenticehall
5. Peelan-Customer relationship management prenticehall

Evaluation Scheme

[A] Evaluation scheme for Theory courses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD203	**Course Title:Introduction to Computer Networks (Credits :04 Lectures/Week:03)**	
	Objectives: ➢ **Resource sharing is the main objective of the computernetwork.** ➢ **The goal is to provide all the program, date and hardware is available to everyone on the network without regard to the physical location of the resource and theusers.** ➢ **The second objective is to provide the highReliability.** ➢ **It is achieved by replicating the files on two or more machines, so in caseof unavailability (due to fail of hardware) the other copies can beused.** **Outcomes:** **The *course* includes the following topics: Open Systems Interconnection (OSI) communication model; error detection and recovery; local area *networks*; bridges, routers and gateways; *network* naming and addressing; and local and remote procedures.**	
Unit I	**KNOWING COMPUTER:** What Is Computer, Basic Applications of Computer, Evolution of Computers - Generations, Types of Computers, Computer System, Characteristics, Data, Information **HARDWARE:** Basic Components of a Digital Computer - Control Unit, ALU, Input / Output, Functions and Memory, Memory Addressing Capability of a CPU, Processing Speed of computer.	**15L**
Unit II	**What is a Network :**Introduction, Local Area Network,Wide AreaNetwork, Advantages of a School Network,Disadvantages of a SchoolNetwork **Protocol:** Introduction**,** Ethernet (Physical/Data Layers)**,** IP/IPX(Network Layer)**,**TCP/SPX (Transportation layer)**,** HTTP, FTP, Telnet,SMPT, and DNS(Session/Presentation/Application Layers)	**10L**
Unit III	**Hardware:**Introduction**,**File Server**,**Workstations**,** Laptops/MobileDevices**,** Network Interface Cards**,**Switches/Concentrators/Hubs**,** Repeaters**,** Bridges**,**Routers**,**Firewalls **Cabling:**Introduction**,**Unshielded Twisted Pair (UTS) Cable**,** ShieldedTwisted Pair (STP) Cable**,**Coaxial Cable**,** Fiber Optic Cable**,** EthernetCable Summary**,**Cable Installation Guidelines**,** Wireless LANs	**10L**
Unit-IV	**Topology:**Introduction, Linear Bus,Star,Tree or Expanded Star, Choosing a Topology **Addresses:** Class A, Class B, Class C **Software:**Introduction**,**Peer-to-Peer**,**Client/Server**,** Network OperatingSystem Software	**10L**

Textbook:

1. NetworkingEssentials"-GlennBerg
2. "Computersystemarchitecture"-M.MorrisMano
3. "AnInternetstarterkit"-Sam
4. "E-Commerce"- DavidWhiteley
5. "Introduction to computer"-PeterNorton
6. "Howcomputerwork"-RonWhite(QUE)

Evaluation Scheme

[A] Evaluation scheme for Theorycourses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD204	**Course Title:Modern Operating Systems(Credits :03Lectures/Week:03)**	
	Objectives: ➢ To give an overview on operatingsystem ➢ To demonstrate process management and systemstructure ➢ To discuss about the process scheduling andsynchronization ➢ To explain in detail about memory management and virtualmemory ➢ To discuss about various filesystems **Outcomes:** Understand different structures and services of the operating system. Also understand the concept of deadlock, memory management, scheduling algorithms and synchronization concepts.	
Unit I	**Introduction to Operating Systems:** OS and Computer System Architecture, OS Operations, Process Management, Memory Management, Storage Management, Protection and security, Batch processing, time-sharing, multiprocessing, real time, distributed and modern operating systems, Desktop Systems, Handheld Systems, Clustered Systems, Operating-System Structures, Operating-System Services, User Operating-System Interface, System Calls, Types of System Calls, System Programs, Operating-System Design and Implementation, Virtual Machines, Operating-System Generation, System Boot	**15L**
Unit – II	**Processes and Process Synchronization:** Process Concept, Process Scheduling, Scheduling Criteria , Scheduling Algorithms, Operations on Processes, Interprocess Communication **Threads:** Threads, Multithreading Models, Threading Issues, Thread Scheduling, Communication in Client– Server Systems, The Critical-Section Problem, Peterson's Solution,Semaphores **Deadlocks:** Deadlocks, Deadlock detection and recovery, avoidance and prevention	**15L**

Unit III	**Memory Management:** Memory management without swapping or paging, Swapping, Virtual Memory, Page replacement algorithms, Modeling paging algorithms, Design issues for paging systems, segmentation **I/O Sytem:** Overview, I/O hardware, Application I/O Interface	**15L**
UnitIV	**File Systems:** Files, Directories, file system implementation, file-system management and optimization, MS-DOS file system, UNIX V7 file system, CD ROM file system Virtualization and Cloud: History, requirements for virtualization, type 1 and 2 hypervisors, techniques for efficient virtualization, hypervisor microkernels, memory virtualization, I/O virtualization, Virtual appliances, virtual machines on multicore CPU,Clouds.	**15L**

Textbook:

1. Andrew S. Tanenbaum, Herbert Bos(2014). Modern Operating Systems :Pearson
2. Abraham Silberschatz, Peter B. Galvineg Gagne. Operating System Concepts :Wiley

Evaluation Scheme

[A] Evaluation scheme for Theorycourses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD205	Course Title: Computational Mathematics (Credits :03 Lectures/Week:03)	
	Objectives: It will develop problem-solving and critical thinking skills and use these skills to solve complex computing problems **Outcomes:** ➢ Understand strategies for effective design and their application in designing computingsystems ➢ Learn to acquire problem requirements and specifications from the clientand expressthem ➢ Develop and test software solutions using different design methodologies, application program interfaces, and programminglanguages ➢ Demonstrate appropriate uses of modern tools of the computing Profession	
Unit I	**The Mean, Median, Mode, and Other Measures of Central Tendency**: Index, or Subscript, Notation, Summation Notation, Averages, or Measures of Central Tendency ,The Arithmetic Mean , The Weighted Arithmetic Mean ,Properties of the Arithmetic Mean ,The Arithmetic Mean Computed from Grouped Data ,The Median ,The Mode, The Empirical Relation Between the Mean, Median, and Mode, The Geometric Mean G, The Harmonic Mean H ,The Relation Between the Arithmetic, Geometric, and Harmonic Means, The Root Mean Square, Quartiles, Deciles, and Percentiles, Software and Measures of Central Tendency.	**15L**
UnitII	**Elementary Sampling Theory** : Sampling Theory, Random Samples and Random Numbers, Sampling With and Without Replacement, **Distributions**: Discrete distributions: Uniform, Binomial, Poisson, Continuous distributions: uniform distributions, exponential, Normal distribution state all the properties and its applications.	**15L**
UnitIII	**Errors:**Approximations and Round-Off Errors: Significant Figures, Accuracy and Precision, Error Definitions, Round-Off Errors **Solutions of Algebraic and Transcendental Equations** using - Bisection Method, the Method of False Position, NewtonRaphson Method. **Interpolation:**Forward Difference, Backward Difference, Newton's Forward Difference Interpolation, Newton's Backward Difference Interpolation, Lagrange's Interpolation.	**15L**
UnitIV	**Curve Fitting and the Method of Least Squares:** Relationship Between Variables, Curve Fitting, Equations of Approximating Curves, Freehand Method of Curve Fitting, The Straight Line, The Method of Least Squares, The Least-Squares Line, Nonlinear Relationships, The Least-Squares Parabola, Regression, Applications to Time Series, Problems Involving More Than Two Variables	**15L**

Textbook:

1. STATISTICS Murray R. Spiegel, Larry J. Stephens. McGRAW – HILL ITERNATIONALFOURTH
2. Discrete Mathematics with Applications Sussana S. EppCengage Learning 4th2010

Evaluation Scheme

[A] Evaluation scheme for Theory courses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD206	Course Title: Core Java(Credits :03 Lectures/Week:03)	
	Objectives: • Designs will demonstrate the use of good object-oriented designprinciples including encapsulation and informationhiding. • The implementation will demonstrate the use of a variety of basic control structures including selection and repetition; classes and objects in atiered architecture (user interface, controller, and application logic layers); primitive and reference data types including composition; basic AWT components; file-based I/O; and one-dimensionalarrays. **Outcomes:** • Create Java programs that solve simple businessproblems. • Validate userinput. • Construct a Java class based on a UML classdiagram. • Perform a test plan to validate a Javaprogram. • Document a Javaprogram.	
Unit I	**Introduction :**History of Java, Java features, different types ofJava programs, Differentiate Java with C and C++, JVM, JIT and JRE. **Java Basics :**Variables and data types, declaring variables, literals: numeric, Boolean, character and string literals, keywords, type conversion and casting. Standard default values. **Java Operators :**Arithmetic, relational, logical, assignment,increment and decrement, conditional, bitwise, precedence and order of evaluation, statement and expressions, stringarithmetic. **Loops and Controls :**Control statements for decision making :select statements (if statement, if … else … statement, if …. Else … if … statement, switch statement), goto statement, looping (while loop, do … while loop and for loop), nested loops, breaking out of loops (break and continue statements), labeled loops. **Arrays and Strings :**One and two dimensional array, creating anarray, strings, stringbuffer. **Introduction of Classes :**Defining a class, creating instance andclass members : creating object of a class, accessing instance variables of a class, creating methods, naming methods of a class, accessing methods of a class, constructor, parameterized constructor, 'this' keywood, garbage collection, finalize() method, methods overloading, constructor overloading, nested and inner classes, static member. **Visibility control :**public access, friendly access, protectedaccess, private access, private protected access.	**15L**
UnitII	**Inheritance :**Various types of inheritance, super and subclasses,keywords - 'extends', 'super', constructor chaining, method overriding, final variables and methods, final classes, abstract method and classes, dynamic method dispatch. **Interface:**Defining interfaces, extending interfaces, implementinginterfaces. **Packages :**System packages, using system package,	**15L**

	Namingconventions, creating packages, accessing a package, using a package, adding a class to a package **Introduction to Collections Framework:** The collection Framework, Utility Classes(Stack,Sort, Queue, Vector, Iterator,Enumerator) **Introduction to Thread Programming:** Introduction to Threads, Creating Threads, Lifecycle of a Thread, Synchronization **Exception Handling** : Exception-handling fundamentals, Exception types, Uncaught exceptions, Using try and catch, Multiple catch clauses, nested try statements, use of throw, throws and finally keywords,Java'sBuilt-inexceptions,Userdefinedexception,Chained Exception.	
UnitIII	**Streams and File I/O:**Concept of streams, stream classes, bytestreamclasses :InputStream, and OutputStream, character stream classes : Reader and Writer, Difference between byte stream classes and character stream classes, other I/O classes. File class, Reading / writing bytes / characters, random access file, serialization. **Applets:**Difference of applet and application, creating applets,applet life cycle, passing parameters to applets. Graphics, Fonts and Color : The graphics class, painting, repainting and updating an applet, sizing graphics. Font class, draw graphical figures - lines and rectangle, circle and ellipse, drawing arcs, drawing polygons. Working with Colors : Color methods, setting the paint mode. **AWT& Swing Package:**Window fundamentals : Component, container,Panel, Window, Frame, and Canvas. AWT& Swing Controls Controls: labels, buttons, textfield, textarea, checkboxes, checkboxgroup, choice, and list. Layout Managers :FlowLayout, BorderLayout, GridLayout	**15L**
UnitIV	**Event Handling :**The Delegation Event Model, Event classes(ActionEvent, FocusEvent, InputEvent, ItemEvent, KeyEvent, MouseEvent, MouseWheelEvent, TextEvent, WindowsEvent) and various listener interfaces (ActionListener, FocusListerer. ItemListener, KeyListener, MouseListener, MouseMotionListener, TextListener, WindowFocusListener, WindowListener) **JDBC:** Introduction To JDBC,JDBC Architecture, Types Of JDBC Drivers & Differences, Common JDBC Components, Importing Packages, Registering JDBC Drivers, Opening Connection, Connecting a Java program to a Database, Executing Query, Statement Class & Objects, Getting Information from Database, Obtaining Result Set Information, DML Operations throughJDBC	**15L**

Textbook:

1. Chapters 6-8, 10, 17, 19-22, Java 2: The Complete Reference - Tata McGraw Hill, Fifthedition.
2. Chapters 2-7, 9, 10, 11, 16, 20, 21, 22 of Programming with Java A primer, byE. Balagurusamy 3rd Edition.

Evaluation Scheme

[A] Evaluation scheme for Theorycourses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Course: SBSD207	**Course Title:Database Management Systems(Credits :03 Lectures/Week:03)**	
	Objectives: ➢ have a broad understanding of database concepts anddatabase management systemsoftware ➢ have a high-level understanding of major DBMS components and their function ➢ be able to model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas basedon the conceptualmodel. ➢ be able to write SQL commands to create tables and indexes, insert / update / delete data, and query data in a relationalDBMS. ➢ be able to program a data-intensive application using DBMSAPIs. **Outcomes:** This course introduces database design and creation using a DBMS product. Emphasis is on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.	
UnitI	**What is database system, purpose of database system** **Data models**-file management systems, hierarchical databases, network databases, Relational data model **Codd's 12 rules** **ER Diagrams** **Data Integrity**-What is data integrity, simple validity checking, integrity constraints, referential integrity. Keys,Functional Dependencies, Normalization(1NF,2NF,3NF)	**15L**
UnitII:	**Introduction to Relational Algebra and Calculus, Simple SQL Queries**–DDL,creating a table, drop a table, alter table, table aliases Database updates-insert, update, delete, adding data to the database, deleting data from the database, modifying data in the database Select statement, FROM clause, duplicate rows(DISTINCT), row selection, search conditions, sorting query results, Pre-defined functions, group by & order by queries	**15L**
Unit –III	**Constraints, Views and SQL:** What is constraints, types of constrains, Integrity constraints, Views: Introduction to	**15L**

	views, data independence, updates on views, comparison betweentablesandviewsSQL,NullValues,**Subqueries:** SingleRow&MultipleRowSubquery,Joinedrelations. Triggers.	
Unit IV:	**Transaction management and Concurrency control:** Transactionmanagement: ACID properties, serializability and concurrency control, Lock based concurrency control (2PL, Deadlocks),Time stamping methods, optimistic methods, database recovery management.	**15L**

Textbook:

1. A Silberschatz, H Korth, S Sudarshan, "Database System and Concepts", fifth Edition McGrawHill
2. Rob, Coronel, "Database Systems", SeventhEdition
3. An introduction to Databasesystems-C.J.Date

Evaluation Scheme

[A] Evaluation scheme for Theorycourses

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

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

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

II. Semester End Examination (SEE)- 60Marks

Semester II – Practical

Course: SBSD204PR	Modern Operating Systems Practical (Credits : 1.5 Practicals/Week: 01)

1. Installation of virtual machine software
2. Installation of Linux operating system (RedHat / Ubuntu) on virtual machine.
3. Installation of Windows operating system on virtialmachine.
4. (a) pwd, cd, absolute and relative paths, ls, mkdir,rmdir
   (b) file, touch, rm, cp. mv, rename, head, tail, cat, tac, more, less, strings, chmod
5. (a) ps, top, kill, pkill, bg,fg
   (b) grep, locate, find,locate.
   (c) date, cal, uptime, w, whoami, finger, uname, man, df, du, free, whereis,which.
   (d) Compression: tar, gzip.
6. (a) Date, time, prompt, md, cd, rd,path.
   (b) Chkdsk, copy, xcopy, format, fidsk, cls, defrag, del,move.
7. (a) Diskcomp, diskcopy, diskpart, doskey, echo
   (b) Edit, fc, find, rename, set, type,ver
8. (a)Notepad
   (b) Wordpad
   (c) Paint
   (d) Taskbar
   (e) Adjusting displayresolution
   (f) Using thebrowsers
   (g) Configuring simple networking,Creating users andshares
9. (a) The vieditor
   (b) Graphics
   (c) Terminal
   (d) Adjusting displayresolution
   (e) Using thebrowsers
   (f) Configuring simplenetworking
   (g) Creating users andshares
10. Installing utility software on Linux andWindows

Evaluation Scheme

[B] Evaluation scheme for Practicalcourses

I. PEC(Test)-20Marks

II. Practical Exam (30Marks)

Course: SBSD205PR	Practical Title: Computational Mathematics Practical (Credits : 1.5 Practicals/Week: 01)

1. Using R Execute the statistical functions: mean, median, mode, quartiles, range, inter quartile range, standard deviation, variance,co-variance,histogram
2. Using R import the data from Excel / .CSV file and perform the above functions.
3. Program to calculate the roots of a quadratic equation usingthe formula.
4. Program to evaluate e^xusing infiniteseries.
5. **Solution of algebraic and transcendentalequations:**
    a. Program to solve algebraic and transcendental equation by bisectionmethod.
    b. Program to solve algebraic and transcendental equation by false positionmethod.
    c. Program to solve algebraic and transcendental equation by NewtonRaphsonmethod.
6. **Interpolation**
    a. Program for Newton's forwardinterpolation.
    b. Program for Newton's backwardinterpolation.
    c. Program for Lagrange's interpolation
7. **Regression**
    a. Program for Linear regression.
    b. Program for Polynomial Regression.
8. Program for linearregression.
9. **Random variables anddistributions**
    a. Program to generate randomvariables.
    b. Program to fit binomialdistribution.
    c. Program to fit Poissondistribution

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test)-20Marks

II. Practical Exam (30Marks)

Course: SBSD206PR	Practical Title: Core Java (Credits : 1.5 Practicals/Week: 01)
	1. Write a Java program to create a Java class : (a) without instance variables and methods, (b) with instance variables and without methods, (c) without instance variables and with methods. (d) with instance variables andmethods. 2. Write a Java program that illustrates the concepts of selection statement, looping, nested loops, breaking out ofloop. 3. Write a Java Program that illustrates the concepts of one, two dimension arrays andstrings. 4. Write a Java program that illustrates the concepts of Java class that includes (a) constructor with and without parameters, (b) Overloading methods, (c) Overridingmethods. 5. Write a Java program to demonstrate inheritance by creating suitable classes. 6. Create a Java package, interface and implement in Javaprogram. 7. Practicals on CollectionFramework 8. Practicals on thread Programming 9. Write a program that illustrates the error handling using exception handling. 10. Write a program that illustrates the concepts of streamclasses. 11. Write a Java applet to demonstrate graphics, font and Colorclasses. 12. Write a Java program to illustrate AWT package, Event classes and listeners. 13. Practicals onJDBC

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test)-20Marks

II. Practical Exam (30Marks)

Course: SBSD207PR	Practical Title: Database Management System (Credits : 1.5 Practicals/Week 01)
	1. To create a table and insert 5 meaningfulrecords. 2. Design a Database and create required tables. For e.g. Bank, College Database. 3. ALTER,UPDATE and DELETEstatements 4. Apply the constraints like Primary Key, Foreign key, NULL &Check constraint. 5. To learn how to use GRANT and REVOKE inMySQL. 6. Write the query for implementing the followingfunctions: i. Numericfunction. ii. Characterfunction. iii. Datefunction. 7. Write the queries to implement thejoins. 8. Write the queries to usingoperators. 9. Create views. 10. Demonstrate Subqueries.

Evaluation Scheme

[B] Evaluation scheme for Practical courses

I. PEC(Test)-20Marks

II. Practical Exam (30Marks)

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 <u>four</u> of the following questions (Based on all units)	(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 II 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)