



**JAI HIND COLLEGE
BASANTSING INSTITUTE OF SCIENCE
&
J.T.LALVANI COLLEGE OF COMMERCE
(AUTONOMOUS)**

"A" Road, Churchgate, Mumbai - 400 020, India.

**Affiliated to
University of Mumbai**

Program :BVOC (Software Development)

Proposed Course : S.Y.BVOC (Software Development)

**Credit Based Semester and Grading System (CBCS) with
effect from the academic year 2019-20**

S.Y.BVOC (Software Development)

Academic year 2019-2020

Semester IV			
Course Code	Course Title	Credits	Lectures /Week
General Component			
SBSD401	Basics of Book Keeping & Accounts	4	3
SBSD402	Principle of Management	4	3
SBSD403	Human Resource Management	4	3
Skill Component			
SBSD404	Android App Development	3	3
SBSD405	C# and ASP.Net MVC	3	3
SBSD406	Computer Security	3	3
SBSD407	Advance SQL with Oracle	3	3
SBSD404 PR	Android App Development Practical	1.5	3
SBSD405 PR	C# and ASP.Net MVC Practical	1.5	3
SBSD406 PR	Computer Security Practical	1.5	3
SBSD407 PR	Advance SQL with Oracle Practical	1.5	3

Semester IV – Theory

Course: SBSD401	Course Title: Basics of Book Keeping & Accounts (Credits : 04Lectures/Week: 03)	
	Objectives: <ul style="list-style-type: none"> ➤ Will help in understanding the basics of accounting which is very essential for all the students to know. ➤ Will help them in their jobs in the future and to maintain their own financial accounts. Outcomes: The course prepares students in various management aspects by introducing them to essential management concepts, importance and process of planning and decision making, organization and about management challenges in a competitive environment.	
Unit I	Meaning, Scope of Accounting Need/Functions for Accounting & Book-keeping Accounting as an Art or Science, Classification of Accounting Concepts -Financial Accounting, Management Accounting, Accounting Principles Difference between Management and Financial Accounting, Journal, Rules of Debit and Credit, Compound Journal Entry.	10 L
Unit II	Ledger Posting and Trial Balance, Final Account Ledger Posting Relationship between Journal and Ledger, rules Regarding Posting & Trial Balance, Trading Account, Profit & Loss Account Manufacturing Account, Balance Sheet (without Adjustment Entries).	10 L
Unit III	Management Accounting: Meaning & Scope, Functions & Utility, Limitation of System Cost Accounting: Meaning, Activities, Difference between Cost Accounting and Financial Accounting, Cost Accounting and Management Accounting. Concepts of Cost: Cost, Expense and Loss, Elements of Cost, Components of Total Cost.	15 L
Unit IV	Management Challenges in Competitive Environment:Financial Statements: Meaning and Types, Nature & Limitations, Analysis and Interpretation Ratio Analysis; Classification of Ratios, Profitability Ratios, Turnover Ratios, Financial Ratios,Advantages of Ratios analysis. Fund Flow Statement & Cash Flow Statement, Use, preparation of statement, difference between Fund Flow Statement & Cash Flow Statement.	10 L
Textbook: <ol style="list-style-type: none"> 1. Donald F. Sutton, 1986. Financial Management in Hotel and Catering Heinemann, London. 2. FlamholdsEtle, Human Research Accounting, California. 3. G. Boni and F.F. Shartes, 1988 Hotel Organization Management and Accounting, Sir ISAAR, Pitman, London. 		

4. Horwarth and Toth, 1979, Hotel Accounting, Ronald Press, New York.
5. J. M. Negi, 1987, Financial and cost Control Techniques in hotel and Catering Industry.
6. L. S. Porwal, 1993, Accounting theory, An Introduction Tata McGraw Hill Publishing Co., Ltd., New Delhi.
7. Leslie Chadwick, 1995 The Essence of Financial Accounting Prentice Hall of India Pvt. Ltd., New Delhi.
8. Owen, Accounting for Hospitality Tourism and Leisure, Pitman.
9. Richard, Katas, 1984, Management Accounting for Hotels and Restaurants, Surrey University Press.
10. Richard, Katas, 1989, Book-Keeping in hotel and Catering Industry, Surrey University Press, London.
11. Robert and Anthony, 1995, Management Accounting, Prentice Hall of India Pvt., Ltd. New Delhi.
12. R.D. Boardman, 1980, Hotel and Catering Costing and Budgets, Heinemann, London.
13. Adrill, P and Mclancey , 2001, Accounting and Finance for non-Specialists, Prentice Hall.
14. Dyson J R, 2001, Accounting for Non-Accounting Students, 5th Ed. Prentice Hall.

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 : Assignment/Presentation /Field visit- 20 Marks

II. Semester End Examination (SEE)- 60 Marks

- Q1. Concepts/Terms-Any 5 out of given 10=10 Marks**
- Q2. Answer any one from given two questions based on Unit I 10 Marks**
- Q3. Answer any one from given two questions based on Unit II 10 Marks**
- Q4. Answer any one from given two questions based on Unit III 10 Marks**
- Q5. Answer any one from given two questions based on Unit IV 10 Marks**
- Q6. Case study-based question -Answer any one set from given 2 10 marks**

Course: SBSD402	Course Title: Principles of Management (Credits : 04 Lectures/Week: 03)	
	<p>Objectives:</p> <ul style="list-style-type: none"> ➤ To help them understand the basics of management field which will help them in their future job at any company or if they wish to start their own start up. ➤ Will help them to understand the CSR work and will also teach how to manage work under stress <p>Outcomes: The course prepares students in various management aspects by introducing them to essential management concepts, importance and process of planning and decision making, organization and about management challenges in a competitive environment.</p>	
Unit I	<p>Introduction to Management: Meaning & definition & 5 Principles of Management, Functions of Management, Factors Responsible for New Horizons of Management, Management Skills and Competency in 21st Century</p> <p>Management Information System: Meaning, Features Management by Exception: Meaning, Advantage</p>	10 L
Unit II	<p>Planning & Decision Making: Planning: Meaning and Definition, short term and long term planning, Steps in Planning, Components of Planning MBO : Meaning, Steps, Advantages Decision Making: Meaning and Definition of Decision Making, Steps/ process in decision making, Techniques of decision making, Essentials of sound decision making.</p>	10 L
Unit III	<p>Organization: Meaning and Definition of Organization Types of Organization ,Formal and Informal forms of Organization, Meaning and Features of line, line and staff, matrix Virtual Organization: Features Challenges of Virtual teams Span of Control Span of Control: meaning and features Factors determining Span of Control Delegation: Meaning Barriers to Delegation Principles of Effective Delegation Departmentation: Meaning and Bases of Departmentation</p>	15 L
Unit IV	<p>Management Challenges in Competitive Environment Corporate Social Responsibility: Meaning Scope Advantages Knowledge Management: Concept Features and Utility Management of Change: Meaning Process, Barriers to Change Corporate Governance: Meaning need for Corporate Governance Tests b) Stress Management at Work: Meaning effects of Stress Measures of Managing Stress</p>	10 L
<p>Textbook: 1. Ramasamy. (2009). <i>Principles of Management</i>, Mumbai: Himalaya Publication.</p>		

2. Tripathi, Reddy. (2004)*Principles of Management*, New York: Tata Mc Grew Hill
3. Koontz II & W.(10th Ed) (2015).*Essentials of Management*, New York: Mc. Grew Hill.
4. Prasad, L.M. (Eight Edition). *Principles and Practice of Management*, New Delhi: Sultan Chand & Sons.

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Q5. Answer any one from given two questions based on Unit IV 10 Marks

Q6. Case study-based question -Answer any one set from given 2 10 marks

Course: SBSD403	Course Title: Human Resource Management (Credits : 04 Lectures/Week: 03)	
	<p>Objectives:</p> <ul style="list-style-type: none"> ➤ This paper examines the effective skills requires for HRM which students will be using in their professional career ➤ Students develop a basic understanding of Management skills and explore various aspects of leadership, decision-making, careers, power and personality development. ➤ The paper is based on a foundation of theory but incorporates a strong practical emphasis. <p>Outcomes:</p> <ul style="list-style-type: none"> ➤ Student will be able to appreciate the values of HRM and incorporate in their professional life. ➤ Students will learn various aspects and have a perspective on organizational behaviour 	
Unit I	<p>Overview of HRM Field- Meaning and scope of human relations Management Organisation of Personnel functions</p> <p>Organizational Theories & Human Resources- Taylor's principles of scientific management, Fayol's staff management theories&the two types of managers</p>	10 L
Unit II	<p>Staffing in Organizations– The hiring process, staff selection methods&job bidding Employee turnover and absenteeism, employee termination Employee training programs</p> <p>Job Analysis and Design- Job enrichment and enlargement, job rotation Job specifications and descriptions, job evaluation methods</p>	15 L
Unit III	<p>Performance Appraisals– Administrative and developmental uses of performance appraisals, Common appraisal methods& management by objective</p> <p>Types of compensation systems- compensation equity Mandatory and voluntary benefits, incentives</p>	10 L
Unit IV	<p>Labor Relations– The National Labor Relations Board, collective bargaining and unionizing processes Bargaining strategies&Executive Order 10988</p> <p>Current Issues and Trends in HRM– Affirmative action, cultural and age diversity, Gender diversity, workplace violence&alternative work arrangements</p>	10 L
<p>Textbook:</p> <p>1. Dessler, Gary. (2014).(14th ed)<i>Human Resource Management..</i> Upper Saddle River, NJ: Prentice Hall,</p>		

2. Mathis, Robert L., & Jackson, John H., (2014). (14th ed). *Human Resource Management*. Stamford, CT: Cengage Learning.

Additional References:

1. Sharma, A. M. (2005). *Personnel & HRM*, Pune: Himalaya Publishing House.
2. Monappa, Arun & Saiyadin, Mirza., (1985). *Human Resource Management*, New York: Tata McGraw Hill Publishing Co.
3. Pattanayak, Bisvrajeet., (2005). *Human Resource Management*, Delhi: Prentice - Hall India.
4. Decenzo, David A., & Robbins, Stephen P., (1994). *Human Resource Management*, New York: John Wiley & Son. Inc.
5. Michael, V. P., (1998). *Human Resource Management and Human Relations*, Pune: Himalaya Publishing House.

Evaluation Scheme

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Q2. Answer any one from given two questions based on Unit I 10 Marks

Q3. Answer any one from given two questions based on Unit II 10 Marks

Q4. Answer any one from given two questions based on Unit III 10 Marks

Q5. Answer any one from given two questions based on Unit IV 10 Marks

Q6. Case study-based question -Answer any one set from given 2 10 marks

Course: SBSD404	Course Title: Android App Development(Credits :03 Lectures/Week:03)	
	<p>Objectives:</p> <ul style="list-style-type: none"> ➤ To provide the comprehensive insight into developing applications running on smart mobile devices and demonstrate programming skills for managing task on mobile. ➤ To provide systematic approach for studying definition, methods and its applications for Mobile-App development. <p>Outcomes:</p> <ul style="list-style-type: none"> ➤ Understand the requirements of Mobile programming environment. ➤ Learn about basic methods, tools and techniques for developing Apps ➤ Explore and practice App development on Android Platform <p>Develop working prototypes of working systems for various uses in daily lives</p>	
Unit I	<p>Android Introduction:- Android Introduction, What is Android, History and Version Android Architecture, Core Building Blocks, Activity and Intents Activity LifeCycle, Implicit Intent, Explicit Intent, StartActivityForResult, Share App Data Android Fragments</p>	15 L
Unit II	<p>Android Menu Option Menu, Context Menu, Popup Menu Android Widgets:- UI Widgets, Working with Button, Toast, Custom Toast, ToggleButton, CheckBox, Custom CheckBox, RadioButton, Dynamic RadioButton, CustomRadioButton, AlertDialog, Spinner, AutoCompleteTextView, ListView, Custom ListView, RatingBar, WebView, SeekBar, DatePicker, TimePicker, Analog and Digital, ProgressBar, VerticalScrollView, Horizontal, ScrollView, ImageSwitcher, ImageSlider, ViewStub, TabLayout TabLayout with FrameLayout, SearchView, SearchView on Toolbar, EditText with TextWatcher</p>	15 L
Unit III	<p>Android Service Android Service Android AlarmManager Android AlarmManager Android Storage Android Preferences, Internal Storage, External Storage Android SQLite SQLite Tutorial SQLite Spinner XML and JSON XML Parsing SAX, XML Parsing DOM XMLPullParser JSON Parsing Android Multimedia MediaPlayer: Audio VideoView: Video Recording Media</p>	15 L

Unit IV	Phone Call Send SMS Send Email Bluetooth List Paired Devices WIFI Camera Sensor Android Graphics Android Animation Google Map Android Google Map Current Location Search Location Network Connectivity Services Firebase Authentication - Google Login Android Notification Android Social Integrating Google Sign-In Research Component:- <ul style="list-style-type: none"> ➤ Radiation Reducer ➤ Anti Theft System ➤ Call Blocker ➤ Group Chat ➤ Heart beat monitor 	15 L
Textbook: <ol style="list-style-type: none"> 1. Professional Android™ 4 Application Development, Reto Meier, John Wiley & Sons, Inc. 2012. 2. Android Application Development, Black Book, Pradeep Kothari, Kogent Learning Solutions, DreamTech Press 3. “Beginning Android 4 Application Development”, Wei-Meng Lee, March 2012, WROX. 4. Google Android Developers - https://developer.android.com/index.html 		

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 : Mini Project- 20 Marks

II. Semester End Examination (SEE)- 60 Marks

Q.1 Answer any two -10 Marks

Q.2 Answer any two -10 Marks

Q.3 Answer any two -10 Marks

Q.4 Answer any two -10 Marks

Q.5 Answer any four -20 Marks

[B] Evaluation scheme for Practical courses

(i) Internal Practical – 20 marks

(ii) External Practical – 30 marks

Course: SBSD406	Course Title: C# and ASP.Net MVC (Credits : 03 Lectures/Week: 03)	
	Objectives: <ul style="list-style-type: none"> ➤ Understanding MVC ➤ Develop a proficiency in the C# programming language ➤ Proficiently develop ASP.NET web applications using C# and MVC ➤ Understanding the entity framework Outcomes: This course is designed to provide the knowledge and help students create applications and projects using ASP.Net MVC and C#.	
Unit I	The C# Language: C# Language Basics, Variables and Data Types, Variable Operations, Object-Based Manipulation, Conditional Logic, Loops, Methods. Types, Objects, and Namespaces: The Basics About Classes, Building a Basic Class, Value Types and Reference Types, Understanding Namespaces and Assemblies. Advance .Net:-MVC:- Prerequisites of Asp.net Mvc4 Introduction to ASP.NET MVC2, MVC3, MVC4 : The role of the Model, View, and Controller ,Key benefits of ASP.NET MVC2,MVC3,MVC4	15 L
Unit II	Getting Started with ASP.NET MVC2,MVC3,MVC4 : ASP.NET MVC2,MVC3,MVC4 project templates ,Understanding the structure of an ASP.NET MVC2,MVC3,MVC4 project,Naming conventions ,Creating views,Definingcontrollers,Defining a data model Creating a Complete ASP.NET MVC2, MVC3, MVC4 Application: Creating strongly-typed views ,Understanding URLs and action methods ,Using HTML helpers ,Handling form post-backs,Data validation Using the Razor View Engine: Getting started with Razor,Razor design goals ,Implementing a Razor view ,Razor syntax ,Accessing Model Data in Razor views	15 L
Unit III	Industrial-Strength ASP.NET MVC2,MVC3,MVC4 Applications: ASP.NET application architecture best practices, Implementing a Repository and Entity Framework Data Model ,Implementing a custom controller factory View Techniques: Defining and using custom HTML Helpers ,Defining a layout / MVC2,MVC3,MVC4 Master Page,UsingStyles,Defining and using partial views,Razor Helper Method syntax Implementing Navigation in MVC web apps: Defining view-model classes,Implementing Data Filtering in a Controller ,Understanding the Routing mechanism ,Adding custom entries to a route table,Defining defaults, parameters, and validation .Generating URLs and Hyperlinks,Custom Route constraints MVC2, MVC3, MVC4 State Management: Using hidden fields ,Session and Application State ,Custom model bindings	15 L

Unit IV	<p>Entity Framework :Entity Framework Introduction. Entity Framework Introduction,What is ADO.NET Entity Framework, Comparing EF with LINQ to SQL, EF Architecture, EF Versions History,First EF Application and Creating EDMX File,DbContextvsObjectContext</p> <p>ASP.NET MVC & LINQ - working with Data: Language features used in LINQ,Creating simple LINQ queries ,Using LINQ queries in a Web application; Defining a data repository; Using LINQ to define a data access component ASP.NET Web API with MVC :Overview of the ASP.NET Web API ,Building servers and clients ,Content negotiation ,Validation ,Query able Interfaces Research Component: Developing MVC based Web application with the entity framework</p>	15 L
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Textbook:

1. C# 4.0 The Complete Reference, Herbert Schildt, Tata McGraw Hill
2. Beginning ASP.NET 4 in C# and VB IvarSpanjaars, WROX
3. ASP.NET MVC 5 Jordan Rees,Apress publication,5th Edition
4. Beginning ASP.NET MVC 4, Apress publication
5. Professional MVC 5 , Wrox Publication
6. Pro ASP.NET MVC 5 Adam Freeman, Apress publication

Evaluation Scheme

[A] Evaluation scheme for Theory courses

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(ii) C.A.-II : Mini Project- 20 Marks

II. Semester End Examination (SEE)- 60 Marks

Q.1 Answer any two -10 Marks

Q.2 Answer any two -10 Marks

Q.3 Answer any two -10 Marks

Q.4 Answer any two -10 Marks

Q.5 Answer any four -20 Marks

[B] Evaluation scheme for Practical courses

(i) Internal Practical – 20 marks

(ii) External Practical – 30 marks

Course: SBSD406	Course Title: Computer Security(Credits : 03 Lectures/Week: 03)	
	<p>Objectives: Students will learn the basic concepts in computer security including software vulnerability analysis and defense, networking and wireless security, applied cryptography, as well as ethical, legal, social and economic facets of security. Students will also learn the fundamental methodology for how to design and analyze security critical systems.</p> <p>Outcomes:</p> <ul style="list-style-type: none"> ➤ Identify some of the factors driving the need for Computersecurity ➤ Identify physical points of vulnerability in simplenetworks ➤ Design and implement appropriate security technologies and policies to protect computers and digitalinformation 	
Unit I	<p>Information Security Overview : The Importance of Information Protection, The Evolution of Information Security, Justifying Security Investment, Security Methodology, How to Build a Security Program, The Impossible Job, The Weakest Link</p> <p>Risk Analysis: Threat Definition, Types of Attacks, Risk Analysis.</p> <p>Secure Design Principles: The CIA Triad and Other Models, Defense Models, Zones of Trust, Best Practices for Network Defense.</p>	15 L
Unit II	<p>Authentication and Authorization: Authentication, Authorization</p> <p>Encryption: A Brief History of Encryption, Symmetric-Key Cryptography, Public Key Cryptography, Public KeyInfrastructure.</p> <p>Storage Security: Storage Security Evolution, Modern Storage Security, Risk Remediation, BestPractices.</p> <p>Database Security: General Database Security Concepts, Understanding Database Security Layers, Understanding Database-Level Security, Using Application Security, Database Backup and Recovery, Keeping Your Servers Up to Date, Database Auditing and Monitoring.</p>	15 L
Unit III	<p>Secure Network Design: Introduction to Secure Network Design, Performance, Availability, Security.</p> <p>Network Device Security: Switch and Router Basics, Network Hardening.</p> <p>Firewalls: Overview, The Evolution of Firewalls, Core Firewall Functions, Additional Firewall Capabilities, Firewall Design. Wireless Network Security: Radio Frequency Security Basics, Data- Link Layer Wireless Security Features, Flaws, and Threats, Wireless VulnerabilitiesandMitigations,WirelessNetwork Hardening Practices and Recommendations, Wireless Intrusion Detectionand Prevention, Wireless Network Positioning and Secure Gateways.</p>	15 L
Unit IV	<p>Intrusion Detection and Prevention Systems: IDS Concepts, IDS Types and Detection Models, IDS Features, IDS Deployment Considerations, Security Information and Event Management (SIEM).</p> <p>Voice over IP (VoIP) and PBX Security: Background, VoIP Components,VoIP Vulnerabilities and Countermeasures, PBX, TEM:</p>	15 L

	<p>Telecom Expense Management.</p> <p>Virtual Machines and Cloud Computing: Virtual Machines, Cloud Computing.</p> <p>Secure Application Design: Secure Development Lifecycle, Application Security Practices, Web Application Security, Client Application Security, Remote Administration Security.</p> <p>Physical Security: Classification of Assets, Physical Vulnerability Assessment, Choosing Site Location for Security, Securing Assets: Locks and Entry Controls, Physical Intrusion Detection.</p> <p>Research Component:</p> <ul style="list-style-type: none"> ➤ Firewall ➤ Wireless Security. ➤ Mobile Forensic. ➤ Digital Forensic. ➤ Access Control List. 	
<p>Textbook:</p> <ol style="list-style-type: none"> 1. The Complete Reference: Information Security, Mark Rhodes- Ousley, McGraw- Hill 2nd, 2013 2. Essential Cybersecurity Science, Josiah Dykstra, O'Reilly, Fifth, 2017 3. Principles of Computer Security: CompTIA Security+ and Beyond, Wm. Arthur Conklin, Greg White, McGraw Hill, Second 2010 		

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II. Semester End Examination (SEE)- 60 Marks

Q.1 Answer any two -10 Marks

Q.2 Answer any two -10 Marks

Q.3 Answer any two -10 Marks

Q.4 Answer any two -10 Marks

Q.5 Answer any four -20 Marks

[B] Evaluation scheme for Practical courses

(i) Internal Practical – 20 marks

(ii) External Practical – 30 marks

Course: SBSD407	Course Title: Advance SQL with Oracle (Credits :03 Lectures/Week:03)	
	<p>Objectives:</p> <ul style="list-style-type: none"> ➤ Describe the fundamentals of the PL/SQL programming language ➤ Write and execute PL/SQL programs in SQL*Plus ➤ Execute PL/SQL data type conversion functions ➤ Display output through PL/SQL programs ➤ Manipulate character strings in PL/SQL programs ➤ Debug PL/SQL programs <p>Outcomes:</p> <ul style="list-style-type: none"> ➤ Enhance the knowledge and understanding of Database analysis and design. ➤ Enhance the knowledge of the processes of Database Development and Administration using SQL and PL/SQL. ➤ Enhance Programming and Software Engineering skills and techniques using SQL and PL/SQL. ➤ Preparation of background materials and documentation needed for Technical Support using SQL and PL/SQL. ➤ Use the Relational model and how it is supported by SQL and PL/SQL. 	
Unit I	<p>Creating PL/SQL Blocks</p> <p>DDL and data types : Using Variables in PL/SQL, Recognizing PL/SQL Lexical Units, Recognizing Data Types, Using Scalar Data Types , Writing PL/SQL Executable Statements ,Nested Blocks and Variable Scope , Good Programming Practices</p> <p>DML: Review of SQL DML, Retrieving Data in PL/SQL, Manipulating Data in PL/SQL, Using Transaction Control Statements, aggregate queries</p> <p>Control structure: Conditional Control: IF Statements, Conditional Control: CASE Statements ,Iterative Control: Basic Loops , Iterative Control: WHILE and FOR Loops , Iterative Control: Nested Loops</p>	15 L
Unit II	<p>Cursors and Parameters Introduction to Explicit Cursors , Using Explicit Cursor Attributes, Cursor FOR Loops , Cursors with Parameters ,Using Cursors for UPDATE , Using Multiple Cursors</p> <p>Exception Handling Handling Exceptions, Trapping Oracle Server Exceptions , Trapping User-Defined Exceptions , Recognizing the Scope of Exceptions</p> <p>Using and Managing Procedures Creating Procedures, Using Parameters in Procedures, Passing Parameters</p>	15 L
Unit III	<p>Using and Managing Functions Creating Functions ,Using Functions in SQL Statements , Review of the Data Dictionary , Managing Procedures and Functions , Review of Object Privileges</p> <p>Using and Managing Packages Creating Packages , Managing Package Concepts, Package Body, referring Package Elements, Forward Declaration, Cursor Usage in package, Overloading, Dependency in packages, package Information</p>	15 L

Unit IV	<p>Autonomous Transaction in Oracle Commit, Rollback, Savepoint, Rollback To Bulk Collect</p> <p>What is Bulk Collect? For Clause, Limit Clause, Bulk Collect Attributes.</p> <p>Triggers: Benefits of Triggers, Types of Triggers in Oracle, How to Create Trigger, :NEW and :OLD Clause, INSTEAD OF Trigger</p> <p>Execute Immediate & DBMS_SQL: What is Dynamic SQL? Ways to write dynamic SQL, DBMS_SQL for Dynamic SQL</p> <p>Research Component:-</p> <ul style="list-style-type: none"> ➤ Secure data processing ➤ Distributed databases. ➤ Query Processing. 	15 L
<p>Textbook:</p> <ol style="list-style-type: none"> 1. <i>Oracle PL/SQL Programming</i>, Fifth Edition By Steven Feuerstein, Bill Pribyl 2. <i>Murach's Oracle SQL and PLSQL</i> by Joel Murach, Murach and Associates. 		

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Q.2 Answer any two -10 Marks

Q.3 Answer any two -10 Marks

Q.4 Answer any two -10 Marks

Q.5 Answer any four -20 Marks

[B] Evaluation scheme for Practical courses

(i) Internal Practical – 20 marks

(ii) External Practical – 30 marks

Semester IV – Practical

Course: SBSD404PR	Practical Title: Android App Development Practical (Credits : 1.5 Practicals/Week: 01)
	<ol style="list-style-type: none">1. Install Android Studio and Run Hello World Program.2. Create an android app that demonstrates Activity Lifecycle and Instance State.3. Create an android app with Interactive User Interface using Layouts.4. Create an android app that demonstrates working with Input Controls, Alerts, and Pickers.5. Create an android app that demonstrates the use of an Options Menu.6. Create an android app that demonstrate Screen Navigation Using the App Bar and Tabs.7. Create an android app to show Notifications8. Develop an application for connecting to the internet and sending email.9. Develop an application demonstrating Internal Storage to store private data on the device memory.10. Create an android app to save user data in a database and use of different queries.11. Develop an application for working with graphics and animation.12. Develop an application for working with device camera.13. Develop an application for working with location based services.14. Develop an application for working with Firebase

Course: SBSD405PR	Practical Title: C# and ASP.Net MVCPractical (Credits : 1.5 Practicals/Week: 01)
	<p>1. Working with basic C# and ASP .NET</p> <p>a. Create an application that obtains four int values from the user and displays the product.</p> <p>b. Create an application that receives the (Student Id, Student Name, Course Name, Date of Birth) information from a set of students. The application should also display the information of all the students once the data entered.</p> <p>c. Create an application to demonstrate following operations</p> <p>i. Generate Fibonacci series. ii. Test for prime numbers. iii. Use of foreach loop with arrays</p> <p>2. Working with Object Oriented C# and ASP .NET</p> <p>a. Create simple application to demonstrate use of following concepts</p> <p>i. Function Overloading ii. Inheritance (all types) iii. Constructor overloading iv. Interfaces</p> <p>b. Create simple application to demonstrate use of following concepts</p> <p>i. Using Delegates and events ii. Exception handling</p> <p>3.Creating a basic MVC based web application</p> <p>4.Working with validation in a web application</p> <p>5.Working with Razor view</p> <p>6. Implementing state management in MVC applications.</p> <p>7.Working with Master Pages and styles</p> <p>8.Create Web Form to demonstrate use of Website Navigation controls</p> <p>9. a.Create a web application to display records by using database. b.Working with data using Linq</p> <p>10.Working with ASP.NET Web API in MVC</p>

Course: SBSD406PR	Practical Title:Computer SecurityPractical (Credits : 02 Practicals/Week: 03)
	<p>1Configure Routers</p> <ul style="list-style-type: none"> a) OSPF MD5 authentication. b) NTP. <p>2Configure Routers</p> <ul style="list-style-type: none"> a) to log messages to the syslog server. b) to support SSH connections. <p>3Configure AAA Authentication</p> <ul style="list-style-type: none"> a) Configure a local user account on Router and configure authenticate on the console and vty lines using local AAA b) Verify local AAA authentication from the Router console and the PC-A client <p>4Configuring Extended ACLs</p> <ul style="list-style-type: none"> a) Configure, Apply and Verify an Extended Numbered ACL <p>5Configure IP ACLs to Mitigate Attacks and IPV6 ACLs</p> <ul style="list-style-type: none"> a) Verify connectivity among devices before firewall configuration. b) Use ACLs to ensure remote access to the routers is available only from management station PC-C. c) Configure ACLs on to mitigate attacks. <p>6Configuring a Zone-Based Policy Firewall</p> <p>7Configure IOS Intrusion Prevention System (IPS) Using the CLI</p> <ul style="list-style-type: none"> a) Enable IOS IPS. b) Modify an IPS signature. <p>8Layer 2 VLAN Security</p> <p>9Configure and Verify a Site-to-Site IPsec VPN Using CLI</p>

Course: SBSD407PR	Practical Title: Advance SQL with OraclePractical (Credits : 1.5 Practicals/Week: 01)
	<ol style="list-style-type: none"> 1. Creating anonymous PL/SQL blocks. 2. DDL and insert values in tables <ol style="list-style-type: none"> a. Querying single and multiple tables b. Creating simple tables and tables with constraints. 3. Manipulating data (Insert, update and delete) 4. Conditional statement and control statement 5. Iterative control 6. Cursors with parameters to process a number of rows from multiple tables. 7. Create exception handlers for specific situations. 8. Function and procedures <ol style="list-style-type: none"> a. Creating and invoking functions from SQL statements b. Creating and invoking stored procedures. c. Re-create the source code for a procedure and a function. d. Create procedures that issue DML and query commands. 9. Working with packages <ol style="list-style-type: none"> a. Create package specifications and package bodies. Invoke the constructs in the packages b. Create a package containing an overloaded function. 10. Triggers <ol style="list-style-type: none"> a. Create statement and row triggers. b. Create procedures that will be invoked from the triggers. 11. XML