E-Business (3-1-0)
(Semester VII)

Evaluation:

	Theory	Practical	Total
Sessional	50	-	50
Final	50	-	50
Total	100	-	100

Course Objectives:

1. This course helps students to understand how business organizations are using e-commerce to run and enhance their business and trading activities.
2. After completion of this course learners are expected to familiar with the various business terms and activities like e-commerce, e-business, business models, e-marketing, e-advertisement, e-payment, e-security as well as and good management skill for modern business transaction.

Unit	Topic	Hours
1	**Introduction to E-Business:**	
	1.1 The origin of e-commerce (coverage of growth of network and internet, emerge of WWW etc.)	4
	1.2 Definition of electronic commerce	
	1.3 The Scope of Electronic Commerce	
	1.4 Traditional commerce V/S electronics commerce	
	1.5 Difference between e-commerce and e-business,	
	1.6 Advantages and disadvantages, application of e-business.	
2	**Business Models for E-commerce:**	
	2.1 Business model	8
	2.2 Type of e-commerce E-business model)	
	2.2.1 E-business Models based on the relationship of Transaction parties (B2B, B2C, C2C, B2G, G2B, G2C etc.)	
	2.2.1.1 Characteristics of B2B and B2C, Advantages of B2B and B2C, summary of all types	
	2.2.2 E-business Models based on the relationship of Transaction Types (Brokerage, Aggregator, Info-mediary, Community, Value Chain, Subscription, Manufacture, Advertising, Affiliate)	
	2.2.2.1 Characteristics and advantages of Brokerage model	
	2.2.2.2 Price discovery Mechanisms of Brokerage Model [(Auction:- English Auction, Dutch Auction, First-price sealed-bid Auction, Vickery Auction) , Reverse auction, market Exchange]	
	2.2.2.3 Types of Aggregator	
	2.2.2.4 Classification of Info-mediary, Community Structure, Necessary elements for the community model	
3	**Enabling Technologies of the World Wide Web**	
	3.1 World wide web, Internet client server application	6

3.2 Software Agents, Value of software agents in a Networked World, A typology of Agents, A panoramic overview of the different Agent Types,
3.3 Automotive network exchange
3.4 Intranet and Extranet, Intranet software, Considerations in Intranet Deployment, Application of Intranet and extranet, structure of extranet, Extranet products & services, Business Model of Extranet Application, managerial Issues, Architecture of the Internet,

4 **E-Procurement** 2
4.1 Difference between purchase and procurement
4.2 Market solution: sell-side, buy-side, and market place
4.3 Integration of product catalogue
4.4 Procurement service provider

5 **E-Marketing, E-Advertisement and E-branding:**
5.1 Introduction, Function, Traditional marketing and e-marketing 7
5.2 Online Marketing, advantages and disadvantage
5.3 Guidelines to prepare the good website and maintaining a website
5.4 Conduction online market research
5.5 E-advertisement: various means of advertisement, market segment, Measuring the effectiveness of e-advertisement,
5.6 E-branding: Elements of branding
5.7 Marketing Strategies (permission-marketing strategies, brand-leveraging strategies, Affiliate--marketing strategies, Viral-marketing strategies,, Social media marketing, Content marketing)

6 **E-Payment Systems:**
6.1 Introduction, Types of e-payment, Digital payment, Digital payment requirements, online payment categories, Digital token-based e-payment systems 4
6.2 Classification of new payment systems
6.3 Risk factor in E-payment system

7 **E-Security Systems:**
7.1 Information security system, Security on Internet 4
7.2 Network and website security risks
7.3 Security incidents on the internet
7.4 E-business risk management issues
7.5 Enterprise-wide security Framework

8 **e-Customer Relation Management, e-Supply chain, e-Strategy and knowledge Management** 10

8.1 e-CRM

8.1.1 Introduction to CRM, E-CRM Solutions, E-CRM toolkit
8.1.2 Typical Business touch-points
8.1.3 Managing Customer value orientation and life cycle
8.1.4 The Tree phases of CRM
8.1.5 Customer life Cycle

8.2 e-SCM

8.2.1 Introduction to e-SCM, supply Chain, The New Way

8.2.2 Objectives of Supply Chain management
8.2.3 SCM-The Strategic Advantage
8.2.4 e-Supply chain Components
8.2.5 e-Supply Chain Architecture

8.3 e-Strategy and Knowledge Management

8.3.1 Introduction to Knowledge, knowledge management and e-SKM
8.3.2 Importance of knowledge management, Knowledge as a key Business Asset, Change in the Global Business Economy, Change in Business Application
8.3.3 Information and Strategy, Information Strategy Framework, Seven Dimensions of e-commerce strategy, The McKinsey 7S framework.

9 **Contemporary Issues in E-business** 3

9.1 Intellectual property right like patent right, design, Trade mark, Copy right,
9.2 Electronic transaction/cyber law
9.3 Cross border legal issues
9.4 Ethical & Other Public Policy Issues

Case Study

To get more practical exposure students are required to study and analyze any kind of business website.

Text Books:

1. P.T. Joshep, " E-commerce" PHI, fourth Edition 2012
2. David Whiteley, " E-Commerce", Tata McGraw Hill

References Books:

1. Eframi Turban, Jae Lee, David King, K. Michale Chung, "Electronic Commerce", Pearson Education
2. KalaKota & Whinston, "Frontiers of E-commerce", Pearson
3. Daniel Amor, " Yje –E-business Revolution", Pearson

Advanced Database using PL/SQL (3-0-3)

(Elective)

Evaluation:

	Theory	Practical	Total
Sessional	30	20	50
Final	50	-	50
Total	80	20	100

bjectives

1. The objective of this course is to extend the concepts of relational databases and structured query language (SQL), as well as the PL/SQL programming language, through the use of a current version of Oracle software.

nit	Topic	Hours
1	**Overview of Basic SQL statements** 1.1 Select statement with all clauses 1.2 Insert, Update, delete, drop, adding and removing constraints like key etc. 1.3 Views, granting and revoking privileges 1.4 Joins and its types	7
2	**Overview to PL/SQL** 2.1 Introduction 2.2 Advantages of PL/SQL 2.3 Understanding the main features of PL/SQL: PL/SQL Block Structure, PL/SQL Execution Environment, Data types, Variables and Constants 2.4 Condition Control in PL/SQL: If...Then...Elseif...End if 2.5 Iterative Control in PL/SQL: For Loop, While Loop, Exit and Goto Statement	5
3	**Performing SQL Operations from PL/SQL** 3.1 Overview of SQL Support in PL/SQL 3.2 Overview of Oracle Transactions: Using COMMIT, ROLLBACK and SAVEPOINT 3.3 Concurrency Control: Implicit Locking, Explicit Locking, Levels of Locks 3.4 Managing Cursors in PL/SQL: Implicit Cursors, Explicit Cursors-Declaring, Opening, Fetching values and closing a cursor, Attributes of Explicit Cursors, Cursor For Loops, Parameterized Cursors	7
4	**Using PL/SQL Subprograms** 4.1 Introduction to Stored procedure, Advantages of PL/SQL Subprograms 4.2 PL/SQL Procedures 4.3 PL/SQL Functions, Using the RETURN Statement 4.4 Nested PL/SQL Subprograms 4.5 Passing Parameters: Actual Versus Formal Parameters, Using Positional, Named or Mixed Notation, Specifying Parameter Modes-IN, OUT and IN OUT, Using Default Values for Subprogram Parameters 4.6 Overloading Subprogram Names 4.7 Invoker's Rights Versus Definer's Rights (AUTHID Clause) 4.8 Recursion with PL/SQL	8

4.9 External Subprograms

5 **Using PL/SQL Packages** 7
5.1 Introduction PL/SQL Package?
5.2 Advantages of PL/SQL Packages
5.3 The Package Specification
5.4 The Package Body
5.5 Private Versus Public Items in Packages
5.6 Package STANDARD in PL/SQL Environment
5.7 Overview of Product-Specific Packages: DBMS_ALERT, DBMS_OUTPUT, DBMS_PIPE, HTF, HTP, UTL_FILE, UTL_HTTP, UTL_SMTP
5.8 Guidelines for Writing Packages

6 **Database Triggers**
6.1 Use of Database Triggers 7
6.2 Database Triggers Vs Procedures
6.3 Database Vs Declarative Integrity constraints
6.4 Types of Triggers: Row Triggers, Statement Triggers, Before Vs After Triggers, Combinations triggers, Keywords and Parameters
6.5 Deleting a Trigger
6.6 Generation of a Primary Key Using a Database Triggers

7 **Handling PL/SQL Errors**
7.1 Overview of PL/SQL Runtime Error Handling 7
7.2 Advantages of PL/SQL Exceptions
7.3 Predefined PL/SQL Exceptions
7.4 User Defined Exceptions Handlers: Declaring PL/SQL Exceptions, Scope Rules for PL/SQL Exceptions, Pragma EXCEPTION_INIT, RAISE_APPLICATION_ERROR
7.5 Redeclaring Predefined Exceptions
7.6 Raising Exceptions with the RAISE Statement
7.7 PL/SQL Exceptions Propagate
7.8 Reraising a PL/SQL Exception
7.9 Handling Raised PL/SQL Exceptions

Laboratory

- Students need to perform laboratory work in all units

Reference Books:

1. Scott Urman, Ron Hardman, Michael McLaughlin, Oracle Database 10g-PL/SQL Programming
2. Ivan Bayross, SQL, PL/SQL --The Programming Language of ORACLE, BPB Publication
3. Oracle® Database PL/SQL User's Guide and Reference, 10g Release 2 (10.2), B14261-01 that can be downloaded from the Internet.

Linux (3 – 0 - 3)
BCA, Third Year, Sixth Semester

Evaluation:

	Theory	Practical	Total
Sessional	30	20	50
Final	50	-	50
Total	80	20	100

Course Objectives:

1. To provide strong knowledge of the open source operating system.
2. To provide the knowledge of server program in operating system.

Course Contents:

1. Introduction — **2 hrs**
- 1.1 Linux: History and Introduction
- 1.2 Advantages of Linux over other operating system.
- 1.3 FAT, NTFS, EXT
- 1.4 Culture of free software

2. Basics of Linux — **5 hrs**
- 2.1 Commands
- 2.2 Shells csh, ksh, bash
- 2.3 Text editors-vi, Pico
- 2.4 File system of Linux
- 2.5 Directories and their special purpose

3. Installation of Linux — **3 hrs**
- 3.1 Partitioning
- 3.2 Installation of Linux
- 3.3 Troubleshooting of installation

4. System Administration — **6 hrs**
- 4.1 Root login
- 4.2 Super user
- 4.3 Configuration of hardware with kudzu
- 4.4 Checking system space
- 4.5 Monitoring system performance
- 4.6 Working with file system
- 4.7 Configuring modules

5. User Management — **6 hrs**
- 5.1 Creating user accounts
- 5.2 Setting user defaults
- 5.3 Providing support to users
- 5.4 Modifying accounts
- 5.5 Deleting user accounts
- 5.6 Checking disk quotas

5.7 Sending mail to all users

6. Security and System Handling — **6 hrs**
- 6.1 Understanding shell scripts
- 6.2 System start up and shutdown
- 6.3 Scheduling system tasks
- 6.4 Backing up and restoring
- 6.5 Password protection
- 6.6 File security

7. Setting up a Web Server — **4 hrs**
- 7.1 Introduction to web server
- 7.2 Starting the Apache web server
- 7.3 Configuring the Apache server
- 7.4 Monitoring server activities

8. Setting up DHCP and NIS — **5 hrs**
- 8.1 Introduction to DHCP
- 8.2 Setting up DHCP server
- 8.3 Setting up DHCP client
- 8.4 Understand NIS

9. Setting up a Database Server — **5 hrs**
- 9.1 Configuring database server
- 9.2 Checking the status
- 9.3 Working with database

10. Setting up DNS Server — **4 hrs**
- 10.1 Introduction to DNS
- 10.2 Setting up DNS and configuration
- 10.3 Querying DNS

11. ISP Simulation — **2 hrs**

Integration of Servers; DNS, Web, Email etc

Simulation and Modeling (3 – 1 – 3)

Evaluation:

	Theory	Practical	Total
Sessional	30	20	50
Final	50	-	50
Total	80	20	100

Course Objective:

- To introduce the details of modeling and simulation technologies to the students.
- To provide the students with the knowledge of discrete and continuous systems, generation of random variables, and analysis of simulation output and simulation languages.

Course Contents:

1. Introduction to Modeling and Simulation **4 hrs**

1.1 System concept
1.2 System Environment
1.3 Stochastic Activities
1.4 Continuous and Discrete System
1.5 System Modeling
1.6 Types of Models
1.7 Principles of Modeling
1.8 Area of application
1.9 Verification and Validation of model

2. System Simulation **8 hrs**

2.1 The Techniques of Simulation-Monte Carlo Method
2.2 Problems Depicting Monte Carlo Method
2.3 Comparison of simulation and analytical methods
2.4 Experimental nature of simulation
2.5 Types of system simulation
2.6 Distributed Lag Models
2.7 Cobweb Models
2.8 Steps of Simulation Study
2.9 Time advancement Mechanism
2.10 Queuing Models and its Characteristics
2.11 Queuing Discipline
2.12 Measures of queues, Single Server Queuing System

3. Continuous System **8 hrs**

3.1 Continuous system simulation and system dynamics
3.2 Continuous system models
3.3 Differential equations-Linear differential equation
3.4 Non linear differential equation

3.5 Partial differential equation
3.6 Analog computers
3.7 Components of analog computers
3.8 Analog methods
3.9 Hybrid computers
3.10 Digital analog simulators
3.11 Continuous system simulation language
3.12 CSMP III
3.12.1 Structure Statements
3.12.2 Data Statements
3.12.3 Control Statements
3.12.4 Hybrid Statements
3.13 Feedback System
3.14 Interactive system
3.15 Real time simulation
3.16 Predator pray model. Slide

4. Discrete System Simulation **8 hrs**

4.1 Discrete system simulation
4.2 Representation of time
4.3 Generation of arrival patterns
4.4 Simulation of telephone system
4.5 Gathering statistics
4.6 Counters and summary statistics
4.7 Measuring Utilization and Occupancy
4.8 Recording distribution and transit time
4.9 Discrete simulation languages

5. Probability Concepts and Random Number Generation **5 hrs**

5.1 Probability concepts in simulation- Stochastic variable
5.2 Discrete Probability function
5.3 Continuous Probability function
5.4 Random numbers
5.5 Properties of random numbers
5.6 Pseudo random number
5.7 Technique for generation of random number
5.8 Test for Random number generation
5.8.1 Uniformity test (K-S test and Chi-square test)
5.8.2 Independence test (Runs test and Auto Correlation test

6. Simulation languages **6 hrs**

6.1 Types of simulation languages
6.2 Discrete systems modeling and simulation with GPSS
6.3 GPSS programs applications
6.4 SIMSCRIPT –Organization of a SIMSCRIPT program
6.5 SIMSCRIPT programs.

7. Analysis of Simulation Output **6 hrs**

7.1 Nature of the Problem
7.2 Estimation methods
7.3 Simulation run statistics
7.4 Replication of run
7.5 Elimination of Initial Bias

Laboratory:

Develop a simulation model, the topic could be either initiated by the student or selected from a list provided by the instructor. An oral presentation with a demonstration should be part of the laboratory project report.

Text Books:

1. G. Gorden, *System Simulation*, Prentice Hall of India.
2. A.M. Law and W.D. Kelton, *Simulation Modeling and Analysis*, McGraw Hill, 1991

References:

1. J.A. Spriest and G.C. Vansteenkiste, *Computer-Aided Modeling and Simulation*, Academic Press.
2. A.M Law and R.F. Parry, *Simulation: A Problem-solving approach*, Addison Wesley Publishing Company.
3. Narsingh Deo, "*System Simulation with Digital Computer*"