Semester	Sixth	Teaching Hrs = 35	
Subject Code	BCA – 640 -20		
Subject Name	Cloud Technology		
Examination Scheme			Credits
External Exam		Internal Exam	Total Marks
60		40	100	4

Course Outcomes (COs)
After learning this course student will be able to,

* Define various basic concepts related to cloud computing technologies.
* Identify the architecture and concept of different cloud models: IaaS, PaaS, SaaS, and services such as public cloud, private cloud, hybrid cloud, etc.
* Have knowledge on reading and writing in cloud storage.
* Explore some important cloud computing driven commercial systems such as Google Apps, Microsoft Azure and Amazon Web Services and other businesses cloud applications

Topic 1)   Introduction to Linux Networking   (8 Hours)

Basics of linux OS,   advance user management, permissions & Task Scheduling, RAID Implementation (RAID0, RAID1, RAID5, RAID6, RAID10), Logical Volume Management (LVM), software Management using rpm, yum.
Linux Networking: DHCP Server (Dynamic Host Configuration Protocol), Apache Web Server, FTP Server, NFS Server, CIFS Server, DNS Server, access control lists

Topic 2)   Introduction to Virtualization   (4 Hours)

What is virtualization, concepts, Implementation of Virtualization.Implementation of remote accessibility, advantages & disadvantages, limitation.Relationship between Virtualization & Cloud Computing.

Topic 3)   Virtualization for Enterprise   (6 Hours)

Virtualization for Enterprise: Vmware, Hyper-V, Virtual Box.
Bare Metal Virtualization, NAS (Network attached storage) implementation, SAN (Storage Area Network) implementation

Topic 4)   Cloud Computing Fundamental   (6 Hours)

Cloud Computing definition, private, public and hybrid cloud. Cloud types; IaaS, PaaS, SaaS.
Benefits and challenges of cloud computing, public vs private clouds, role of virtualization in enabling the cloud;
Business Agility: Benefits and challenges to Cloud architecture. Application availability, performance, security and disaster recovery; next generation Cloud Applications.

Topic 5)   Cloud Applications& Services   (6 Hours)

Technologies and the processes required when deploying web services; Deploying a web service from inside and outside a cloud architecture, advantages and disadvantages.

Cloud Services: Reliability, availability and security of services deployed from the cloud. Performance and scalability of services, tools and technologies used to manage cloud services deployment; Cloud Economics: Cloud Computing infrastructures available for implementing cloud based services.

Topic 6)   Selecting Cloud Platform   (5 Hours)

Economics of choosing a Cloud platform for an organization, based on application requirements, economic constraints and business needs (e.g Amazon, Microsoft and Google)

Reference Books:
1.   Distributed and Cloud Computing, 1st edition, Morgan Kaufmann, 2011.
2.   GautamShroff, Enterprise Cloud Computing Technology Architecture Applications [ISBN: 978-0521137355]
3.   Toby Velte, Anthony Velte, Robert Elsenpeter, Cloud Computing, A Practical Approach [ISBN: 0071626948]
4.   Dimitris N. Chorafas, Cloud Computing Strategies [ISBN: 1439834539]

Semester	Sixth	Teaching Hrs = 35	
Subject Code	BCA – 641 -20		
Subject Name	Advanced Java		
Examination Scheme			
External Exam		Internal Exam	Total Marks	Credits
60		40	100	4

Course Outcomes (COs)
After learning this course student will be able to,
* learn to access the database through Java programs, using Java DataBase Connectivity (JDBC)
* understand integrated development environment to create, debug and run multi-tier and enterprise-level applications
* learn to access the database through Java programs, using Java DataBase Connectivity (JDBC)
 * create dynamic web pages, using Servlets and JSP.
 * make a reusable software component, using Java Bean

Advanced Java

1. **Swing**:   **(5 Hours)**

    MVC Architecture, Advantages pf swing over AWT, JApplet, JFrame, JPanel etc

2.   **Collection Framework**   **(5 Hours)**

    Collection Interfaces:- Set, List, Map. Collection Classes:- ArrayList, LinkList, HashSet etc. Legacy Classes & Interfaces:- Enumeration, Iterator, Vector, Stack, Dictionary, Hash table, Properties

3.   **Socket Programming**   **(5 Hours)**

    Networking eg:- Socket, Client/Server, Reserve Sockets, Proxy Servers, Internet Addressing. TCP/IP Client /Server Sockets. URL , Client/Server Programming. Datagrams.

4.   **Java Beans using BDK and JBuilder**   **(5 Hours)**

    Introduction, Advantages of Java Beans, Bean Life Cycle, Properties of Beans, BDK, Bean Event Model.

5.   **Java Database Connectivity:**   **(6 Hours)**

    JDBC introduction, JDBC Vs ODBC, JDBC Architecture,

Types of JDBC Drivers, JDBC Interfaces eg: Connection, Statement, Prepared Statement, CollableStatement, DatabaseMetaData, ResultSet, ResultSetMetaData.
JDBC Classes eg:- DriverManager, Executing SQL Query, Transactions eg:- Commit, Rollback, SetAutoCommit(), Batch Updates.

6.   Remote Method Invocation   (4 Hours)

Distributed Object Systems eg: Remote Procedure Call, Java Remote Invocation.
RMI Architecture, RMI Services – Naming/Registry Services, Object activation, Distributed garbage Collector.

7.   Java Servlet Programming   (5 Hours)

Introduction of Servlet, Implementation, GenericServlet Class, SingleThreadModel Interface, Http Request/Response, HttpServlet Class, Servlet Configuration, Servlet Life Cycle, Session Tracking:- Hidden Fields, Cookies, URL rewriting, Session object, Request Dispatcher Interface, sendRedirect., Servlet Chaining.

Reference Book:
- J2EE Beginers-Wrox publication.
- Complete Reference-J2EE
- Java Servlet Programming- O'Reilly
- JDBC 4.2, Servlet 3.1, and JSP 2.3 Includes JSF 2.2 and Design Patterns - Black Book
- Core and Advanced Java, Black Book, Recommended by CDAC, Revised and Upgraded - Dreamtech Press

Semester	Sixth	Teaching Hrs = 35	
Subject Code	BCA – 642 -20		
Subject Name	Current Trends in IT		
Examination Scheme			Credits
External Exam		Internal Exam	Total Marks	
60		40	100	4

Course Outcomes (COs)

After learning this course student will be able to,

- Analyze Open source mobile technology, Explain Basics of Application development
- Explain Framework, SDK, Emulation
- Explain Android Application structure
- Explain Android Activities lifecycle and UI Layout
- Explain Expressions, Manifest, other necessary UI concept
- List and explain GUI Objects,
- Explain Layout Design concepts
- Explain Android Event driven Programming, Activity Lifecycle, Explain Exception handling

Topic 1)   HTML5   (7 Hours)

Introduction, features, elements & attributes in HTML5, <canvas>, <video>, <audio>. Introduction to Scalable Vector Graphics (SVG), Geolocation,
Form input types, HTML5 web storage.
Introduction of HTML5 Web worker.
CSS**:** Introduction to Style Sheet, types of style Sheets: Inline, External, Embedded CSS, Text formatting properties, CSS Border, margin properties, Positioning.Use of classes in CSS, color properties, use of <div>&<span>

Topic 2)   Introduction to Android   (2 Hours)

Introduction to Android: A little Background about mobile technologies, Android - An Open Platform for Mobile development, Android SDK Features, Android versions and features.

Topic 3)   Tools for Development   (1 Hours)

Installing Android, First Android application, Running on Emulator, Android development Tools, Eclipse, IDEs and Tools

Topic 4)   Android Architecture and OOPS   (2 Hours)

Building Blocks of Android, Java Classes and Objects, Class Methods and Instances, Inheritance and Polymorphism in Java, Interface and Abstract class.

Topic 5)   Android UI & Advance JAVA   (15 Hours)

Fundamental Android UI Design, Introducing Views, In Creating new Views,

Introducing Layouts, Creating new Views, Using resources, Intents, Life cycle of Activity, Complex UI components, Building UI for performance, Using themes, Debugging Android Code,

Topic 6)   Android Graphics and Multimedia   (2 Hours)
Basic Graphics, Input Handling, Playing Audio & Video, Recording Audio and Video, Adding new media to media store, Raw Audio Manipulation.

Topic 7)   Database and Content Providers   (6 Hours)

Introducing Android Databases, Introducing SQLite on Android, SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes, Creating new content Provider, Using Content providers, Native Android Content provider.

References:
- Hello, Android by Ed Burnette
- Professional Android 2 Application Development Paperback, Author, Reto Meier, Wrox Publications
- Professional Android Application Development by Reto Meier, Wiley India Pub.
- http://developer.android.com

Semester	Sixth	Teaching Hrs = 25	
Subject Code	BCA – 643 -20		
Subject Name	Organizational Behavior		
Examination Scheme			
External Exam		Internal Exam	Total Marks	Credits
30		20	50	2

Course Outcomes (COs)
After learning this course student will be able to,
* Upon successful completion of this course, the student will have demonstrated the ability:
* To discuss the development of the field of organizational behaviour and explain the micro and macro approaches in the business
* To identify the process used in developing communication and resolving the conflicts
* To explain group dynamics and demonstrate skills required for working in team building
* To identify the various leadership styles and the role of leaders in a decision making process.
* To discuss the implementation of organizational change.

1. Organization & Organizational Behavior **(4hrs)**
Introduction, Organization, Organizational Behaviour
Intuition & Systematic Study, Organization & Organizational Behavior
Historical Evolution of Organizational Behavior
Discipline Organizational Behavior
Organizational Behavior to –Day
Models for organizational Behaviour

2. Perception & Individual Decision Making **(5hrs)**
Introduction,Factors Influencing Perception, Attribution Theory
Frequently used Shortcuts in Judging others
Specific Application in Organizations
The Link between Perception & Individual Decision Making
Improving Creativity in Decision Making
How are Decisions actually made in Organizations?
Individual Differences: Decision Making Styles
Organizational Constraints
Ethics in Decision Making

3. Personality & Attitude **(4hrs)**
Introduction, Definition, Theories on Personality
The shaping of Personality
Assessment of Freud's Stages
Immaturity to Maturity
Determinants of Personality
Personality Traits
The Myers – Briggs Framework
 Major Traits Influencing Organizational Behavior
Personality & Organizational Behavior
Attitudes

Formation of Attitudes
Types of Attitudes
Functions of Attitudes
Changing Attitudes
Ways of Changing
Types of Change
Attitudes & OB
Job Satisfaction
Job Involvement
Organizational Commitment
Values
Job satisfaction

4. Learning   (4hrs)

Nature of Learning
Process of Learning
Cognitive Theory of Learning
Social Learning Theory
Principles of Learning
Schedules of Learning
Learning Curves
Learning & Organizational Behavior

5. Motivation   (4hrs)

Introduction
Intrinsic and extrinsic motivation
Some theories on motivation
Motivation and Performance
Motivation strategies
Importance of motivation
Motivational drives

6. Stress   (4hrs)
Introduction
Model of stress
Stress manifestation
Coping strategies
Coping and personality
Sources of stress
Stress management
Organization approaches to stress management

Reference Book:

- Management and Organizational behaviour - Laurie Mullins
- Organizational behavior – by Dummies

Semester	Sixth	Teaching Hrs = 30		
Subject Code	BCA – 644 -20			
Subject Name	Digital Marketing			
Examination Scheme				
External Exam		Internal Exam	Total Marks	Credits
30		20	50	2

Course Outcomes (COs)

After learning this course student will be able to,

∗ Analyze the confluence of marketing, operations, and human resources in real-time delivery.

∗ Demonstrate cognitive knowledge of the skills required in social media marketing.

∗ To acquire the skills regarding methods and tools and technologies required in digital marketing.

∗ To understand how to reach your online targeted market

Contents	Duration
Marketing Concepts Basics of Marketing, What is Digital Marketing? Why Digital Marketing? Google SERP, Crawler, Indexing, Ranking	**2**Hr
Introduction of Websites Domain Hosting , Website Google Analytics	**4**Hr
Search Engine Optimization What is SEO? Website Optimization	**4**Hr
SEO Content Writing What is Content Writing? What is Content Marketing?	**2**Hr
On Page SEO Keyword Research, Website Content Image Optimization Header / Footer tags	**6**Hr
OffPage SEO Link Building / Backlinks	**2**Hr
Social Media Marketing (SMM) and Social Media Optimisation (SMO) Face book Business Page LinkedIn Business Page , Twitter Page, Instagram Account, YouTube Channel, Different type of Ads, Creating Posts Organic and Inorganic SMM, Paid,Marketing for Social Media, Google AdWords	**8**Hr
Email Marketing What is Email Marketing? Email Marketing Strategy	**2**Hr

Reference Books:

1) The Art of Digital marketing By Ian Dodson
2) Digital Marketing for Dummies- RussHenneberry