Course Code	Course Name	Load Distribution (LT P C)
DTCS-601	Entrepreneurship Development	3 0 0 3

Unit 1: **9 hours**

Introduction:

Entrepreneurship, Creativity & Opportunities, Concept, Classification & Characteristics of Entrepreneur, Creativity and Risk taking, Concept of Creativity & Qualities of Creative person, Risk Situation, Types of risk & risk takers, Business Reforms, Process of Liberalization, Reform Policies, Impact of Liberalization, Emerging high growth areas, Business Idea Methods and techniques to generate business idea. Transforming Ideas in to opportunities transformation involves Assessment of idea &Feasibility of opportunity SWOT Analysis.

Unit 2: **8 hours**

Information and Support Systems:

Information And Support Systems, Information Needed and Their Sources, Information related to project, Information related to support system, Information related to procedures and formalities, support systems: Small Scale Business Planning, Requirements, Govt. & Institutional Agencies, Formalities, Statutory Requirements and Agencies.**Market Assessment:** Marketing-Concept and Importance, Market Identification, Survey Key components, Market Assessment.

Unit 3: **9 hours**

Business Finance & Accounts: Business Finance- Cost of Project, Sources of Finance, Assessment of working capital, Product costing, Profitability, Break Even Analysis, Financial Ratios and Significance, Business Account, Accounting Principles, Methodology, Book Keeping, Financial Statements, Concept of Audit.

Unit 4: **9 hours**

Business Plan & Project Report- Business plan steps involved from concept to commissioning:Activity Recourses, Time, Cost, Project Report- Meaning and Importance, Components of project report/profile, Project Appraisal, Meaning and definition, Technical, Economic feasibility, Cost benefit Analysis.

Unit 5: **8 hours**

Enterprise Management And Modern Trends: Enterprise Management, Essential roles of Entrepreneur in managing enterprise, Product Cycle: Concept and importance, Probable Causes Of Sickness, Quality Assurance, Importance of Quality, Importance of testing, E-Commerce, Concept and process,Global Entrepreneur.

Text Books:

1. Entrepreneurship Theory and Practice, J.S. Saini, B.S.Rathore, Wheeler Publisher New Delhi.

2. Entrepreneurship Development, E. Gorden, K.Natrajan, Himalaya Publishing, Mumbai.

Reference Books:

1.Evaluation of Enterpreneurship Development Programmes, D.N.Awasthi , Jose Sebeastian.

Course Code	Course Name	Load Distribution (LT P C)
DTCS-602	Advanced Web Technologies	3 0 0 3

Unit 1: **8 hours**

Basics of Internet and Web:

The basics of Internet, World Wide Web, Web page, Home page, Web site, Static, Dynamic and Active web page, Overview of Protocols –Simple Mail Transfer Protocol, Gopher, Telnet, Emails, TFTP, Simple

Network Management Protocol, Hyper Text Transfer Protocol, Client server computing concepts.

Unit 2 :

Introduction to HTML : **9 hours**

Introduction to HTML 4 and 5, Essential Tags, Tags and Attributes, Text Styles and Text Arrangements, Text, Effects, Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG), Color and Background of Web Pages, Lists and their Types, Attributes of Image Tag, Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents, Different Section of a Page and Graphics, Footnote and e-Mailing, Creating Table, Frame, Form and Style Sheet.

Unit 3 : **8 hours**

Java Script:

Objects, Methods, Events and Functions, Tags, Operators, Data Types, Literals and Type Casting in JavaScript, Programming Construct, Array and Dialog Boxes, Relating JavaScript to DHTML, Dynamically Changing Text, Style, Content.

Unit 4: **8 hours**

XML and JSON:

Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. JSON, creation and modification .

Unit 5:

Introduction to PHP: **9 hours**

Server Side Programming , Introduction to PHP, Basic Programming Concepts of PHP: Variables, Data-types, Constants, Scope of Variables, Type of Variables, Type Casting, Operators, Operators Precedence, References, Arrays; Control Structures: Branching, If statement, Switch statement; Looping: for Loop, while Loop, do while Loop, for each Loop; Functions: User Defined Functions, Built -in Function, Functions for Variables; Script Controlling Functions, Array Functions, Date and Time Functions, Mathematical Functions, String Functions, PHP Server Variables; Working with form, Uploading files to Web Server using PHP.

Text Books:

1. Mastering HTML, CSS &Javascript Web Publishing, Laura Lemay, Rafe Colburn, Jennifer Kyrnin .
2. PHP and MySQL Web Development, 2016,by Luke Welling and Laura Thomson

Reference Books:

1. Learning PHP, MySQL & JavaScript with j Query, CSS & HTML5,2015, Robin Nixon, O'Reilly.

Course Code	Course Name	Load Distribution (LT P C)
DTCS-603	Information Security	3 0 0 3

Unit 1: **8 hours**

Introduction and Security trends:
Threats to security: Viruses and Worms, Intruders, Insiders. Avenues of attack, steps in attack, Types of attack: Denial of service, backdoors and trapdoors, sniffing, spoofing, man in the middle, replay, TCP/IP Hacking, encryption attacks. Malware: Viruses, Logic bombs.

Unit 2: **8 Hours**

Security Basics – Confidentiality, Integrity, Availability, Operational model of Computer Security, Layers of security. Access control : Discretionary, Mandatory, Role based Organizational/ Operational security, Role of people in security

Unit 3: **8 Hours**

Password selection, Piggybacking, Shoulder surfing, Dumpster diving, Installing unauthorized software / hardware, Access by non employees, Security, awareness, Individual user responsibilities.

Unit 4: **8 Hours**

Security policies, standards, procedures and guidelines. Physical security: Access controls Biometrics : finger prints, hand prints, Retina, patterns, voice, patterns, signature and writing patterns, keystrokes, Physical barriers. Social Engineering

Unit 5 **8 Hours**

Cryptography and Public key Infrastructure Encryption algorithm/Cifer, Caesar's cipher, shift cipher, substitution software, Vigenere cipher, Transposition techniques, Steganography Hashing, SHA , Symmetric encryption DES (Data encryption standard). Asymmetric encryption, Digital signatures

Reference Books

1. Principles of Computer by Dwayne Williams, Mc Graw Hill Technology Education
2. Computer Networks by A.S.Tanenbaum, PHI,ISBN 81-203-2175-8.
3. Data communication and networking by B.A.Farouzan, Tata McGraw Hill

Syllabus: Big data Analytics (DTCS 607)

CO1: Demonstrate knowledge of Big Data Analytics concepts, architectures, and their applications in business and real-world scenarios.

CO2: Demonstrate understanding of the components and functioning of Hadoop Distributed File System (HDFS) and the MapReduce framework.

CO3: Understanding MapReduce-based distributed data processing applications.

CO4: To get familiar with data management concepts in NoSQL environments, including schema design and data modelling techniques.

CO5: Knowledge of Big Data applications using HBase, Hive, Pig, and related Hadoop ecosystem tools

Unit 1: INTRODUCTION TO BIG DATA AND HADOOP

Types of Digital Data, Evolution of Data and Analytics, Introduction to Big Data, Characteristics of Big Data (5 V's), Big Data – Beyond the Hype, Big Data Analytics and its Importance, Sources of Big Data (Social Media, Sensors, Transactional Data, Logs, Multimedia), Big Data Skills and Career Roles, Big Data Adoption in Organizations, History and Evolution of Hadoop, Apache Hadoop Framework, Analyzing Data using Unix/linux Tools and commands , Analysing Data using Hadoop, Hadoop Streaming, Hadoop Ecosystem Overview.

Unit 2: HDFS (Hadoop Distributed File System)

Need for Distributed Storage, Design Goals and Architecture of HDFS, Design of HDFS, HDFS Concepts, File Sizes and Block Sizes, Block Abstraction, Data Replication, HDFS Read and Write Operations,HDFS Concepts and Components, Command Line Interface, LINUX basics,Hadoop File System Interfaces, HDFS Data Flow (Read and Write Operations), Avro and other file types, Role of HDFS in Modern Research Data Repositories.

Unit 3: MAP REDUCE

Introduction to Distributed Data Processing, MapReduce Programming Model, Anatomy of a MapReduce Job Run, Job Execution Flow, Task Execution, Shuffle and Sort Phase, Job Scheduling, MapReduce Features and Limitations, MapReduce Features, Real-World MapReduce Applications.

Unit 4: HADOOP ECOSYSTEM

Hive: Introduction to Apache Hive, Hive Architecture, Hive Shell, Hive Services, Hive Metastore, Comparison with Traditional Databases, HiveQL, Hive Tables and Data Types, Querying Data, User Defined Functions. **HBase:**Introduction to HBase, HBase Architecture

and Concepts, HBase Data Model, HBase Clients, Basic Operations with Examples, Comparison of HBase with RDBMS.

Unit 5: Introduction to NOSQL.

Introduction to NoSQL, RDBMS vs NoSQL, Types of NoSQL Databases. Introduction to MongoDB, MongoDB Architecture, Data Model and Document Structure, Data Types, Creating Databases and Collections, Inserting, Updating and Deleting Documents. Introduction to Scala: functions. Data Privacy, Security, Ethical and Legal Issues in Big Data.

LAB: Big Data Analytics LAB (DPCS 607)

1. Install, configure and run Hadoop and HDFS.
2. Implementation of various LINUX commands.
3. Understanding MAPREDUCE.
4. Implement NoSQL Database Operations: CRUD operations, Arrays using MongoDB.
5. Understanding Hive along with practice examples.
6. Scala Basic implementation.