KALINGA UNIVERSITY

RAIPUR | INDIA

SCHEME & SYLLABUS FOR

Bachelor of Vocational Studies (B.Voc) Web Technologies

NAAC GRADE B+ Accredited University

nirf RANKING 2024 Ranked in Top 151-200 Universities

Kalinga University, Naya Raipur, Chhattisgarh

KALINGA UNIVERSITY
RAIPUR | INDIA

B. VOC. IN WEB TECHNOLOGY

Semester-I							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT101	Communication Skills	3	0	3	30	70	100
BVWT102	Fundamentals of Information Technology	3	0	3	30	70	100
BVWT103	Working on Linux OS	3	0	3	30	70	100
BVWT104	Design of Web Application with HTML and CSS	3	0	3	30	70	100
BVWT105P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

Semester-II							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT201	Database Systems	3	0	3	30	70	100
BVWT202	Environmental Studies	3	0	3	30	70	100
BVWT203	Theory of Domain Hosting	3	0	3	30	70	100
BVWT204	Basics of HTML	3	0	3	30	70	100
BVWT205P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

Semester-III							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT301	Advanced HTML & CSS	3	0	3	30	70	100
BVWT302	Web Programming using PHP	3	0	3	30	70	100
BVWT303	RDBMS using MYSQL	3	0	3	30	70	100
BVWT304	Theory of Version Control	3	0	3	30	70	100
BVWT305P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

Semester-IV							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT401	Scripting using Python	3	0	3	30	70	100
BVWT402	Website Publishing and Management	3	0	3	30	70	100
BVWT403	Marketing Management and Automation	3	0	3	30	70	100
BVWT404	Graphics and Web Design	3	0	3	30	70	100
BVWT405P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

Semester-V							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT501	Web Server Programming using Django	3	0	3	30	70	100
BVWT502	Computer Networks	3	0	3	30	70	100
BVWT503	Introduction to Cross Platform Website Applications	3	0	3	30	70	100
BVWT504	Introduction to XML	3	0	3	30	70	100
BVWT505P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

Semester-VI							
Subject Code	**Subject**	**L**	**T/P**	**Credits**	**Internal Marks**	**External Marks**	**Total**
BVWT601	Data Warehousing and Mining	3	0	3	30	70	100
BVWT602	Content Management System	3	0	3	30	70	100
BVWT603	Software Testing	3	0	3	30	70	100
BVWT604	Introduction to Search Engine Optimization	3	0	3	30	70	100
BVWT605P	**Industrial Training/ On Job Training/ Workshop**	0	36	18	50	150	200
Total		**12**	**36**	**30**	**170**	**430**	**600**

KALINGA UNIVERSITY
RAIPUR INDIA

SEMESTER-I

COMMUNICATION SKILLS

BVWT101

Course Objective:

The purpose of this course is to introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions. One of the critical links among human beings and an important thread that binds society together is the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced.

Course outcome:

1. The purpose of this course is to introduce students to the theory, fundamentals and tools of communication
2. To develop vital communication skills which should be integral to personal, social and professional interactions.
3. One of the critical links between human beings.
4. An important thread that binds society together is the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal.
5. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced.

CONTENTS

Unit I: Introduction: **06**

Theory of Communication, Types and modes of Communication, Mediums and channels of communication, barriers to communication, English as a Global language, the Lingua Franca, Social influences on English

Unit II: Language of Communication: **06**

Verbal and Non-verbal (Spoken and Written) Personal, Social and Business Barriers and Strategies Intra-personal, Inter-personal and Group communication, Varieties of English, Language, Accent, Dialect, Colloquialism, Historical influences on English

Unit III: Speaking Skills: **06**

Monologue Dialogue Group Discussion Effective Communication/ Mis- Communication Interview Public Speech, Regional influences on English, Convergence and divergence, Linguistic Imperialism,

Unit IV: Reading and Understanding- **06**

Close Reading, Reading analysis of a text - Audience and purpose, Content and theme, Tone and Mood, stylistic devices, structure Comprehension- Analysis and Interpretation Translation(from Indian language to English and vice-versa) Literary/Knowledge Texts

Unit V: Writing Skills **06**

Documenting Report Writing Making notes Letter writing, Writing tabloids, diary entry, open letters, essays, newsletter and magazine articles, skits, short stories, impersonating characters

It will enhance Language of communication, various speaking skills such as personal communication, social interactions and communication in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note taking etc. While, to an extent, the art of communication is natural to all living beings, in today's world of complexities, it has also acquired some elements of science. It is hoped that after studying this course, students will find a difference in their personal and professional interactions.

REFERENCE BOOKS:

1. Fluency in English - Part II, Oxford University Press, 2006.
2. Business English, Pearson, 2008.
3. Language, Literature and Creativity, Orient Blackswan, 2013.
4. Language through Literature (forthcoming) ed. Dr. Gauri Mishra, Dr. Ranjana Kaul, Dr. Brati Biswas

KALINGA UNIVERSITY
RAIPUR | INDIA

FUNDAMENTALS OF INFORMATION TECHNOLOGY BVWT102

Unit I: Computer characteristics **06**

Speed, storage, accuracy, diligence; Digital signals, Binary System, ASCII; Historic Evolution of Computers; Classification of computers: Microcomputer, Minicomputer, mainframes, Supercomputers; Personal computers: Desktop, Laptops, Palmtop, Tablet; Hardware & Software; Von Neumann model.

Unit II: Hardware **06**

CPU, Memory, Input devices, output devices. Memory units: RAM (SDRAM, DDR RAM, RDRAM etc. feature wise comparison only); ROM-different types: Flash memory; Auxiliary storage: Magnetic devices, Optical Devices; Floppy, Hard disk, Memory stick, CD, DVD, CD/DVD-Writer; Input devices - keyboard, mouse, scanner, speech input devices, digital camera, Touch screen Voice Input, Joystick, Optical readers, bar code reader; Output devices: Display device, size and resolution; CRT, LCD, LED; Printers: Dot-matrix, Inkjet, Laser; Plotters, Sound cards & speaker.

Unit III: Software **06**

System software, Application software; concepts of files and folders, Introduction to Operating systems, Different types of operating systems: single user, multitasking, time-sharing multi-user; Booting, POST; Basic features of two GUI operating systems: Windows & Linux (Basic desk top management); Programming Languages, Compiler, Interpreter, Databases; Application software: Generic Features of Word processors, Spread sheets and Presentation software; Generic Introduction to Latex for scientific typesetting; Utilities and their use; Computer Viruses & Protection, Free software, open source.

Unit IV: Computer Networks and Internet **06**

Connecting computers, Requirements for a network: Server, Workstation, switch, router, network operating systems; Internet: brief history, World Wide Web, Websites, URL, browsers, search engines, search tips; Internet connections: ISP, Dial-up, cable modem, WLL, DSL, leased line Wireless and Wi-Fi connectivity ; email, email software features (send receive, filter, attach, forward, copy, blind copy); characteristics of web-based systems, Web pages, Web Programming Languages.

Unit-V: Information Technology And Society **06**

Indian IT Act, Intellectual Property Rights, issues. Application of information Technology in Railways, Airlines, Banking, Insurance, Inventory Control, Financial systems, Hotel management, Education, Video games, Telephone exchanges, Mobile phones, Information kiosks, special effects in Movies.

Programming Concepts & Techniques: Program Concept, Characteristics of Programme, Stages in Program Development, Tips for Program Designing, Programming Aids, Algorithms, Pseudo code, Notations, Design, Flowcharts, Symbols, Rules, compiler & Interpreter. Introduction to programming techniques, Top-down & Bottom-up approach, Unstructured, & Modular programming, Cohesion, Coupling, Debugging, Syntax & Logical Errors, Linking and Loading, Testing and Debugging, Documentation.

Reference Books:

1. Programming in C, R.S. Salaria, Khanna Publishing House
2. Computer Concepts and Programming in C, R.S. Salaria, Khanna Publishing House
3. Handbook of Computer Fundamentals, N.S. Gill, Khanna Publishing House

KALINGA UNIVERSITY
RAIPUR INDIA

WORKING ON LINUX OS

BVWT103

Unit I: **08**

Linux System: History, Design Principles, Kernel Modules, Process Management, Scheduling, Memory Management, File system, I/O. (SGG: 20.1 to 20.8)

Linux Basics: Looking into the Linux Kernel, GNU Utilities, and Desktop environments. (RB: Chapter-1), The Linux console (RB: Chapter-2) The Unix/Linux architecture, Features of Unix/Linux.

Basic bash shell commands: Starting the shell, Shell prompt, File system Navigation, File and directory listing, File handling, Directory handling, viewing file contents.

Unit II: **08**

More bash shell commands: Monitoring programs, Monitoring disk space, working with data files: Filter commands, Sorting, Searching, Compressing, Archiving.

The Linux environment variable: Environment variables, setting environment variables, Removing environment variables, Default shell environment variables, setting the PATH environment variables, Locating system environment variables, Variable arrays, Using command aliases.

Understanding Linux file permission: Linux security, Using Linux groups, Decoding file permissions, changing security settings, sharing files.

Unit III: **07**

Basic script building: Using multiple commands, Creating a script file, Displaying messages, Using variables, Redirecting Input and Output, Pipes, Performing math, Exiting the script.

Using structured commands: Working with the if-then, if-then-else and nesting if statements, test command, Compound condition testing, advanced if then features, the case command.

More structured commands: for command, C-style for command, while command, until command, nesting loops, looping on file data, controlling the loop, processing the o/p of a loop.

Handling user input: Command line parameters, Special parameter variables, getting user i/p.

Unit IV: **07**

Script control: Handling signals, Running scripts in background mode, Running scripts without a console, Job control, Job Scheduling Commands: nice, renice, at, batch, cron table, Running the script at boot.

Essential System Administration: root: The system administrator's login, The administrator's privileges, Startup & Shutdown

TCP/IP networking: TCP/IP Basics, TCP/IP Model, Resolving IP addresses, Applications, telnet, ftp, Berkeley commands. SD: Chapter-17)

Editors: vi, Sed and awk

Suggested Readings:

1. SGG: Operating System Concepts, 6e, Silberschatz, Galvin and Gagne, Wiley.
2. SD: Unix Concepts and Applications, 4e, Sumitabha Das., TMH.
3. RB: Linux Command line and Shell Scripting: Bible, Richard Blum, Wiley-India.
4. CS: Linux Networking Cookbook, Carla, Schroder, O'reilly.

Additional References:

1. Unix Complete Reference, TMH.
2. Linux Complete Reference, TMH.
3. Linux Command Reference. Shroff.

KALINGA UNIVERSITY
RAIPUR | INDIA

DESIGN OF WEB APPLICATION WITH HTML AND CSS
BVWT104

Unit I: **08**

Introduction to the Web: What is the Internet? Introduction to the internet and its applications, E-mail, telnet, FTP, e-commerce, video conferencing, e business, Internet service providers.

Introduction to Word Wide Web(WWW) and its evolution, domain name server, internet address, uniform resource locator (URL), browsers- internet explorer, Netscape Navigator, Open Firefox, chrome, Mozilla. Search engine, web server-apache, Internet Information Services (IIS), proxy servers, HTTP protocol: Request and Response.

Bandwidth and Cache, display resolution, Look and Feel of the Website, Page Layout and linking, User centric design, Sitemap, Planning and publishing website, Designing effective navigation. Basic Structure of HTML.

Unit II: **08**

Introduction, Why HTML5? Formatting text by using tags, using lists and backgrounds, Creating hyperlinks and anchors. Style sheets, CSS formatting text using style sheets, formatting paragraphs using stylesheets

Unit III **07**

Creating navigational aids: planning site organization, creating text based navigation bar, creating graphics based navigation bar, creating graphical navigation bar, creating image map, redirecting to another URL, creating division based layouts: HTML5 semantic tags, creating divisions, creating HTML5 semantic layout, positioning and formatting

Unit IV **07**

Introduction to CSS3 : Power of CSS, Anatomy of CSS Rule,Element Class and ID Selector, Style Placement,Box Model,Background Property,Responsive Design,Media Queries,Relative and Absolute Element Positioning.

HTML5 Tables, Forms and Media: Creating tables: creating simple table, specifying the size of the table,specifying the width of the column, merging table cells, using tables for page layout

Formatting tables: applying table borders, applying background and foreground fills, changing cell padding, spacing and alignment

Creating user forms: creating basic form, using check boxes and option buttons, creating lists, additional input types in HTML5, Incorporating sound and video: audio and video in HTML5, HTML multimedia basics, embedding video clips, incorporating audio on web page

Suggested Reading:

1. Web Design The Complete Reference by Thomas Powell, Tata McGraw

2. HTML5 Step by Step by Faithe Wempen, Microsoft Press, 2011.

3. HTML & CSS: Design and Build Websites Book by Jon Duckett

KALINGA UNIVERSITY
RAIPUR|INDIA

INDUSTRIAL TRAINING/ ON JOB TRAINING/ WORKSHOP

BVWT105P

KALINGA UNIVERSITY
RAIPUR INDIA

SEMESTER-II

DATABASE SYSTEMS

BVWT201

Unit I: **08**

Introduction to DBMS: Database, DBMS – Definition, Overview of DBMS, Advantages of DBMS, Levels of abstraction, Data independence, DBMS Architecture

Data models: Client/Server Architecture, Object Based Logical Model, Record Based Logical Model (relational, hierarchical, network)

Entity Relationship Model: Entities, attributes, entity sets, relations, relationship sets, Additional constraints (key constraints, participation constraints, weak entities, aggregation / generalization, Conceptual Design using ER (entities VS attributes, Entity Vs relationship, binary Vs ternary, constraints beyond ER)

Unit II: **08**

Relational data model: Domains, attributes, Tuples and Relations, Relational Model Notation, Characteristics of Relations, Relational Constraints - primary key, referential integrity, unique constraint, Null constraint, Check constraint

ER to Table: Entity to Table, Relationship to tables with and without key constraints.

Normalization Concepts: 1NF, 2NF, 3NF, BCNF, examples.

Unit III: **07**

DDL Statements: Creating Databases, Using Databases, data types, Creating Tables (with integrity constraints – primary key, default, check, not null), Altering Tables, Renaming Tables, Dropping Tables, Truncating Tables, Backing Up and Restoring databases

DML Statements: Viewing the structure of a table insert, update, delete, Select all columns, specific columns, unique records, conditional select, in clause, between clause, limit, aggregate functions (count, min, max, avg, sum), group by clause, having clause

Functions: String Functions (concat, instr, left, right, mid, length, lcase/lower, ucase/upper, replace, strcmp, trim, ltrim, rtrim), Math Functions (abs, ceil, floor, mod, pow, sqrt, round, truncate) Date Functions (adddate, datediff, day, month, year, hour, min, sec, now, reverse)

Unit IV: **07**

Joining Tables: inner join, outer join (left outer, right outer, full outer)

Sub queries: Sub queries with IN, EXISTS, sub queries restrictions, Nested sub queries, ANY/ALL clause, correlated subqueries

Views: Creating, altering dropping, renaming and manipulating views

DCL Statements: (creating/dropping users, privileges introduction, granting/revoking privileges, viewing privileges)

References:

1. Ramez Elmasri & Shamkant B.Navathe, Fundamentals of Database Systems, Pearson Education, Sixth Edition, 2010
2. Ramakrishnam, Gehrke, Database Management Systems, McGraw-Hill, 2007
3. Joel Murach, Murach's MySQL, Murach, 2012.
4. Robert Sheldon, Geoff Moes, Beginning MySQL, Wrox Press, 2005.

KALINGA UNIVERSITY
RAIPUR | INDIA

ENVIRONMENTAL STUDIES

BVWT202

Unit I: Introduction to Environmental Studies **06**

- Multidisciplinary nature of environmental studies
- Scope and importance; Concept of sustainability and sustainable development.

Ecosystems

What is an ecosystem? Structure and function of the ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems:

a) Forest ecosystem

b) Grassland ecosystem

c) Desert ecosystem

d) Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit II: Natural Resources : Renewable and Non-renewable Resources **06**

- Land resources and landuse change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water : Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).
- Energy resources : Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Unit III: Biodiversity and Conservation **06**

- Levels of biological diversity : genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- India as a mega--biodiversity nation; Endangered and endemic species of India

- Threats to biodiversity: Habitat loss, poaching of wildlife, man--wildlife conflicts, biological invasions; Conservation of biodiversity: In--situ and Ex--situ conservation of biodiversity.
- Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Unit IV: Environmental Pollution **06**

- Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution
- Nuclear hazards and human health risks
- Solid waste management : Control measures of urban and industrial waste.
- Pollution case studies.

Environmental Policies & Practices

- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture
- Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).
- Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Unit V: Human Communities and the Environment **06**

- Human population growth: Impacts on environment, human health and welfare.
- Resettlement and rehabilitation of project affected persons; case studies.
- Disaster management : floods, earthquake, cyclones and landslides.
- Environmental movements : Chipko, Silent valley, Bishnois of Rajasthan.
- Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.
- Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R.1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999.*Global Ethics and Environment*, London, Routledge.
4. Gleick, P. H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll.*Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science,* 339: 36--37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams*(pp. 29--64). Zed Books.
8. McNeill, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971.*Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. Environmental and Pollution Science. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012.*Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M. L. 2001. *Environmental law and policy in India*. *Tripathi 1992*.
14. Sengupta, R. 2003. *Ecology and economics*: An approach to sustainable development. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds). 2013. *Conservation Biology*: *Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998*. Land of the Tiger*: *A Natural History of the Indian Subcontinent*.
18. Warren, C. E. 1971. *Biology and Water Pollution Control*. WB Saunders.
19. Wilson, E. O. 2006.*The Creation: An appeal to save life on earth*. New York: Norton.
20. World Commission on Environment and Development. 1987.*Our Common Future*. Oxford University Press.

KALINGA UNIVERSITY
RAIPUR INDIA

THEORY OF DOMAIN HOSTING

BVWT203

Unit I: **06**

Introduction to Web: Client-Server Model; Characteristics of a Website, Role of ICANN & IANA, Introduction to Domain Name System Terminology: Components, Concepts; Introduction to Domain Name System: Domain, Domain Name, IP Address, Top-Level Domain, Sub Domain, Fully Qualified Domain Name, Name Servers, Root Servers, TLD Servers, Domain-Level Name Servers, Resolving Name Server.

Unit II: **06**

Addressing: IP Address Classes; Master-slave Architecture, Zones and Zone Files, Zone Transfer, Certificate Authorities (CAs), Digital Certificates, Record Types: SOA Records, A Records, AAAA Records, CNAME Records, MX Records, NS Records, PTR Records, CAA Records, TXT Records; Domain Name Configuration Steps.

Unit III: **06**

Introduction to Hosting Servers: Web Hosting, Domain Registrars, Web Servers, Different Types of Web Servers; Different Types of Web Hosts: Shared Hosting, Virtual Private Server (VPS) Hosting, Dedicated Server Hosting, Cloud Hosting.

Unit IV: **06**

Privacy: Data Privacy, Domain Privacy; Domain Security: Domain Squatting, Hijacking, Spoofing, Prevention Methods; Website Security: Issues, Risks, Cyberbullying; Web Protocols: TCP, UDP, SSH, HTTP, HTTPS, SMTP, TELNET, FTP, SFTP, SSL.

Unit V: **06**

FTP Client Softwares: Filezilla, Cyberduck, CuteFTP; Cloud Web Hosting Providers: AWS, DreamHost, Google Cloud; Green hosting.

References:

1. Peter Pollock, Web hosting for dummies, Wiley 2013
2. Wim Bervoets, Fast, Scalable And Secure Web Hosting For Web Developers: Learn to set up your server and website, 2016

KALINGA UNIVERSITY
RAIPUR INDIA

BASICS OF HTML

BVWT204

Unit I: **06**

Introduction: History of HTML; Basic HTML Structure: Tags, Head, Body, Colors, Attributes; Lists: Ordered List, Unordered List, Definition List, Nested List.

Unit II: **06**

Links: Introduction, Relative Links, Absolute Links, Link Attributes, Link within a Document using Bookmarks.

Unit III: **06**

Images: Adding an Image, Using Images as Links, Setting Background Image, Specifying Image Size, Imagemaps, Image Alignment.

Unit IV: **06**

Working with Tables and Frames: Creating a Table, Table Headers, Captions, Spanning Multiple Columns, Styling Table; Frames.

Unit V: **06**

Forms and Controls: Input elements, Other Form Elements.

References:

1. O"Reilly, Introduction to HTML and CSS, Macmillan publishers, 2010, Second Edition

2. Jon Duckett John Wiely, HTML and CSS,John Wiley & Sons, Inc, 2012, Fifth Edition

KALINGA UNIVERSITY
RAIPUR INDIA

INDUSTRIAL TRAINING/ ON JOB TRAINING/ WORKSHOP

BVWT205P

KALINGA UNIVERSITY
RAIPUR INDIA

SEMESTER- III

ADVANCED HTML & CSS

BVWT301

Unit I: **06**

Structuring Documents for the Web: Introducing HTML, Attributes; Basic Text Formatting, Lists: Ordered List, Unordered List, Nested List;

Links and Navigation, Images: Adding Images; Attributes, Images as Links;

Tables: Basic Table Elements and Attributes, Nested Tables.

Unit II: **06**

Frames: Frame Element, Frameset Element, Links between Frames, Nested Framesets, Inline or Floating Frames; **Forms:** Attributes, Controls, HTTP get, HTTP post methods.

Unit III: **06**

HTML5: Semantic & Non-Semantic tags;

Audio & Video: Adding Flash, Video and Audio; Canvas, Geolocation, Drag and Drop, Web Storage, Web Workers.

Unit IV: **06**

XHTML: Introducing XHTML, HTML vs XHTML; XHTML Syntax; DOCTYPEs, Attributes, Events, XHTML Validation.

Unit V: **06**

Cascading Style Sheets: Introduction, Elements, Attributes, Properties, Controlling Text, Selectors; Box Model.

References:

1. New Riders, 2014
2. Kogent, Learning Solutions Inc, -HTML 5 in simple steps
3. Steven M. Schafer, HTML, XHTML, and CSS Bible, 5ed, Wiley India, 2004

KALINGA UNIVERSITY
RAIPUR INDIA

WEB PROGRAMMING USING PHP

BVWT302

Unit I: **06**

PHP: Introduction, Server Side Programming, Role of Web Server Software;

Including PHP Script in HTML: head, body, external. Comments, Data Types, Variables and Scope, echo and print.

Unit II: **06**

Operators: Arithmetic, Assignment, Relational, Logical; Conditional Statements,Switch, Loops, break and continue, User Defined Functions, Strings,Numbers,Math.

Unit III: **06**

Working with PHP: Passing information between pages using HTTP GET and POST method, Cookie, Session; **String Functions:** strlen, strops, strstr, strcmp, substr, str_replace, string case;

Array constructs: array(),list() and foreach(); Header().

Unit IV: **06**

PHP & PostgreSQL: Features of PostgreSQL, Data Types, PostgreSQL commands:CREATE DATABASE, CREATE TABLE, DESCRIBE TABLE (\d table_name or using information_schema), SELECT, SELECT INTO, CREATE AS, DELETE, UPDATE, INSERT.

Unit V: **06**

PHP - PostgreSQL Integration: Establishing Database Connection (pg_connect(), pg_connection_status(), pg_dbname()), Getting Error String (pg_last_error()), Closing Database Connection (pg_close()), Executing SQL Statements (pg_query(), pg_execute()), Retrieving Data (pg_fetch_row(), pg_fetch_array(), pg_fetch_all(), pg_fetch_assoc(), pg_fetch_object(),pg_num_rows(), pg_num_fields() pg_affected_rows(), pg_num_rows(), pg_free_result()); Insertion and Deletion of data using PHP, Displaying Data from PostrgreSQL database in webpage.

References:

1. The Joy of PHP: A Beginner's Guide to Programming Interactive Web Applications with PHP and mySQL, Author – Alan Forbes, LatestEdition – Fifth Edition,Publisher – Plum Island

2. W. Gilmore, Beginning PHP and PostgreSQL 8: From Novice to Professional, 2007, ISBN: 9788181286000

3. IvelinDemirov, Learn JavaScript VISUALLY, Third edition (27 June 2014) 5. Jim Converse & Joyce Park, PHP & MySQL Bible, Wiley

KALINGA UNIVERSITY
RAIPUR INDIA

RDBMS USING MYSQL

BVWT303

Unit I: **06**

Introduction to DBMS: Basic Concepts, Characteristics of Database Approach, Advantages of using DBMS; Database Concept and Architecture, Data Models, Schemes, Instances, Data Independence, Database Languages;

Database Modeling using entity-relationship(ER): Attributes & Keys(Primarykey, Foreign key), Weak Entity Set, Enhanced Entity-Relationship(EER).

Unit II: **06**

Relational Model: Basic Concepts, Relational Algebra and Operations; Functional Dependencies, Normal forms: 1NF, 2NF, 3NF, Boyce-Codd Normal Form; Database Design.

Unit III: **06**

Introduction to MySQL Database: Data Definition Language (DDL) commands: Table Creation and Alteration, Constraints, View, Index, Cluster, Sequence, Synonym.

Unit IV: **06**

SQL Data Manipulation Language (DML) commands: Insertion, Deletion, Updation, Data Retrieval;

Functions: Numeric, Data, Character, Conversion, Group Functions with having clause; Set Operators, Sorting, Sub-Query, Joins: Single join, Self join, Outer join; Date Functions**.**

Unit V: **06**

Transaction Control Language (TCL): Basic commands (Grant, revoke, commit, savepoint), Usage of Triggers, Functions and Procedures using PL/SQL; Establishing Database Connectivity

References:

1. C. J. Date, A. Kannan and S. Swamynathan, An Introduction to Database Systems, Pearson Education, Eighth Edition, 2009.
2. Abraham Silberschatz, Henry F. Korth and S. Sudarshan, Database System Concepts, McGraw-Hill Education (Asia), Fifth Edition, 2006.
3. Elmasri, Shamkant B. Navathe, Fundamentals of Database Systems, 7th Edition.

KALINGA UNIVERSITY
RAIPUR INDIA

THEORY OF VERSION CONTROL

BVWT304

Unit I: **06**

Basic Concepts of Version Control: Repository, Versioning Models; Introduction to Subversion: History, Features, Architecture, Components; Branching and Merging: Basics, Using Branches, Copying Changes between Branches, Common Use-Cases for Merging, Switching a Working Copy, Tags, Branch Maintenance.

Unit II: **06**

Introduction to Source Code Management: Goals, Principles, Core Concepts (Baselines, Sandboxes and Workspaces, Branching, Deltas, Changesets).

Unit III: **06**

Repository Administration: Strategies for Repository Deployment, Creating and Configuring Repositories, Repository Maintenance, Moving and Removing Repositories.

Unit IV: **06**

Server Configuration: Basic Concepts, Choosing a Server Configuration, svnserve, httpd (Apache HTTP Server), Path-Based Authorization.

Unit V: **06**

Subversion Command-Line, Advanced Subversion Commands: svn, svnadmin, svnlook, svnsync, vndumpfilter, svnversion, mod_dav_svn Configuration Directives, mod_authz_svn; Subversion properties.

References:

1. William A.Nagel, Subversion Version Control: Using the Subversion Version Control System in Development Projects, First edition, Prentice Hall.

2. C. Michael Pilato, Ben Collins-Sussman, Brian W. Fitzpatrick, Version Control with Subversion: Next Generation Open Source Version Control, Second Edition, O‟Reilly Media.

KALINGA UNIVERSITY
RAIPUR INDIA

INDUSTRIAL TRAINING/
ON JOB TRAINING/ WORKSHOP
BVWT305P

KALINGA UNIVERSITY
RAIPUR INDIA

SEMESTER- IV

SCRIPTING USING PYTHON

BVWT401

Unit I: **06**

Python: Introduction, Features, Literal, Constants, Numbers, Strings, Identifiers, Naming, Data Types, Objects; **Operators and Expressions:** Operators, Operator Precedence, Order of Evaluation, Associativity.

Unit II: **06**

Control Flow: Decision making (if, if …else, if…elif…else), Loops (while, for, break, continue statements); Functions: Definition, Parameters, Local and Global Variables, Default arguments, Keyword arguments, Return statement, Recursive functions, Lambda functions.

Unit III: **06**

Modules: Built-in Modules, Creating Modules, import Statement, Namespaces, Scope, dir(),reload() functions;

File Handling: Opening a File, Writing to a File, Closing a File, File Renaming, Deleting a File; Directory Methods: mkdir(),chdir(),getcwd(),rmdir().

Unit IV: **06**

Data structures: cIntroduction, List (Storing many different data points under a single namecreate, subset and manipulate Lists), Tuple, Dictionary, Sequences.

Unit V: **06**

Quick introduction to Objects and Classes: Creating Objects, init() method;OOPS principles: Encapsulation, Data Hiding, Inheritance, Method Overriding, Polymorphism; Exception Handling: try ...except, try…finally, Raising an Exception, User Defined Exception.

References:

1. Y. Daniel Liang, Introduction to Programming Using Python, First Edition, Prentice Hall,
2. ISBN-10 0132747189
3. David Ascher and Mark Lutz, Learning Python, O‟Reilly Publications
4. AahzMaruch and Stef Maruch, Python for Dummies, Wiley Publishing Inc, 2006

KALINGA UNIVERSITY
RAIPUR INDIA

WEBSITE PUBLISHING AND MANAGEMENT

BVWT402

Unit I: **08**

Source control: Git and GitHub

Introduction, Getting started using git, Install git and/or source tree, create a local repository, create a commit, create a remote repository and push commits to a remote repository, Branching and Merging, Git Workflows, Github Account, Github Repository, Push, commits, Inviting a collaborator, Clone a repository, Pull repository based on collab updates/commits.

Unit II: **08**

Server: OS, web hosting control panels - Plesk and cPanel, Types of servervirtual, shared, dedicated & cloud, on premises server

Unit III: **07**

Server Management: Server environment set-up, DNS , DB Set up, Email setup, Server file management, Server security- firewall , ports, website configuration files - .htaccess, web.config, cache management, log management -event, error logs.

Unit IV: **07**

Networking tools: FTP tools, Filezilla, CDN

Server Maintenance: Backup and Restore, Software updates

References:

1. Git

a. https://git-scm.com/

b. https://git-scm.com/doc

2. GitHub

a. https://docs.github.com/en

b. https://developer.mozilla.org/en-USS/docs/Learn/Getting_started_with_the_web/Publishing_your_website

c. https://developer.mozilla.org/en-US/docs/Learn/Common_questions/What_is_a_web_server

d. https://en.wikipedia.org/wiki/Web_hosting_service

e. https://docs.plesk.com/en-US/obsidian/

f. https://docs.cpanel.net/installation-guide/install/

KALINGA UNIVERSITY
RAIPUR INDIA

MARKETING MANAGEMENT AND AUTOMATION

BVWT403

Unit I: **08**

Introduction to Marketing Management, Core Concepts of Marketing, Importance of Marketing, The Marketing Process, Marketing Environment, Understanding the Marketing-Information Systems (MIS) Segmentation: Introduction, Benefits of Marketing Segmentation, The Process of Market Segmentation. CRM concepts Acquiring customers, - Customer loyalty and optimizing customer, relationships – CRM defined - success factors, the three levels of Service/ Sales Profiling -Service Level Agreements (SLAs), creating and managing effective SLAs.

Unit II: **08**

One-to-one Relationship Marketing - Cross Selling & Up Selling - Customer Retention,Behaviour Prediction- Customer Profitability & Value Modeling, - Channel Optimization -Eventbased marketing. - CRM and Customer Service - The Call Centre, Call Scripting - Customer Satisfaction Measurement.

Unit III: **07**

Sales Process, Activity, Contact- Lead and Knowledge Management - Field Force Automation. - CRM links in e-Business - E-Commerce and Customer Relationships on the Internet - Enterprise Resource Planning (ERP), -Supply Chain Management (SCM), -Supplier Relationship Management (SRM), - Partner relationship Management (PRM)

Unit IV: **07**

Managing and sharing customer data - Customer information, databases - Ethics and legalities of data use - Data Warehousing and Data Mining concepts - Data analysis – Market Basket Analysis (MBA), Click stream Analysis, Personalization and Collaborative Filtering.

Reference Books:

1. https://www.linkedin.com/learning/marketing-tools-automation/modern-marketing-is-automated?autoplay=true&trk=learning-course_tocItem&upsellOrderOrigin=default_guest_learning
2. https://www.hubspot.com/resources
3. https://developers.activecampaign.com/
4. https://www.salesforce.com/in/resources/videos/#!page=1
5. https://www.zoho.com/crm/help/?src=rdd
6. https://www.odoo.com/slides
7. https://help.autopilotapp.com/

Textbook:

1. Adrian Payne, Services Marketing
2. Balasubramaniyan, K., Essence of Customer Relationship Management
3. Helen Woodruffe, Services Marketing
4. Service Marketing and Management – Balaji – S.Chand
5. R.Srinivasan – Services marketing – PHI.
6. Kaushik Mukerjee – CRM – PHI.
7. Bharat WAkhlu _ Total Quality – S.Chand.
8. CRM in Banking & Insurance – V.V.Gopal

KALINGA UNIVERSITY
RAIPUR | INDIA

GRAPHICS AND WEB DESIGN

BVWT404

Unit I: **08**

Web Site Design Principles: Design for the Medium, Design for the Whole Site, Design for the User, Design for the Screen, Planning the Site – Create a Site Specification, Identify the Content Goal, Analyze your Audience, Build a Web Site Development Team, Filenames and URLs, Directory Structure, Diagram the Site

Web Page Anatomy - Grid Theory: The Rule of Thirds, 960 Grid System, Resizing: Fixed, Fluid, or Responsive Layouts - Fixed Width, Fluid Width, An Alternative: Responsive Layouts

Planning Site Navigation: Creating Usable Navigation, Using Text – Based Navigation, Using Graphics-Based Navigation

Web Typography: Type Design Principles, Controlling Typography with Cascading Style Sheet, Styling with CSS, Web Fonts with @font-face - Selfhosted Web Fonts, Web Font Services - Google Fonts, Adobe Fonts **Graphics and Color:** File Format Basics, Computer Color Basic, Choosing a Graphics Tool, Using the <IMG> Element, Working with Hexadecimal Colors

Publishing and Maintaining Your Web Site: Publishing Your Web Site, Testing Your Web Site, Refining and Updating Your Content, Attracting Notice to Your Web Site

Unit II: **08**

CorelDRAW Graphics Suite: How to Draw in Perspective, How to use the Replace Colors filter for precise image editing, Making the most of the Adjustments docker, Learn how to use Multipage View to your advantage, How to export multiple assets at the same time, Managing cloud files and collaboration in CorelDRAW, How to import a font database, Creating a Duotone and Monochrome Images in CorelDRAW and PHOTO-PAINT, Removing the background from images with CorelDRAW and PHOTO-PAINT, Creating a Certificate with Print Merge in CorelDRAW, Creating a Realistic Objects with Mesh Fill, Printing color separations, Get top 10 prints for screen printers, Creating a t-shirt design & mockup, Design a vehicle wrap with free templates, Apply AI based effects to bitmaps and vectors, Get impressive bitma-to-vector trace results, Fine-tune type responsively with variable fonts, Add depth with shadows, Collaborate to get more done in less time, Work with comments and annotations in CorelDRAW, Review and approve designs in a web browser, Improve the size and quality of images, Apply effects in Corel PHOTO-PAINT, Using masks in Corel PHOTO-PAINT, Apply bitmap effects as lenses, Vector art vs. raster art, Understanding color palettes, Design with CorelDRAW.app

Unit III: **07**

Introduction to Adobe Photoshop, Getting Started using Photoshop, Working with Images, Resizing and Cropping Images, Working with Basic Selections, Layers, Painting in Photoshop, Photo Retouching, Color Correction, Using Masks And The Quick Mask Mode, Working With The Pen Tool, Creating Special Effects, Printing And Exporting Your Work

Unit IV: **07**

Introduction to Adobe Illustrator, Working With Documents, Drawing and Transforming Objects, Making and Saving Selections, Working with Shapes and Objects, Working with Color, Gradients, Pattern Fills, and Blends, Points and Paths, Working With Paths, Working With Layers, Working with Type, Drawing and Painting, Illustrator Effects, Symbols, Outputting Your Work

References:

1. Principles of Web Design by Joel Sklar, 6th Edition, Cengage, 2015.
2. The Principles of Beautiful Web Design, 3rd Edition, By Jason Beaird, James George (SitePoint)
3. https://www.coreldraw.com/en/learn/tutorials/?topNav=en
4. https://helpx.adobe.com/photoshop/tutorials.html
5. https://helpx.adobe.com/in/illustrator/tutorials.htm

KALINGA UNIVERSITY
RAIPUR|INDIA

INDUSTRIAL TRAINING/
ON JOB TRAINING/ WORKSHOP
BVWT405P

KALINGA UNIVERSITY
RAIPUR|INDIA

SEMESTER – V

WEB SERVER PROGRAMMING USING DJANGO

BVWT501

Unit I: **06**

Django: Introduction, Django Framework, Design principles, Django Components, Installing Django.

Unit II: **06**

Model Layer: Models, Field Types, Meta Options, Model Class, QuerySets, Executing Queries, Queryset Method Reference, Migrations: Introduction, Writing Migrations.

Unit III: **06**

View Layer: Basics, URLConfs, View Functions, Decorators, Request/Response objects, Class Based Views, File Uploads.

Unit IV: **06**

Templates: Template Layer, Built in Tags and Filters, Custom Tags and Filters, Template Loading, render_to_response(), The locals() Trick, Subdirectories in get_template( ), include Template Tag, Template Inheritance .

Unit V: **06**

Forms: Basics, Built in Fields and Widgets, Forms for Models, Customizing Validation, Security, Performance and Optimization.

References:

1. Jeff Forcier, Paul Bissex, Wesley J Chun, Python Web Development with Django, Addison Wesley
2. Daniel Rubio,Beginning Django: Web Application Development and Deployment with Python, Apress, First Edition

KALINGA UNIVERSITY
RAIPUR INDIA

COMPUTER NETWORKS

BVWT502

Unit I: **08**

Introduction: Data communications, networks, network types, Internet history, Protocol and standards and administration.

Network Models: Protocol layering, TCP/IP protocol suite, The OSI model.

Introduction to Physical layer: Data and signals, analog signals, digital signals, transmission impairment, data rate limits, performance.

Digital and Analog transmission: Digital-to-digital conversion, analogtodigital conversion, transmission modes, digital-to-analog conversion.

Bandwidth Utilization: Multiplexing and Spectrum Spreading: Multiplexing TDM, FDM, Spread Spectrum.

Transmission and Transmission media: Guided Media, Unguided Media, Synchronous and asynchronous Transmission.

Switching: Introduction, circuit switched networks, packet switching, structure of a switch.

Unit II: **08**

Introduction to the Data Link Layer: Link layer addressing, Data Link Layer Design Issues, Error detection and correction, checksum, Cyclic Redundancy check code, forward error correction versus retransmission, Framing, Flow control, Flow And Error Control Protocols used.

Introduction to Data Link Control: DLC services, data link layer protocols, HDLC, Point-to-point protocol.

Media Access Control: Random access, controlled access, channelization, Wired LANs – Ethernet Protocol, standard ethernet, fast ethernet, gigabit ethernet, IEEE Standard 802.3 Ethernet, 802.4 Token Bus, 802.5 Token Ring.

Wireless LANs: Introduction, IEEE 802.11 project, Bluetooth, WiMAX, Cellular telephony, Mobile IP. Connecting devices and Virtual LANs.

Virtual-Circuit Networks: Frame Relay, ATM, ATM LANs versions of 802.11, 802.11a,802.11b,802.11g, 802.11n, 802.11ac, OFDM, OFDMA.

Unit III: **07**

Introduction to the Network Layer: Internet Protocol (IP): Datagram Format, Fragmentation and reassembly, Network layer services, network layer performance, IPv4 addressing, forwarding of IP packets, Internet Protocol, ICMPv4, Address mapping, ARP, RARP, DHCP.

Unicast Routing: Introduction, routing algorithms, unicast routing protocols-Distant Vector routing, Link State Routing, Path vector routing. Spanning tree, spanning tree algorithm, Multicast, Broadcast.

Next generation IP: IPv6 addressing, IPv6 protocol, ICMPv6 protocol, transition from IPv4 to IPv6.

Unit IV: **07**

Introduction to the Transport Layer: Introduction, Transport layer protocols (Simple protocol, Stop-and-wait protocol, Sliding Window protocol, Go-Back-n protocol, Selective repeat protocol, , Selective reject protocol Bidirectional protocols), Transport layer services, User Datagram Protocol (UDP), Transmission Control Protocol (TCP), Congestion control.

Introduction to Application Layer: World wide-web and HTTP, FTP, Electronic mail, MIME (Multipurpose Internet Mail Extension), Telnet, Secured Shell, Domain name system. SNMP.

Multimedia: Digitizing Audio and Video, Audio and Video compression, RTP, RTCP, Voice over IP.

References:

1. Data Communication and Networking by Behrouz A. Forouzan, Tata McGraw Hill, Fifth Edition, 2013
2. TCP/IP Protocol Suite by Behrouz A. Forouzan , Tata McGraw Hill, Fourth Edition 2010
3. Computer Networks by Andrew Tanenbaum, Pearson, Fifth Edition 2013
4. Data Communication by William Stalling, Tata McGraw Hill, Fifth Edition

KALINGA UNIVERSITY
RAIPUR INDIA

INTRODUCTION TO CROSS PLATFORM WEBSITE APPLICATIONS BVWT503

Unit I: **06**

Introduction to Angular JS: Definition & Importance of Angular JS, MVC Architecture, Providers, Validators, Directives, Expressions, Controllers, Filters, Modules, Services, Dependency injection.

Unit II: **06**

Introduction to Node.js: Meaning &Importance of Node.js, Node.js Packages. Node.js Modules, Node.js HTTP Module, Node.js File System, Node.js URL Module, Node.js NPM, Node.js Events, Node.js Buffers, Node.js Streams, Node.js Utility Modules.

Unit III: **06**

Synchronous and Asynchronous Methods: Querying, Reading from and Writing to Files, Creating and controlling external processes, Reading and writing Streams of Data, Building HTTP Servers; Building and Debugging modules and applications: Testing Modules and Applications, Debugging Modules and Applications.

Unit IV: **06**

Introduction to React.JS: Environment Setup of React.JS, JSX, Components, State, Props Overview, Props Validation, Component API, Component Life Cycle.

Unit V: **06**

React.JS Essentials: Forms, Events, Refs, Keys, Router, Flux concept, Animations, Higher Order Components.

References:

1. Brad Green, ShyamSeshadri,Angular JS,O"Reilly,2013.
2. Accomazzo Anthony, Murray Nathaniel, Lerner Ari, The Complete Guide to ReactJS and
3. Friends,Fullstack React, 2017.
4. Shelley Powers, Learning Node: Moving to the Server-Side, O"Reilly, 2016.
5. Greg Sidelnikov, React. Js Book: Learning React JavaScript Library from
6. Scratch,Independent Publication,2017.
7. Vipul A M,PrathameshSonpatki, React Js by Example: Building Modern Web Application
8. with React, Packt Publishing Ltd, 2016.

KALINGA UNIVERSITY
RAIPUR|INDIA

INTRODUCTION TO XML

BVWT504

Unit I: **06**

XML: Introduction, Namespaces, DTD, CSS, XSL; Schemas, Query Language, XLinks, Xpointers, XPath, Digital Signatures, Canonical XML, XHTML, XML Validators: Validating and NonValidating Parsers.

Unit II: **06**

Well Formed XML: Basics, Elements, Child Elements, Attributes: Rules, Sharing Attributes, Stylesheet with Attributes; XML Namespaces.

Unit III: **06**

DTD: Basics, Definition, DTD Entities, Types of Entities, General Entities, Parameter Entities; XSL: Basics, XSLT Concepts, XSL and XSLT Softwares, Transforming XML with XSLT.

Unit IV: **06**

Schema: Basics, Elements, Types, Attributes, Advanced Concepts; XML Query, RDF, XHTML.

Unit V: **06**

XML Processor: Introduction, Components of XML Processor, Concept of DOM and SAX, XMLHttpRequest, XMLHttpRequest Object, Events for the XMLHttpRequest Object, Request Object for XMLHttpRequest, Response Object for XMLHttpRequest.

References:

1. Williamson, XML: The Complete Reference, Tata McGraw Hill Edition 2001
2. Elliotte Rusty Harold, XML Bible, Wiley, 2001
3. Elliotte Rusty Harold and W. Scott, XML In A Nutshell, O‟Reilly, 3rd Edition

KALINGA UNIVERSITY
RAIPUR | INDIA

INDUSTRIAL TRAINING/
ON JOB TRAINING/ WORKSHOP
BVWT505P

KALINGA UNIVERSITY
RAIPUR INDIA

SEMESTER – VI

DATA WAREHOUSING AND MINING

BVWT601

Unit I: **08**

Data Warehouse- Overview and Concepts: Need for data warehousing, the building blocks of a Data warehouse.

Architecture and Infrastructure : Data Warehouse Architecture, Infrastructure and Metadata Management

Principles Of Dimension Modeling : Introduction to Dimensional Modeling, Advanced Concepts

Unit II: **08**

Extract Transform Load Cycle: ETL overview, Extraction, Loading, Transformation techniques.

Information Access and Delivery: Matching information to classes of users, OLAP – the need, Design of the OLAP database, OLAP operations: slice, dice, rollup, drill-down etc. OLAP implementations.

Implementation And Maintenance: Physical design process, Aggregates and Indexing. Data Warehouse Deployment

Unit III: **07**

Data Mining - Introduction: Basics of data mining, related concepts, Data mining techniques. The KDD process

Concept Description: Class Characterization and comparison, Attribute relevance analysis, Attribute oriented Induction, Mining descriptive statistical measures in large databases.

Classification Algorithms: What is Classification? Supervised Learning, Classifier Accuracy, Decision Tree and Naïve Bayes Classifier.

Unit IV: **07**

Clustering: What is clustering? Types of data, Partitioning Methods (K- Means, K-Medoids) Hierarchical Methods(Agglomerative , Divisive)

Association rules: Motivation For Association Rule mining, Market Basket Analysis, Apriori Algorithm, FP tree Algorithm, Iceberg Queries. Advanced Association Rules concepts

Web Mining: Web Content Mining, Web Structure Mining, Web Usage Mining.

Text Books:

1. Ralph Kimball, “The Data Warehouse Lifecycle toolkit’, 2nd edition, Wiley India.
2. Han, Kamber, “Data Mining Concepts and Techniques”, 2nd edition ,Elsevier
3. Reema Theraja “Data warehousing”, Oxford University Press.
4. “Introduction to Data Mining”, 1/e Pang-Ning Tan, Vipin Kumar, Michael Steinbach Pearson Education
5. M.H. Dunham, “Data Mining Introductory and Advanced Topics”, Pearson Education.

Reference Books :

1. Paulraj Ponniah, “Data Warehousing Fundamentals”, Wiley Student edition.
2. “Data mining For Business intelligence” Galit Shmueli, Nitin Patel, Peter Bruce; Wiley Student Edition.
3. “Data Warehousing, Data Mining & OLAP” Alex ber son & Stephen J Smith, Tat McGraw Hill.
4. “Data Mining with SQL Server 2008” Jamie McLennan & others, Wiley Indian Edition.
5. “Mastering Data Mining”, M Berry and G. Linoff, Wiley Student Edition.
6. R. Kimball, “The Data Warehouse Toolkit’, John Wiley.

KALINGA UNIVERSITY
RAIPUR|INDIA

CONTENT MANAGEMENT SYSTEM

BVWT602

Unit I: **06**

Introducing Content Management Systems: Exploring CMS terminology, including open source, PHP, MySQL, server-side, client-side, static HTML website, CMS web pages generation. Website strategy and planning, site mapping, content planning.

Unit II: **06**

Types of Content Management Systems: Enterprise Content Management System (ECMS): Benefits, components, implementation, stages.Web Content Management System (WCMS): Capabilities, types, advantages, disadvantages.

Unit III: **06**

Introduction to Joomla:Introduction : Content creation using the CAM model, Content customization: images, video, audio, tags, formats, etc. ,Adding and displaying menus, Linking menus to articles and other features.Extending Joomla,Creating customized Joomla templates, Modifying Joomla CSS and HTML parameters,Tweaking the Joomla backend, Mobile considerations.

Unit IV: **06**

Introduction to WordPress: WordPress.org vs. WordPress.com,Installing WordPress Exploring the admin interface, Content creation: Posts vs. Pages, Content customization: images, video, audio, tags, formats, etc.,Extending WordPress

Unit V: **06**

Case study: Build a Joomla website, Build a WordPress site

References:

1. Managing Enterprise Content: A Unified Content Strategy. Ann Rockley, Pamela Kostur, Steve Manning. New Riders, 2003.

2. The content management handbook . Martin White. Facet Publishing, 2005.

KALINGA UNIVERSITY
RAIPUR INDIA

SOFTWARE TESTING

BVWT603

Unit I: **08**

Testing Introduction : Goals of Software Testing, Software Testing Methodology Definitions, Model for Software Testing, Effective Software Testing vs Exhaustive Software Testing, Software Failure Case Studies, Software Testing Terminology

Software Testing Life Cycle (STLC), Software Testing methodology, Verification and Validation, Verification requirements, Verification of high level design, Verification of low level design, validation.

Unit II: **08**

Dynamic Testing : Black Box testing: boundary value Techniques analysis, equivalence class testing, state table based testing, cause-effect graphing based testing, error guessing.

White box Testing Techniques: need, logic coverage criteria, basis path testing, graph matrices, loop testing, data flow testing, mutation testing. Static Testing.

2.3 Validation Activities: Unit validation, Integration, Function, System, Acceptance Testing.

Regression Testing: Progressive vs. Regressive, regression testing produces quality software, regression testability, objectives of regression testing, regression testing types, define problem, regression testing techniques.

Unit III: **07**

Test Management: test organization, structure and of testing Managing the group, test planning, detailed test design and test,Test Process specification.

Software Metrics: need, definition and classification of software matrices. Testing Metrics for Monitoring and Controlling the Testing Process: attributes and corresponding matrics, estimation model for testing effort, architectural design, information flow matrix used for testing, function point and test point analysis.

Efficient Test Suite Management: minimizing the test suite and its benefits, test suite minimization problem, test suite prioritization its type , techniques and measuring effectiveness.

Unit IV: **07**

Test Automation and Testing Tools: need, categorization,Automation selection and cost in testing tool, guidelines for testing tools. Study of testing tools: WinRunner, QTP, LoadRunner, TestDirector and IBM Rational Functional Tester, Selenium etc.

Jenkins : Introduction to delivery pipeline, Introduction to Jenkins, Jenkins management, Adding slave node to Jenkins, Building a delivery pipeline, Selenium integration with Jenkins

References:

1. Software Testing Principles and Practices Naresh Chauhan Oxford Higher Education
2. Effective Methods for Software Testing , third edition by Willam E. Perry, Wiley Publication
3. Software Testing and quality assurance theory and practice by Kshirasagar Naik, Priyadarshi Tripathy , Wiley Publication
4. Software Testing Concepts and Tools by Nageswara Rao Pusuluri , dreamtech press

KALINGA UNIVERSITY
RAIPUR INDIA

INTRODUCTION TO SEARCH ENGINE OPTIMIZATION

BVWT604

Unit I: **06**

Overview: Types of Websites, Websites vs Portals, Page Rank, Architecture of Websites; SEO: Concept, Needs, Search Engines, Web Traffic, Steps in SEO; Techniques: Black Hat SEO, White Hat SEO.

Unit II: **06**

On Page Optimization Techniques: Site Analysis, Meta Tags, Sitemaps, Keyword Research, density, Meta Tags creation, Hyperlink Optimization, Meta Description and Tags Optimization, Text Modification Optimization, Image Optimization, Search Engine Optimization

Unit III: **06**

Off Page Optimization: Backlinks, Blog Marketing and Commenting, Forums Posting, Blog Posting, Search Engine Submission, XML Site Maps Submission, Customer Review Submission, Press Release Submission.

Unit IV: **06**

Digital Marketing: Digital Display Marketing, e-mail Marketing, Mobile Marketing, Search Engine Marketing.

Unit V: **06**

Social Media Marketing and Advertisements: Introduction to Social Media, Benefits of Social Media, Business Promotion with Social Media, Case Studies.

References:

1. Eric Enge, Stephan Spencer, Jessie Stricchiola, The Art of SEO: Mastering Search Engine Optimization, O Reily, Second Edition
2. Varinder Taprial, Priya Kanwar, Search Engine Optimization: HandBook of easy tools and tips., Pustak Mahal, First edition
3. Ian Dodson, The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns, Wiley 2016
4. Seema Gupta, Digital Marketing, McGraw Hill Education, 2018

KALINGA UNIVERSITY
RAIPUR|INDIA

INDUSTRIAL TRAINING/
ON JOB TRAINING/ WORKSHOP
BVWT605P

RAIPUR|INDIA

KALINGA UNIVERSITY

KALINGA UNIVERSITY, KOTNI , NEAR MANTRALAYA, NAYA RAIPUR - 492101, CHHATTISGARH
CALL: +91-9907252100