



SACRED HEART COLLEGE (AUTONOMOUS)

Tirupattur – 635 601, Tamil Nadu, S.India

Resi : (04179) 220103

College : (04179) 220553

Fax : (04179) 226423

Ready for
Every Good Work

A Don Bosco Institution of Higher Education, Founded in 1951 * Affiliated to Thiruvalluvar University, Vellore * Autonomous since 1987

Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31 / 4 at 'A+' Grade

BCA

SEMESTER	PART	SUBJECT	L	P	CD	
I	I	Tamil Paper – I	5		3	
	II	English Paper – I	5		3	
	II	Communicative English I			1	
	III	Mathematical Foundations – I	6		4	
	III	Problem Solving Techniques Using C	4		4	
	III	Web Design Technology	4		4	
	III	Practical-I: Web Design Technology and C		2	2	
	IV	Foundation Course I : Personal Skills	2		1	
	IV	Ethics / Religion	2		1	
			28	2	23	
II	I	Tamil Paper – II	5		3	
	II	English Paper – II	5		3	
	II	Communicative English II			1	
	III	Mathematical Foundations – II	6		4	
	III	Computer Organization and Architecture	4		4	
	III	Object Oriented Programming Using C++	4		4	
	III	Practical-II: Object Oriented Programming Using C++		2	2	
	IV	Foundation Course – II: Social Skills	2		1	
	IV	Ethics / Religion	2		1	
		PART	SUBJECT	L	P	CD
		III	Data Structures	4		4
		III	Programming Using JAVA	4		3
		III	Operating System	4		4
		III	Financial Accounting I	6		4
		III	Discipline Specific Elective I	4		3
		III	Practical-III : Data Structures Using C++		2	2
		III	Practical-IV : Programming Using JAVA		2	2
		IV	Foundation Course III: Employability Skills – I	2		1
		IV	Environmental Science	2		1

	VI	Certificate Course - I			2#
			26	4	24 + 2#

SEMESTER	PART	SUBJECT	L	P	CD
III	III	Data Structures	4		4
	III	Programming Using JAVA	4		3
	III	Operating System	4		4
	III	Financial Accounting I	6		4
	III	Discipline Specific Elective I	4		3
	III	Practical-III : Data Structures Using C++		2	2
	III	Practical-IV : Programming Using JAVA		2	2
	IV	Foundation Course III: Employability Skills – I	2		1
	IV	Environmental Science	2		1
	VI	Certificate Course - I			2#
			26	4	24 + 2#

SEMESTER	PART	SUBJECT	L	P	CD
IV	III	Software Engineering	4		4
	III	Windows Application Using .NET	4		3
	III	Relational Database Management System	4		4
	III	Financial Accounting II	6		4
	III	Computer Graphics	4		3
	III	Practical-V: Windows Application using .NET		2	2
	III	Practical -VI: Relational Database Management System		2	2
	IV	Foundation Course IV: Employability Skills – II	2		1
	IV	Human Rights	2		1
	V	DEEDS			2
	V	SHELTERS			2
	VI	Certificate Course - II			2#
			26	4	28 + 2#

SEMESTER	PART	SUBJECT	L	P	CD
			26	4	28 + 2#
V	III	Computer Networks	5		4
	III	E –Commerce	5		4
	III	Enterprise Java Programming	5		4
	III	Web Programming Using PHP	5		4
	III	Self Study Paper I : Industry Interface	-		1*

	III	Practical-VII : Enterprise Java Programming		4	4
	III	Practical-VIII : Web Programming Using PHP		4	4
	IV	Non Major Elective –I : Introduction to Information Technology	2		1
			22	8	25 + 1*
VI	III	Cloud Computing	5		4
	III	Discipline Specific Elective II	4		3
	III	Project Work		6	4
	III	Web Application Using .NET	5		5
	III	R Programming	4		4
	III	Self Study Paper II: Software Documentation	-		1*
	III	Practical-IX : Programming Using .NET and R		4	4
	IV	Non Major Elective – II : Multimedia	2		1
			20	10	25+1*
		TOTAL	180		148 +2*+4#

Allied B.Com (CA)

SEMESTER	PART	SUBJECT	L	P	CD	I	S	TOT
I	III	Office Automation	4		3	30	70	100
	III	Practical -I : Office Automation		2	1	40	60	100
II	III	Web Design Technology	4		3	30	70	100
	III	Practical -II : Web Design Technology		2	1	40	60	100
III	III	Programming with C	4		3	30	70	100
	III	Practical -III: Programming with C		2	1	40	60	100
IV	III	Relational Database Management System	4		3	30	70	100
	III	Practical -IV: Relational Database Management System		2	1	40	60	100
V	III	Computer Organization	4		4	30	70	100
	III	Web Programming Using PHP	4		4	30	70	100
	III	Practical -V: Web Programming Using PHP		2	2	40	60	100
VI	III	Management Information System	4		4	30	70	100
		TOTAL	28	10	30	410	790	1200

Sacred Heart College (Autonomous), Tirupattur District

1.2.1 List of New Courses

Department: BCA

S. No	Course Code	Course Name
1.	CA510	E – Commerce
2.	CA512	Web Programming Using PHP
3.	PCA504	Practical – Web Programming Using PHP
4.	CA607	Cloud Computing
5.	CA609	R Programming
6.	PCA605	Practical – Programming Using .Net and R
7.	CA610A	Unix and Shell Programming
8.	CA610B	Mobile Application
9.	CA610C	Client Side Scripting Technologies

SYLLABUS

Semester -V
70

5-0-4:30-

E-COMMERCE

1. Learning Objectives

- To learn the history of E-Commerce in Indian Business Context.
- To learn the basic E-Business models.
- To know the E-marketing strategies.
- To understand the principles in E-Security systems.
- To know the types of E-Payment Systems.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or)	12.a)Theory (or)	13.a)Theory (or)	14.a)Theory (or)	15.a) Theory (or)

	b) Theory	b) Theory	b) Theory	b) Theory	b) Theory
Section-C	16.Theory	17.Theory	18.Theory	19.Theory	20.Theory

3. Course Outline

UNIT – I: HISTORY OF E-COMMERCE AND INDIAN BUSINESS CONTEXT

Introduction – Emergence of the Internet – World wide web – Advantages-Disadvantages – Transition to India – The Internet and India – E-Transition Challenges for Indian Corporate – The Information Technology Act 2000- IT Bill 2006.

UNIT - II: E –BUSINESS MODELS FOR E-COMMERCE

E-business Models Based on the Relationship of Transaction Parties – Business to Consumer – Business to Business – Consumer to Consumer – Consumer to Business – E-Business Models based on the Relationship of Transaction Types.

UNIT - III: E-MARKETING

Traditional Marketing – Identifying web presence goals – The browsing behavior model – Online marketing – E-Advertising – E-branding – Marketing strategies.

UNIT - IV: E-SECURITY

Information System Security – Security on the internet – E-Business Risk management issues – Information Security Environment in India.

UNIT - V: E-PAYMENT SYSTEMS

Digital Payment Requirements – Digital Token based E-Payment Systems – Classification of New Payment System – Properties of Electronic Cash – Cheque Payment System – Risk and E-Payment Systems – Designing E-Payment Systems – Digital Signature.

4. Teaching Resources

i. Text

1.P.T. Joseph, “E-Commerce – An Indian Perspective”, Third Edition, PHI Learning Pvt Ltd, New Delhi, 2009.

Unit – I : Ch. 1

Unit – II : Ch. 2

Unit – III : Ch. 4

Unit – IV : Ch. 5

Unit- V : Ch .6

ii. References

1. R.Kalakota and A.B.Whinston, “Readings in Electronic Commerce”, Addison Wesley, 1997.
2. David Kosiur, “Understanding Electronic Commerce”, Microsoft Press, 1997.
3. Soka, “From EDI to Electronic Commerce”, McGraw Hill, 1995.

iii. Web References

Online Tutorial

1. https://www.tutorialspoint.com/e_commerce
2. <https://ecommerceguide.com/guides/>

Online Quiz

1. www.proprofs.com › Home › Create › Quizzes › Business › Ecommerce
2. <https://www.classmarker.com/online-test/>

5. Supplement Learning

- Retail Management
- Marketing Management
- Human Resource Online Recruitment
- International E-Business
- Shipping and Taxation

6. Course Outcomes

Upon successful completion of this course, the students should be able to:

- Learn the history of E-Commerce in Indian Business Context.
- Understand the basic E-Business models.
- Know the E-marketing strategies.
- Get knowledge of the principles in E-Security systems.
- Know the types of E-Payment Systems.

Semester-V
70

5-0-4:30-

WEB PROGRAMMING USING PHP

1. Learning Objectives

- To understand the basic fundamental syntax and functions.
- To understand form processing and validation methods.
- To know file handling concepts.
- To understand basic MySQL functions.
- To implement PHP using XML functions.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
---------	----------	-----------	------------	-----------	----------

Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Program	12.a)Theory (or) b) Program	13.a)Theory (or) b) Theory	14.a)Theory (or) b) Theory	15.a) Theory (or) b) Program
Section-C	16.Theory	17.Theory (or) Program	18.Theory	19.Theory (or) Program	20.Theory

3. Course Outline

UNIT – I: FUNDAMENTALS OF PHP

Web server-Apache-[PHP Intro](#)-[PHP Install](#)- [PHP Syntax](#)- [PHP Variables](#)- [PHP Echo / Print](#)- [PHP Data Types](#)-[PHP Strings](#)- [PHP Constants](#) [PHP Operators](#)- Control structures-[PHP Functions](#)- Directory Functions-File System Functions- [PHP Arrays](#) [PHP Sorting Arrays](#) [PHP Super global](#)-String Functions-Date and Time Functions-Mathematical Functions-Miscellaneous Functions.

UNIT – II: PHP FORMS

Basic Form Processing (GET and POST Method) - [PHP Form Handling](#) - [PHP Form Validation](#)- [PHP Form Required](#) – [URL](#)- [E-mail](#)-[PHP Form Complete](#).

UNIT-III: PHP ADVANCE

[PHP Arrays Multi](#)-[PHP Date and Time](#)-[PHP Include](#)-[PHP File Handling](#)- [PHP File Open/Read](#)-[PHP File Create/Write](#)-[PHP File Upload](#)-[PHP Cookies](#)-[PHP Sessions](#)-[PHP Filters](#)-[PHP Filters Advanced](#)-[PHP Error Handling](#)-[PHP Exception](#)-COM-DOM-CURL-SOAP.

UNIT – IV: PHP WITH MYSQL DATABASE

PHP [MySQL Functions](#) -[Connect](#) -[Create DB](#)- [Create Table](#)- [Insert Data](#)-[Get Last ID](#)-[Insert Multiple](#)-[Prepared](#)-[Select Data](#)-[Delete Data](#)-[Update Data](#)-[Limit Data](#)-Table join-Database driven application.

UNIT-V: PHP - XML

[PHP XML Parsers](#)-[PHP Simple XML Parser](#)-[PHP Simple XML](#) - [Get PHP XML](#) [Expat](#) [PHP XML DOM](#).

4. Teaching Resources

i. Text

1. Julie C.Meloni, Sams, “Teach Yourself PHP, MySQL and Apache”, Fourth Edition, Sams Publishing, New Delhi, 2008.

Unit – I : Ch. 3 – 8, 10

Unit – II	:	Ch. 11
Unit – III	:	Ch. 12 – 6
Unit – IV	:	Ch. 16
Unit – V	:	Ch. 28

ii. References

1. Luke Welling, Laura Thomson, “PHP and MySQL Web Development” Third Edition, Dorling Kinderly Pvt Ltd., New Delhi, 2006.
2. Julie Meloni, Matt Tellus, “PHP 6”, Cengage Learning Inida Pvt Ltd, New Delhi, 2008.

iii. Web References

Online Tutorial

1. www.w3schools.com
2. www.php.net
3. www.phpclasses.org

Online Quiz

1. <http://www.w3schools.com/quiztest/quiztest.asp?qtest=PHP>
2. <http://www.pskills.org/php.jsp>

Online Compiler

1. <http://compileonline.com>
2. http://www.compileonline.com/execute_php_online.

5. Supplement Learning

- Processing Buffered and Un buffered Queries
- SQL Injection Cheat Sheet
- Comparison Operators
- Security Concepts
- Memory Management in PHP

6. Course Outcomes

Upon successful completion of this subject students should be able to:

- Understand the basic fundamental syntax and functions.
- Process forms and validation methods.
- Know file handling concepts.
- Understand basic MySQL functions.
- Execute PHP using XML functions.

Semester - V

0-4-4:40-60

PRACTICAL-VIII : WEB PROGRAMMING USING PHP

1. Control Structures and Arrays
2. Use of Date and time Functions and Mathematical Functions
3. Use of GET and POST Method
4. Form Validation Techniques

5. File operations Read, Write, upload
6. Creation of session and cookies
7. Creation of tables, Insertion, Updation and Deletion of rows in MYSQL tables
8. Database connectivity in PHP with MySQL
9. Basic PHP operations using XML
10. Creation of Simple web pages

Semester- VI
70

5-0-4:30-

CLOUD COMPUTING

1. Learning Objectives

- To learn basic concepts in cloud computing.
- To understand various features of virtualization.
- To learn the basic architecture of cloud.
- To understand Aneka cloud application platform.
- To understand cloud platforms and its applications.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Theory	12.a)Theory (or) b) Theory	13.a)Theory (or) b) Theory	14.a)Theory (or) b) Theory	15.a) Theory (or) b) Theory
Section-C	16.Theory	17.Theory	18.Theory	19.Theory	20.Theory

3. Course Outline

UNIT – I : INTRODUCTION TO CLOUD COMPUTING

Cloud computing at a Glance – Historical Developments – Building cloud computing environments – Computing Platforms and Technologies.

UNIT – II : VIRTUALIZATION

Introduction – Characteristics of Virtualized Environments – Taxonomy of Virtualization Techniques – Virtualization and Cloud Computing – Pros and cons of Virtualization – Technology examples.

UNIT – III : CLOUD COMPUTING ARCHITECTURE

Introduction – Cloud Reference Model- Types of Clouds – Economics of Cloud – Open Challenges.

UNIT – IV: ANEKA-CLOUD APPLICATION PLATFORM AND THREAD PROGRAMMING

Framework overview – Anatomy of the Aneka Container – Building Aneka Clouds – Clouds – Cloud Programming and Management. – Programming applications with Threads – Multithreading with Aneka.

UNIT – V: CLOUD PLATFORMS IN INDUSTRY AND APPLICATIONS

Amazon Web Services – Google AppEngine – Microsoft Azure – Scientific Applications – Business and Consumer Applications.

4. Teaching Resources

i. Text

1. Rajkumar Buyya, Christian Vecchiola, S.Thamarai Selvi, “Mastering Cloud Computing”, McGraw Hill Education (India) Private Limited, 2013.

Unit – I	:	Ch. 1
Unit – II	:	Ch. 3
Unit – III	:	Ch. 4
Unit – IV	:	Ch. 5,6
Unit- V	:	Ch .9,10

ii. References

1. Rajkumar Buyya, James Broberg, Andrzej Goschinski, “Cloud Computing- Principles and Paradigms”, John Wiley and Sons, Inc, New Jersey.
2. Kai Hwang, Geoffrey C Fox, Jack G Dongarra, “Distributed and Cloud Computing, From Parallel Processing to the Internet of Things”, Morgan Kaufmann Publishers, 2012

iii. Web References

Online Tutorial

1. https://www.tutorialspoint.com/cloud_computing/
2. www.guru99.com/cloud-computing-for-beginners.html

Online Quiz

1. www.javatpoint.com/cloud-computing-quiz
2. [www.propfans.com › ... › Quizzes › Computer › Networking › Cloud Computing](http://www.propfans.com/.../Quizzes/Computer/Networking/Cloud%20Computing)

5. Supplement Learning

- Data Security in Cloud Computing

- Big Data Analytics
- Multitenant Technology
- Virtualization Technology
- Service Technology

6. Course Outcomes

Upon successful completion of this subject students should be able to:

- Learn basic concepts in cloud computing.
- Understand various features of virtualization.
- Learn the basic architecture of cloud.
- Understand Aneka cloud application platform.
- Understand cloud platforms and its applications

Semester- VI

4-0-4:30-70

R PROGRAMMING

1. Learning Objectives

- To understand the concepts of vectors and data types.
- To understand the various R functions and strings in R Programming.
- To understand the concepts of data frame and reshaping.
- To become more popular in charts and graphs.
- To understand the mean, median and mode in R statistics.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Program	12.a)Theory (or) b) Program	13.a)Theory (or) b) Theory	14.a)Theory (or) b) Theory	15.a) Theory (or) b) Program
Section-C	16.Theory	17.Theory (or) Program	18.Theory	19.Theory (or) Program	20.Theory

3. Course Outline

UNIT – I: INTRODUCTION TO R PROGRAMMING

Overview – Evaluation – Features – Environment Setup – Basic Syntax – Data Types – Vectors, Lists, Matrices, Arrays, Factors and Data Frames – Variables – Operators – Decision Making and loops.

UNIT – II: FUNCTION

Function – Function Definition – Function Components – Built-in Function – User Defined Function – Calling a Function – Lazy Evaluation of Function – Strings – Vectors – Lists – Matrices – Arrays and Factors.

UNIT – III: DATA FRAMES

Data Frames – Packages – Data Reshaping – CSV Files – Excel File – Binary Files – XML Files – Data Bases.

UNIT – IV: CHARTS AND GRAPHS

Pie Charts – Pie Chart Title and Colors, Slice Percentages and Chart Legend, 3D Pie Chart – Bar Charts – Bar Chart Label, Title Colors, Group Bar chart and Stacked Bar Chart – Boxplots – Creating the Boxplot and Boxplot with Notch – Histograms – Line Graphs – Line Chart Title, Color and Labels, Multiple Lines in a Line Chart.

UNIT – V: STATISTICS

Mean, Median and Mode – Linear Regression – Multiple Regression – Logistics Regression – Normal Distribution – Binomial Distribution – Poisson Regression – Analysis of Covariance – Time Series Analysis.

4. Teaching Resources

i. Text

1. Robert Gentleman and Ross Ihaka, “R Programming”, Tutorials Point (I) Pvt. Ltd, 2016.

Unit – I	:	Ch. 1 – 8
Unit – II	:	Ch. 9 – 15
Unit – III	:	Ch. 16 – 22, 25
Unit – IV	:	Ch. 26 – 30
Unit – V	:	Ch. 32 – 40

ii. References

1. W. N. Venables and D. M. Smith, “An Introduction to R: A Programming Environment for Data Analysis and Graphics”, 2016.
2. Norman Matloff, “The Art of R Programming”, A Tour of statistical software design 2009.
3. Robert J Knell, “Introductory R: A beginner’s guide to data visualization, statistical analysis and Programming in R”, Walton on Thames United Kingdom 2014.

iii. Web References

Online Tutorial

1. <https://CRAN.R-project.org/>

2. <http://www.omegahat.net/>
3. <http://www.rseek.org>
4. <http://www.tutorialspoint.com/r/>

Online Quiz

1. <http://www.sanfoundry.com/r-programming-quiz-online/>
2. <http://dni-institute.in/blogs/r-quiz-1/>

Online Compiler

1. https://www.tutorialspoint.com/execute_r_online.php
2. <https://www.codechef.com/ide>
3. <http://www.r-fiddle.org/#/>

5. Supplement Learning

- R-JSON file
- R – Web Date
- R-Non Linear Least Square
- R- Decision Tree
- R – Random Forest

6. Course Outcomes

Upon successful completion of this course, the students should be able to:

- Understand the concepts of vectors and data types.
- Understand the various R functions and strings in R Programming.
- Understand the concepts of data frame and reshaping.
- Become more popular in charts and graphs.
- Understand the mean, median and mode in R statistics.

Semester – VI

0-4-4:40-

60

PRACTICAL-IX: PROGRAMMING USING .NET AND R

.NET

1. Sample Application and Programming using Web Config File
2. HTML Control Classes and HTML Control Events
3. Web Control Classes and Web Control Tags

4. Validation Controls and Rich Controls
5. Data Access and XML Classes

R

1. R Data Types, R Operators, R Decision Making and R Loops
2. R Functions, R String, R Vectors and R List
3. R Arrays and Matrices
4. R Data Frames and Reshaping
5. R Charts and Graphs

Semester- VI

4-0-3:30-70

DSE- II: UNIX AND SHELL PROGRAMMING

1. Learning Objectives

- To learn to add and remove users.
- To understand basic UNIX commands.
- To use controls structures.
- To understand loop structures.
- To understand System calls.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Theory	12.a)Theory (or) b) Theory	13.a)Theory (or) b) Program	14.a)Theory (or) b) Program	15.a) Theory (or) b) Program
Section-C	16.Theory	17.Theory	18.Theory	19.Theory (or) Program	20.Theory (or) Program

3. Course Outline

UNIT – I : FILE ORGANIZATION

Salient Features of Unix – Unix System Organization – Types of Shells – Unix Commands – The Unix File System – Creating Files – Listing Files and Directories.

- The Boot Block – The Super Block – The Inode Table – Data Blocks – How Does Unix Access Files – Storage of Files – Disk Related Commands. System Administration: Adding and Removing Users – Daily Administration – Disk Management – Using a Raw Disk – Monitoring System Usage – Ensuring System Security – Providing Assistance to Users.

UNIT - II: UNIX COMMANDS

Password – Commands: cal, banner, touch – File Related Commands – Viewing Files – Taking Printouts – File Compression – I/O Redirection and Piping. vi Editor – Modes of operation – The First Editing Session. Processes in Unix: What’s Running Right Now – Still More Processes – Background Processes – The nohup command – Killing a process – Changing Process Priorities – Scheduling of Processes, Communication – Unix write and wall command - Basis of Unix Communication.

UNIT - III: SHELL PROGRAMMING - I

Interactive Shell Scripts – Shell Variables – Shell Keywords –Assigning Values to Variables – Positional Parameters – Passing Command Line Arguments – Setting Values of Positional Parameters – Displaying Date in Desired Format – Using Shift on Positional Parameters – Arithmetic in Shell Script- Taking Decisions.

UNIT - IV SHELL PROGRAMMING - II

Loop Control Structure: Loops – The While Loop – Reading from a file – The Until and for Loop – Creating Nested Directories – Generating Values for a for Loop – The Break and Continue Statement- Shell script using Command Line Arguments

UNIT - V: SYSTEM CALLS

System calls: File Structure related calls - create(), open(), close(), read(), write(), lseek(), process related calls- exec(), fork(), wait(), exit(), getpid(), getppid(), signal(), kill(), alarm() – Inter process communication calls– pipe().

4. Teaching Resources

i. Text

1. Yashavant Kanetkar, “Unix Shell Programming”, BPB Publishers, New Delhi, 1996.

Unit – I : Ch. 1, 2, 3, 15

Unit – II : Ch. 4, 5, 6, 7, 8

Unit – III : Ch. 9 - 10

Unit – IV : Ch. 11

Unit-V : <http://www.cs.utk.edu/~huangi/cs360/360/notes/SyscallIntro/lecture.html>

ii. References

1. Kernighan. et al. “The UNIX Programming Environment”, Second Edition, New Delhi: Prentice Hall of the India, 1988.
2. Stephen G. Kochan, Patrick Wood, “Unix Shell Programming”, Third Edition, Dorling Kindersley Pvt Ltd, Delhi, 2008.

iii. Web References

Online Tutorial

1. <http://www.cgl.ucsf.edu/Outreach/bmi219/slides/shell.html>
2. <http://www.cs.utk.edu/~huangj/cs360/360/notes/Syscall-Intro/lecture.html>

Online Quiz

1. www.tcyonline.com/tests/unix-and-shell-scripts

Online Compiler

1. www.compileonline.com/execute_bash_online.php

5. Supplement Learning

- Controlling Terminal
- Job Control
- Orphaned Process Group
- Pipes and Filters
- Signals and Traps

6. Course Outcomes

Upon successful completion of this course, the students should be able to:

- Learn to add and remove users.
- Understand basic UNIX commands.
- Use controls structures.
- Understand loop structures.
- Get familiarize with System calls concepts.

Semester-VI
70

4-0-3:30-

DSE-II: MOBILE APPLICATIONS

1. Learning Objectives

- To impart the basis of mobile application and development environment.
- To learn HTML5.
- To use CSS & JavaScript in Mobile.
- To develop simple and professional application.
- To prepare for the job opportunity in mobile application development.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Theory	12.a)Theory (or) b) Theory	13.a)Theory (or) b) Theory	14.a)Theory (or) b) Theory	15.a) Theory (or) b) Theory
Section-C	16.Theory	17.Theory	18.Theory	19.Theory	20.Theory

3. Course Outline

UNIT - I: INTRODUCTION

Mobile EcoSystem – Brands – Models – Platforms – Understating the Mobile Web – Myths –Native – Browsers –ERA – WAP – Browsing Experience – Fragmentation – Market Statistics – Web Platforms – HTML5 Web Apps – Pseudo-Browsers – Mobile Browsers Types.

UNIT – II: ARCHITECTURE AND TOOLS

Working with code – Testing – Emulators and Simulators – Real Device Testing – Remote Labs – Production Environment – Web Hosting – Domain – Error Management – Statistics – Mobile Strategy – Context – Server-Side Adaptation – Progressive Enhancement – Responsive Web Design – RESS – Navigation – Design and User Experience – Touch Design Patterns – Tablet Patterns – Official UI Guidelines

UNIT - III: MARKUPS, STANDARDS AND HTML5 BASICS

WML – Current Standards – Politics of the Mobile Web – Delivering Markup – XHTML Mobile Profile and Basic – Mobile HTML5 – Create Template – Syntax Rules – New Elements – CSS – WCSS – CSS3 – HTML5 Compatibility Levels – Testing Your Browser – Basics of Mobile HTML5 – Document Head – Document Body – Boilerplate – Content – Block Elements – Lists – Tables – Frames – Links – Accessibility

UNIT - IV: HTML5 FORMS

Form Design – Elements – Select Lists – Radio Buttons and Checkboxes – Buttons – Hidden Fields – Text Input Fields – Range Slider Fields – Date Input Fields – File Selection Fields – Non interactive Form Elements – Form Control Attributes – Placeholder – Autofocus – Form Validation – Possible Problems – Informational Web Sites – Client-Side Detection – Server-Detection – Images – Dealing with Multiple Screen Densities – Video – Audio.

UNIT - V: CSS AND J-SCRIPT MOBILE

Insert the CSS – Media Queries – Selectors – CSS Techniques – Common Patterns – CSS Sprites – CSS3 Modules – J-Script Coding – Execution – Cloud-Based Browsers – Debugging and Profiling – Battery Consumption – Background Execution – Supported Technologies – Standard J-Script Behavior – J-Script Libraries – UI frameworks – Offline Web Apps – Client-Side Storage – Network Communications

4. Teaching Resources

i. Text

1. Maximiliano Firtman, “Programming the Mobile Web”, O’Reilly, USA, 2nd Edition, 2013.

Unit – I	:	Ch. 3
Unit – II	:	Ch. 4-5
Unit – III	:	Ch. 6-7
Unit – IV	:	Ch. 8-10
Unit – V	:	Ch. 11-13

ii. References

1. Android application Development for Java Programmers: James C. Sheusi. Cengage Learning, 2013.
2. Programming Android : Zigurd Mednicks, Laird Dornin, G.Blake Mike, Masumi Nakamura, Second Edition, O’Reilly Media, 2012.

iii. Web References

Online Tutorial

1. <https://developer.android.com/training/basics/firstapp/index.html>
2. <https://www.tutorialspoint.com/android/>
3. <https://www.diygenius.com/how-to-learn-android-app-development-online>

Online Quiz

1. https://www.tutorialspoint.com/android/android_online_quiz.htm
2. www.javatpoint.com/android-quiz

5. Supplement Learning

- Thread Concepts

- Memory Leakage
- Mobile Security Mechanism
- REST and JSON in Android Application Development
- Strict Mode in Android

6. Course Outcomes

Upon successful completion of this course, the students should be able to:

- Impart the basis of mobile application and development environment.
- Learn HTML5.
- Use CSS & JavaScript in Mobile.
- Develop simple and professional application.
- Deploy the mobile application.

Semester - VI
70

4-0-3:30-

DSE- II: CLIENT SIDE SCRIPTING TECHNOLOGIES

1. Learning Objectives

- To learn about the technical complexities, and implementations that allows one to make the most of XML and its related technologies.
- To define the legal building blocks of an XML document and define the document structure with a list of legal elements and attributes.
- To apply an HTML document that can provide dynamic interactivity on websites using JavaScript.

- To learn things like HTML document traversal and manipulation.
- To parse in client-server applications and to implement understand JSON.

2. Blue Print of the Question Paper

Section	Unit – I	Unit – II	Unit – III	Unit – IV	Unit – V
Section-A	1-2	3-4	5-6	7-8	9-10
Section-B	11.a)Theory (or) b) Program	12.a)Theory (or) b) Program	13.a)Theory (or) b) Theory	14.a)Theory (or) b) Theory	15.a) Theory (or) b) Theory
Section-C	16.Theory	17.Theory (or)	18.Theory (or)	19.Theory	20.Theory

3. Course Outline

UNIT - I: FUNDAMENTALS OF XML

SGML - HTML - Electronic Data Interchange - XML – Promise of XML - E-Business -Content Management - Web Services and Distributed Computing - Networking and Instant Messaging - Semantic Web. Syntax - Document - Document Structure - Content Models –Whitespace - Rules of XML Structure - Well-Formed Documents - Valid Documents -Namespaces - Applying Style - Reading and Processing - International Language Support.

UNIT - II: XML DTD AND XML SCHEMAS

Document Type Definitions - Some Simple DTD Examples - Structure of a Document
Type Definition - DTD Drawbacks and Alternatives.

UNIT – III: JAVASCRIPT BASICS

JavaScript- Client-Side JavaScript- Advantages Of JavaScript- Limitations Of JavaScript- JavaScript Development Tools- Syntax-Placement-Variables-Operators- Control Statements-Loop Control-Functions-Events-Cookies.

UNIT-IV: JQUERY

Overview of JQuery-Basics- Selector- Query Attribute-Dom Traversing-CSS Selector Method.

UNIT-V: JSON

JSON introduction- JSON syntax- JSON usage- JSON using XMLHttpRequest- JSON files- JSON SQL

4. Teaching Resources

i. Text

1. XML and Web Services, Ron Schmelzer Pearson Education 2008 Edition, Pearson Education.

Unit-I : **Part I: Ch. 1-2**

Unit-II : **Ch. 3**

Unit III : **Part I: Ch:1-2-3-4-5-6-7-8-9-10-11-12**

http://www.tutorialspoint.com/javascript/javascript_tutorial.p

df

Unit IV : **Ch: 1-2-3-4-5-6**

http://www.tutorialspoint.com/jquery/jquery_tutorial.pdf

Unit V : **Unit V: Ch: 1-2-3-4-5**

http://www.w3schools.com/js/js_json_intro.asp

ii. Web References

Online Tutorial

1. <https://www.youtube.com/watch?v=n-y-YHVZSwk>
2. <https://www.youtube.com/watch?v=aMqHYsGKscE>
3. <https://www.youtube.com/watch?v=jkTzHEtHd54&list=PL411fR-6DnOrwYi5d824q9-Y6z3JdSgQa>

Online Quiz

1. <http://www.w3schools.com/quiztest/quiztest.asp?qtest=JavaScript>
2. <http://www.w3schools.com/quiztest/quiztest.asp?qtest=jQuery>

Online Compiler

1. <https://js.do/>
2. http://www.w3schools.com/jquery/tryit.asp?filename=tryjquery_hide
3. http://www.w3schools.com/js/tryit.asp?filename=tryjs_myfirst

5. Supplement Learning

- AJAX XML File
- XQuery
- XSD Data
- JavaScript Functions
- JSON PHP

6. Course Outcomes

Upon successful completion of this course, the students should be able to:

- Separate data from HTML using XML.
- Learn simplifying data sharing.
- Learn simplifying platform change and increase data availability.
- Develop animation skills JSON.
- Develop dynamic web pages using JAVASCRIPT.