

**SARDAR PATEL UNIVERSITY**  
**Structure for B.C.A. Semester – V**  
**(Effect from June, 2020)**

Type of Course	Course code	Course Title	T/ P	Credit	Class room/lab hrs per week	Marks			
						External	Exam Duration	Internal	Total
Core – 1	US05CBCA21	Advanced Web Development Technology	T	4	4 hrs	70	3 hrs	30	100
	US05CBCA22	Advanced Web Development Technology Lab	P	2	4 hrs	35	2 hrs	15	50
Core – 2	US05CBCA23	Software Engineering	T	4	4 hrs	70	3 hrs	30	100
	US05CBCA24	Software Engineering Lab	P	2	4 hrs	35	2 hrs	15	50
Core – 3	US05CBCA25	Object Oriented Programming –III	T	4	4 hrs	70	3 hrs	30	100
	US05CBCA26	Object Oriented Programming –III Lab	P	2	4 hrs	35	2 hrs	15	50
	US05CBCA27	Project – I	P	2	4 hrs	35	2 hrs	15	50
Discipline Specific Elective (Any One)	US05DBCA21	Computer Graphics	T	4	4 hrs	70	3 hrs	30	100
	US05DBCA22	Desktop Publishing and Design Tools	T	4	4 hrs	70	3 hrs	30	100
	Total Credit			<b>24</b>					

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – V

US05CBCA21 : Advanced Web Development Technology

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction To ASP.NET</b> <b>Introduction to .NET Platform and Web :</b> Introduction to ASP (Server-side Technology),.NET Framework (FCL and CLR),Overview of IIS, Processing of ASP.NET page (Execution model), Features of .NET IDE, Features of ASP.NET, Working with ASP.NET, Coding Model (Inline and Code-behind), Introduction to Web-Forms and its Events ASP.NET Built-in directory structure App_data,App_code,Bin <b>Application Configuration :</b> Global.asax file, Web.config <b>Common properties :</b> AccessKey, BackColor, BorderWidth, BorderStyle, CSSClass, Enabled, Font, ForeColor, Height, TabIndex, Tooltip, Width, ID, Runat, Text <b>Using Visual C# in ASP. NET:</b> Introduction, Variables, Data Types, Value Types, Scope of Variables, Operators, OOPs Concepts (Encapsulations, Inheritance, Polymorphism and Abstraction)
<b>II</b>	<b>Information Passing, Standard Controls and Master Page</b> Passing Information from one page to another <b>Web Server Controls :</b> Button, Image Button, Link Button, Textbox, Hyperlink, ImageMap control (Creating Hotspots),CheckBox and RadioButton, CheckBoxList, RadioButtonList, ListBox, DropDownList <b>Rich Controls:</b> Calendar, Adrotator control (showing advertisement from XML file and Database), FileUpload control <b>Grouping Controls :</b> Panel, Placeholder <b>Using Navigation Controls :</b> TreeView, SiteMapPath, Menu, Creating sitemap file for navigation Designing Master page
<b>III</b>	<b>State Management ,Validation and Login controls</b> <b>State Management :</b> Using View State, QueryString, Cookies, Session State, Application State and Profile <b>Validation controls :</b> Required Field Validator, Range validator, Regular Expression validator, Compare validator, Custom validator, Validation summary <b>Login Controls :</b> Login, LoginView, PasswordRecovery, LoginStatus, LoginName, CreateUserWizard, ChangePassword. Creating and Managing Roles Creating and Managing Access Rules Creating and Managing Profile
<b>IV</b>	<b>ADO.Net and Data Controls</b> Introduction to ADO.NET and Architecture (Connected and Disconnected). ADO.NET : Connection,Command,DataReader,DataAdapter,DataSet,CommandBuilder Data controls : GridView, DataList, FormView, DetailsView, Repeater

## Basic Text & Reference Books :-

1. ASP.NET 4.0 Covers C# 2010 & VB 2010 codes BLACK BOOK, Dreamtech Press
2. Programming in C#, E Balagurusamy, Tata McGraw-Hill
3. The Complete Reference C# 4.0, Herbert Schildt, Tata McGraw Hill, Edition 2010 (Third Reprint 2011)
4. ASP.NET 4 UNLEASHED by Stephen Walther (Pearson)

**SARDAR PATEL UNIVERSITY**

**Vallabh Vidyanagar**

**B.C.A. Semester – V**

**US05CBCA22 : Advanced Web Development Technology Lab**

(Syllabus Effective from June 2020)

**Credits : 2**

**External : 35 Marks**

**Contact Hrs per Week : 4**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Advanced Web Development Technology</b>	<b>100%</b>

# SARDAR PATEL UNIVERSITY

## B.C.A. Semester – V

### US05CBCA23 : Software Engineering

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction</b> Software and Software Engineering Characteristics of Software process Phases of Software Development Process Models: Waterfall, Prototype, Iterative Enhancement, Spiral Model <b>(Overview only)</b>
<b>II</b>	<b>Requirement Specification and Software Project Planning</b> Introduction: SRS and Needs Problem Analysis: (Structuring Information ONLY) Requirement Specifications: Characteristics & Components of SRS Specification Languages (Structured English, Regular Expressions & Decision Tables) <b>(Definition ONLY)</b> Structure of SRS Validation of SRS Introduction to software projects, Planning, Categories of Software projects Overview of Cost estimation, Uncertainty in cost estimation, size estimation, COCOMO Model (with example) Project Monitoring Plan (Time sheets, Reviews, Cost-Schedule-Milestone, Earned Value Method)
<b>III</b>	<b>Software Design</b> Introduction: System Design, Design Objectives, Design Principles/Concepts: Topdown& Bottom Up approach Problem Partitioning Abstraction Modularity Module Level concept, Coupling, Cohesion Overview of Structured design Functional v/s Object-oriented approach <b>(Difference ONLY)</b> Design Specification, Verification Introduction: Detailed Design, Module Specification and its Desirable Properties, Functional module Specification, Data Abstraction Specification Verification- Design Walkthrough, Critical Design, review, Consistency checkers
<b>IV</b>	<b>Coding and Testing</b> Introduction: Coding, Top Down & Bottom Up Approach for coding Structured Programming, Information Hiding Programming Style Internal Documentation Verification (Code Reading ONLY) Introduction: Testing, Error, Fault, Failure & Reliability Top down and bottom up approach for testing Levels of Testing Levels of Testing Functional Testing v/s Structural Testing <b>(Difference ONLY)</b> Automated testing tool

#### Basic Text & Reference Books :-

1. An Integrated Approach to Software Engineering by PankajJalote ,Narosa Publishing House, Second Edition,1997
2. Software Engineering a practitioner's approach by Roger S. Pressman, Tata McGraw-Hill, Fifth Edition, 2001
3. Software Engineering Fundamentals ,By Richard Fairley, Tata McGraw- Hill
4. Software Engineering, By Ian Sommerville, Addition-Wesley, Fifth Edition, 2000

**SARDAR PATEL UNIVERSITY**

**Vallabh Vidyanagar**

**Programme & Subject: B.C.A.**

**Semester – V**

**US05CBCA24: Software Engineering Lab**

(Syllabus Effective from June 2020)

**Credits : 2**

**Contact Hrs per Week : 4**

**External : 35 Marks**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Software Engineering</b>	<b>100%</b>

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B.C.A. Semester – V**  
**US05CBCA25 : Object Oriented Programming –III**  
(Syllabus Effective from June 2020)

**Credits : 4**

**External : 70 Marks**

**Contact Hrs per Week : 4**

**University Examination Duration: 3 Hrs**

**All units carry equal weightage**

Unit	Description in detail
<b>I</b>	<b>JDBC &amp; Collection Frame work</b> Basic JDBC program Concept Architecture of JDBC Making the Connection, Statement & its types Executing queries List Interface (Array List, Vector List, Iterator) Wrapper Class (Integer, Float and Double) and Methods
<b>II</b>	<b>Servlet</b> Introduction Types of servlet Life cycle of servlet Execution process of Servlet Application Session Tracking Cookie Management
<b>III</b>	<b>JSP</b> Introduction to JSP and Lifecycle Components of JSP Directives , Tags, Scripting Elements Execution process of JSP Application Building a simple application using JSP
<b>IV</b>	<b>Multithreading</b> Introduction Thread Life Cycle Creating Thread Thread Methods Thread Synchronization

**Basic Text & Reference Books :-**

1. The Complete Reference – JAVA Herbert Schildt
2. Core java –II By Cay S. Horstmann and Gary Cornell
3. Compete Reference J2EE – Jim Keogh
4. Programming with Java- A Primer by E. Balaguruswami, 3rd Edition, TMH Publication

**SARDAR PATEL UNIVERSITY**

**Vallabh Vidyanagar**

**B.C.A. Semester – V**

**US05CBCA26: Object Oriented Programming –III Lab**

(Syllabus Effective from June 2020)

**Credits : 2**

**External : 35 Marks**

**Contact Hrs per Week : 4**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Object Oriented Programming –III</b>	<b>100%</b>

**SARDAR PATEL UNIVERSITY**

**Vallabh Vidyanagar**

**B.C.A. Semester – V**

**US05CBCA27: Project - I**

(Syllabus Effective from June 2020)

**Credits : 2**

**Contact Hrs per Week : 4**

**External : 35 Marks**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Project</b>	<b>100%</b>

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – V

US05DBCA21 : Computer Graphics

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction of Computer Graphics</b> A survey of major applications of Computer Graphics Overview of different video display Devices: CRT, Raster scan, Color Monitors, DVST, Flat Panels Input Devices: Keyboard, mouse, Trackball, Spaceball, Joystick, Data Glove, Digitizers, Image Scanner, Touch Panel, Light pen & Voice system.
<b>II</b>	<b>Output Primitives and their attributes</b> Output Primitives: Points, Lines, Circles Line Drawing Algorithms (without program): Digital Differential Analyzer (DDA) and Bresenham. Circle generating algorithm (without program): Midpoint Circle Algorithm Filled area primitives – Scan line Polygon Fill Algorithm, Inside–Outside tests: Odd even rule & Non-zero winding number rule Boundary-fill algorithm (with procedure), Character generation, Attributes of output primitives
<b>III</b>	<b>Two– dimensional Geometric Transformations, Viewing &amp; Clipping</b> 2-D geometric Transformations: Translation, Rotation, Scaling, Reflection & Shear (with example) Viewing Pipeline, Window-to-Viewport transformation Point Clipping Line clipping (without program) Cohen Sutherland line clipping algorithm Polygon Clipping (without program) Text clipping, Exterior Clipping
<b>IV</b>	<b>Graphical User Interface and Interactive Input methods and 3D Concepts</b> Graphical User Interface and Interactive Input methods – Introduction to user Dialogue, Input of Graphical Data, Input Functions- Introduction to Input functions and input modes, Interactive Picture Construction Techniques, Virtual -Reality Environments. 3D Concepts – Three Dimensional Display Methods, Three Dimensional Object Representations – Introduction to different methods used for representation of Three Dimensional Objects.

## Basic Text & Reference Books :-

1. Computer Graphics by Donald Hearn & M. Pauline Baker, PHI, 1995
2. 2. Computer Graphics, Amarendra N Sinha & Arun D. Udai, - The McGraw-Hill
3. Computer Graphics: Principles and Practice, Andries van Dam; F. Hughes John; James D. Foley; Steven K. Feiner - Person Education

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – V

**US05DBCA22 : Desktop Publishing and Design Tool**

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction to Desktop Publishing</b> Types of different Software for publishing Drawing Tool, Photo Editor and Page Maker Uses and Importance of Software's
<b>II</b>	<b>Drawing Tool</b> Using the Toolbox To add Text: Pick, Shape, Crop , Zoom, Curve, Flyout Brush, Sprayer, Calligraphic, Smart Fill, Rectangle, Ellipse, Objects, Perfect Shape Flyout, Text Tool., Interactive Tool, Eyedropper Tool, Outline Flyout, Fill Flyout Creating a workspace, Customize the toolbar, Create new toolbar, Restore the Default workspace Creating the triangles Background, Create & Arrange & the triangles. Background & Decorative Circle, Add color to outer & circles, Create Diamond shape Working with Different types of Menu with examples, File, Edit, View, Layout, Arrange, Effects, Bitmaps, Text, Tools, Help
<b>III</b>	<b>Page Maker</b> Introduction to Program Window Toolbox: Pointer, Text, Rotating, Cropping, Line, Constrained, Rectangle & Rectangle Frame, Ellipse & Ellipse Frame, Polygon & Polygon Frame, Hand and Zoom Tool Different Types of Control Palette Working with different types of Menus with Examples: File, Edit, Layout, Type, Element, Utilities, View and Window
<b>IV</b>	<b>Photo Editor</b> To Use Palettes: Navigator, Info, Histogram, Color, Swatches, Styles, History, Action, Layers, Measurements, Channels, Path, Animation, and Clone Source. Tools and Toolbox: Selection, Painting, Drawing, Retouching, Marquee, Move, Lasso, Quick Selection, Crop, Slice, Healing Brush, Brush, Clone Stamp, History Brush, Eraser, Gradient, Blur, Dodge, Path Selection, Type, Pen, Shape , Notes, Eye Dropper, Hand, Zoom Working with Screen Mode: Standard, Maximized, Full Screen Working with Different types of Menu with Examples: File, Edit, Image, Layer, Select, Filter, Analysis, View, Window, Help

## Basic Text & Reference Books :-

1. Desktop Publishing English Edition - By Ashish Joshi, Computer World

**SARDAR PATEL UNIVERSITY**  
**Structure for B.C.A. Semester – VI**  
**(Effect from June, 2020)**

Type of Course	Course Code	Course Title	T/ P	Credit	Class room/lab hrs per week	Marks			
						External	Exam Duration	Internal	Total
Core – 1	US06CBCA21	Web Programming using PHP	T	4	4 hrs	70	3 hrs	30	100
	US06CBCA22	Web Programming using PHP Lab	P	2	4 hrs	35	2 hrs	15	50
Core – 2	US06CBCA23	Communication and Computer Networks	T	4	4 hrs	70	3 hrs	30	100
	US06CBCA24	Communication and Computer Networks Lab	P	2	4 hrs	35	2 hrs	15	50
Core – 3	US06CBCA25	Current Trends In IT	T	4	4 hrs	70	3 hrs	30	100
	US06CBCA26	Current Trends In IT Lab	P	2	4 hrs	35	2 hrs	15	50
	US06CBCA27	Project - II	P	2	4 hrs	35	2 hrs	15	50
Discipline Specific Elective (Any One)	US06DBCA21	Python Programming	T	4	4 hrs	70	3 hrs	30	100
	US06DBCA22	Mobile Applications Development	T	4	4 hrs	70	3 hrs	30	100
	Total Credit			<b>24</b>					

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – VI

US06BCA21 : Web Programming using PHP

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction to PHP</b> History of PHP, Features Merits and Demerits of PHP, General structure of PHP, Displaying Output, Escaping Special Characters, Comments, Variables – (Declaring, Assigning, Destroying), Datatypes, Setting and Testing Datatypes – Constants -Operators (Arithmetic, Comparison, Logical, Assignment, Concatenation) – Superglobal variables
<b>II</b>	<b>PHP Basics</b> Control structures – Looping structures - 1-D Array & its manipulation (Storing Data, Assigning, Accessing Array Elements, Displaying) - User-Defined Functions, Function Scope
<b>III</b>	<b>Advanced PHP and Form Interaction</b> Working with Number, Strings functions, Working with Dates and Time –Creating tables using PhpMyAdmin, Interaction with HTML form, Validating HTML Form - Error checking or Exiting – Introduction to Regular Expression, File handling
<b>IV</b>	<b>Database programming and PHP</b> Introduction to MySQL: Features, Merits and Demerits - MySQL data types and constraints -Working with Forms PHP and MySQL Integration – Basic SQL Commands (Insert, Update, Delete, Select) – MySQL functions (mysql_connect, mysql_select_db, mysql_query, mysql_num_rows, mysql_fetch_array, mysql_fetch_field, mysql_close) –Generating reports using PHP and MySQL - Introduction and use of Session - Introduction and use of Cookies

### Basic Text & Reference Books :-

1. PHP – A Beginner’s guide, Vikram Vaswani, TMH 2009
2. Web enabled commercial application development using HTML, Javascript, DHTML and PHP by Ivan Bayross, BPB Publication.
3. Beginning PHP5 By Dave Mercer, Allan Kent, Steven Nowicki, David Mercer, DanSquier, Wankyu Choi, Wrox Publication
4. Professional PHP by Castagnetto Jesus, Shroff Publication

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B.C.A. Semester – VI**  
**US06CBCA22: Web Programming using PHP Lab**  
(Syllabus Effective from June 2020)

**Credits : 2**  
**Contact Hrs per Week : 4**

**External : 35 Marks**  
**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Web Programming using PHP</b>	<b>100%</b>

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – VI

US06BCA23 : Data Communication and Computer Networks

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>INTRODUCTION</b> Computer networks : definition, advantages-disadvantages Classification of computer networks Categories of computer network : local area networks, metropolitan area networks, wide area networks Meaning of the basic terms : topology, data rate, modulation rate, spectrum, bandwidth, server, host
<b>II</b>	<b>DATA COMMUNICATION FUNDAMENTALS</b> Various types of transmission media Guided transmission media : magnetic media Twisted pair, coaxial cables, fiber optics Serial transmission vs. Parallel transmission Circuit switching, packet switching, message switching Concept of multiplexing : frequency division multiplexing, time division multiplexing
<b>III</b>	<b>LAYERED PROTOCOLS AND SATELLITE COMMUNICATION</b> Protocol significance and hierarchies Design issues for the layers The osi reference model Examples of protocols for different layers of the osi model Introduction communication satellites and categories (leo, meo, geo)
<b>IV</b>	<b>INTRODUCTION TO WIRELESS NETWORKS AND NETWORKING DEVICES</b> Introduction to wireless networks : bluetooth Lan topologies with advantages and disadvantages : bus, star, ring, tree, mesh Introduction to carrier sense multiple access (csma), carrier sense multiple access with collision detection (csma/cd) protocol for lan Functions of various networking components : modems, amplifiers, repeaters, hubs, Switches, routers, gateway, bridges

## Basic Text & Reference Books :-

1. Behrouz forouzan, introduction to data communications and networking, tata mcgraw-hill publishing co. Ltd., new delhi, 1998, 4<sup>th</sup> edition.
2. Tanenbaum a. S., computer networks, 3<sup>rd</sup> edition prentice-hall of india pvt. Ltd., new delhi, 1997.
3. Stallings w., data and computer communications, 3<sup>rd</sup> edition, macmillan pub. Company, new york, 1991.

**SARDAR PATEL UNIVERSITY**

**Vallabh Vidyanagar**

**B.C.A. Semester – VI**

**US06BCA24: Data Communication and Computer Networks Lab**

(Syllabus Effective from June 2020)

**Credits : 2**

**Contact Hrs per Week : 4**

**External : 35 Marks**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Data Communication and Computer Networks</b>	<b>100%</b>

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B.C.A. Semester – VI**  
**US06CBCA25 : Current Trends In IT**  
(Syllabus Effective from June 2020)

**Credits : 4**

**External : 70 Marks**

**Contact Hrs per Week : 4**

**University Examination Duration: 3 Hrs**

**All units carry equal weightage**

Unit	Description in detail
<b>I</b>	<b>Data Analytics</b> Data Warehouse Data Mining Business Intelligence Data Analytics
<b>II</b>	<b>Machine Learning</b> Introduction to AI AI and Related Fields Expert Systems Introduction to Fuzzy Logic Applications of AI
<b>III</b>	<b>Search Engine Optimization</b> Internet Basics Internet Marketing Search Engines Basics Search Engine Algorithm - Vector Space Model Using Search Engine Search Engine Optimization
<b>IV</b>	<b>IOT And Cloud Computing</b> Introduction to Internet of Things Introduction to Cloud computing & Evolution of Cloud Computing Applications of Cloud Computing Benefits –Limitations of Cloud Computing Cloud Services Cloud Computing hardware and infrastructure

**Basic Text & Reference Books :-**

1. Data Mining – Concepts and Techniques - Jiawei Han & Micheline Kamber, Morgan Kaufmann Publishers, Elsevier, 2nd Edition, 2006.
2. Introduction to Data Mining – Pang-Ning Tan, Michael Steinbach and Vipin Kumar, Pearson education.
3. Artificial Intelligence -By Elaine Rich And Kevin Knight (2nd Edition) Tata Mcgraw- Hill
4. Artificial Intelligence: A Modern Approach, Stuart Russel, Peter Norvig, PHI
5. The Art of SEO: Mastering Search Engine Optimization by Eric Enge, Stephan

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B.C.A. Semester – VI**  
**US06CBCA24: Current Trends In IT Lab**  
(Syllabus Effective from June 2020)

**Credits : 2**

**Contact Hrs per Week : 4**

**External : 35 Marks**

**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Practical based on</b>	
	<b>Current Trends In IT</b>	<b>100%</b>

**SARDAR PATEL UNIVERSITY**  
**Vallabh Vidyanagar**  
**B.C.A. Semester – VI**  
**US06CBCA27: Project - II**  
(Syllabus Effective from June 2020)

**Credits : 2**  
**Contact Hrs per Week : 4**

**External : 35 Marks**  
**University Examination Duration: 2 Hrs**

	<b>Description in detail</b>	<b>Weightage (%)</b>
	<b>Project - II</b>	<b>100%</b>

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

Programme & Subject : B.C.A.

Semester – VI

US06DBCA21 : Python Programming

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction to Python</b> Python Overview and History, Features of Python, Difference Between C, JAVA & Python, Applications of Python, Programming Structure of Python, Python Environment Setup, Basic Syntax of python with Data Types, Python variables, Casting, Operators, Comments, User Input, , Decision making and Branching,
<b>II</b>	<b>Python Structure with Basic Collation</b> Looping, Python Collections-List, Tuple, Set, Dictionary, Array, Understating Python String, RegEx Module (Regular Expressions), Python JSON
<b>III</b>	<b>Object Orientated Concept and Exception Handling with Debugging</b> Concept of Class, Object and Instances, Constructor, class attributes and destructors, Functions, Scope, Iterators, Inheritance, method overloading and overriding in python, Modules, Lamda function, Debugging, Python Error with its Types, Exception handling in Python, Try -finally, raising exceptions, user-defined exceptions.
<b>IV</b>	<b>File IO Management and Databases</b> File Handling (Introduction, Create, Read, Write and Delete File) Database connection using MYSQL, Creating, Searching and Drop Tables, Record Manipulation (Select, Insert, Update, Delete, Searching, Sorting, Join)

## Basic Text & Reference Books :-

1. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
2. Wesley J. Chun. "Core Python Programming -Second Edition", Prentice Hall
3. Learning Python: By Mark Lutz, David Ascher
4. Exploring Python Book by Timothy Budd
5. Head First Python: A Brain-Friendly Guide by Aaul Barry
6. Introducing Python-Modern Computing in Simple Packages –Bill Lubanovic, O.,Reilly Publication
7. Introduction to Computer Science Using Python-Charles Dierbach, Wiley Publication Learning with Python “, Green Tea Press, 2002
8. Beginning Programming with Python for Dummies Paperback–2015 by John Paul Mueller
9. <https://www.w3schools.com/python>
10. <https://www.tutorialspoint.com/python>

# SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar

B.C.A. Semester – VI

US06DBCA22 : Mobile Applications Development

(Syllabus Effective from June 2020)

Credits : 4

External : 70 Marks

Contact Hrs per Week : 4

University Examination Duration: 3 Hrs

All units carry equal weightage

Unit	Description in detail
<b>I</b>	<b>Introduction to Android:</b> Introduction to Android Android Versions and its Features Architecture of Android Android Devices Standard development environment for Android applications Installing Android, Android Development Tools (ADT) Creating Android Virtual Devices (AVDs) Creating Hello World and running application on Emulator
<b>II</b>	<b>Activities, Fragments and Intents</b> Understanding Activities – Life Cycle of an Android Activity Applying Styles and Themes to an Activity Hiding the Activity Title Displaying a Dialog Window, Progress Dialog Linking Activities Using Intents Fragments Adding Fragments Dynamically Lifecycle of a fragment Intersections between fragments Intents Understanding the intent Objects Use of Intent Filters.
<b>III</b>	<b>Android Mobile Application Control</b> Using Basic Views TextView , Button, ImageButton, EditText, CheckBox, ToggleButton, RadioButton, RadioGroup , ProgressBar, AutoCompleteTextView Using Picker Views TimePicker, DatePicker Using List Views ListView, Spinner
<b>IV</b>	<b>Displaying Picture &amp; Menus</b> Gallary and ImageView ImageSwitcher, GridView Using Menus Options Menu, Context Menu, SubMenu Additional Views AnalogClock and DigitalClock. WebView

## Basic Text & Reference Books :-

1. Wei-Meng Lee, “Beginning Android Application Development”, Wiley Publishing, Inc, Wrox Programmer to Programmer, 2013.
2. Lauren Darcey, Shane Conder, “Android Wireless Application Development”, 2<sup>nd</sup> Edition, 2010.
3. Ian F. Darwin, “Android Cookbook”, O’Reilly, 2012.