# SAURASHTRAUNIVERSITY RAJKOT

# <u>COMPUTER APPLICATION</u>

## <u>Syllabus of B.Sc.Semester-5 & 6</u>

## <u>Effective from June – 2018</u>

# Syllabus of B.Sc.Semester-5
# According to Choice Based Credit System
# Effective from June – 2018

- **Program:**        B.Sc.

- **Semester:**        5

- **Subject:**        **Computer Application**

- **Course codes:**    **501 -Theory**
  **502-Theory**
  **503-Theory**
  **501 -Practical**
  **502 - Practical**
  **503- Practical**
  **1 Project**

# B. Sc. COMPUTER APPLICATION SEMESTER: V

- **The Course Design of B.Sc. Sem.- V(Computer Application) according to choice based credit system (CBCS) comprising of Paper Number, Paper Name, No. of theory lectures per week, No. of practical lectures per week , total marks of the each paper are as follows :**

| SR.NO. | SUBJECT | NO. OF THEORY LECTURE PER WEEK | NO. OF PRACTICAL LECTURE PER WEEK | TOTAL MARKS | Credit Of Each Paper. |
|---|---|---|---|---|---|
| 1 | **PAPER 501 (Theory) RDBMS Using Oracle** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 2 | **PAPER 502(Theory) Web Programming Using PHP** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 3 | **PAPER 503 (Theory) Software Engineering and Linux** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 4 | **PAPER 501 (Practical)** | - | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 5 | **PAPER 502(Practical)** | - | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 6 | **PAPER 503 (Practical)** | | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 7 | **Project Work & Viva** | <ul><li>1 Guidance Lecture. for a group of 1/2/3 students / week.</li><li>Evaluation of project will be in SIXTH semester</li></ul> | | The title of the project work to be decided and data will be collected in this semester | 3 |
| | | | | **Total credit of the semester V** | **30** |

**Marks Distribution of Each Paper**
**for**
**Theory and Practical ( for SEMESTER-V )**

- **Total Marks of Each Theory**     **70 Marks**
  **Paper [External Examination]**

- **Total Marks of Each Theory**     **30 Total Marks**
  **Paper  [Internal Examination]**

- **Total Marks of Each Practical**     **35 Marks**
  **Paper [External Examination]**

- **Total Marks of Each Practical**     **15 Marks**
  **Paper**     **[Continuous internal assessment of**
  **[Internal Examination]**     **practical work ]**

## Format of Question Paper

- There shall be one question paper of **70 marks & $2\frac{1}{2}$ hours** for each Computer Theory Paper**.**
- There shall be FIVE questions from each unit of 14 marks each.
- Each Question will be of the following form.

| Question | (A) | Answer any four out of four (Short answer type question) | 4 Marks |
|---|---|---|---|
| | (B) | Answer any one out of two | 2 Marks |
| | (C) | Answer any one out of two | 3 Marks |
| | (D) | Answer any one out of two | 5 Marks |
| | | **TOTAL** | **14 MARKS** |

# -: Project Work:-

- There will be a project on any programming language in Computer.
- The project will be assigned in the teams (groups) of at least one and at most three students.
- There will be one lecture per week to guide and motivate for each group of students.
- Topic of the project may be selected based on the following
  1. Demand of software required to cater the need of industries and the society as a whole.
  2. New topic not taught up to final semester.
  3. The topic may be an extension of topic covered in any of the topics/subject taught up to sixth semester.
  4. Innovative teaching methodology of computer may also be selected as a topic of the project work.
  5. Every project or even model must be submitted with proper documentation and attached CD about the concept and the model.

- **During the fifth semester students will be**
  1. Introduced and assigned title of the project,
  2. Teams will be formed for the same.
  3. Each group will study, search reference, collect data and work-out details for their topic of project-work.

- **During the sixth semester**
  1. Students will finalize, document, submit and get the project work certified in their names.
  2. The project work must be submitted by the student in the fourteenth week of the sixth semester.
  3. Only on the submission of project dissertation the student will be issued hall ticket for the end semester theory and practical examination.
  4. The dissertation may be typed or hand-written and be limited to 40 to 70 pages of A4 size.
  5. Project work shall be evaluated by an external and one internal examiner which will be followed by presentation of the work and viva-voce.
  6. Students will be required to undergo verification, evaluation and viva of the project-work they have done.
  7. Certified documentation of the project-work done by each group is mandatory. The certified documentation should be produced while appearing for viva and evaluation of project during final examination of sixth semester.
- The project work will be evaluated for 100 marks of which **60% marks** will be allotted for the **dissertation** and **40% for the presentation** and **viva-voce**
- **The Evaluation of the project work will be done at the end of the sixth semester. For the Evaluation of the project work there shall be three hours duration at the end of the sixth semester. There shall be batch of 15 students for project and viva.**

**B.Sc. Computer Application**
**SEMESTER - 5**
**Computer Application PAPER 501 (Theory)**
**RDBMS Using Oracle**

| | CA-501 RDBMS USING ORACLE | | | |
|---|---|---|---|---|
| Objective | **Objective:** Through this subject students will learn about the concept of RDBMS (Relational Database Management System) and oracle database. | | | |
| **Unit No** | **Topic** | **Details** | **Marks Weight** | **Min Lec.** |
| 1 | DBMS Overview, SQL, SQL*plus | <ul><li>Introduction to DBMS</li><li>Introduction to RDBMS</li><li>Dr. E. F. Code Rules</li><li>Importance of E.R.Diagram in Relational  DBMS</li><li>Normalization</li><li>Introduction to SQL</li><li>SQL Commands and Data Types</li><li>Introduction to SQL*PLUS</li><li>SQL*PLUS formatting commands</li><li>Operator and Expression</li><li>SQL v/s SQL*Plus</li></ul> | 14 | 15 |
| 2 | Managing Tables and Data | <ul><li>Creating , Altering & Dropping tables</li><li>Data Manipulation Command like Insert, update, delete</li><li>Different type of constraints and applying of constrains</li><li>SELECT statement with WHERE, GROUPBY and HAVING, ORDER BY, DISTINCT, Special operator e.g. IN, ANY, ALL,BETWEEN, EXISTS, LIKE</li><li>Join (Inner join ,outer join, self-join)</li><li>Sub query, Minus, Intersect, Union</li><li>Built in functions</li><li>Numeric Function</li><li>Character Function</li><li>Date Function</li><li>Aggregate function</li></ul> | 14 | 22 |
| 3 | Other ORACLE Database Objects, | <ul><li>View</li><li>Sequence</li><li>Synonyms,</li></ul> | 14 | 15 |

| | | | | |
|---|---|---|---|---|
| | Data Control& Transaction control commands | <ul><li>Database Links</li><li>Index, Cluster,</li><li>Creating user & role</li><li>Grant, Revoke command</li><li>What is transaction?</li><li>Starting and Ending of Transaction</li><li>Commit, Rollback, Savepoint</li></ul> | | |
| **4** | Introduction to PL/SQL blocks and tables | <ul><li>PL/SQL Block Structure</li><li>Language construct of PL/SQL (Variables, Basic and Composite Data type, Conditions looping etc.)</li><li>%TYPE and %ROWTYPE</li><li>Using Cursor (Implicit, Explicit) and Exception Handling.</li><li>PL/SQL Tables, Nested Tables and varrays</li></ul> | 14 | 23 |
| **5** | Advanced PL/SQL and Introduction to Oracle 12c | <ul><li>Creating and Using Procedure, Functions, Package and Triggers</li><li>Managing Automated Database (Maintenance Task)</li><li>Managing Resources with Oracle resource manager</li><li>Oracle Scheduler Concept</li><li>Administration Oracle Scheduler</li></ul> | 14 | 15 |
| | Total | | 70 | 90 |

**Reference Books:**
1. SQL,PL/SQL The programming - Lang. of Oracle Ivan Bayross - BPB
2. Oracle Database 12c The Complete Reference (Oracle Press) by Bob Bryla, Kevin Loney – Oracle Press
3. Oracle Database 12c SQL – Jason Price – Oracle Press.
4. Oracle Database 12c Pl/SQL Programming by McLaughlin – Oracle Press

**B.Sc. Computer Application**
**SEMESTER - 5**
**Computer Application PAPER 502 (Theory)**
**Web Programming using PHP**

| CA-502Web Programming using PHP | | | | |
|---|---|---|---|---|
| **Objective**: <ul><li>To learn web programming</li><li>Learn to develop web site using PHP</li></ul> | | | | |
| **Unit No** | **Topic** | **Details** | **Marks Weight** | **Min Lec.** |
| 1 | Web Programming & Web Services | <ul><li>Static and Dynamic Web</li><li>Client side & Server Side Scripting</li><li>Introduction to other server side languages</li><li>Web server (IIS & Apache)</li><li>HTTP & HTTPS, FTP protocol</li><li>Web Hosting, Virtual Host, Multi-Homing</li><li>Distributed Web Server Overview,</li><li>Document Root</li><li>XML and JSON</li><li>Introduction to JSON</li><li>JSON Functions : json_decode, json_encode</li></ul> | 14 | 15 |
| 2 | PHP Basic | <ul><li>Introduction to PHP</li><li>PHP configuration in IIS & Apache Web server</li><li>PHP Variable</li><li>Static & global variable</li><li>GET & POST method</li><li>PHP Operator</li><li>Conditional Structure & Looping Structure</li><li>Array</li><li>User Defined Functions:<ul><li>argument function</li><li>default argument</li><li>variable function</li><li>return function</li></ul></li><li>Variable Length Argument Function( func_num_args,func_get_arg, func_get_args)</li><li>Variable Functions (Gettype, settype, isset, unset, strval, floatval, intval, print_r)</li><li>String Function(Chr, ord, strtolower, strtoupper, strlen, ltrim, rtrim, trim, substr, strcmp, strcasecmp,strpos, strrpos, strstr, stristr, str_replace, strrev,explode, implode,</li></ul> | 14 | 22 |

| | | | | |
|---|---|---|---|---|
| | | join, substr_count, ucfirst,ucwords)<br>• Math Function(Abs, ceil, floor, round, fmod, min,max, pow, sqrt, rand, cos, acos, sin, asin, tan,atan, bindec, decbin, hexdec, dechex,is_finite, is_infinite, log, base_convert)<br>• Date Function (Date, getdate, setdate, Checkdate,time, mktime, date_add, date_create,date_format, gmdate, localtime, strftime,strtotime)<br>• Array Function (Count, list, in_array, current, next,previous, end, each, sort, rsort, assort, arsort,array_merge, array_reverse, array_diff, array_slice,array_unique,array_keys,array_key_exists, array_push, array_pop,array_multisort, array_search)<br>• Miscellaneous Function (define, constant, include,require, header, die, exit)<br>• File handling Function (fopen, fread, fwrite, fclose,file_exists, is_readable, is_writable, fgets, fgetc, file_get_contents, fputs, file_putcontents,ftell, fseek, rewind, copy, unlink, rename,move_uploaded_file) | | |
| 3 | Handling Form, Session Tracking & PHP Components & AJAX | • Handling form with GET & POST<br>• Cookies<br>• Session<br>• Server variable<br>• PHP Components<br>  - PHP GD Library<br>  - PHP Regular expression<br>  - Uploading file<br>  - Sending mail using mail()<br>  - Sending mail using smtp()<br>• What is AJAX<br>• PHP with AJAX<br>• How AJAX works with PHP,Working with AJAX as background process | 14 | 15 |
| 4 | Introduction of SQL | • Working with MySQL using PhpMyAdmin<br>• SQL DML Statement (Insert, Update, Select, Delete) Command<br>• PHP-MySQL Connectivity<br>• PHP-MySQL Functions (mysql_connect, mysql_close,mysql_error, msyql_errno, mysql_select_db, mysql_query, mysql_fetch_array, mysql_num_Rows, | 14 | 23 |

| | | | | |
|---|---|---|---|---|
| | | mysql_affected_Rows, mysql_fetch_assoc, mysql_fetch_field,mysql_fetch_object,mysql_fetch_row, mysql_insert_id, mysql_num_fields) | | |
| 5 | jQuery | • What isjQuery? <br> • jQuery Syntax <br> • jQuery Selector <br>   - Element Selector <br>   - Class Selector <br>   - id Selector <br> • jQuery Events( Click, dblclick, keypress, keydown, keyup, submit, change, focus, blur, load, resize, scroll) <br> • jQuery Effects( hide, show, fade, slide) | 14 | 15 |
| | Total | | 70 | 90 |

**Reference Books:**
1. Modern PHP: New Features and Good Practices by Josh Lockhart (ORELLY)
2. PHP Cookbook: Solutions & Examples for PHP Programmers by David Sklar and AdamTrachtenberg (ORELLY)
3. Programming PHP by Kevin Tatroe and Peter MacIntyre ORELLY)
4. PHP for the Web: Visual QuickStart Guide (4th Edition) by Larry Ullman (Peachpit Press)

**B.Sc. Computer Application**
**SEMESTER - 5**
**Computer Application PAPER 503 (Theory)**
**Software Engineering and Linux**

| | CS-503Software Engineering and Linux | | | |
|---|---|---|---|---|
| **Objective:** Through this subject students will learn about the concept of Software Engineering and Linux command and shell scripting language. | | | | |
| **Unit No** | **Topic** | **Details** | **Marks Weight** | **Min Lec.** |
| 1 | System Analysis & Design | • Definitions: System, Subsystem, Business System, Information System (Definitions only)<br>• Systems Analyst and Role<br>• SDLC<br>• Fact – finding techniques(Interview, Questionnaire, Record review and observation)<br>• Tools for Documenting Procedures and Decisions<br>Decision Trees and Decision Tables<br>• Data Flow analysis Tool<br>• DFD (Context and 1$^{st}$ Level) and Data Dictionary<br>• UML Diagrams (Use Case Diagram, Activity diagram, Class Diagram, Sequence Diagram) | 14 | 15 |
| 2 | Software Development Life Cycle Models& Concepts of Quality Assurance | • Waterfall Model<br>• Agile Model<br>• V-Model<br>• Spiral Model<br>• Prototyping Model<br>• Introduction to QA<br>Software Quality Model –SEI CMM, ISO 9126, Six Sigma, McCall's Quality Factor. | 14 | 22 |
| 3 | Software Project Management Plan & Software Testing | • Software Cost Estimation – COCOMO Model and Delphi Cost Model<br>• Scheduling – PERT chart, Activity Network Diagram<br>• Software Risk Management<br>• Software Quality Plan<br>• Validation & Verification<br>• Software Testing<br>• Software Faults and Failure, Test Case, Test Script<br>• Testing Methods (Black Box and White | 14 | 15 |

| | | Box) | | |
|---|---|---|---|---|
| | | • Levels of Testing Process | | |
| | | • Unit Testing, Integration Testing, System Testing, Load Testing, Performance Testing, Usability Testing and Storage Testing. | | |
| | | • SRS (Software Requirement Specification) with IEEE Format. | | |
| **4** | Operating System with Linux and Shell Command | • Meaning of OS<br>• Functions of OS<br>• Types of OS<br>• Freeware and Open source<br>• History of Linux<br>• Unix Architecture<br>• Unix Features<br>• Types Of Shell ( C, Bourn, Korn )<br>• Unix File System<br>• Types of Files<br>• Shell Commands: passwd, who, ls, pwd, cat , cd, mv, cp, ln, rm, rmdir, mkdir, umask, chmod, chown, chgrp, find, more, less, head, tail, wc, touch, grep, cut, paste, join, sort, uniq, cmp, comm, diff, bc, tee, script, cal, date, wall, mtod, write, mail, news, ps, nice, kill, at, batch, cron, crontab, mount command<br>• Piping and Redirection<br>• Text Editing with vi Editor<br>• Modes in vi and Basic command | 14 | 23 |
| **5** | Shell Programming | • Shell Keywords<br>• Shell Variables<br>• System variables and User variable<br>• Positional parameters<br>• Decision Statements<br>• Test command<br>• Operators in shell scripting<br>• Looping Statements<br>• Case structure<br>• Various shell script examples<br>• X-Window System: Configure X-Window, X-Window Manager<br>• Windows Desktop Environment KDE and GNOME | 14 | 15 |
| | Total | | 70 | 90 |

# SyllabusofB.Sc.Semester-6
# According to Choice Based Credit System
# Effective from June – 2018

- **Program:**       **B.Sc.**

- **Semester:**       **6**

- **Subject:**       **Computer Application**

- **Course codes:**       **601(A) -Theory**
  **602 (A) -Theory**
  **603 (A) -Theory**
  **601 (B) - Practical**
  **602(B) - Practical**
  **603 (B) - Practical**
  **1 Project**

# B. Sc. Computer Application SEMESTER: VI

- **The Course Design of B.Sc. Sem.- VI(Computer Application) according to choice based credit system (CBCS) comprising of Paper Number, Name, No. of theory lectures per week, No. of practical lectures per week , total marks of the course areas follows :**

| SR.NO. | SUBJECT | NO. OF THEORY LECTURE PER WEEK | NO. OF PRACTICAL LECTURE PER WEEK | TOTAL MARKS | Credit Of Each Paper. |
|---|---|---|---|---|---|
| 1 | **PAPER 601 (A) (Theory) Programming with C#** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 2 | **PAPER 602 (A)(Theory) Multimedia – Graphic Designing & Image Editing** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 3 | **PAPER 603 (A) (Theory) Content Management System using Word Press** | 6 | - | 70(External)+ 30 (Internal) = 100 Marks | 6 |
| 4 | **PAPER 601 (B) (Practical)** | - | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 5 | **PAPER 602 (B)(Practical)** | - | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 6 | **PAPER 603 (B)(Practical)** | - | 6 | 35(External)+ 15(Internal) = 50 Marks | 3 |
| 7 | **Project Work & Viva** | 1 Guidance Lect. For a group of 1 to 3 students / week | Project work to be finalized and certified and evaluated. | **60Marks (Dissertation) + 40 Marks ( Viva ) = 100 Marks** | 3 |
| | | | | **Total credit of the semester five** | **30** |

**Marks Distribution of Each Paper
for
Theory and Practical ( for SEMESTER-VI )**

- **Total Marks of Each Theory
  Paper [External Examination]**     **70 Marks**

- **Total Marks of Each Theory
  Paper [Internal Examination]**     **30 Total Marks**

- **Total Marks of Each Practical
  Paper [External Examination]**     **35 Marks**

- **Total Marks of Each Practical
  Paper
  [Internal Examination]**     **15 Marks
  [Continuous internal assessment of
  practical work ]**

## Format of Question Paper

- There shall be one question paper of **70 marks & $2\frac{1}{2}$ hours** for each Computer Application Theory Paper**.**

- There shall be FIVE questions from each unit of 14 marks each.

- Each Question will be of the following form.

| Question | (A) | Answer any four out of four (Short answer type question) | 4 Marks |
|---|---|---|---|
| | (B) | Answer any one out of two | 2 Marks |
| | (C) | Answer any one out of two | 3 Marks |
| | (D) | Answer any one out of two | 5 Marks |
| | | **TOTAL** | **14 MARKS** |

**B.Sc. Computer Application**
**SEMESTER - 6**
**Computer Application PAPER 601 (Theory)**
**Programming with C#**

| Unit No | Topic | Details | Marks Weight | Min Lec. |
|---|---|---|---|---|
| **CA-601Programming with C#** | | | | |
| **Objective:** Through this subject students will learn about the concept of modern, object-oriented programming language using c#.net | | | | |
| 1 | **.NET Framework and Visual Studio IDE& Language Basics** | • Introduction to .NET Framework<br>• Features / Advantages<br>• CLR, CTS and CLS<br>• BCL / FCL / Namespaces<br>• Assembly and Metadata<br>• JIT and types<br>• Managed Code and Unmanaged Code<br>• Introduction to .NET Framework and IDE versions<br>• Different components (windows)of IDE<br>• Types of Projects in IDE (Console, Windows, Web, Setup, etc.)<br>• Data Types (Value Type &Reference Type)<br>• Boxing and UnBoxing<br>• Operators (Arithmetic, Relational, Bitwise, etc.)<br>• Arrays (One Dimensional, Rectangular, Jagged)<br>• Decisions (If types and switch case)<br>• Loops (for, while, do..while,foreach) | 14 | 15 |
| 2 | **Class and Inheritance & Property, Indexer, Pointers, Delegates, Event, Collections** | • Concept of Class, Object,<br>• Encapsulation, Inheritance, Polymorphism<br>• Creating Class and Objects Methods with "ref" and "out "parameters<br>• Static and Non-Static Members<br>• Constructors Overloading Constructor,<br>• Method and Operator<br>• Inheritance<br>• Sealed Class & Abstract Class<br>• Overriding Methods<br>• Interface inheritance<br>• Creating and using Praperty<br>• Creating and using Indexer<br>• Creating and using Pointers(unsafe concept) | 14 | 22 |

| | | | | |
|---|---|---|---|---|
| | | • Creating and using Delegates(Single / Multicasting)<br>• Creating and using Events with Event Delegate<br>• Collections (ArrayList,HashTable, Stack, Queue,SortedList) and their differences | | |
| **3** | **Windows Programming** | • Creating windows Application<br>• MessageBox class with all types of Show() method<br>• Basic Introduction to Form and properties<br>• Concept of adding various Events with event parameters<br>• Different Windows Controls<br>  - Button<br>  - Label<br>  - TextBox<br>  - RadioButton<br>  - CheckBox<br>  - ComboBox<br>  - ListBox<br>  - PictureBox<br>  - ScrollBar<br>  - TreeView<br>  - Menu (Menu Strip, Context Menu Strip)<br>  - Toop Strip<br>  - Timer<br>  - Panel and Group Box<br>• Dialog Boxes (ColorDialog,FontDialog, Save File Dialog and Open File Dialog)<br>• MDI Concept with MDI Notepad Concept of Inheriting Form. | 14 | 15 |
| **4** | **Database Programming with ADO.NET** | • Concept of Connected and<br>• Disconnected Architecture<br>• Data Providers in ADO.NET<br>• Connection Object<br>• Connected Architecture<br>• Command<br>• Data Reader<br>• Disconnected Architecture<br>  - Data Adapter<br>  - Data Set<br>  - Data Table<br>  - Data Row<br>  - Data Column | 14 | 23 |

| | | | | |
|---|---|---|---|---|
| | | - Data Relation<br>- Data View<br>• Data Binding<br>• Grid View Programming | | |
| **5** | **User Controls (Components), Crystal Reports, Setup Project** | • Creating User Control with<br>- Property<br>- Method<br>- Event<br>• Using User Control in Windows<br>• Projects as component<br>• Creating Crystal Reports Types of Reports<br>• Report Sections Formula, Special Fiend and Summary in Report<br>• Types of Setup Projects<br>• Creating Setup Project<br>- File System Editor<br>- User Interface Editor<br>- Launch Conditions Editor | 14 | 15 |
| | Total | | 70 | 90 |

**Reference Books:**
1. Programming with C# – Bharat & Co. [ISBN No. : 978-93-81786-41-3]
2. C#.NET Programming Black Book - steven holzner –dreamtech publications
3. Introduction to .NET framework - Wrox publication
4. Microsoft ADO. Net - Rebecca M. Riordan, Microsoft Press

**B.Sc. Computer Application**
**SEMESTER - 6**
**Computer Application PAPER 602 (Theory)**
**Multimedia – Graphic Designing & Image Editing**

# CA-602Multimedia – Graphic Designing & Image Editing

**Objective:** Through this subject students will learn about the concept of Image editing and designing.

| Unit No | Topic | Details | Marks Weight | Min Lec. |
|---|---|---|---|---|
| 1 | **Starting with Photoshop** | • About Photoshop<br>• Navigating Photoshop<br>• Menus and panels<br>• Opening new files<br>• Opening existing files<br>• Exploring the Toolbox<br>• The New CS4 Applications Bar & the Options Bar<br>• Exploring Panels & Menus<br>• Creating & Viewing a New Document<br>• Customizing the Interface<br>• Setting Preferences | 14 | 15 |
| 2 | **Working with Basic Tools** | • Selecting with the Elliptical Marquee Tool<br>• Using the Magic Wand & Free Transform Tool<br>• Selecting with the Regular & Polygonal Lasso Tools<br>• Combining Selections<br>• Using the Magnetic Lasso Tool<br>• Using the Quick Selection Tool & Refine Edge<br>• Modifying Selections<br>• Understanding the Background Layer<br>• Creating, Selecting, Linking & Deleting Layers<br>• Locking & Merging Layers<br>• Copying Layers, Using Perspective & Layer Styles<br>• Filling & Grouping Layers<br>• Introduction to Blending Modes<br>• Blending Modes, Opacity & Fill<br>• Creating & Modifying Text<br>• Using the Brush Tool<br>• Using the Pencil & Eraser Tools | 14 | 22 |

| | | | | | |
|---|---|---|---|---|---|
| | | | • The Red Eye Tool<br>• The Clone Stamp Tool<br>• The Patch Tool & the Healing Brush Tool<br>• The Spot Healing Brush Tool<br>• The Color Replacement Tool<br>• The Toning & Focus Tools<br>• Painting with History | | |
| **3** | **Working with special effects** | | • Getting Started with Photoshop Filters<br>• Smart Filters<br>• Creating Text Effects<br>• Applying Gradients to Text<br>• Understanding Paths &the Pen Tool<br>• Creating Straight & Curved Paths<br>• Creating Combo Paths<br>• Creating a Clipping Path<br>• Blending Menu | 14 | 15 |
| **4** | **Introduction of CorelDraw & Page Layout** | | • Introduction-Getting Started-Creating A New File - Title Bar-Menu Bar-Work Area-Printable Page-Property Bar-Page Counter Bar-Colour Palette-Toolbox-Status Bar-Drawing Figures-Lines-Ellipse-Circles-Rectangle-Square-Polygon-Saving-Closing-Opening-Views-Normal View-Preview-Wire Frame View-Draft View-Zoom-View Manager-Creating a View.<br>• Changing the Page Size-Changing the Layout-Applying Styles-Applying Bitmaps to the Background - Changing the Background-Adding a Page Frame-Moving Between Pages. | 14 | 23 |
| **5** | **Designing Effects** | | • Introduction - Toolbox-Selecting an Object-Resizing an Object-Moving an Object-Changing the Shape-Combining Two Objects-Skewing-Welding the Objects-Blending-Curve Lines-Straight Lines-Continuing a Line-View Mode-Changing-Media Tool-Rotating An Object-Grouping-Fill Tool Fly Out-Filling-Spray Mode.<br>• Introduction-Text Tool-Entering Artistic Text-Entering Paragraph Text- | 14 | 15 |

| | | Converting Text-Formatting Text-Changing the Font Size-Arranging Objects-Ordering The Objects-Changing the Font-Bullets-Decorating the Text-Webdings-Text Editor-Opening-Changing the Alignment-Type Style-Spell Checking-Grammar-Searching Synonyms-Find-Replace-Editing-Kerning-Formatting Characters.<br>• Bitmap Images-Vector Image-Resizing-Rotating-Skewing-Moving-Cropping-Importing Images-Adding Special Effects-Converting to Bitmap-Exporting Images. | | |
|---|---|---|---|---|
| | Total | | 70 | 90 |

**Reference Books:**
1. Adobe Photoshop CS-4
2. CorelDraw X7 The officially Guide

## B.Sc. Computer Application
### SEMESTER - 6
### Computer Application PAPER 603 (Theory)
### Content Management System using Word Press

| CA-603Content Management System using Word Press | | | | |
|---|---|---|---|---|
| **Objective:** Through this subject students will learn about the concept of CMS and creating websites using word press | | | | |
| **Unit No** | **Topic** | **Details** | **Marks Weight** | **Min Lec.** |
| 1 | **OOP** | • Concept of OOP<br>  - Class<br>  - Property<br>  - Visibility<br>  - Constructor, Destructor<br>  - Inheritance<br>  - Scope resolution operator (::)<br>  - Auto loading class<br>  - Class Constant<br>• Concept of OOP<br>• MySql database handling using oop | 14 | 15 |
| 2 | **Introduction, Installation & configuration** | • What is Content Management System?<br>• Introduction of Wordpress<br>• Features of wordpress & advantages, disadvantages of wordpress<br>• Installation of wordpress<br>• Wordpress directory & file structure<br>• Dashboard overview<br>• How to add,update,delete pages,category,posting,tags<br>• Add new media files & attached to page or post<br>• User roles & capabilities<br>• Settings(General,reading,writing,media, permalinks)<br>• Updating wordpress (One-click & Manual)<br>• Database structure | 14 | 22 |
| 3 | **Themes, Widgets, Plug-in** | • What is theme?<br>• How to install & activate themes<br>• Introduction of common wordpress themes. Template files.<br>• What is widget & widget areas?<br>• Widget Management<br>1. Available widget(Archives, Calendar, Categories, custom menu, meta, pages, recent comments, Recent post, RSS, Search, tag clouds, text)<br>2. Inactive slidebar(not used)<br>3. Inactive widgets | 14 | 15 |

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| | | • What is Plugin?<br>• How to install & active plugin.<br>• Usefull plugin & websites.<br>  1. Seo yoast<br>  2. Contact form 7<br>  3. Woocommerce<br>  4. WP supercache<br>  5. Regenerate thumbnails<br>  6. Advanced custom field. | | |
| 4 | **Theme Development** | • Anatomy of themes: header.php, footer.php,sidebar.php<br>• Template Files: (style.css, index.php, page.php, home.php, archive.php, single.php, comments.php, search.php, attachment.php, 404.php, category.php, tag.php, author.php, date.php)<br>• Loops(have_post(),the_post())<br>• Template tags.<br>• 1. General tags(wp_head, get_header, get_footer, get_sidebar, get_search_form,bloginfo,wp_title, single_post_title, wp_footer, comment_template,add_theme_support, body_class() )<br>• 2. Author Tags(the_author,get_ the_author, the_author_link, get_the_author_link, the_author_meta )<br>• 3. Category Tags(category_description,single_tag_ti tles,the_category)<br>• 4. Link Tags(the_permalink,get_permalink, home_url, site_url,get_site_url)<br>• 5. Post Tags(the_content, the_excerpt, the_id, the_tags, the_title, get_the_titles,the_date, get_the_date, the_time, next_post_link, previous_post_link)<br>• Function.php file | 14 | 23 |
| 5 | **Advanced Development** | Advanced functions<br>  - Add_actions()<br>  - Add_filter()<br>  - Add_shotcode()<br>  - Register_nav_menu()<br><br>Custom post types<br>  - Register_post_types<br>  - Register taxonomy()<br><br>Widget Area | 14 | 15 |

| | | - Register sidebar()<br>- Dynamic sidebar() | | |
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| Total | | | 70 | 90 |

**Reference Books:**
1. Build your own wordpress website.
2. Teach yourself visually  wordpress paperback-By George plumly
3. Wordpress for beginners 2017- By Dr. Andy Williams.