RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

COMPUTER APPLICATION

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Sem	Part	Paper Code	Title of Paper	Hours / Week	IA	Exam	Total	Subject Credits

B.A PROGRAMME (Computer Application) revised syllabus under CBCS (w.e.f. 2020-21 and onwards)

Sem	Part	Paper Code	Title of Paper	Hours / Week	IA	Exam	Total	Subject Credits
I	Part – 1 DSC	DSC1A (T)	Introduction to Computers and Word Processing	4	20	80	100	2
		DSC1A (TP)	MS Windows and MS Word Lab	3	10	40	50	1
II	Part – 1 DSC	DSC1B (T)	Spreadsheet and Presentation Software	4	20	80	100	2
		DSC1B (P)	MS Excel and MS PowerPoint Lab	3	10	40	50	1

B.A PROGRAMME (Computer Application) revised syllabus under CBCS (w.e.f. 2021-22 and onwards)

Sem	Part	Paper Code	Title of Paper	Hours / Week	IA	Exam	Total	Subject Credits
III	Part – 1 DSC	DSC1C (T)	Desktop Publishing	4	20	80	100	2
		DSC1C (P)	PageMaker, Photoshop and CorelDraw -Lab	3	10	40	50	1
	Part – 2 SEC		E-Commerce And e-Payment Systems	2	10	40	50	2
IV	Part – 1 DSC	DSC1D (T)	Data processing and Database Management System	4	20	80	100	2
		DSC1D (P)	MS Access and SQL	3	10	40	50	1
	Part – 2 SEC		Information Technology	2	10	40	50	2

B.A PROGRAMME (Computer Application) revised syllabus under CBCS (w.e.f. 2022-23 and onwards)

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	DSE1A (T)	Multimedia and Animation	4	20	80	100	3
		DSE1A (P)	Movie Maker and Flash	3	10	40	50	1
		DSE1B (T)	Elective-I- Operating Systems	4	20	80	100	3
		DSE1B (P)	Elective-I- -Linux Operating System-Lab	3	10	40	50	1
		OR						
		DSE1C (T)	Elective-II: Introduction to Java Programming	4	20	80	100	
		DSE1C (P)	Elective-II-Java Programming LAB	3	10	40	50	
	Part – 2 SEC		Introduction to E – Governance	3	10	40	50	2
	Note: Student should choose either Elective-I or Elective-II							
VI	Part – 1 DSE	DSE1D (T)	Visual Basic	4	20	80	100	3
		DSE1D (P)	Visual Basic-Lab	3	10	40	50	1
		DSE1E (T)	Elective-III- HTML, JavaScript, Dreamweaver	4	20	80	100	3
		DSE1E (P)	Elective-III- HTML, JavaScript, Dreamweaver -Lab	3	10	40	50	1
		OR						
		DSE1F (T)	Elective-IV- Introduction to PHP	4	20	80	100	
		DSE1F (P)	Elective-IV- PHP-Lab	3	10	40	50	
	Part – 2 SEC		Internet and cyber crime	3	10	40	50	2
	Note: Student should choose either Elective-III or Elective-IV							

DSC1A (T): Introduction to Computers and word processing

Teaching Hours : 4 Hrs / Week (2 Credits)   **Marks:** Theory-80 Marks
Total Hours : 60   I.A   -20 Marks

Unit –I

12HrsIntroduction: Computer Applications, Definition, History and development of computers, Generations of computers, Block Diagram of Computer, Input, ALU, CU, Memory and output units and their functions.
Computing Environment: Types of computers based on working principle (Analog, Digital and Hybrid Computers) and based on size and capabilities (Microcomputers, Mini Computers, Mainframe computers, and Super computers).

Unit –II   10Hrs

Memory and Hardware: Primary memory, Secondary memory (RAM, ROM, Hard disk, Floppy disk,), Optical disks (CD, DVD and Bluray disk).
Input devices- Key board, mouse, light pen, joystick, and scanner.
Output devices: Monitors, LCD projectors, Printers: Impact and not impact printers (Dot matrix, ink jet and laser printers). **Computer Languages:** (MLL, HLL, ALL, 4GL), Translators: Compilers, Interpreters and Assembler.

Unit –III

12HrsSoftware: Classification of software, System software, Application software, Utility software, Programming languages.
Windows Operating System: Introduction, loading windows, desktop environment, icons, Display Properties   (Themes, Desktop, Screen Saver, Appearance and Setting), Setting new date and time using dialog box., Folders (Creating, Renaming and Deleting), Creating shortcuts, Opening and closing different applications, Switch between applications, task bar, control buttons, menus, Control Panel, Windows Explorer, System Tools, Multimedia programs, Editing the pictures with paint.

Unit –IV   12Hrs

Basics of MS- Word 2013: Introduction to MS office 2013 user interface, office button, quick access toolbar, ribbon, Command tabs, Command sets. Creating, Opening, Saving and closing documents. Applying basic formatting, Font and Paragraph dialog boxes and clipboard command set options, Find and Replace, working with styles, bulleted and numbered lists. Working with page setup and page background command set options printing document.

Unit -V   12HrsMS

Word 2013 Advanced features: Working with basic graphical objects (Inserting pictures, clip arts, shapes, smart arts, and charts), editing and formatting graphical objects, working with tables. Inserting headers and footers, Document view, Spelling and grammar, working with columns, Protecting documents with passwords, Mail merge.

Text Books:
* Computer concept and C programming by P.B.Kottur
* Fundamentals of computers by V. Rajaraman

- Windows 7 step by step by Joan Preppernau (Author), Joyce Cox (Author)
- Microsoft Office 2013 Bible Paperback – 2013 by Lisa A. Bucki (Author), John Walkenbach (Author), FaitheWempen (Author), Michael Alexander (Author)

Reference Books
- Computer fundamentals by Pradeep K Sinha and PritiSinha
- Microsoft Office Professional 2013 Step by Step By Beth Melton, Mark Dodge, Echo Swinford, Andrew Couch

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DSC1A (P): MS Windows and MS Word

Practical Hours : 3 Hrs /Week (1 Credits)   **Marks:** Practical -40 Marks
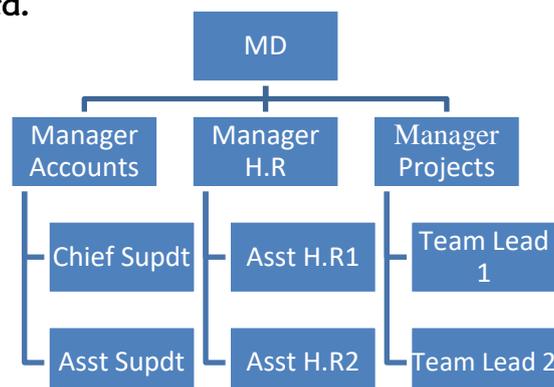   I.A   -10 Marks

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Students shall do 15 practical assignments including the following,

1. Create a Bio-data (Resume) by applying the following specifications.
2. Paper Size-A4   b) Margins Top-Bottom 0.5"
   c) Font Name –Comic Sans MS d) Line Spacing – 1.5
   e) Font Color – Blue   f) Page Border –User Defined
   g) Tab Stop Position – 3" And 3.5"
3. Write a request letter to your principal for the permission to visit IT fest of Bangalore, using following specifications.
4. a) Paper Size – Letter   b) Font – Arial Narrow
   c) Font Size – 12   d) Bold &Underline –Whenever Required
   e) Line Spacing – 2   f) Paragraphs Justified
   g) Font Color – Automatic   h) Indentation – Left & Right – 0.5"
   i) Page Margin – All Side 1"   j) Student Signature – Using Paint
5. Create a Invoice/ Bill by using table and following the below specification.
6. a) Paper Size – A4   b) Page Margin – Top &Bottom - 1" Right &Left – 0.5"
      c) Font Name – Times New Roman d) Table Line Spacing – 1.5"
      e) Font Size – 12 Points   f) Table Row Heading –14 points, Bold, Blue Color
7. Design an Advertising using basic shapes and word art tool with page border.
8. Create an Invitation card using samples.
9. Design a Personal Wedding card with the clipart and images.
10. Create a document and add appropriate header and footer with auto page numbers and add appropriate water mark to the page with the page boarder
11. Create a document which demonstrates the organization chart for Reliance Co, ltd and Educational institution using smart art. The hierarchy shall be as follows.

Reliance comp ltd.

Educational Institution

```
                                    College
            ┌──────────────────────────┼──────────────────────────┐
        Arts College              Science college           Commerce college
       ┌──────┴──────┐           ┌──────┴──────┐           ┌──────┴──────┐
   Computer      Political     Phisics      Chemestry   Accountantcy   Economics
  application     science
    ┌─ Staff1      ┌─ Staff1    ┌─ Staff1    ┌─ Staff1    ┌─ Staff1    ┌─ Staff1
    └─ Staff2      └─ Staff2    └─ Staff2    └─ Staff2    └─ Staff2    └─ Staff2
```

12. Design functional MIS sub system and basic MIS sub system using textbox and basic shapes.
13. a) Add appropriate theme   b) Add appropriate Background

Functional subsystems of MIS

```
                        Management information system
     ┌───────────┬───────────┬───────────┬───────────┬───────────┐
     ↓           ↓           ↓           ↓           ↓
  Production   Financial   Marketing     H.R        R & D
  information  information  information  information  information
  system       system       system       system       system
```

Basic subsystem of MIS

```
                        Management Information System
     ┌───────────┬───────────┬───────────┬───────────┬───────────┐
     ↓           ↓           ↓           ↓           ↓           ↓
  Transaction  Process      Office       Information  Decision    Knowledge
  Processing   Control      Automation   Reporting    Support     Based
  System       System       System       System       System      System
```

14. Insert a column chart into the document which demonstrate the students marks list (Add at least 5 students with 3 subjects.)
15. Create a table as bellow use merge and split cells
16. Create an accident report document with two columns option
17. Create a folder in windows D drive with the name India. Create 5 sub folders within it with the name of 5 states of India including Karnataka. Create a document in MS Word and save it in Karnataka folder you have created.
18. Create picture of our national flag using MS paint and save it as JPEG image format on the desktop
19. Demonstrate to Send a invitation letter to at least 10 people using mail merge option

DSC1B (T): Spreadsheet and Presentation Software's	
Teaching Hours : 4 Hrs /Week(2 Credits)	Marks: Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I

12HrsBasics of MS- Excel 20013 : Introduction, Opening screen components, Creating, opening, saving and closing workbook. Cell and cell address. Adding data to cell different ways of editing the data of the cell, adding data using auto fill feature,

Cell references: relative and absolute references, inserting and deleting rows ,columns and cells. General formatting of worksheet using format cell dialog box.Styles and conditional formatting feature, text wrapping, adding boarders and filling colours to cell. Inserting, renaming and deleting worksheets.

Unit – II

12HrsAdvanced features : Inserting Illustrations including Pictures, clip arts, shapes and smart arts into the work sheet. Working with charts including column, line, pie and bar charts. Adding chart title, Adding axis title, Changing chart style chart layout and chart type. Working with page setup dialog box. Sort and filter Command set data tools command set: text to column, remove duplicates and data validation. Printing.

Unit – III

12HrsFormulas and functions: Introduction, working with formulas, Creating formula, referencing cell from other worksheets, working with functions. Function library command set, Financial functions, logical functions, date and time functions, text functions, lookup and reference and mathematical and trigonometrically functions with their syntax and examples, Assigning name to the Cell range.

Unit- IV

12HrsIntroduction to PowerPoint 2013: Creating presentation, create presentation using templates, saving and opening of presentation, Basics of presentation: Adding and removing slides, Adding title and sub title to a slide, Adding text using text boxes, Different slide layouts, Setting up and running a slide show, setting up a slide show.

Unit –V   12Hrs

Advances features: Changing the layout of slide, Applying Background of slide, Applying different themes for presentation, Working with basic graphical objects: inserting picture, Clipart, smart arts. Inserting charts, inserting movie clips and sound clips, creating photo album. Adding and removing animation effects, built in and custom animations Adding and removing transition effects.Integrating the whole presentation.

Text Book:

* Microsoft Office 2013 Bible Paperback – 2013 by Lisa A. Bucki (Author), John Walkenbach (Author), FaitheWempen (Author), Michael Alexander (Author)
* Office 2007 in simple steps Authored by Kogent Solutions Inc.

Reference Books:

* Microsoft Office Professional 2013 Step by Step By Beth Melton, Mark Dodge, Echo Swinford, Andrew Couch

DSC1B (P): MS Excel 2013 and MS PowerPoint 2013	
Practical Hours : 3 Hrs /Week(1 Credits)	**Marks:** Practical -40 Marks I.A -10 Marks

Students shall do 15 practical assignments including the following,

1. Create a student mark sheet and calculate result using IF condition.
2. Create students class award sheet with nested if condition
3. Create a table as bellow use merge and centre option.
4. Create a Bar Chart on Student result with appropriate chart title, X axis and Y axis title
5. Create a column chart on Cricket Score and Pie Chart of Qty sales of Company.
6. Create a Library usage work sheet and sort the data on name of the student and apply filters on the department.
7. Create Employee salary table and calculate the fields with appropriate formulas and functions.
8. Demonstrate and solve any four Text, two mathematical functions with suitable examples
9. Demonstrate and solve any two financial and any two logical functions with suitable examples.
10. Create a student's table and demonstrate the conditional formatting with appropriate conditions for class awarded
11. Create a presentation containing minimum 5 slides which demonstrate the syllabus details of B.A Computer Application (optional)
    a) Use appropriate theme   b) Use appropriate texture Backgrounds
12. Create a computer application department presentation which demonstrate the details of staff, facilities (no of computers, no of printers, LAN, Internet) and the software used in the B.A comp Appl (opt) syllabi with following specifications
    a) Use theme and Backgroundb) Apply suitable built–in animation and transition
13. Create a presentation which provides the information about the Mahatma Gandhi. Apply suitable built-in animation and transition effects
14. Create an advertisement presentation of two wheelers of four wheelers using clipart, picture and world art with following specification
    a) Use appropriate theme and background b) Apply appropriate animation to each objects c)Add transition effect to slides.
15. Create a presentation which contains
    a) Pie chart of three companies annual sales
    b) Column chart which demonstrate 5 students marks in 5 subjects.

DSC1C (T): Desktop Publishing
Teaching Hours : 4 Hrs / Week (2 Credits)   **Marks:** Theory-80 Marks
Total Hours :60   I.A -20 Marks

Unit –I

12HrsIntroduction to DTP: Brief history of DTP, **Pre-basic requirements:** Choosing printing house, Paper quality, Right colour, Right fonts. hardware requirements.
Introduction to PageMaker 7: Opening screen components, tool box of PageMaker. **Working with publication:** Document Setup (Opening, adding text, saving and closing). Cut-Paste, Copy-Paste options, **Text Editing:** Story editor, Find and Change option, Spell Check option, Undo and revert option. Auto flow option, **Text formatting option:** Change font, font size, font effects (Underling Italic bold etc.), printing publication.

Unit –II   12Hrs

Advance techniques of PageMaker 7 and Paragraph Editing: Alignments, Tracking, Kerning, leading, formatting paragraph using the character and paragraph specification dialog box. Indent and tab setting, paragraph Rulers setting. Creating user define styles. Creating Master Pages, Running Header and footers, creating continuation lines or adding jump lines, Working with Guides, **Working with graphics:** Simple graphics with tools box tools and importing graphics. **Manipulating Graphics:** Adding text into simple graphics, merging, locking, moving, resizing, filling colours, Text wrapping, duplicate graphics, Rotating, skewing, cropping and reflecting the object. **Customizing the graphics:** Line, Rectangle, Ellipse, Polygon setting and Graphic Masking.

Unit –III   12Hrs

Photoshop 7 Basics: Introduction, opening screen, creating, opening and saving images, Tool box: Selection tools, painting tools, text and pen tools. Transformation: resizing, rotating, flipping and liquefying. Layers: Selecting Reordering, Hiding / Showing, Removing.

Unit –IV   12Hrs

Photoshop 7 Advanced techniques: Colour models: RGB, CMYK models Level dialog box, colour balancing dialog box, hue saturation dialog box, Text: Adding text, Character and paragraph palate, Blending options, Drop shadow. Save file in different formats and printing image.
Kannada or any other regional language: Introduction, Keys and Keyboard layout,

Unit –V   12Hrs

CorelDraw 12: Introduction, customizing options, using text &colour: working with colour pallet, working with paragraph text, special text effects. **Layout & layers:** Special page layout, arranging objects, using layers. **Style & templates:** using styles & templates, advanced effects: special interactive effects, custom creation tools working with bitmaps.

Reference Books

- Adobe PageMaker 7.0 Classroom in a Bookby . Adobe Creative Team
- Learning PageMaker 7by Ramesh Bangi
- BPB, Adobe PageMaker 6.5-Training Guide,BPB Publications.
- Erdos, Teach yourself CorelDraw 9, BPB Publications.
- Altman, Mastering CorelDraw9, BPB Publications.
- Teach yourself Adobe Photoshop 7 – Carla Rose
- How to use Adobe Photoshop 7. – Daniel Giordan

DSC1C (P): PageMaker, Photoshop and CorelDraw
Practical Hours: 3 Hrs /Week(1 Credits)   **Marks:** Practical -40 Marks   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

Note: Minimum 5 assignments could be done using Kannada or any other regional
         Language

1. Create your own Bio-data using the PageMaker, standard font size will be 12 and font name is Times New Roman, heading is bold and page size is A4.
2. Prepare an Application Letter for the post of Computer Operator using PageMaker
3. Prepare a notes at least one page which includes Bullets and Numbering, Expert Kerning and tracking with all formatting options (Bold, Italic, Underline) using PageMaker.
4. Using two column guides, prepare a newsletter and place images and apply text wrap option using PageMaker
5. Edit a photo with cutting tool and Add background to photo using suitable background.
6. Crete advertisement banner in Photoshop with the size 3 X 6 feet.
7. Scan your standing photo, cut the image and mix it with the VidhanaSoudha as background using Photoshop..
8. Using Photoshop create your Passport size photo and fill it to A4 size canvas using appropriate tools. And get photo print from photo lab.
9. Add a car photo to the canvas and demonstrate the photo with different colours using hue / saturation dialog box and save at least six different colour photo in A4 size canvas using Photoshop.
10. Create a 4 X 6 photo of your family and add suitable background using Photoshop.
11. Create simple visiting card using Photoshop.
12. Create a Birthday card and add suitable images using Photoshop.
13. Draw the Christmas tree using interactive blend and Bezier tool from CorelDraw
14. Draw a picture of flower to demonstrate the artistic media tool and fountain fill.
15. Draw the picture of house using suitable tools and add Arc text banner to the picture using CorelDraw.
16. Draw the cover of book using various tools in Corel draw.

B.A.III Semester SEC-1

SEC 1: E-Commerce and e-Payment System

Teaching Hours : 2 Hrs / Week(2 Credits)	Marks: Theory-40 Marks
Total Hours :30	I.A -10 Marks

Unit –I   **6Hr**

Electronic Commerce: Introduction to e-commerce, Definitions, Advantages & Disadvantages of E Commerce, **How business operates:** employees, Customers, Channel partners, Suppliers, Service Provider, Regulatory authority.

Unit –II   **6Hrs**

How e-commerce works: Public information, private information. **Encryption:** secret key encryption, public key encryption, digital signature. **Electronic Data Interchange:** Definition of EDI, benefits of EDI.

Unit –III   **6Hrs**

Business models of E-commerce: Business to business (B2B), Business to Customers (B2C), customer to Business (C2B), Customer to customer (C2C), and Government to business (G2B). **Supply chain management (SCM):** advantages of SCM.

Unit –IV   **6Hrs**

Computer crime and online business: Computer crime (Money theft, Service theft, system theft, information alerting, viruses).   **Online business** (e-payment, e-ticketing,e-dining, e-billing, online marketing).

Unit –V   **6Hrs**

Electronic Payment System (EPS): VISA Cards, Master Cards, Credit Cards, Debit Cards, e-cheque, e-cash, internet banking, e-wallet using electronic payment applications (Google Pay, Phone Pay, PayTM, BHIM, mobile banking etc.)

Text Books:
- Internet and e-commerce by C NellaiKannan
- Business on the net by Kamalesh N Agarwal, AmitLal, DeekshaAgarwal

Reference Books :
- Frontiers of Electronic Commerce by Ravi Kalakota and Andrew B Whinston.
- Learning e- commerce by Ramesh Bangia

E-resources:
- https://irp-cdn.multiscreensite.com/1c74f035/files/uploaded/introduction-to-e-commerce.pdf
- https://www.tutorialspoint.com/e_commerce/e_commerce_tutorial.pdf

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DSC1CD (T): Data processing and Database Management System

Teaching Hours : 4 Hrs / Week (2 Credits)	**Marks:** Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I   **12Hrs**

Data Processing: Introduction, types of information, Data processing types, stages, advantages of electronic data processing

Files and file organizations: Types of files, File Organization: Sequential Access file organization, Direct Access file organization and indexed sequential access file organization with advantages and disadvantages.

Unit –II   **12Hrs**

Database Management System: Introduction, Database software's, DBMS facilities and capabilities, DBMS Advantages and disadvantages.

Introduction to RDBMS: Introduction, Entities, Attributes and Association concepts, Types of relationship between attributes (1:1, 1:M and 1:n), Functional Dependency.

Unit –III   **12Hrs**

Advanced RDBMS: Relations among entities, Types of relationships, Entity Relationship model (E-R Model), Advantages and disadvantages, Instance, Schema and sub schema, DBMS Architecture, DDL and DML, Responsibilities of Database Administrator, Data models (Hierarchical, Network and Relational Models).

Unit -IV   **12Hrs**

Introduction to MS-Access: Overview of MS- Access, main elements of access, table, queried, forms, reports, macros, modules and relationship. Opening an existing database, viewing database, creating database and tables.Creating forms, entering and updating database using forms, navigating between records in form, finding, editing and deleting data in a form. Creating and printing reports.

Unit -V   **12Hrs**

Introduction to SQL: Features of SQL, weakness of SQL, SQL Grammar, Data types of SQL. **DDL (Data Delimitation Language) Statements:** Create tale, Describe and Drop Table. **DML (Data Manipulation Language) Statements:** Insert into, Delete, **Retrieval of data** : All records, from specific columns, specific data using where clause.

Text Books:
- Microsoft Access 2013 Step by Step by Cox
- INTRODUCTION TO SQL AND PC/SQL by Ruchin Jain SharadMaheshwari

Reference Books
- Alexis Leon and Mathews Leon, Fundamentals of Information Technology, Leon vikas(1999).
- Alexis Leon and Mathews Leon, a first course in computers, Leon vikas(2001)
- Sanjay Saxena, A first course in computer, Vikas Publications (2001).
- Peter Norton, Introduction to computers, 4th edition, Tata McGraw Hill(2001).

DSC1CD (P): MS Access and SQL
Practical Hours : 3Hrs /Week (1 Credits)　　　**Marks:** Practical -40 Marks 　　　　　　　　　　　　　　　　　　　　　　　　I.A　　　-10 Marks

Students shall do 15 practical assignments including the following,

1. Create a Database with a name ASSIGN1,
    a) Create a table called empsal having the fields EMPNO, BASIC, DA, HRA, STOTAL, LIC,　　PF, DTOTAL, NETSAL. Enter at least 10 records　(in the fields EMPNO, BASIC, LIC)
    b) Create a query　using design　view using empsal table and add column wise calculation for　　DA=79% of BASIC,　HRA=7% of BASIC,　PF= 12%　of STOTAL,　STOTAL=BASIC+DA+HRA,　DTOTAL=LIC+PF,　NETSAL=STOTAL-DTOTAL

2. Create a Database with the name ASSIGN2,
    a) Create a table called empsal having the fields EMPNO, NAME, ADDRESS, SALARY. Enter at least 10 records.
    b) Create a form using empsal table through design view, change the back color of the from and　　add record navigation command buttons.

3). Create a Database with the name ASSIGN3,
    a) Create a table called empsal2 having the fields EMPNO, NAME, ADDRESS, SALARY. Enter at least 10 records.
    b) Create a report through wizard using the empsal2 table, Add the suitable heading for it in　design view and calculate the Grand total for SALARY field.

4).Create a Databases with the name ASSIGN4,
    a) Create a table called empsal3 having the field EMPNO, NAME, ADDRESS, SALARY,　Enter at least 10 records.
    b) Create a table using male table query by empsal3,with the criteria SALARY>=5000

5). Create a Database with the name ASSIGNS5,
    a) Create a table called stud with the fields ROLLNO,NAME MARKS, Enter　at least 10　records. Enforce the data integrity to marks field so that the marks must be within 0 to 100 range.
    b) Create a query which should display the records who scored more than 70 marks,

6).Create a Database with the name ASSIGNS6,
    a) Create a table called stud1 with the fields ROLLNO,NAME , MARKS, Enter at least 10 records. Enforce the data integrity to marks field so that the marks must be within 0 to 100 range.
    b) Create a form using stud1 table through design view, change the back color of the from and　add record navigation command buttons.

7). Create a Database with the name ASSIGN7,
    a) Create a table called stud2 with the fields　ROLLNO, NAMES, enter at least 10 records, enforce the data　integrity to marks field so that marks must be within 0 to 100 range.
    b) Create a report through wizard using he stud2 table, Add the suitable heading for it in design view.

8). Create a Database with the name ASSIGN8,
   a) Create a table called stud3 with the fields ROLLNO, NAME MARKS, Enter at least 10 records. Enforce the data integrity to marks field so that the marks must be within 0 to 100   range.
   b) Create a delete query which deletes the record whose marks is less than 35

9). Create a Database with the name ASSIGN9,
   a) Create a table called empsal having the fields EMPNO, SALARY. Enter at least 10 records. Create another table called empdet with the fields EMPNO, NAME and ADDRESS enter at least 10 records. In both the tables EMPNO should be the primary key.
   b) Create a query using design view using empsal and empdet with the fields EMPNO, NAME, SALARY by establishing the relation among EMPNO form both the tables. Sort on NAME in ascending order.

10). Create a Database with the name ASSIGN10,
   a) Create a table called studresult with the fields ROLLNO, MARKS, RESULT (PASS/FAIL). Enter at least 10 records.
   b) Using Make table query create pass table and fail table separately by giving appropriate condition.

11. Create table called Emp1 using CREATE TABLE command with the fields EMPNO NAME AND SALARY. Add 5 records and display the structure of the table using SQL statements

12. Write the SQL statement to create a table called Emp using CREATE TABLE command and with the fields EMPNO NAME AND SALARY.
   a) Add at least 10 records.
   b) Display the records who's salary is more than 10000.

13. Write the SQL statement to create a table called Emp using CREATE TABLE command and with the fields EMPNO NAME AND SALARY.
   a) Add at least 10 records
   b) Display the records whose EMPNO is 2 and 7
   c) Display the records whose salary is bellow 15000

14. Write the SQL statement to create a table called stud using CREATE TABLE command and with the fields ROLLNO, NAME AND MARKS.
   a) Add at least 10 records
   b) Display the records whose marks are greater than 70
   c) Display the structure of the table

15. Create a table called stud using CREATE TABLE command and with the fields ROLLNO, NAME AND MARKS. Use SQL statements
   a) Add at least 10 records
   b) Display the records whose ROLLNO is 4 and 9
   c) Display the records whose marks are bellow 50

SEC-2: Information Technology

Teaching Hours : 2Hrs / Week(2 Credits)   **Marks:** Theory-40 Marks
Total Hours :30   I.A   -10 Marks

Unit –I   6Hrs
TELECOMMUNICATIONS: Introduction, analog and digital signals, modulation, need for modulation, types of modulation – Amplitude Modulation (AM), Frequency Modulation (FM), Pulse Modulation (PM).

Unit –II   6Hrs
COMMUNICATION SYSTEMS: Introduction, radio, television, How television works, microwave systems, communication satellites, radar, fiber optics, ISDN.

Unit –III   6Hrs
DATA WAREHOUSE: Introduction to data warehouse, Definition, Advantages of Data warehousing, components, structures, uses, interfaces with other data warehouses.

Unit –IV   6Hrs
DATA MINING: Data mining evolution, verification, vs discovery, advantages, technologies used in data mining. Introduction to On-Line Analytical Processing uses of OLAP and benefits.

Unit –V   6Hrs
PERSONAL SOCIAL AND ETHICAL ISSUES: Computers and your health, Ergonomics, computer ethics, viruses, intellectual property rights, computer crime.

Text Books:
- A Leon and M. Leon, Fundamentals of Information Technology, Leon Vikas Publishing (1999).

Reference Books
- Sanjay Saxena, A first course in Computers, Vikas Publishing (2001).
- Williams, Sawyer, Information Technology 5th Edition. Tata McGrawHill (2003).
- Curtin, Foley and Morin, Information Technology, Tata McGrawHill(1999).

DSE1A (T): Multimedia and Animation

Teaching Hours : 4 Hrs / Week (3 Credits)	**Marks:** Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I   **12Hrs**

Introduction: Multimedia Fundamentals: Define the concept of multimedia, fundamental criteria for the design of a multimedia presentation Concept of Hypertext and Hypermedia- Definition of Hypertext, Definition of hypermedia, Characteristics of hyper media, components, Applications of hyper media.

Unit –II   **12Hrs**

Multimedia Application: Applications of multimedia in education and training, Multimedia in entertainment, Multimedia in business, Video conferencing and , electronic Encyclopaedia, Introduction to virtual reality, Future hold for virtual reality.

Unit –III   **12Hrs**

Graphics, Audio and Video: Definition, Types of Graphic image, Graphic files compression formats, Uses for GIF and JPEG files, Sound and Audio, Analog sound Vs digital sound, Audio file formats, Digital video, Need for video compression,   Video file formats.

Unit –IV   **12Hrs**

Multimedia Tools: Basic Tools, Types of Basic tools, Authoring tools, Types of Authoring tools, Multimedia tool features, Working with flash - basics and advanced , Several stages of production such as storyboarding, script.

Unit –V   **12Hrs**

Computer Animation: Introduction, Definition basics of Animation, uses of Animation, Keyframes&Tweening, Types of animation systems, Types of animation ,Computer Animation Tools: Hardware, Software (Adobe flash and Movie Maker)

Text Books:
- A. Leon and M.Leon, Fundamentals of Information Techonology,LeonVikas Publishing
- Multimedia Technology And Applications by David Hillman

Reference Books:
- Multimedia-Making it work by Tay Vaughan
- Multimedia Systems Design by Prabhat K. Andleigh and KiranThakar

DSE1A (P): Movie Maker and Flash Lab
Teaching Hours : 3 Hrs / Week(1 Credits)   **Marks:** Theory-40 Marks
Total Hours :30   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

1. Create animated object in Flash.
2. Create an Animation using shape twinning in Adobe Flash software.
3. Create Flash animation with Blur effect.
4. Create a Styled text in Flash.
5. Draw a simple flower, colour it and save it as object..
6. Create frame by frame animation in Flash.
7. Create a simple letter after letter animation.
8. Draw animal and save it as symbol.
9. Move the animal from one place to another in flash.
10. Create your own movie and store it to your mobile.
11. Create your own Movie by using Windows Movie Maker software.
12. Create a documentary on Mahatma Gandhi by adding suitable clips.
13. Create a movie on Independence Day by adding some audio visuals.
14. Create a movie clip of Subhas Chandra Bhose.
15. Create a movie clip of a Soldier.

DSE1B (T) Elective-I: Operating System
Teaching Hours : 4 Hrs / Week (3 Credits)   **Marks:** Theory-80 Marks **Total Hours :**60   I.A   -20 Marks

Unit –I   **12Hrs**

Introduction: Basics of Operating Systems: Definition, types of Operating Systems, OS Service, System Calls, OS structure: Layered, Monolithic, Microkernel Operating Systems – Concept of Virtual Machine.

Unit –II   **12Hrs**

Process Management: Process Definition , Process Relationship , Process states, Process State transitions , Process Control Block , Context switching , Threads, Concept of multithreads , Benefits of threads, Types of threads.

Unit –III   **12 Hrs**

Inter-process Communication Race Conditions, Critical Section, Mutual Exclusion, Hardware Solution, Strict Alternation, Peterson's Solution, The Producer Consumer Problem, Semaphores, Event Counters, Monitors, Message Passing, and Classical IPC Problems.

Unit –IV   **12 Hrs**

Memory Management: Logical and Physical address map, Memory allocation, Internal and External fragmentation and Compaction, Paging. Virtual Memory: Demand paging, Page Replacement policies.

Unit –V   **12 Hrs**

Structure of Linux Operating System,Exploring the Directory Structure, Naming Files and Directories, Concept of shell, Types of shell, Editors for shell programming (e.g. vi), basics of Shell programming. Concept of shell, Types of shell, Editors for shell programming (e.g. vi), basics of Shell programming.

Text Books:
- Silberschatz, Peter B. Galvin and Greg Gagne, Operating System Concepts, 9th Edition, WileyIndianEdition.
- Andrew S Tanenbaum, Modern Operating Systems, Third Edition, Prentice HallIndia.
- Sumitabha Das, UNIX Concepts and Applications,4th Edition, Tata McGrawHill.

Reference Books:
- Milankovic, Operating Systems, Tata McGrawHill.
- NareshChauhan, Principles of Operating Systems, OxfordPress.
- D.M. Dhamdhere, Operating Systems: A concept based approach, 2nd edition, Tata McGraw Hill.

DSE1B (P) Elective-I: Linux Operating SystemLab
Teaching Hours : 3 Hrs / Week(1 Credits)   **Marks:** Theory-40 Marks **Total Hours :**30   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

1. Write a shell script to generate mark-sheet of a student by reading five subject marks, calculate and display total marks, percentage and Class obtained by the student.
2. Write a shell script which will accept a number b and display first n prime numbers as output.
3. Write a shell script which will generate first n Fibonacci numbers
4. Write a shell script to read n numbers as command arguments & sort them in descending order.
5. Write a shell script to display all executable files, directories and zero sized files from current directory.
6. Write a shell script to check entered string is palindrome or not.
7. Shell programming using filters (including grep, egrep, fgrep)
8. Write an awk program using function, which convert each word in a given text into capital.
9. Write a program for process creation using C (Use of gcc compiler).
10. Write a shell script to determine whether a given file exists or not, file name is suppliedas command line argument
11. Write a shell script to search and replace string in a file.
12. Write a shell script that accepts a list of file names as its arguments, counts and reports the occurrence of each word that is present in the first argument file on other argument files.
13. Write an awk script to count the number of lines in a file that do not contain vowels Following shall be executed in Linux environment using gcc/similar compiler.
14. Write a C program that implements a producer-consumer system with two processes.
15. Write a C program to allow cooperating processes to lock a resource for exclusive use, using Semaphores

DSE1C (T) Elective-II: Introduction to Java Programming	
Teaching Hours : 4 Hrs / Week (3 Credits)	**Marks:** Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I   12Hrs
Introduction:concept - Object, classes, abstraction, encapsulation, inheritance, polymorphism .History of Java, features of Java, JDK Environment, Java Virtual Machine, Java Runtime environment, Identifiers and Keywords, Data types and typecasting, Variables, Java coding conventions, Expressions, Control structures, Decision making statements, Arrays and its methods.

Unit –II   12 Hrs
Java classes: Define class with instance variables and methods, Object creation, Accessing member of class, argument passing, Constructors, Method overloading, Static data, Static methods, Static blocks

Unit –III   12Hrs
Inheritance: Super class & subclass, abstract method and classes, method overriding, final keyword, super keyword, dynamic method dispatch. Packages and Interfaces: Importing classes, user defined packages, modifiers & access control (Default, public, private and protected).

Unit –IV   12Hrs
Exception handling: Types of Exceptions, try, catch, finally, throw, throws keywords, creating your own exception, nested try blocks, multiple catch statements, user defined exceptions. Java Input Output: Java IO package, File, Class Byte/Character Stream, Buffered reader / writer, File reader / writer.

Unit –V   12 Hrs
Applets: How Applets differ from Applications, Preparing to write applet, Building applet code, Applet life cycle, Creating an executable applet, Applet tags, Adding applet to HTML file, Getting input from the user.

Text Books:

- Herbert Schildt, The Java 2 : Complete Reference, Fourth edition, TMH,
- Balaguruswamy, Programming with JAVA A primer, 4th Edition, TATA McGraw-Hill
- Cay S Horstmann, Fary Cornell, Core Java 2, Volume – I, Sun Microsystems Press
- https://docs.oracle.com/javase/tutorial/

Reference Books:

- Peter Van der Liden, Just Java, Prentice Hall
- H. M. Deitel, P. J. Deitel, Java: how to program, 5th edition, Prentice Hall of India
- Y. Daniel Liang, Introduction to Java programming, 9thEdition, Pearson education

DSE1C (P) Elective-II: Java Programming-Lab
Teaching Hours : 3 Hrs / Week(1 Credits)   **Marks:** Theory-40 Marks
Total Hours :30   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

1. Write a Java Program to implement Vector class and its methods.
2. Write a Java program to perform matrix multiplication.
3. Write a Java program to find GCD and LCM of two numbers (GCD is calculated using Euclidean Algorithm. LCM is found using factorization method.).
4. Write a Java program implement basic queue operations.
5. Write a Java program to count the frequency of words, characters in the given line of text.
6. Illustrate thread join concept.
7. Write a program to implement the concept of Exception Handling by creating user defined exceptions.
8. Write a Java program to find factorial of a number reading input as command line argument.
9. Write a Java program to demonstrate method overloading.
10. Write a java program to demonstrate at least 5 string methods using Scanner class.
11. Write a Java program to demonstrate static variables, methods and blocks.
12. Program to copy bytes from one file to another.
13. Write a Java program that creates an object and initializes its data members using constructor. Use constructor overloading concept.
14. Write a Java Program to implement Wrapper classes and their methods.
15. Program to demonstrate multilevel inheritance. Show the usage of super ().

SEC-IIIIntroduction to E-Governance	
Teaching Hours : 3 Hrs / Week(2 Credits)	**Marks:** Theory-40 Marks
Total Hours :30	I.A -10 Marks

Unit –I   **6Hrs**
Overview of E-Government and E-Governance,Stages of E-Governance, National E-Governance Plan (NeGP), Mission Mode Projects and their implementation status, E-Governance , Introduction to E-governance, Role of ICT's in e-governance, Need, importance of E-governance.

Unit –II   **6 Hrs**
Categories of E-governance,Key Issues of E-Governance, Technology, Policies, Infrastructure, Training, Copyrights , Consulting Funds, E-governance Models, Model of Digital Governance, Broadcasting /Wider Dissemination Model.

Unit –III   **6Hrs**
Critical Flow Model,Interactive-service model/Government –to-Citizen-to-Government Model (G2C2G), Major areas of E-governance Services, Public Grievances: Telephone, Ration card, transportation, Rural services Land Records, Police: FIR registration, Lost and found, Social services: Death, domicile, school certificates.

Unit -IV   **6 Hrs**
Public information: employment, hospitals, railway, Agricultural sector: Fertilizers, Seeds, Utility payments Electricity, water, telephone.

Unit –V   **6 Hrs**
Commercial: income tax, custom duty, excise duty-Governance Infrastructure, stages in evolution and strategies for success, -Governance Infrastructure, stages in evolution and strategies for success.

Reference Books:
- Governance in India Paperback – by M. Laxmikanth
- E Governance - Dilip S Pawar
- E-governance: Concepts and Case Studies C.S.R. Prabhu

DSE1D (T): Visual Basic

Teaching Hours : 4 Hrs / Week (3 Credits)   **Marks:** Theory-80 Marks

Total Hours :60   I.A   -20 Marks

Unit –I   **12 Hrs**

Introduction to VB: Event driven programming, Concept of GUI, Various VB- Editions, How to start with a project, Introduction of various windows: Properties Windows, Project Windows, Toolbox Windows, Menu bar Windows.

Unit -II   **12 Hrs**

Variables & Control: Structure, Data Types, Types of variables, Forcing variable declarations lifetime & scope, Converting variable types User defined data types, Constants, functions Control flow Statements If...Then, If...Then...Else, Select Loop statements Do....Loop, for...Next, While...wend

Unit -III   **12 Hrs**

Arrays: Declaring arrays, Multidimensional arrays, Inputbox(), Msgbox() & Procedures Subroutines, Functions, Built In Functions - Date, String, Mathematical

Unit -IV   **12 Hrs**

Controls: Controls with main Properties, Methods & Events Label Textbox, Basic properties, Command box Option, Check box Combo, list box, Scroll bars & slider controls Timer. The remaining controls like shape, image, picture etc.

Unit -V   **12 Hrs**

Designing the user Interface: Placing the controls on form , Aligning & grouping controls Setting focus, writing code with code design window Saving & running the application . MDI :The multiple document interface MDI Applications- the basic Built-in capabilities of MDI, Parent & Child menus, Menu editor.

Text Books:

- Visual Basic 6 Black book by Steven Holzner, Publisher-The Coriolis Group · 2. Text book of Visual Basic by M Somvanshi
- Beginning Visual Basic 6 by Peter Wright.

Reference Books:

- Microsoft Visual Basic by Gary Hagard, Wade Hutchison, Chirsty Shibata · 2. Learn to program with VB by John Smiley
- Visual Basic 6 complete by steve Brown.

DSE1D (P): Lab- Visual Basic-Lab
Teaching Hours : 3 Hrs / Week(1 Credits)   **Marks:** Theory-40 Marks
Total Hours :30   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

1. Design the user interface which accepts the name and print it on the form
2. Design interface which changes the form back color to red when user click the command button
3. Design the user interface and write a VB program to validate username and password and display appropriate message using message box control.
4. Design the user interface and write a VB program to perform arithmetic calculation.
5. Design the user interface and write a VB program to calculate student result.
6. Design the user interface and write a VB program to change font size, font style and font of a text string using combo boxes.
7. Design the user interface and write a VB program to simulate the traffic signal.
8. Design the user interface and write a VB program to convert a number to wordings
9. Design the user interface to transfer items from one list box to another
10. Design the user interface and write a VB program to design a calculator using design array.
11. Design the user interface and write a VB program to move an image using timer and command button control.
12. Design the user interface and write a VB program to play music using window media player control.
13. Design the user interface and write a VB program to play the animation using animation control.
14. Design the user interface and write a VB program to design a screensaver.
15. Design the user interface and write a VB program to create MDI form.

DSE1E (T) Elective-III: HTML, JavaScript, Dreamweaver	
Teaching Hours : 4 Hrs / Week (3 Credits)	**Marks:** Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I   12 Hrs
Introduction to HTML: Introduction, Basic tags of HTML, Formatting of text: Bold, Italic, underline, strikethrough, superscript, subscript, color to the text. Paragraph formatting: Alignments, Working with images and its properties.

Unit -II   12 Hrs
Lists: ordered list: Number, Roman. Unordered list: Circle, Square. Tables: Table properties (TR, TD, TH, Cell padding, Cell spacing, width and height and BG color). Some special tags: break marquee, horizontal line etc.

Unit –III   12 Hrs
Frames: frameset, rows, cols. Forms: textbox, radio, checkbox, text area, combo, browse, submit command and reset command. Styles(Internal and inline styles). Creating Links to the different web pages in the website.

Unit -IV   12 Hrs
Client Side Scripting: Introduction to java script, creating simple java scripts: arithmetic operations, conditional control statements).Using java scripts for forms, using java scripts with style sheets, Scripting bases client side image map.

Unit -V   12 Hrs
Dreamweaver: Introduction, Objectives, Using Dreamweaver, creating tables, Create a site Home Page, Design page in Layout view, Insert images, Insert text, Work in Standard view, View the site files, Link your Documents.

Text Books:
- Leon and M.Leon, Fundamentals of Information Techonology, Leon Vikas Publishing
- A leon and M Leon Internet for Every one Vikas Publishing

Reference Books:
- Sanjay Saxena A First course in Computers Vikas Publishing
- A Leon and M. Leon , Fundamentals of Information Technology , Leon Vikas Publishing (1999)
- Curtin, Foley and Morin Information technology , Tata McGraw Hill (1999) Williams , Sawyer , Information Technology,5th Edition , Tata McGraw Hill (2003)

DSE1E (P)Elective-III: HTML, Java Script and Dreamweaver Lab
Teaching Hours : 3 Hrs / Week(1 Credits)   Marks: Theory-40 Marks
Total Hours :30   I.A   -10 Marks

Students shall do 15 practical assignments including the following,

1. Write html code to develop a web page having background in red and title as my first web page
2. Create an html document of five line paragraph and use font formatting tags and paragraph tags
3. Create a Bio-data using table tag from HTML.
4. Create a Time table by using the table tag from HTML
5. Create an html document to insert an image in three alignments.
6. Create an Html document to hyperlink it to the next document.
7. Create a web page, showing an ordered list of names of 5 of your friends.
8. Html page to display the use of marquee tag
9. Create a form to enter name, address, email-id, gender, languages known and city and also include submit and reset button.
10. Create an html documents which divides window into 3 parts using frame.
11. Create an html document using inline style sheet tag
12. Create java script to enter your college name.
13. Create dialogue box with "Welcome to my Website" message.
14. Create html document to add two numbers using java script.
15. Create a java script using date object to display date
16. Write a code to create a scrolling text in a textbox.
17. Program to design web page using basic tools of Dreamweaver.
18. Create an html document using an image map using Dreamweaver.
19. Program to create web link using Dreamweaver tool.
20. Design a time table using Dreamweaver tools.

DSE1F (T) Elective-IV: Introduction to PHP	
Teaching Hours : 4 Hrs / Week (3 Credits)	**Marks:** Theory-80 Marks
Total Hours :60	I.A -20 Marks

Unit –I   12 Hrs
Introducing PHP: Basic development Concepts –Creating first PHP Scripts –Using Variable and Operators –Storing Data in variable –Understanding Data types –Setting and Checking variables–Data types –Using Constants –Manipulating Variables with Operators.

Unit -II   12 Hrs
Controlling Program Flow: Writing Simple Conditional Statements -Writing More Complex Conditional Statements –Repeating Action with Loops –Working with String and Numeric Functions.

Unit -III   12 Hrs
Working with Arrays: Storing Data in Arrays –Processing Arrays with Loops and Iterations – Using Arrays with Forms -Working with Array Functions –Working with Dates and Times.

Unit –IV   12 Hrs
Using Functions and Classes: Creating User-Defined Functions -Creating Classes –Using Advanced OOP Concepts. Working with Files and Directories: Reading Files-Writing Files-Processing Directories.

Unit -V   12 Hrs
Working with Database and SQL: Introducing Database and SQL-Using MySQL-Adding and modifying Data-Handling Errors –Using SQLite Extension and PDO Extension. Introduction XML— Simple XML and DOM Extension.

Reference Books:

- PHP A Beginner's Guide, VIKRAM VASWANI,Tata McGraw-Hill, 2008.
- The PHP Complete Reference, Steven Holzner –Tata McGraw-HillEdition,2010
- Spring into PHP5, Steven Holzer, Tata McCraw HillEdition,2005

DSE1F (P) Elective-IV: PHP-Lab
Teaching Hours : 3 Hrs / Week(1 Credits) **Marks:** Theory-40 Marks
Total Hours :30 I.A -10 Marks

Students shall do 15 practical assignments including the following,

1) Develop a PHP program to display prime numbers between the given range and display the total number of prime numbers.
2) Develop a PHP program and check message passing mechanism between pages.
3) Write a PHP program to implement simple calculator operations.
4) Develop a PHP program to demonstrate String functions. (any 6).
5) Write a PHP program to illustrate built in Array manipulation functions.(any 6)
6) Write a PHP program that displays a different message based on time of day. For example page should display "Good Morning" if it is accessed in the morning.
7) Write a PHP program that accepts two numbers using a web form and calculates greatest common divisor (GCD) and least common multiple (LCM) of entered numbers.(Use recursive function)
8) Develop a PHP program to demonstrate inheritance.
9) Develop a PHP program to demonstrate constructors and destructors.
10) Write a PHP program that writes contents of one file to another.
11) Develop a PHP code to read the values entered into the form and test them against the values in the Mysql database. Perform necessary exception handling.
12) Write a PHP program to sort the student records which are stored in the database using selection sort.
13) Develop a PHP program to design a college admission form using MYSQL database.
14) Develop a PHP program using session.
15) Develop a PHP program using cookie and session.

SEC-IV: Internet and Cyber Crime

SEC-IV: Internet and Cyber Crime

Teaching Hours : 3 Hrs / Week(2 Credits)   **Marks:** Theory-40 Marks

Total Hours : 30   I.A   -10 Marks

Unit –I   **6Hrs**

Computer Networks: Definition, Overview of Computer Networks: Classification, communication processors, communications media, telecommunication software, Types of network, Topologies.

Unit -II   **6Hrs**

Internet: Introduction, Internet access, Internet basics, Internet protocols, Services on Internet, Internet Tools, IP addressing, Internet chat, Applications.

Unit -III   **6Hrs**

E-mail: E-Mail Concepts, Mailing Basics, , E-mail ethics, ,Internet code of conduct, advantages & disadvantages of e mail services Web Browsers, Search Engines, Categories of Search Engines,

Unit -IV   **6Hrs**

Computer Ethics, Crime and Security: Introduction, Computer Ethics: Intellectual Property Rights, Copyright, Software,Piracy,**Computer Crime:** Hacking/Cracking, Computer Security, Virus.

Unit -V   **6Hrs**

Concept of Cyber Crimes: 'Cyber Contraventions' & 'Cyber Offences' "Study of Some Specific Kinds of Cyber Crimes"- Unauthorized Access' & 'Accessing the Protected System- meaning with reference to an idea of Cyber Hacking; the legal issues involved.

Reference Books:

- A Leon and M. Leon – Internet for every one LeoVikas Publishing
- Rajkamal, Internet and web technologies by Tata McGraw Hill
- Pavanduggal – cybercrime and jurisdiction in India
- Rohasnagpal "cyber terrorism in the context of globalization", the it and law initiative (symbiosis publication)

Theory and Practical Evaluation Scheme

Theory Examination:

Max. Marks: 80

Duration - 3 Hours.

Theory question paper pattern:-

Questions	Marks
SECTION A Q1. Answer any ten 10 sub questions (a-l) out of 12	2 x 10 =20
SECTION B Q2. through Q6: Answer any four questions out of 5	4 x 5=20
SECTION C Q7. through Q11: Answer any four questions out of 5	4 x 10=40

Note: For Section-B, one question from each unit shall be considered. For Section-C, one question from each unit shall be considered.

Practical Examination:

Max. Marks: 40 Marks

Duration - 3 Hours.

Certified Journal is compulsory for appearing Practical Examination

Students shall be given two programming assignments taking into consideration of duration of the time allotted to students for writing, typing and executing the programs.

Algorithm/program design   : 15

Execution   : 15 (includes program code correctness and correct execution results)

Journal   : 05

Viva-Voce   : 05

Practical I.A: Based on two practical tests 10 I.A. marks of Practical shall be awarded.

Note: Guidelines given by the University from time-to-time shall be followed for IA.

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