SRI VENKATESWARA UNIVERSITY : TIRUPATI

PROGRAMME: THREE-YEAR DEGREE
B Com (Computer Applications)
Domain _____ **Subject: Commerce**

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 Admitted Batch)

I Year B Com (CA), Semester-   **I**

Discipline: COMPUTER APPLICATIONS
Course 1C:Information Technology

Model Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. *Remembers and states in a systematic way (Knowledge)*
   1. Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components
   2. understand the difference between an operating system and an application program, and what each is used for in a computer
   3. Use technology ethically, safely, securely, and legally
   4. Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems

B. *Explains (Understanding)*
   5. Apply standard statistical inference procedures to draw conclusions from data
   6. Retrieve information and create reports from databases
   7. Interpret, produce, and present work-related documents and information effectively and accurately

C. *Critically examines, using data and figures (Analysis and Evaluation**)*
   8. Analyse compression techniques and file formats to determine effective ways of securing, managing, and transferring data

9. Identify and analyse user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing based systems.
10.   Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
11.   Identify and analyse computer hardware, software

D.   Working in 'Outside Syllabus *Area' under a Co-curricular Activity* (Creativity) Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

E. Efficiently learn and use Microsoft Office applications.

Syllabus:

Course 1C :Information Technology

(Five units with each unit having 12 hours of class work)

Unit	Details

I Introduction:

Computer Definition - Characteristics and Limitations of Computer Hardware - Generations of Computer, Classification of Computers, Applications of Computer, Basic Components of PC, Computer Architecture - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types

II MS word:

Word Processing – Features-Advantages and Applications- Parts of Word Window-Toolbar-Creating, Saving, Closing, Opening and Editing of a Document-Moving and Coping a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct- Spelling and Grammar- Mail Merge- Macros

III MS Excel:

Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas-Types of Function-Templates – Macros – Sorting- Charts – Filtering – Consolidation – Grouping- Pivot Table

IV MS Power point:

Introduction – Starting – Parts-Creating of Tables- Create Presentation – Templates-Auto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts

V   MS Access:

Orientation to Microsoft Access - Create a Simple Access Database -
Working with Table Data - Modify Table Data - Sort and Filter Records
- Querying a Database - Create Basic Queries - Sort and Filter Data in
a Query - Perform Calculations in a Query - Create Basic Access Forms
- Work with Data on Access Forms - Create a Report - Add Controls to
a Report - Format Reports

Learning Resources (Course 1C:Information Technology)

References:

(1) P.Mohan computer fundamentals- HimalayaPublications.

(2) R.K.Sharma and Shashi K Gupta, Computer Fundamentals   -
Kalyani Publications

(3) Fundamentals of Computers ByBalagurusamy, Mcgraw Hill

(4) Computer Fundamentals Anita Goel Pearson India

(5) Introduction to Computers Peter Norton

(6) Fundamentals of Computers Rajaraman V Adabala N

(7) Office 2010 All-in-One For Dummies Peter Weverka

(8) MS-Office S.S. Shrivastava

(9) MS-OFFICE 2010 Training Guide Prof. Satish Jain, M. Geetha,
KratikaBPB Publications

Online Resources:

https://support.office.com/en-us/office-training-center
https://www.skillshare.com/browse/microsoft-office
https://www.tutorialspoint.com/computer_fundamentals/index.htm
https://www.javatpoint.com/computer-fundamentalstutorial
https://edu.gcfglobal.org/en/subjects/office/
https://www.microsoft.com/en-us/learning/training.aspx

Practical Component: @ 2 hours/week/batch

- ➤ MS word creation of documents letters invitations etc, tables, mailmerge, animations in word, formatting text
- ➤ MS Excel performing different formulas, creating charts,macros
- ➤ MS power point slide creation, creation of animation
- ➤ MS Access creation of database, forms and reports

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity)
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

SRI VENKATESWARA UNIVERSITY

B.Com. COMPUTER APPLICATIONS

FIRST YEAR - SECOND SEMESTER

(Under CBCS W.E.F. 2020-21)

<u>**Course – 2: E- Commerce & Web Designing**</u>

(Five units with each unit having 12 hours of class work)

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. *Remembers and states in a systematic way (Knowledge)*

1. Understand the foundations and importance of E-commerce
2. Define Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational
3. Describe the infrastructure for E-commerce
4. Discuss legal issues and privacy in E-Commerce
5. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture

B. *Explains (Understanding)*

6. Recognize and discuss global E-commerce issues
7. Learn the language of the web: HTML and CSS.

C. *Critically examines, using data and figures (Analysis and Evaluation)*

8. Analyze the impact of E-commerce on business models and strategy
9. Assess electronic payment systems
10. Exploring a web development framework as an implementation example and create dynamically generated web site complete with user accounts, page level security, modular design using css

D. Working in 'Outside Syllabus *Area' under a Co-curricular Activity*(Creativity)

Use the Systems Design Approach to implement websites with the following steps:

- Define purpose of the site and subsections
- Identify the audience

- Design and/or collect site content
- Design the website theme and navigational structure
- Design & develop web pages including: CSS Style Rules, Typography, Hyperlinks, Lists, Tables, Frames, Forms, Images, Behaviours, CSS Layouts

E. Build a site based on the design decisions and progressively incorporate tools and techniques covered.

SRI VENKATESWARA UNIVERSITY

B.Com. COMPUTER APPLICATIONS

FIRST YEAR - SECOND SEMESTER

(Under CBCS W.E.F. 2020-21)

<u>**Course – 2: E- Commerce & Web Designing**</u>

SYLLABUS

Unit	

I	**Unit I: Introduction:** Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce. **Technology used in E-commerce:** The dynamics of World Wide Web and Internet (Meaning, EvolutionAnd Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website)
II	**Unit-II: E-payment System:** Models and methods of e–payments (Debit Card, Credit Card, Smart Cards, e-money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.
III	**Unit-III: On-line Business Transactions:** Meaning, Purpose, Advantages and Disadvantages of Transacting Online, E-Commerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services (Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.)
IV	**Unit-IV: Website designing** Designing a home page, HTML document, Anchor tag Hyperlinks, Head and body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling. Frames: Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements. DHTML and Style Sheets: Defining Styles, elements of Styles, linking a style sheet to a HTML Document, Inline Styles, External Style Sheets, Internal Style Sheets & Multiple Style Sheets.

V   **Unit V: Security and Encryption:**
Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber-Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients)

Learning Resources (E-commerce & Web Designing)

References:

(1) E-commerce and E-business   Himalaya publishers
(2) E-Commerce by Kenneth C Laudon, PEARSON INDIA
(3) Web Design: Introductory with MindTap Jennifer T Campbell, Cengage India
(4) HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill
(5) Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson
(6) HTML & CSS: COMPLETE REFERENCE POWELL,THOMAS, McGrawHill

Online Resources:

http://www.kartrocket.com
http://www.e-commerceceo.com
http://www.fastspring.com
https://teamtreehouse.com/tracks/web-design

Practical Component:@ 2 hours/week/batch

1. Creation of simple web page using formatting tags
2. Creation of lists and tables with attributes
3. Creation ofhyperlinks and including images
4. Creation of forms
5. Creation of framesets
6. Cascading style sheets – inline, internal and external

RECOMMENDED CO-CURRICULAR ACTIVITIES:
(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

MEASURABLE
1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity)
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)

5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

GENERAL
    Group Discussion
    Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:
Some of the following suggested assessment methodologies could be adopted;
1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

SRI VENKATESWARA UNIVERSITY
B.A. / B.Sc COMPUTER APPLICATIONS
III SEMESTER
(Under CBCS W.E.F. 2021-22)

PROGRAMMING WITH C & C++

(Five units with each unit having 12 hours of class work)

Model Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

    A. Remembers and states in a systematic way (Knowledge)

1. Develop programming skills
2. Declaration of variables and constants use of operators and expressions
3. learn the syntax and semantics of programming language
4. Be familiar with programming environment of C and C++
5. Ability to work with textual information (characters and strings) & arrays

    B. Explains (Understanding)

6. Understanding a functional hierarchical code organization
7. Understanding a concept of object thinking within the framework of functional model
8. Write program on a computer, edit, compile, debug, correct, recompile and run it

    C. Critically examines, using data and figures (Analysis and Evaluation)

9. Choose the right data representation formats based on the requirements of the problem
10. Analyze how C++ improves C with object-oriented features
11. Evaluate comparisons and limitations of the various programming constructs and choose correct one for the task in hand.

D. Working in 'Outside Syllabus *Area' under a Co-curricular Activity*
    (Creativity)

    Planning of structure and content, writing, updating and modifying
    computer programs for user solutions

E. Exploring C programming and Design C++ classes for code reuse
    (Practical skills***)

PROGRAMMING WITH C & C++

SYLLABUS

Unit	

I **Introduction and Control Structures:**

History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements

II **Loops And Arrays:**

Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays

III **Strings and Functions:**

Declaration and Initialization of String Variables - String Handling Functions - Defining Functions - Function Call - Call By Value, Call By Reference – Recursion

IV **Classes and Objects**

Introduction to OOP and its basic features - C++ program structure - Classes and objects - Friend Functions- Static Functions –Constructor – Types of constructors – Destructors - Unary Operators

V **Inheritance:**

Inheritance - Types of Inheritance -Types of derivation- Public – Private - Protected Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance - Hybrid Inheritance

Learning Resources (Course 3C: : Programming with C & C++)

References:

(1) E. Balagurusamy "Object oriented programming with C++

(2) R.Ravichandran "Programming with C++"

(3) **Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill**

(4) Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden

(5) Let Us C YashavantKanetkar

(6) The C++ Programming Language Bjarne Stroustrup

(7) C++ Primer Stanley B. Lippman, Josée Lajoie, Barbara E. Moo

Online Resources:

https://www.tutorialspoint.com/cprogramming/index.html

https://www.learn-c.org/

https://www.programiz.com/c-programming

https://www.w3schools.in/c-tutorial/

https://www.cprogramming.com/tutorial/c-tutorial.html

https://www.tutorialspoint.com/cplusplus/index.html

https://www.programiz.com/cpp-programminghttp://www.cplusplus.com/doc/tutorial/

https://www.learn-cpp.org/

https://www.javatpoint.com/cpp-tutorial

Practical Component: @ 2 hours/week/batch

1. Write C programs for
   a. Fibonacci Series
   b. Prime number
   c. Palindrome number
   d. Armstrong number.
2. 'C' program for multiplication of two matrices

3. 'C' program to implement string functions
4. 'C' program to swap numbers
5. 'C' program to calculate factorial using recursion
6. 'C++' program to perform addition of two complex numbers using constructor
7. Write a program to find the largest of two given numbers in two different classes using friend function
8. Program to add two matrices using dynamic contructor
9. Implement a class string containing the following functions:
   a. Overload + operator to carry out the concatenation of strings.
   b. Overload == operator to carry out the comparison of strings.
10. Program to implement inheritance.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

MEASURABLE

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity)
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

    Group Discussion

    Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),

2. Closed-book and open-book tests,

3. Coding exercises,

4. Practical assignments and laboratory reports,

5. Observation of practical skills,

6. Individual and group project reports,

7. Efficient delivery using seminar presentations,

8. Viva voce interviews.

9. Computerized adaptive testing, literature surveys and evaluations,

10. Peers and self-assessment, outputs form individual and collaborative work

SRI VENKATESWARA UNIVERSITY
CBCS – UG SYLLABUS
(w.e.f. 2021-22)
BA/ B.Sc/B.Com (COMPUTER APPLICATIONS)

IV Semester

Course 4E: Object Oriented Programming with Java

Learning Outcomes:

At the end of the course, the student will able to;

SYLLABUS:

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming
Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Parts of Java program, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System. out.println (), Command Line Arguments.

Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, For loop, Switch Statement, break Statement, continue Statement
Arrays: Types of Arrays, array name, length,
Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors
Inheritance: Inheritance, Types of Inheritance
Polymorphism: Method overloading, Operator overloading
Abstract Classes: Abstract Method and Abstract Class

Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package
Streams: Stream classes, Creating a File using File Output Stream, Reading Data from a File using File Input Stream, Creating a File using File Writer, Reading a File using File Reader

Unit V: Exception Handling: Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions
Threads: Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

References:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
3. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGrawHill Company

Online Resources:

https://stackify.com/java-tutorials/
https://www.w3schools.com/java/
https://www.javatpoint.com/java-tutorial
https://www.tutorialspoint.com/java/index.html

Practical Component:@ 2 hours/week/batch

1. Write a program to implement command line arguments.
2. Write a program to read Student Name, Reg.No, Marks and calculate Total, Percentage,and Result. Display all the details of students .
3. Write a program to perform String Operations.
4. Java program to implement Addition of two N X N matrices.
5. Java program to implement bubble sort.
6. Java program to demonstrate the use of Constructor.
7. Calculate area of the following shapes using method overloading.
   a.Rectangle b. Circle c. Square
8. Implement multilevel inheritance
9. Java program for to display Serial Number from 1 to 5 by creating two Threads
10. Java program to demonstrate the following exception handlings
    a. Divided by Zero b. Array Index Out of Bound c. Arithmetic Exception

SRI VENKATESWARA UNIVERSITY
B.Sc/B.Com/BA (COMPUTER APPLICATIONS)
(w.e.f. 2021-22)
IV Semester

Course 4F:Database Management System
(Five units with each unit having 12 hours of class work)

Model Outcomes for Database Management System

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

 B. *Remembers and states in a systematic way (Knowledge)*

1. Understand the role of a database management system in an organization.
2. Understand basic database concepts, including the structure and operation of the relational data model.
3. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization
4. Understand Functional Dependency and Functional Decomposition

 C. *Explains (Understanding)*

5. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
6. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages

 D. *Critically examines, using data and figures (Analysis and Evaluation)*

7. Apply various Normalization techniques
8. Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model

 D. Working in 'Outside Syllabus *Area' under a Co-curricular Activity*(Creativity)
   Design and implement a small database project

   E. Construct simple and moderately advanced database queries using Structured Query Language (SQL)(Practical skills)

Course 4F: Database Management System

SYLLABUS

Unit	Details
I	**Overview of Database Management System**
	Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.
II	**File-Based System**
	File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.
III	**Entity-Relationship Model:**
	Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.
IV	**Structured Query Language**
	Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.
V	**PL/SQL:**
	Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

Learning Resources (Course 4F: Database Management System)

References:

1. Paneerselvam:Database Management system,PHI.
2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
5. MARTIN,Database Management-Prentice Hall of India, New Delhi.
6. Bipin C.Desai ,`An Introduction to Database System`,Galgotia Publications
7. Korth, Database Management System.
8. Navathe, Database Management System.
9. S. Sumathi, S. Esakkirajan,Fundamentals of Relational Database Management System

Online resources:

http:// www.onlinegdb.com/
http:// www.tutorialspoint.com/
http://learnsql.com
https://www.codecademy.com/learn/learn-sql/
https://www.w3schools.com/sql/default.asp

Practical Component: @ 2 hours/week/batch

1. Create tables department and employee with required constraints.
2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command.
3. Basic column should not be null
4. Add constraint that basic should not be less than 5000.
5. Calculate hra, da, gross and net by using PL/SQL program.
6. The percentage of hra and da are to be stored separately.
7. When the da becomes more than 100%, a message has to be generated and with user permission da has to be merged with basic.
8. Empno should be unique and has to be generated automatically.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity)

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)

4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)

5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

SRI VENKATESWARA UNIVERSITY

B.Com. Computer Applications & B.Com Computer Applications with Business Analytics, BA Computer Applications & B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**6A: BIGDATA ANALYTICS USING R**
(Skill Enhancement Course (Elective), 5 credits)

I.   **Learning Outcomes**:

Upon successful completion of the course, a student will be able to:

1. Understand data and classification of digital data.
2. Understand Big Data Analytics.
3. Load data in to R.
4. Organize data in the form of R objects and manipulate them as needed.
5. Perform analytics using R programming.

II. **Syllabus:** (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

Unit – 1:   Introduction to Big data   (12 h)

Data, classification Of Digital Data--structured, unstructured, semi-structured data, characteristics of data, evaluation of big data, definition and challenges of big data , what is big data and why to use big data ?, business intelligence Vs big data.

Unit – 2: Big data Analytics   (10 h)

What is and isn't big data analytics? Why hype around big data analytics? Classification of analytics, top challenges facing big data, importance of big data analytics, technologies needed to meet challenges of big data.

Unit – 3: Introduction to R and getting started with R   (13h)

What is R? Why R? , advantages of R over other programming languages, Data types inR-logical, numeric, integer, character, double, complex, raw, ls() command, expressions, variables and functions, control structures, Array, Matrix, Vectors

Unit – 4: Exploring data in R   (13h)

Data frames-data frame access, ordering data frames, R functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit() .Load data frames—readingfrom .CSV files, reading from tab separated value files, reading from tables.

Unit – 5: Data Visualization using R   (12h)

Reading and getting data into R (External Data): XML files, Web Data, JSON files, Databases, Excel files.

Working with R Charts and Graphs: Histograms, Bar Charts, Line Graphs, Scatter plots, Pie Charts

BOOKS

1. Seema Acharya , Subhashini Chellappan --- Big Data And Analytics secondedition, Wiley
2. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
3. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Rajkamal, Preeti Saxena, McGraw Hill, 2018.
4. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends forToday's Business, Michael Minelli, Michelle Chambers, and Ambiga Dhiraj, John Wiley &Sons, 2013

Reference Books:

1. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A.   Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups a steams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B.   General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports.
5. Observation of practical skills,
6. Individual and group project reports like ‒Creating Text Editor in C‖.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

Course-6A: **Big Data Analytics Using R ----Lab (Practical) Syllabus (15 Hrs.)**

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Create a vector in R and perform operations on it.
2. Create integer, complex, logical, character data type objects in R and print their values and their class using print and class functions.
3. Write code in R to demonstrate sum(), min(), max() and seq() functions.
4. Write code in R to manipulate text in R using grep(), toupper(), tolower() and substr() functions.
5. Create data frame in R and perform operations on it.
6. Import data into R from text and excel files using read.table () and read.csv () functions.
7. Write code in R to find out whether number is prime or not.
8. Print numbers from 1 to 100 using while loop and for loop in R.
9. Write a program to import data from csv file and print the data on the console.
10. Write a program to demonstrate histogram in R.

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned Faculty members.*

SRI VENKATESWARA UNIVERSITY

**B.Com. Computer Applications & B.Com Computer Applications with Business Analytics,
BA Computer Applications & B.Sc. Computer Applications**
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**7A: DATA SCIENCE USING PYTHON**
(Skill Enhancement Course (Elective), 5 credits)

Learning Outcomes:
> Upon successful completion of the course, a student will be able to:
> 1. Understand basic concepts of data science
> 2. Understand why python is a useful scripting language for developers.
> 3. Use standard programming constructs like selection and repetition.
> 4. Use aggregated data (list, tuple, and dictionary).
> 5. Implement functions and modules.

II. Syllabus :(Total hours: 75 including Theory, Practical, Training, Unit tests etc.)
Unit – 1: Introduction to data science   **(12h)**
Data science and its importance, advantages of data science, the process of data science,
Responsibilities of a data scientist, qualifications of data scientists, would you be a good data
scientist, why to use python for data science.

Unit – 2: Introduction to python   **(14h**)
What is python , features of python, history of python, writing and executing the python
program, basic syntax, variables, keywords, data types ,operators ,indentation, Conditional
statements-if, if-else, nested if-else, looping statements-for, while, break, continue, pass

Unit – 3: Control structures and strings (10h)
Strings - definition, accessing, slicing and basic operations
Lists - introduction, accessing list, operations, functions and methods,
Tuples - introduction, accessing tuple
Dictionaries - introduction, accessing values in dictionaries

Unit – 4: Functions and modules   **(13h)**
Functions - defining a function, calling a function, types of functions, function arguments, local
and global variables, lambda and recursive functions, Modules- math and random

Unit-5: Classes & Objects   **(11h)**
Classes and Objects, Class method and self-argument, class variables and object variables, public
and private data members, private methods, built-in class attributes, static methods.

Reference Books:

1.   Steven cooper--- Data Science from Scratch, Kindle edition
2.   Reemathareja—Python Programming using problem solving approach, OxfordPublication

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

C.   Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups a steams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

D.   General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

11. The oral and written examinations (Scheduled and surprise tests),
12. Closed-book and open-book tests,
13. Problem-solving exercises,
14. Practical assignments and laboratory reports.
15. Observation of practical skills,
16. Individual and group project reports like ‒Creating Text Editor in C‖.
17. Efficient delivery using seminar presentations,
18. Viva voce interviews.
19. Computerized adaptive testing, literature surveys and evaluations,
20. Peers and self-assessment, outputs form individual and collaborative work

<p style="text-align: center;">Course-7A: **Data Science Using Python; Lab (Practical) Syllabus (15 Hrs.)**</p>

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Python Program to Find the Square Root
2. Python Program to Swap Two Variables
3. Python Program to Generate a Random Number
4. Python Program to Check if a Number is Odd or Even
5. Python Program to Find the Largest Among Three Numbers
6. Python Program to Check Prime Number
7. Python Program to Display the multiplication Table
8. Python Program to Print the Fibonacci sequence
9. Python Program to Find the Sum of Natural Numbers
10. Python Program to Find Factorial of Number Using Recursion
11. Python Program to work with string methods.
12. Python Program to create a dictionary and print its content.
13. Python Program to create class and objects.

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Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned Faculty members.*

SRI VENKATESWARA UNIVERSITY

B.Com. Computer Applications & B.Com Computer Applications with Business Analytics, BA Computer Applications &B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**6B: MOBILE APPLICATION DEVELOPMENT**
(Skill Enhancement Course (Elective), 5 credits)

Learning Outcomes:
Upon successful completion of the course, a student will be able to:
1. Identify basic terms ,tools and software related to android systems
2. Describe components of IDE, understand features of android development tools
3. Describe the layouts and controls
4. Explain the significance of displays using the given view
5. Explain the features of services and able to publish android Application
6. Developing interesting Android applications using MIT App Inventor

Unit-1:(Total hours: 75 including Theory, Practical, Training, Unit tests etc.)   **10 Hrs**
1.1 Introduction to Android ,open headset alliance, Android Ecosystem
1.2 Need of Android
1.3 Features of Android
1.4 Tools and software required for developing an Application

Unit-2:   **13Hrs**
2.1 operating system, java JDK, Android SDK
2.2 Android development tools
2.3 Android virtual devices
2.4 steps to install and configure Android studio and sdk

Unit-3:   **14Hrs**
3.1   control flow, directory structure
3.2   components of a screen
3.3   fundamental UI design
3.4   linear layout, absolute layout , table layout
3.5   text view
3.6 edit text
3.7 button, image button, radio button
3.8 radio group, check box, and progress bar
3.9 list view, grid view, image view, scroll view
3.10 time and date picker

Unit-4:   **10Hrs**
4.1 android platform services
4.2 Android system Architecture
4.3 Android Security model

Unit-5   **13Hrs.**

  5.1 Introduction of MIT App Inventor

  5.2 Application Coding

  5.3Programming Basics & Dialog

  5.4 Audio& Video

  5.5 File

Text Books:
  1. Erik Hellman, ‒Android Programming – Pushing the Limits‖, 1st Edition, Wiley India Pvt Ltd, 2014.
  2. App Inventor: create your own Android apps by Wolber, David (David Wayne)

Reference Books:
  1. Dawn Griffiths and David Griffiths, ‒Head First Android Development‖, 1st Edition, O'Reilly SPD Publishers, 2015.
  2. J F DiMarzio, ‒Beginning Android Programming with Android Studio‖, 4th Edition, Wiley India Pvt Ltd, 2016. ISBN-13: 978-8126565580
  3. Anubhav Pradhan, Anil V Deshpande, ― Composing Mobile Apps‖ using Android, Wiley 2014, ISBN: 978-81-265-4660-2
  4. Android Online Developers Guide
  5. http://developer.android.com/reference/ Udacity: Developing Android
  6. Apps- Fundamentals
  7. https://www.udacity.com/course/developing-android-appsfundamentals--ud853-nd
  8. http://www.appinventor.mit.edu/

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

  1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
  2. Student seminars (on topics of the syllabus and related aspects (individual activity))
  3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
  4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

General
  a. Group Discussion
  b. Try to solve MCQ's available online.
  c. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports.
5. Observation of practical skills,
6. Efficient delivery using seminar presentations,
7. Viva voce interviews.
8. Computerized adaptive testing, literature surveys and evaluations,
9. **Peers and self-assessment, outputs form individual and collaborative work**

Course-6B**: Mobile Application Development: Lab (Practical) Syllabus (15 Hrs.)**

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Outcomes:
1. Understand the android platform
2. Design and implementation of various mobile applications

Experiments:
1. Demonstrate mobile technologies and devices
2. Demonstrate Android platform and applications overview
3. Working with texts , shapes, buttons and lists
4. Develop a calculator application
5. Implement an application that creates a alarm clock

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

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SRI VENKATESWARA UNIVERSITY

B.Com. Computer Applications & B.Com Computer Applications with Business Analytics,
BA Computer Applications & B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**7B**: **CYBER SECURITY AND MALWARE ANALYSIS**
(Skill Enhancement Course (Elective), 5 credits)
COURSE OUTCOMES:
Upon successful completion of this course, students should have the knowledge and skills to

1. Understand the computer networks, networking tools and cyber security
2. Learn about NIST Cyber Security Framework
3. Understand the OWASP Vulnerabilities
4. Implement various Malware analysis tools
5. Understand about Information Technology act 2000

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT 1: Introduction to Networks & cyber security   **14hrs**

- Computer Network Basics
- Computer network types
- OSI Reference model
- TCP/IP Protocol suite
- Difference between OSI and TCP/IP
- What is cyber, cyber-crime and cyber-security
- All Layer wise attacks
- Networking devices: router, bridge, switch, server, firewall
- How to configure: router
- How to create LAN

UNIT 2: NIST Cyber security framework   **12hrs**

- Introduction to the components of the framework
- Cyber security Framework Tiers
- What is NIST Cyber security framework
- Features of NIST Cyber security framework
- Functions of NIST Cyber security framework
- Turn the NIST Cyber security Framework into Reality/ implementing the framework

UNIT 3: OWASP   **12hrs**

- What is OWASP?
- OWASP Top 10 Vulnerabilities
    - ❖ Injection
    - ❖ Broken Authentication
    - ❖ Sensitive Data Exposure
    - ❖ XML External Entities (XXE)
    - ❖ Broken Access Control
    - ❖ Security Misconfiguration
    - ❖ Cross-Site Scripting (XSS)
    - ❖ Insecure Deserialization
    - ❖ Using Components with Known Vulnerabilities
    - ❖ Insufficient Logging and Monitoring
- Web application firewall

UNIT 4: MALWARE ANALYSIS   **12hrs**

- What is malware
- Types of malware
    - ❖ Key loggers
    - ❖ Trojans
    - ❖ Ran some ware
    - ❖ Rootkits
- Antivirus
- Firewalls
- Malware analysis
    - ❖ VM ware
    - ❖ How to use sandbox
    - ❖ Process explorer
    - ❖ Process monitor

UNIT 5: CYBER SECURITY: Legal Perspectives   **10hrs**

- Cybercrime and the legal landscape around the world
- Indian IT ACT 2000 --Cybercrime and Punishments
- Challenges to Indian law and cybercrime scenario in India

Textbooks:

1. Computer Networks | Fifth Edition | By Pearson (6th Edition)|Tanenbaum, Feamster & Wetherill
2. Computer Networking | A Top-Down Approach | Sixth Edition | By Pearson | Kurose James F. Ross Keith W.
3. Cyber Security by Sunit Belapure, Nina Godbole|Wiley Publications
4. TCP/IP Protocol Suite |Mcgraw-hill| Forouzan|Fourth Edition

Website References:

- https://csrc.nist.gov/Projects/cybersecurity-framework/nist-cybersecurity-framework-a-quick-start-guide
- https://owasp.org/www-project-top-ten/
- https://owasp.org/www-project-juice-shop/

Co-Curricular Activities:
(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable
1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General
1. Group Discussion
2. Try to solve MCQ's available online.

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:
Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Practical assignments and laboratory reports,
4. Observation of practical skills,
5. Individual and group project reports.
6. Efficient delivery using seminar presentations,
7. Viva-Voce interviews.
8. Computerized adaptive testing, literature surveys and evaluations,
9. Peers and self-assessment, outputs form individual and collaborative work

Course-7B: Cyber Security and Malware Analysis; Lab (Practical) Syllabus (15 Hrs.)
(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Experiments:
1. Configure a LAN by using a switch
2. Configure a LAN by using Router
3. Perform the packet sniffing mechanism by download the ‒wire shark‖ tool and extract the packets
4. Perform an SQL Injection attack and its preventive measure to avoid Injection attack

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

SRI VENKATESWARA UNIVERSITY

B.Com. Computer Applications & B.Com Computer Applications with Business Analytics, BA Computer Applications &B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**6C**: **E– COMMERCE APPLICATION DEVELOPMENT**
(Skill Enhancement Course (Elective), 5 credits)

Learning Outcomes:
  Upon successful completion of the course, a student will be able to:
1. To apply in an integrative and summative fashion the students' knowledge in all fields of business studies by drafting a website presence plan.
2. To understand the factors needed in order to be a successful in ecommerce
3. To gain the skills to bring together knowledge gathered about the different components of building a web presence
4. To critically think about problems and issues that might pop up during the establishment of the web presence
5. To apply Word Press as a content management system (CMS), Plan their website by choosing colour schemes, fonts, layouts, and more

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

Unit-1: (10h)
  1.1 Introduction to E– commerce:
  1.2 Meaning and concept – E– commerce
  1.3 E– commerce v/s Traditional Commerce
  1.4 E– Business & E– Commerce – History of E– Commerce
  1.5 EDI – Importance, features & benefits of E– Commerce
  1.6 Impacts, Challenges & Limitations of E– Commerce

Unit-2: (12h)
  2.1 Business models of E – Commerce: Business to Business
  2.1.2 Business to customers
  2.1.3Customers to Customers
  2.1.4 Business to Government
  2.1.5 Business to Employee
  2.2 Influencing factors of successful E– Commerce
  2.3 Architectural framework of Electronic Commerce

Unit-3: (12h)
  3.1 Electronic data Interchange
  3.2 EDI Technology
  3.3 EDl- Communications

3.4 EDI Agreements

3.5 E– Commerce payment system.

3.6 Digital Economy

Unit -4:   **(13h)**

4.1 Java Script- Introduction, Control Structures

4.2 PHP- Introduction, Control Structures

4.3 The elements of e-commerce: Internet e-commerce security

4.4 A web site Evaluation Model

Unit-5:   **(13h)**

5.1 Logging in to Your Word press Site

5.2 word press dash board

5.3 creating your first post

5.4 adding photos and images

5.5 creating hyper link

5.6 adding categories and tags

Textbooks:

1. Turban, Rainer, and Potter, Introduction to E-Commerce, second edition, 2003
2. H. M. Deitel, P. J. Deitel and T. R. Nieto, E-Business and E-Commerce: How to Programe, Prentice hall, 2001
3. WordPress All-in-One For Dummies -written by Lisa Sabin Wilson with contributions by Michael Torbert, Andrea Rennick, Cory Miller, and Kevin Palmer

Reference Books:
1. Elias. M. Awad, ‒Electronic Commerce", Prentice-Hall of India Pvt Ltd.
2. Ravi Kalakota, Andrew B. Whinston, "Electronic Commerce-A Manager's guide", Addison-Wesley
3. https://w3cschools.com
4. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.

RECOMMENDED CO-CURRICULAR ACTIVITIES: (Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

B. General

1. Group Discussion

2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Efficient delivery using seminar presentations,
4. Computerized adaptive testing, literature surveys and evaluations,
5. Peers and self-assessment, outputs form individual and collaborative work

Course-6C: E– Commerce Application Development; Lab (Practical) Syllabus (15 Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Case study of e –commerce

1. Home page design of web site
2. Validation using PHP
3. Implement Catalogue design
4. Implement Access control mechanism(eg: username and password)
5. Case study on business model of online E-Commerce store

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

SRI VENKATESWARA UNIVERSITY

B.Com. Computer Applications & B.Com Computer Applications with Business Analytics,
BA Computer Applications & B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course-**7C: REAL TIME GOVERNANCE SYSTEM (RTGS)**
(Skill Enhancement Course (Elective), 5 credits)

COURSE OUTCOMES:
Upon successful completion of this course, students will have the knowledge and skills to

1. Understand the terms regarding Governance, E-Governance and RTGS
2. Learn about E-Governance Infrastructure
3. Understand the E-Governance implementation in several countries
4. Understand the E-Governance implementation in several Indian states
5. Understand the applications of RTG

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT 1: Introduction to E-Governance   12hrs

- Government, Governance and Good Governance
- What is E-Governance or Electronic Governance?
- E-Government and E-Governance: A conceptual Analysis
    - ❖ Objectives
    - ❖ Components
    - ❖ application domains
    - ❖ four phase model
    - ❖ implementing E-Governance
    - ❖ issues while implementing E-Governance
    - ❖ Opportunities and challenges
- Types of E-Governance
- What is Real-Time Governance (RTG)
- Real Time Governance Society (RTGS)

UNIT 2: E-Governance Infrastructure   14hrs

- Data Systems infrastructure
    - ❖ Executive Information Systems
    - ❖ Management Information Systems
    - ❖ Knowledge Management Systems

- ❖ Transaction Processing Systems
- Legal Infrastructural preparedness
  - ❖ IT Act 2000
  - ❖ Challenges to Indian law and cybercrime scenario in India
  - ❖ Amendments of the Indian IT Act
- Institutional Infrastructural preparedness
  - ❖ Internet
  - ❖ intranet
  - ❖ extranet
- Human Infrastructural preparedness
  - ❖ Top-level management
  - ❖ Middle-level management
  - ❖ Low-level management
- Technological Infrastructural preparedness
  - ❖ Information and communications technology
  - ❖ Data Warehousing
  - ❖ Cloud Computing

UNIT 3: E-Governance: Country Experience   12hrs

- INDIA
- US
- UK
- AUSTRALIA
- DUBAI

UNIT 4: E-Governance in India   12hrs

- Andhra Pradesh
- Karnataka
- Kerala
- Uttar Pradesh
- Madhya Pradesh
- West Bengal
- Gujarat

UNIT 5: Latest Applications in Real Time Governance   10hrs

- Agriculture
- Rural Development
- Health care
- Education
- Tourism
- Commerce and Trade

Textbooks:

1. E-Governance: concepts and case studies| CSR Prabhu| Prentice-Hall|
2. E-Governance| Niranjanpani, Sanhari Mishra | Himalaya Publishing House

Website References:

1. http://www.egov4dev.org/success/case/
2. https://vikaspedia.in/e-governance/resources-for-vles
3. https://altametrics.com/en/information-systems/information-system-types.html
4. https://core.ap.gov.in/CMDashBoard/Index.aspx

Co-Curricular Activities:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General

1. Group Discussion
2. Try to solve MCQ's available online.

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

10. The oral and written examinations (Scheduled and surprise tests),
11. Closed-book and open-book tests,
12. Practical assignments and laboratory reports,
13. Observation of practical skills,
14. Individual and group project reports.
15. Efficient delivery using seminar presentations,
16. Viva-Voce interviews.
17. Computerized adaptive testing, literature surveys and evaluations,
18. Peers and self-assessment, outputs form individual and collaborative work

Course-7C: Real Time Governance System (RTGS); Lab (Practical) Syllabus (15 Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Note: Here the students have to gather the details in computer lab by surfing several websites & Google Search Engines and submit the report to the class/lab instructor before leaving the lab.

Week 1: Write a Report on the role of Nationwide Networking in E-Governance

Week 2: Write a Report on SETU: A Citizen Facilitation Centre in India, regarding it's successful or failure journey.

Week 3: Write a Report on National Cyber Security Policy, how it is useful to Indian citizens.

Week 4: Write a Report on mee-seva/Village Secretariat/Ward secretariat, a new paradigm in citizen services.

Week 5: Write a Report on how Andhra Pradesh is implementing RTGS in Agriculture.

Week 6: Write a Report on how Andhra Pradesh is implementing RTGS in social welfare schemes

Week 7: Write a Report on how Andhra Pradesh is implementing RTGS in waste lands, agricultural lands and house properties.

Week 8: Write a Report on Electronic Birth Registration in any one state of our country.

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

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SRI VENKATESWARA UNIVERSITY
B.Com. Computer Applications & B.Com Computer Applications with Business Analytics, BA Computer Applications &B.Sc. Computer Applications
III Year – V Semester (Under CBCS W.E.F. 2020-21)
Course**-6D: MULTIMEDIA TOOLS AND APPLICATIONS**
(Skill Enhancement Course (Elective), 5 credits)

Learning Outcomes:
Upon successful completion of the course, a student will be able to:

1. Gain knowledge on the concepts related to Multimedia.
2. Understand the concepts like image data representation and colour modes.
3. Understand the different types of video signals and digital audio.
4. Know about multimedia data compression types and audio compression standards
5. Know about basic video compression techniques.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)
Unit-1: Introduction to multimedia: **12Hr**
1. What is Multimedia?
2. Components of Multimedia System
3. Multimedia and Hypermedia
4. Multimedia Authoring metaphors
5. Multimedia Production
6. Multimedia Presentation
7. Automatic Authoring

Unit-2: Image Data Representations and color models: **12Hr**
1. Color science Human vision Image data types:
2. 2.Black & white images
    2.1 1-bit images (Binary image)
    2.2 8 -bit (Gray -level images)
3. Color images
    3.1 24-bit color images
    3.2 8-bit color images
4. Color models

Unit-3: Fundamental concepts in video: **12Hr**
1. Types of Video Signals
    1.1 Analog Video
    1.2 Digital Video

Basics of Digital Audio:
2. What is Sound?
   2.1 Digitization of Sound
  2.2 Quantization and Transmission of Audio
  2.2.1 Pulse code modulation
  2.2.2 Differential coding of audio
  2.2.3 Predictive coding

Unit-4:

Multimedia Data Compression: 13Hr
   1. Introduction
   1.1 Basics of Information Theory
   1.2 Lossless Compression Algorithms
     1.2.1 Fix-Length Coding
     1.2.2 Run- length coding
1.2.4 Dictionary- based coding
   1.3. Variable Length Coding
    1.3.1 Huffman Coding Algorithm

Audio Compression standards:
   2. Introduction
    2.1 Psychoacoustics model
   2.2 MPEG Audio

Unit-5: Basic Video Compression Techniques: 11Hr
   1. Introduction to Video compression
   2. Video compression standard H.261
   3. Video compression standard MPEG-1

Text Books:
Fundamentals of Multimedia by Ze-Nian Li & Mark S. Drew. Publisher: Prentice Hall
Reference Books:
1. An introduction to digital multimedia by Savage, T. M. and Vogel, K. E. 2008.
2. Digital Multimedia by Nigel Chapman & Jenny Chapman. 2009.
Online Resources: https://ksuit342.wordpress.com/lectuers/
https://www.tutorialspoint.com/multimedia

Recommended Co-Curricular Activities (participation: total 15 weeks):
(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable
   1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
   2. Student seminars (on topics of the syllabus and related aspects (individual activity))
   3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General
   1. Group Discussion
   2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;
1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Observation of practical skills,
5. Efficient delivery using seminar presentations,
6. Viva voce interviews.
7. Computerized adaptive testing, literature surveys and evaluations,
8. Peers and self-assessment, outputs form individual and collaborative work

Suggested Software
1) Image Editing – GIMP
2) Audio Editing – Audacity
3) Video Editing – video pad
4) NCH software tools.

Course-6D: Multimedia Tools and Applications; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Editing images using GIMP
2. Improve the Quality of your Image in GIMP
3. Create an impressive background in GIMP
4. Applying Shadow & Highlight effects in images
5. Black& white and color photo conversion.

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

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B.Com CA, B.Com CA with Business Analytics, B.Sc CA & BA CA

SRI VENKATESWARA UNIVERSITY

**B.Com. Computer Applications & B.Com Computer Applications with Business Analytics,
BA Computer Applications & B.Sc. Computer Applications
III Year – V Semester (**Under CBCS W.E.F. 2020-21)
Course-**7D: DIGITAL IMAGING**
(Skill Enhancement Course (Elective), 5 credits)
Learning Outcomes:
Upon successful completion of the course, a student will be able to:
1. Gain knowledge about Types of Graphics, Types of Objects and Types of video editing tools
2. Show their skills in editing and altering photographs for through a
basic understanding of the tool box.
3. Gain knowledge in using the layers.
4. Gain knowledge in using the selection tools, repair tools.
5. Gain knowledge in using selection tools, applying filters and can show their skills.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT-I   **12 Hrs**
1. Types of Graphics
    1.1 Raster vs Vector Graphics
2. Types of Objects
    2.1 Audio formats
    2.2 Video formats
    2.3 Image formats
    2.4 Text document formats
3. Types of video editing
4. Different color modes.
5. Image Scanner
    5.1 Types of Image Scanners

UNIT-II   **12 Hrs**
1. What is GIMP?
2. GIMP tool box window
3. Layers Dialog
4. Tool Options Dialog
5. Image window
6. Image window menus

UNIT-III   **12 Hrs**

Improving Digital Photos

    1.1 Opening files

        1.1.1 Rescaling saving files

    1.2. Cropping

    1.3. Brightening & Darkening

    1.4. Rotating

    1.5. Sharpening

Introduction to layers

    2. What is layer?

        2.1. Using layer to add text

        2.2. Using move tool

        2.3. Changing colors

        2.4. Simple effects on layers

        2.5 Performing operations on layers

        2.7 Using layers to copy and paste

UNIT-IV   **12 Hrs**

Drawing:

    1.1 Drawing lines and curves

    1.2 Changing colors and brushes

    1.3 Erasing

    1.4 Drawing rectangles, Circles and other shapes

    1.6 Outlining and filling regions

    1.7 Filling with patterns and gradients

Selection:

    2.1 Working with selections

    2.2 Select by color and fuzzy

    2.3 Select Bezier paths

2.5 Modifying selections with selection modes

UNIT-V   **12 Hrs**

Erasing and Touching Up:

1.1 Dodge and burn tool

    1.3 Clone tool

    1.4 Sharpening using convolve tool

    1.5 Correcting Color Balance

Filters:

    2.1 Filters

        2.1.1 Blur

        2.1.2 Enhance

        2.1.3 Noise Filters

References:

Textbook: Beginning GIMP from Novice to professional by Akkana Peck,
      Second Edition, Apress

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8. Peers and self-assessment, outputs form individual and collaborative work

Course-7D: **DIGITAL IMAGING; Lab (Practical) Syllabus (15 Hrs.)**

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1. Designing a Visiting card
2. Design Cover page of a book
3. Paper add for calling tenders
4. Design a Pamphlet
5. Brochure designing
6. Titles designing
7. Custom shapes creation
8. Image size modification
9. Background changes
10. Texture and patterns designing

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concernedfacultymembers.*

Draft Syllabus prepared by:
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