

**Rashtriya Sanskrit Vidyapeetha
(Deemed University)
Tirupati - 517 507.**

Department of Computer Science

**Sastri Sammanita/ B.A. Honours (Computer Applications)
2019 - 2020**

Semester wise Syllabus

S.No.	Semester	Paper	Title of the Paper
1.	I Semester	1	Information Technology
2.	II Semester	2	C Language
3.	III Semester	3	Object Oriented Programming
4.	IV Semester	4	Web design
5.	V Semester	5	Natural Language Processing
6.	V Semester	6	DBMS
7.	VI Semester	7	Perl Programming
8.	VI Semester	8	Programming with Visual Basic

Programme Name: Sastri/BA Iyear I semester

Course No: Paper 1. Information Technology

Name of the Text Book:

Prescribed Book:

1. Peter Norton, Introduction to Computers, Sixth edition, Tata McGraw Hill.
2. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill
3. Fundamentals of Internet and WWW by Reymond Greenlaw and Ellen Hepp, Tata Mc Graw Hill.

Reference Books:

1. Michael Miller, Absolute Beginners Guide to Computer Basics, 4th Edition, Pearson Education
2. Deborah Morley, Charles S.Parker, Under Standing Computers today and tomorrow, 11th Edition, Thomson
3. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education

General Objective of the Course: Information Technology program aims to prepare students to understand the technology and introduction to the fundamentals of computing devices with respective to personal use of computer hardware, software and basic computer skills such as Word, Power Point and Excel - 2007

Objective of UNIT I: Memory management plays vital role in computer for processing. In this unit we will learn about computer memory in detail and Input output devices used in the computer

Objective of UNIT II: Operating System is an important part of the computer. What is Operating System, Types of Operating Systems, Dos Commands, GUI concepts are discussed in this unit

Objective of UNIT III: The primary objective is to enable students to create and edit document, save it to view or edit later and print document and many more features.

Objective of UNIT IV: The main objective of this MS Power Point to make the student perfect in creating presentation, deleting unnecessary slides, slide numbering, inserting graph, picture, sound and video organization chart.

Objective of UNIT V: Helps users to format, organize and calculate their data with the help of formulas using a spreadsheet system.

Detailed syllabus

UNIT-I

Introduction to computers: Definition, characteristics and limitations of computers–Elements of Computers–Hardware - CPU–Primary and Secondary memory–Input and Output devices

UNIT-II

Operating System and Windows: Operating Systems: Definition Functions and Types of Operating Systems–Disk Operating System: Internal and External Commands

UNIT-III

Introduction to MS - Word: Features of MS Word, MS - Word controls, Toolbars, Creating and Saving Documents, Opening a file, Page Layout: Print Layout, Web - layout, Normal Layout, Outline View – Setting tabs – Hyper linking –

Bookmarks. Formatting Text: Setting Font size, Color, Style, Formatting paragraph: aligning text, line spacing, Header and Footer: Page Numbering–Tables: Creating a Tables, Inserting, Deleting and Merging of Rows and Columns, Deleting a Table–Mail

UNIT-IV

MS - Power Point: Features–Creating Presentation, Inserting a slide, Deleting a slide, Slide numbering, Saving – PowerPoint Views – Inserting Objects in Presentation: Inserting Graph, Inserting Picture, Inserting Sound, Inserting Video, Inserting Organization chart – Animations: Setting Custom Animation–Finalizing presentation: Assigning Transition and timing–Printing– Setting up slide show Toolbar.

UNIT – V

MS - Excel: Features - Worksheets: Creating, Inserting, Deleting Worksheet, Saving – Page Setup and Printing Worksheet - Formatting: Cell formatting–Creating Charts–Worksheets Functions: Text, Date, Time, Math, Statistical, financial functions.

.

LAB: MS - Office (50 Marks)

Programme Name: Sastri/BA Iyear II semester

Course No: Paper 2. C Language

Name of the Text Book:

Prescribed Textbook

1.E. Balaguruswamy, Programming in ANSI C 4E, Tata McGraw – Hill

Reference Books

1. Byron S.Gottfried, Programming with C ,Tata Mc - Graw Hill
2. Peter Norton, Introduction to Computers, Sixth edition, Tata McGraw Hill.
3. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill
4. Fundamentals of Internet and WWW by Reymond Greenlaw and Ellen Hepp, Tata Mc Graw Hill.

General Objective of the Course: C is the mother of all languages and learning C is that it makes your fundamentals very strong in programming.

Objective of UNIT I: The main objective of this unit is to make clear about how C programming Language came in to existence, what are variable, constants? How to declare and used? what are different types of operators and expression used in C language.

Objective of UNIT II: The main objective of this unit is to learn about decision making and branching statements in C language.

Objective of UNIT III: The main objective of this unit is to make students clearly understand what are decision making and looping statements in C

Objective of UNIT IV: In this unit students will make clear about what are arrays? Different types of arrays and its implementation. Here they will learn about strings in detail like what are string and how to handle string functions.

Objective of UNIT V: This unit helps student to clearly understand about what are function, recursions, structures and unions.

Detailed syllabus

UNIT I

Overview of C: History of C, Importance of C, Basic Structure of C programs, Executing a 'C' program. Constants, Variables and Data Types: Character Set, C tokens, Keywords and Identifiers, Constants, Variables, Data Types, Declaration of Variables, Assigning Values to Variables. Operators and Expressions: Arithmetic, Relational, Logical, Assignment, Increment, Decrement, Conditional, Bitwise and Special Operators–Arithmetic Expressions.

UNIT II

Input and Output Operations: Reading a character, Writing a character. Decision making and Branching: IF Statement - SIMPLE IF statement, IF...ELSE statement, NESTING OF IF...ELSE statements–SWITCH statement, GOTO statement.

UNIT III

Decision Making and Looping: WHILE statement, DO..WHILE statement, FOR statement

UNIT IV

Arrays: One Dimensional Array, Two Dimensional Arrays. Strings: Declaring and Initializing String Variable, String - handling Functions.

UNIT V

Functions: Definition of a function, User - defined functions, Elements of User - defined functions, Recursion, Structures and Unions : Defining a structure, Declaring Structure Variables, Accessing Structure Members, Structure Initialization, Unions

LAB: Introductory Programming using C language (50 Marks)

Programme Name: Sastri/BA II year I semester

Course No: Paper 3. Object Oriented Programming with Java

Name of the Text Book:

Prescribed book:

1. E. Balaguruswamy, Programming with Java A primer 4e, TATA McGraw - Hill Company

Reference Books:

1. John R. Hubbard, Programming with Java Second Edition, Tata McGraw-Hill.

2. Jana, Java and Object Oriented Programming Paradigm, PHI.

3. Deitel & Deitel. Java: How to Program, 7th Edition, PHI.

General Objective of the Course: Understanding fundamentals of Object Oriented Programming in Java, including classes, invoking methods, Java SDK environment to create, debug and run simple java programs

Objective of UNIT I: Understanding fundamentals of OOPs, fundamentals of programming such as variables, how to run java on different platforms.

Objective of UNIT II: The main objective of this unit is to learn about decision making and branching statements in Java language.

Objective of UNIT III: Students can learn decision making and branching statements, how to create classes, objects, arrays.

Objective of UNIT IV: interface are more flexible, because a classes can implement interfaces, that can be created by students by studying this unit.

Objective of UNIT V: students can create subclasses or packages for compressed file with packages

Detailed syllabus

UNIT I

Fundamentals of Object Oriented programming: Object Oriented paradigm–Basic concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP. Overview of Java Language: Simple Java Program – Java Program Structure – Java Tokens - Java Statements – Implementing a Java Program – Java Virtual Machine – Command Line Arguments. Constants, Variables and Data types: Constants–Variables–Data types–Declaration of Variables - Giving Values to variables - Scope of Variables - Symbolic Constants - Type Casting.

UNIT II

Decision Making and Branching: Decision Making with If statement–Simple If Statement - If else Statement - Nesting If Else Statement - the Else If Ladder - The switch Statement–The ?: operator. Decision Making and Looping: The while statement–The do statement–The for statement– Jumps in Loops.

UNIT III

Class, Objects and Methods: Defining a Class – Fields Declaration – Methods Declaration – Creating Objects – Accessing class members – Constructors – Methods Overloading – Static Members – Nesting of Methods – Inheritance

– Overriding Methods – Final Variables and Methods–Final Classes–Abstract Methods and Classes–Visibility Control.
Arrays, Strings and Vectors: One - dimensional Arrays - creating Array–Two dimensional Arrays–Strings–Vectors –
Wrapper Classes–Enumerated Types.

UNIT IV

Interfaces: Multiple Inheritance: Defining Interfaces – Extending Interfaces – Implementing Interfaces – Accessing
Interface Variables.

UNIT V

Packages: Java API Packages – Using system Packages – Naming Conventions – Creating Packages – Accessing a
Package – Using a Package

LAB: Java Programming (50 Marks)

Programme Name: Sastri/BA Ilyear II semester

Course No: Paper 4. Web Designing

Name of the Text Book:

Prescribed Textbook:

1. Dr. G. Sreedhar, Fundamentals of Web Design, Rashtriya Sanskrit Vidyapeetha, Tirupati

Reference Books:

1. Thomas A. Powell, The Complete Reference Web Design , Tata McGraw Hill.

2. Thomas A. Powell, The Complete Reference HTML , Tata McGraw Hill.

General Objective of the Course: Introduction to the web design helps in creation, and maintenance of web pages and websites.

Objective of UNIT I: In this chapter, you will learn how to design a web page.

Objective of UNIT II: In this chapter we discuss all basic tags of HTML

Objective of UNIT III: In this chapter is to understand about links, frames, images and frames

Objective of UNIT IV: This chapter provides introduction to DHTML and Java Script

Objective of UNIT V: This chapter discusses how to create form and controls which helps in designing web application

Detailed syllabus

UNIT – I

Basics of Web Design – Elements of Web – Web Site Architecture – Designing a web site

Web Design Process – Web site design process – Elements of web site Design – Web Page and Layout

UNIT – II

Basic HTML: HTML – Structure of HTML – Working with text – Heading tag – Font tag – Address tag – Line break and Paragraph tags – Center tag - Marquee Tag – List tag

UNIT – III

Inserting images in web pages – Creating Hyperlinks in a web page – Creating Table in a web page – Frames

UNIT – IV

DHTML: CSS – Inline style sheets – Embedding a Style Sheet – Linking a External Style Sheet – JavaScript Programming – Arrays in JavaScript – Functions in JavaScript – JavaScript events

UNIT – V

Working with Forms and Controls: Forms – Input element- Select Element – Text area element - Buttons

LAB: Web Designing (50 Marks)

Programme Name: Sastri/BA IIIyear I semester

Course No: Paper 5. Natural Language Processing

Name of the Text Book:

Prescribed Textbooks:

1. Akshar Bharati, Vineet Chaitanya, Rajeev Sangal, Natural Language Processing – A Paninian Perspective, PHI .

General Objective of the Course: The goal of natural language processing (NLP) is to design and build computer systems that are able to analyze natural languages like Sanskrit, Telugu, English, etc and that generate their outputs in a natural language, too. Typical applications of NLP are information retrieval, language understanding, and text classification.

Objective of UNIT I: Objective: Introduction to NLP. Its goals and problems.

Objective of UNIT II: Objective: The main objective of this unit is to learn what is Morphological Analyzer, core parser.

Objective of UNIT III: Objective: Students able to learn words and their analyzer.

Objective of UNIT IV: Objective: Introduction to Paninian Grammar, paninian theory and active passive can understand from this unit

Objective of UNIT V: Paninian parser and machine translation discussed.

Detailed syllabus

UNIT-I

Introduction to NLP: Achievements and Brief history - Open Problems–Major Goal Language Structure and Language analyzer: Introduction to Language Structure, Overview of Language analyzer: Morphological Analyzer, Local word grouping (LWG), Core Parser.

UNIT-II

Words and their Analyzer: Introduction to Morphological Analysis (MA), MA using Paradigms– Speeding up of MA by compilation–Local Word Grouping: Verb groups, Noun groups, Strategy for grammar Development.

UNIT-III

Paninian Grammar: Introduction to Paninian grammar – Semantic model - Paninian theory: Karaka Relations–Active Passive: Karaka to Vibhakti Mapping, Karaka shares.

UNIT-IV

Paninian Parser: Introduction, Core Parser: Constraints – Preferences over Parses - Lakshan charts for Sense Disambiguation.

UNIT-V

Machine Translation: Introduction, Anusaraka or Language Accessor

LAB: Natural Language Processing (50Marks)

Programme Name: Sastri/BA IIIyear I semester

Course No: Paper 6. Data Base Management Systems

Name of the Text Book:

Prescribed Textbook:

1. Peter Rob, Carlos Coronel, Database Systems Design, Implementation and Management, 7th Edition, Thomson

Reference Books:

2. Elimasri / Navathe, Fundamentals of Database Systems, Fifth Edition, Pearson Addison Wesley.

3. Raman A Mata – Toledo/Panline K Cushman, Database Management Systems, Schaum's Outlibe series, Tata McGraw Hill

4. C.J.Date, A.Kannan, S.Swamynathan, An Introduction to Database Systems, 8th Edition, Pearson Education.

Michel Kifer, Arthur Bernstein, Philip M. Lewis, Prabin K. Pani Graphi, and Database Systems: An application oriented Approach, second edition, Pearson education.

5. Atul Kahate, Introduction to Database Management Systems, Pearson Education.

General Objective of the Course: The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

Objective of UNIT I: Discuss the fundamental elements of DBMS

Objective of UNIT II: Explain the basic concepts of relational data model, entity relationship model and different types of keys used in DBMS

Objective of UNIT III: Discuss the database design by normalization.

Objective of UNIT IV: Describe the fundamental of SQL

Objective of UNIT V: Discuss the advance SQL statement

Detailed syllabus

UNIT I

Database Systems: Introducing the database and DBMS, Historical Roots: Files and File Systems, Problems with File System Data Management, Database Systems - Data Models: The importance of Data models, Data Model Basic Building Blocks, Business Rules, The evaluation of Data Models, Degree of Data Abstraction.

UNIT II

The Relational Database Model: A logical view of Data, Keys, Integrity Rules, Relational Set Operators, The Data Dictionary and the system catalog, Relationships within the Relational Database, Data Redundancy revisited, Indexes, Codd's relational database rules. – Entity Relationship Model: The ER Model, Developing ER Diagram, and Database Design Challenges: Conflicting Goals. - Advanced Data Modeling: The Extended Entity Relationship Model, Entity clustering, Entity integrity: Selecting Primary keys, Design Cases: Learning Flexible Database Design.

UNIT III

Normalization of database tables: Database Tables and Normalization, The need for Normalization, The Normalization

Process, Improving the design, Surrogate Key Considerations, High level Normal Forms, Normalization and database design, denormalization.

UNIT IV

Introduction to SQL: Data Definition Commands, Data Manipulation Commands, Select queries, Advanced Data Definition Commands, Advanced Select Queries, Virtual Tables, Joining Database Tables.

UNIT V

Advanced SQL: Relational Set Operators, SQL Join Operators, Sub queries and correlated queries, SQL Functions, Oracle Sequences, Updatable Views, and Procedural SQL.

Lab: Data Base Management Systems (50marks)

Programme Name: Sastri/BA IIIyear II semester

Course No: Paper 7. Perl Programming

Name of the Text Book:

Prescribed Textbooks:

1. Prof.R.J.Ramasree, PERL Programming, R.S.Vidyapeetha, Tirupati.

Reference Books:

1. Larry Wall, Tom Christiansen and Randal L.Schwartz Programming Perl, Second edition, Shroff Publishers and Distributors Pvt. Ltd.
2. C.Herrmann, Mastering Perl 5, BPB Publications, New Delhi.
3. Randal L. Schwartz and Tom Christiansen, Learning Perl Second edition, Shroff Publishers and Distributors Pvt. Ltd.

General Objective of the Course: The objective of the course is to learn Perl Programming language which is mostly useful for Scripting.

Objective of UNIT I: This section introduces a brief introduction to Perl Programming.

Objective of UNIT II: Here we are learn more complex operation on numbers and string called relational Operators and loop controls.

Objective of UNIT III: This unit concentrated on Arrays and its implementation

Objective of UNIT IV: This unit concentrated on Hash variables and its implementation

Objective of UNIT V: This unit discuss about file handling in perl

Detailed syllabus

UNIT – I

Introduction to Perl – Sample Perl Program – Perl Program Execution - Scalar Variables and Constants – Reading Scalar Variables – printing Scalar Variables – Comment Statement

UNIT-II

Conditional statements: Relational operators – Logical operators – if statement – Loops – Loop Controls

UNIT-III

Array Variables: Reading Array Variables – Printing Array Variables-Array Manipulation

UNIT-IV

Hash (Associative Arrays) Variables: Reading Hash Variables – Printing Hash Variables – Regular Expressions

UNIT-V

File Handling: Opening a file for reading – File Attributes – Reading a file – Printing a file – Closing a file – Opening a file for writing – Basic Input and Output File Handles

Lab: Perl Programming (50 Marks)

Programme Name: Sastri/BA IIIyear II semester

Course No: Paper 8. Programming with Visual Basic

Name of the Text Book:

Prescribed Textbook:

1. Julia Case Bradley, Anita C.Millspaugh, Programming in Visual Basic 6.0, Tata McGraw

Reference Textbook:

1. Evangelos Petroustos, Mastering Visual Basic, BPB Publications

General Objective of the Course: The objective of the course is to learn Visual Basic programming.

Objective of UNIT I: This unit discuss about basics of Visual basic environment.

Objective of UNIT II: This unit discuss working with controls in VB.

Objective of UNIT III: This unit discuss about how to write and run Visual Basic programs .

Objective of UNIT IV: Here we learn how to use VB tools with decision and conditions statement

Objective of UNIT V: Here we learn about how to create menus and sub functions

Detailed syllabus

UNIT I

Introduction to Visual Basic: Writing Windows applications with Visual Basic–programming languages – procedural, object oriented, and Event Driven – The Visual Basic environment – Finding and fixing errors.

UNIT

Controls: Introducing Controls–Working with Multiple controls–Coding for the controls.

II

UNIT III

Variables, Constants and Calculations: Data – Variables and constants – calculations – Val function–Arithmetic Operations–Formatting Data–A Calculation Programming - Counting and Accumulating sums.

UNIT IV

.Decisions and conditions: If Statements–conditions–Using If Statement switch Option buttons and check boxes– Displaying messages in message boxes – input validation – calling event procedures–Debugging visual basic projects.

UNIT V

Menus, Sub Procedures and Sub Functions: Menus–Common Dialog Boxes–Writing General Procedures

LAB: Project work (100 Marks)