



Government Degree College, Nagari,
Chittoor(Dist.), Andhra Pradesh

ప్రభుత్వ డిగ్రీ కళాశాల, నగరి,
చిత్తూరు(జిల్లా), ఆంధ్రప్రదేశ్



Accredited by NAAC with 'A+' Grade

(AUTONOMOUS)

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DEPARTMENT OF COMPUTER APPLICATIONS

Academic Year – 2024-25

Syllabus

Year	Sem	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	II	1	Office Automation Tools	3	3
			Office Automation Tools Practical Course	2	1
II	III	7	E Commerce & Web designing	3	3
			E Commerce & Web designing Practical Course	2	1
	IV	11	DBMS with Oracle	3	3
			DBMS with Oracle Practical Course	2	1
III	V	6A	Bigdata Analytics using R Programming	3	3
			Bigdata Analytics using R Programming Lab	2	1
		7A	Data Science using Python	3	3
			Data Science using Python Lab	2	1

	Government Degree College (Autonomous) Nagari, Chittoor Dt. DEPARTMENT OF COMPUTER APPLICATIONS	Program I B.Com CA Major /Minor					
Course Code 2-02G-OAT04- R24	TITLE OF THE COURSE Course – 1: OFFICE AUTOMATION TOOLS			Semester-II MAJOR, Minor			
Teaching	Hours Allocated: 45 Hrs (Theory) (3 Hrs./wk.)			L	T	P	C
Pre-requisites	Basic knowledge about Office Automation Tools			3	-	-	3

Course Objectives:

The objective of this paper is to help students to acquire knowledge on the environment of GUI in Ms-Word and its features. To introduce the fundamentals concepts of using Ms-Word and its features to make it more useful and provide hands on use of Word, Excel and PowerPoint.

Learning Outcomes:

The students will be able:

Understand concept of Word Processor and use its features. To use the advanced features of Ms-Word to make day to day usage easier. To work comfortably with Ms-Excel Environment. To create work sheets and user advanced feature of Excel. To create make presentations and inserting multimedia in them.

Unit 1: Introduction to MS Office & MS Word:

MS-Word: Features of MS-Word, MS-Word Window components, working with formatted text, Shortcut keys, Formatting documents: Selecting text, Copying & moving data, Formatting characters, changing cases, Paragraph formatting, Indents, Page formatting, Header & footer, Bullets & numbering, Tabs, Forming tables. Finding & replacing text, go to(F5) command, proofing text (Spell-check, Auto correct),

Case Study:

1. Create a document to write a letter to the DM&HO of the district complaining about Hygienic conditions in your area.
2. Create a document to share your experience of your recent vacation with family.

Unit 2: MS Word Advanced features:

Difference between Wizard and Template - Customize the Quick Access Tool Bar – Macros: Purpose – Creating Macro – Using Macro – Storing Macro - ,Inserting pictures: From Computer, Online Pictures – Insert 3d Models - Insert Shapes – Insert Text Box – Insert Equation, Hyperlinks, Tables Insert tables Mail merging, Printing documents, Tables : Insert tables.

Case Study:

1. Create a document to send a holiday intimation to all the parents at time about Dasara Vacation.
2. Create a document to create Time Table of you class using tables.

Unit 3: Introduction to MS Excel & Its features:

MS-Excel: Excel Features, Spreadsheets, workbooks, creating, saving & editing a workbook, Renaming sheet, cell entries (numbers, labels, and formulas), spell check, find and replace, Adding and deleting rows and

columns Filling series, fill with drag, data sort, Formatting worksheet, Functions and its parts, Some useful Functions in Excel (SUM, AVERAGE, COUNT, MAX, MIN, IF),

Case Study:

1. Create a worksheet with you class marks displaying total, average, top marks in the class and least marks in the class.

Unit 4: Ms-Excel Advanced Features:

Cell referencing (Relative, Absolute, Mixed), What-if analysis, Introduction to charts: types of charts, creation of charts, printing a chart, printing worksheet – Sort – Filters – View Menu

Case Study:

1. Prepare a chart with height and weights of you class mates in atleast 3 types of charts.
2. Demonstrate the use of Filter with the attendance data of your class.

Unit 5: Ms-PowerPoint and its Applications:

MS-Power Point: Features of Power Point, Uses, components of slide, templates and wizards, using template, choosing an auto layout ,using outlines, adding sub headings, editing text, formatting text, using master slide, adding slides, changing color scheme, changing background and shading, adding header and footer, adding cliparts and auto shapes. Various presentation, Working in slide sorter view(deleting, duplicating, rearranging slides),adding transition and animations to slide show, inserting music or sound on a slide, viewing slide show ,Printing slides.

Case Study:


1. Prepare a presentation with your achievements and experiences in College.

Text Books:

1. Computer Fundamentals–Pradeep.K.Sinha:BPBPublications.
2. Fundamentals of Computers -ReemaThareja, Oxford University Press India

Reference Books:

1. Fundamentals of Computer – V . Rajaraman, Printice Hell of India.
2. Introduction to Computers–Peter Norton McGraw-Hill.

	Government Degree College (Autonomous) Nagari, Chittoor Dt. DEPARTMENT OF COMPUTER APPLICATIONS	Program I B.Com CA Major/ Minor					
Course Code 2-02G-OAT04- R24P	TITLE OF THE COURSE Course – 1P: OFFICE AUTOMATION TOOLS Lab			Semester-II MAJOR / MINOR			
Teaching	Hours Allocated: 15 Hrs (Practical) (2 Hrs./wk.)			L	T	P	C
Pre-requisites	Basic knowledge about Office Automation Tools			-	-	2	2

LIST OF EXPERIMENTS

- 1) Design a visiting card for Managing Director of a company as per the following specification.
 - Size of visiting card is 3½×2
 - Name of the company with big font
 - Phone number, Fax number and E-mail address with appropriate symbols.
 - Office and Residence address separated by a line.
- 2) Prepare an advertisement to a company requiring software professional with the following
 - o Attractive page border
 - o Design the name of the company using WordArt
 - o Use at least one clipart.
 - o Give details of the company (use bullet set)
- 3) Create a letter having following specifications
 - o Name of the company on the top of the page 2 with big font and good style
 - o Phone no, Fax no and E-mail address with symbols.
 - o Main products manufactured by the company
 - o Slogans if any should be specified in bold at the bottom
- 4) Create two pages of curriculum vitae of a graduate with the following specifications
 - o Table to show qualifications with proper headings
 - o Appropriate left and right margins
 - o Format ½ page using two-column approach about yourself
 - o Name on each page at the top right side
 - o Page no. in the footer on the right side.
- 5) Create an electronic spread sheet in which you enter the following decimal numbers and convert them into octal, Hexadecimal and binary numbers and vice-versa.

Decimal Numbers: 35, 68, 95, 78, 165, 225, 355, 375, 465

Binary Numbers: 101, 1101, 11101, 11111, 10001, 11101111

6) Calculate the netpay of the employees following the conditions below.

	A	B	C	D	E	F	G	H	I
1	Employee	Employee	Basic	DA	HRA	GPF	Gross	Income	Net
2									

DA:-56% of the basic pay if Basic pay is greater than 20000 or else 44%.

HRA:-15% of the Basic pay subject to maximum of Rs.4000.GPF: -10% of the basic pay.

INCOME TAX:-10% of basic if Basic pay is greater than 20000. Find who is getting highest salary & who is getting lowest salary?

7) The ABC Company shows the sales of different product for 5 years. Create BAR Graph, 3D And Pie chart for the following.

A	B	C	D	E	F
S.No.	Year	Pro1	Pro2	Pro3	Pro4
1	1989	1000	800	90	1000
2	1990	800	80	50	900
3	1991	1200	190	40	800
4	1992	400	200	30	1000
5	1993	1800	400	40	1200

8) Create a suitable examination database and find the sum of the marks (total) of each student and respective, class secured by the student.

Pass: if marks in each subject ≥ 35 Distinction :if average ≥ 75

First class: if average ≥ 60 but < 75

Second class: if average ≥ 50 but less than 60 Third class: if average ≥ 35 but less than 50 Fail: if marks in any subject < 35

9) Enter the following data into the sheet.

Name	Department	Salary
Anusha	Accounts	12000
Rani	Engineering	24000
Lakshmi	Accounts	9000
Purnima	Marketing	20000
Bindu	Accounts	4500
Tejaswi	Accounts	11000
Swetha	Engineering	15000
Saroja	Marketing	45000
Sunitha	Accounts	5600
Sandhya	Engineering	24000
Harika	Marketing	8000

o Extract records for department in Accounts and Salary > 10000

o Sort the data by salary with the department using "sort commands".

o Calculate total salary for a each department using Subtotals

10) Enter the following data in to the sheet..

	Raju	Rani	Mark	Rosy	Ismail	Reshma
English	76	89	43	51	76	87
2ndLang	55	85	78	61	47	33
Maths	65	82	34	58	52	65
Computers	45	91	56	72	49	56
Human Values	51	84	54	64	32	64

Apply the conditional formatting for marks

☐ **35 below Red , 35 to 50 Blue**

☐ **51 to 70 Green , 71 to 100 Yellow**

- 11) Create a presentation using templates.
- 12) Create a Custom layout or Slide Master for professional presentation.
- 13) Create a presentation with slide transitions and animation effects.
- 14) Create a table in PPT and apply graphical representation.

SEMESTER-III

COURSE 7: E COMMERCE AND WEB DESIGNING

Theory

Credits: 3

3 hrs/week

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of fundamental concept of E- commerce & Web Designing. Emphasize the importance of various E-commerce & Web Designing. Developing and implementing efficient algorithms.

Learning Outcomes:

The student will be able to:

Explain how to create an e-commerce website from scratch, using PHP and the Bootstrap framework.

Display featured products correctly on a web page, using the bootstrap system. Explain how product detail models are programmed to be dynamic.

Unit 1: Basics And Definitions: Definition, E-Commerce with 5-C Model, Additional Terms, Business Models Related To E-Commerce, Advantages And Disadvantages, Web 2.0, Technical And Economic Challenges
Frameworks and Architectures: Actors And Stakeholders, Fundamental Sales Process And His 7+1 Process Steps Work, Technological Elements, Typical Applications

Case Study: Identify different E-Commerce websites and write their functionality.

Unit 2: B2C Business: B2c Basics, B2c-Business And Crm, B2c Software Systems, Customer Relationship Management (Crm)

B2B Business: B2b Basics, Differences Between B2b And B2c, B2b Software Systems, Supply Chain Management

Case Study: Identify B2B and B2C websites in Unit-I Case Study and differentiate their functionality

Unit 3: Security & Compliance Management: Foundations Of Risk Management, Compliance Management, Information Security Management (Ism), Technology Electronic Payment: Business and Money, the Payment Challenge, Payment Procedures, Receivables Management, Cyber Money

Case Study: Identify different payment methods used in purchasing of goods in Amazon, Flipkart etc.. and write their Pros and Cons of each payment method

Unit 4: Introduction to Web Programming: Introduction, creating a website, HTML tags, HTML Elements, HTML attributes, CSS Preview, History of HTML, Differences between old HTML and HTML5, how to check your HTML code

Coding Standards, Block Elements:

HTML coding conventions, Comments, HTML Elements, Should Describe Web Page Content Accurately, Content Model Categories, Block Elements, block quote Element, Whitespace Collapsing, pre Element, Phrasing Elements, Editing Elements, q and cite Elements, dfn, abbr, and time Elements, Code-Related Elements, br and wbr Elements.

Text Elements, and Character References: sup, sub, s, mark, and small Elements, strong, em, b, u, and i Elements, span Element, Character References, Web Page with Character References, and Phrasing Elements.

Case Study: Create a web page of your department using standard HTML tags, HTML elements and HTML attributes

Unit 5: Cascading Style Sheet (CSS): CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-height Property, Text Properties, Border Properties, Element Box, padding Property, margin Property,

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Reference Books:

1. Introduction to E-Commerce:Combining Business And Information Technology By Martin Kutz
2. Lallana, Quimbo, Andam, 4. Cf. Ravi Kalakota and Andrew B. Whinston, Electronic Commerce:A Manager's Guide (USA: Addison Wesley Longman, Inc., 1997), 19-20.
3. Web Programming with HTML5,CSS and JavaScript, John Dean, Jones & Bartlett Learning
4. HTML & CSS: The Complete Reference, 5th Edition, Thomas. A. Powell

SEMESTER-III

COURSE 7: E COMMERCE AND WEB DESIGNING LAB

Practical Credits: 1 2 hrs/week

Note: All the questions should be practiced using Blue Griffon, Google Web Designer, KompoZer and open Element /any related tools. The students should be taught the usage of appropriate html tags for these questions

In the practical examination the students have to write the procedure for performing the given task in front page followed by the html tags used to perform the task.

LIST OF EXPERIMENTS

1. Create a web page to display a hyperlink which when clicked directs you to Amazon website.
2. Create a web page to demonstrate your college name aligned with the logo of your college.
3. Create a web page to demonstrate definition lists taking various applications of ecommerce as an example.
4. Create a web page which asks for mode of payment which includes the options: Credit card/Debit card/Online transfer (use radio buttons)
5. Create a web page which asks the user to enter his credit card details. Use textboxes, drop down buttons.
6. Create a web page to display definition list which defines the terms: B2B, B2C, C2B, C2C.
7. Create a web page which displays four buttons containing text B2B, B2C, C2B, C2C. Also when a button is clicked details about the clicked subject should appear on a separate page.
8. Create a web page to display the text "Digital Marketing" which scrolls randomly.
9. Create a web page to scroll the text "E-Commerce" for exactly 5 times from left to right

- of the screen.
10. Create a web page to insert an image which when clicked redirects you to your college website.
 11. Create a web page to display the name of your college in h6 size with blue as font color and background color yellow separated by a thick line and below which a paragraph about the facilities offered by your college is described.
 12. Create a web page to demonstrate a pull-down menu. The menu should contain the list of your favorite south Indian dishes.
 13. Create a web page with name of your college as text. The text should scroll, alternate and slide.
 14. Create a web page to display an image surrounded by text on all the four sides.
 15. Create a web page to display 3 images which are aligned left, right and center respectively.
 16. Create a web page with 4 paragraphs of about 5 lines each describing about E-Marketing, E- Shopping, E-banking and E-Learning. The paragraphs should be aligned left, right, center and justified respectively.
 17. Create a web page with name of your college as Text in h6 size, font as verdana, blue as font color followed by a copyright symbol and trademark symbol.
 18. Create a login page asking the user to enter his username and password followed by a submit button.
 19. Create a web page using a form which collects data about student rollno, name and marks in various subjects followed by submit and reset buttons.
 20. Create a web page using a form titled as Feedback form which takes the feedback of faculty teaching a particular subject in your college. The form should have fields student name, rollno followed by 5 check boxes labeled Excellent, Very Good, Good, Average, Bad respectively.
 21. Create an unordered list of popular B2C ecommerce web sites.

SEMESTER-IV

COURSE 11: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Theory _____ **Credits: 3** _____ **3 hrs/week**

Course Objectives:

The course aims to help the Students will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering. The Students will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies and research. Theyl continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession.

Learning Outcomes:

An ability to apply Knowledge of computing and mathematics in Computer Science

&Engineering. They will analyze a problem, identify and define the computing requirements appropriate to its solution. An ability to design, implement and evaluate a computer-based system to meet desired needs with appropriate societal considerations. They will have knowledge on to conduct investigations, interpret data and provide conclusions in investigating complex problems related to Computer Science & Engineering. An ability to engage in continuing professional development and life-long learning.

Unit 1: Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; types of data models, Concepts of Schema, Instance and data independence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Case Study:

1. Describe the differences between Database systems and File based systems
2. Study about database models and their advantages and dis-advantages

Unit 2: Relational Model: Introduction to relational model, Codd's rules, concepts of domain, attribute, tuple, relation, constraints (Domain, Key constraints, integrity constraints) and their importance, concept of keys (super key, candidate key, primary key, surrogate key, foreign key), relational Algebra & relational calculus.

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency(1NF, 2NF and 3 NF), Boyce-codd normal form(BCNF)

Case Study:

Describe Relational model and normalization for database design

Unit 3: Entity Relationship Model: Introduction, Representation of entities, attributes, entity set, relationship, relationship set, constraints, sub classes, super class, inheritance, specialization, generalization using ER Diagrams,

BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, aggregation, grouping, ordering.

Case Study:

1. Examine issues in data storage and query processing using SQL.
2. Create, maintain and manipulate a relational database using SQL

Unit 4: SQL: Nested queries/ sub queries, implementation of different types of joins, SQL functions(Date, Numeric, String, Conversion functions), Creating tables with relationship, implementation of key and integrity constraints, views, relational set operations , Transaction Control Language: commit, Rollback, Savepoint , DCL :Grant, Revoke

Case Study:

Try to convert some sample data to information and show how it can be used in decision making.

Unit 5: PL/SQL: Introduction, Structure , Control Structures , Cursors , Procedure , Function , Packages , Exception Handling ,Triggers.

Transaction processing Concepts : Transaction State, Implementation of Atomicity and Durability, Concurrent Executions, Serializability, Recoverability, Implementation of Isolation, Testing for Serializability, Failure Classification, Storage, Recovery and Atomicity, Recovery algorithm.

Case Study:

Outline the role and issues in Transaction management of data such as efficiency, privacy, security.

Suggested Text Books

- Database Management Systems, 3rdEdition ,Raghurama Krishnan, Johannes Gehrke, TMH
- Database System Concepts,5thEdition ,Silberschatz, Korth, TMH

SEMESTER-IV

COURSE 11: DATABASE MANAGEMENT SYSTEM WITH ORACLE LAB

Practical

Credits: 1

2 hrs/week

LIST OF EXPERIMENTS

SQL:

Cycle-I: Aim: The marketing company wishes to computerize its operations by using the following tables.

Table Name: Client Master

Description: Used to store client information

Column Name	Data Type	Size	Attribute
CLIENT_NO	Varchar2	6	Primary key
NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESSSS	Varchar2	30	
CITY	Varchar2	15	
PINCODE	Varchar2	8	
STATE	Varchar2	15	
BAL_DUE	Number	10,2	

Table Name: Product Master

Description: Used to store product information

Column Name	Data Type	Size	Attribute
PRODUCT_NO	Varchar2	6	Primary key
DESCRIPTION	Varchar2	15	Not null
PROFIT_PERCENT	Number	4,2	Not null
UNIT_MEASUE	Varchar2	10	
QTY_ON_HAND	Number	8	
REORDER_LVL	Number	8	
SELL_PRICE	Number	8,2	Not null, cannot be 0
COST_PRICE	Number	8,2	Not null,cannot be 0

Table Name: Salesman master

Description: Used to store salesman information working for the company.

Column Name	Data Type	Size	Attribute
SALESMAN_NO	Varchar2	6	Primary key
SALESMAN_NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESS2	Varchar2	30	
CITY	Varchar2	20	
PINCODE	Number	8	
STATE	Vachar2	20	
SAL_AMT	Number	8,2	Not null, cannotbe0
TGT_TO_GET	Number	6,2	Not null, cannotbe0
YTD_SALES	Number	6,2	Not null
REMARKS	Varchar2	20	

Table Name: SALES_ORDER

Description: Used to store client orders

Column Name	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key
CLIENT_NO	Varchar2	6	Foreign Key
ORDER_DATE	Date		
DELY_ADDRESS	Varchar2	25	
SALESMAN_NO	Varchar2	6	Foreign Key
DELY_TYPE	Char	1	Delivery:part(p)/full(f)anddefault‘ F’
BILL_YN	Char	1	
DELY_DATE	Date		Can’tbe lessthanorderdate
ORDER_STATUS	Varchar2	10	Values(“InProcess”,“Fulfilled”, “Back Order”, “Cancelled)

Table Name: SALES_ORDER_DETAILS

Description:Used to store client’s order with details of each product ordered.

ColumnName	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key references SALES_ORDER table
PRODUCT_NO	Varchar2	6	Foreign Key references SALES_ORDER_table
QTY_ORDERED	Number	8	
QTY_DISP	Number	8	
PRODUCT_RATE	Number	10,2	Foreign Key

Solve the following queries by using the above tables.

1. Retrieve the list of names, city, and the state of all the clients.
2. List all the clients who are located in ‘Mumbai’ or ‘Bangalore’.
3. List the various products available from the product_mastertable.
4. Find the names of salesmen who have a salary equal to Rs.3000.
5. List the names o fall clients having ‘a’ as the second letter in their names.
6. List all clients whose Baldue is greater than value 1000.
7. List the clients who stay in a city whose first letter is ‘M’.
8. List all information from the sales-order table for orders placed in the month of July.
9. List the products whose selling price is greater than 1000 and less than or equal to 3000.
10. Find the products whose selling price is greater than 1000 and also find the new selling price as the original selling price of 0.50.

Cycle-II Supplier

Aim: A manufacturing company deals with various parts and various suppliers supply these parts. It consists of three tables to record its entire information. Those are as follows.

Supplier (Supplier_No, Sname, City, status) Part(Part_no, pname, color, weight, city, cost) Shipment (supplier No, Part_no, city) JX (project_no, project_name, city)

SPJX (Supplier no, part_no, project_no,city)

1. Get supplier numbers and status for suppliers in Chennai with status>20.
2. Get project names for projects supplied by supplier ‘S’.
3. Get colors of parts supplied by supplier S.

4. Get part numbers for parts supplied to any project in Mumbai.
5. Find the id's of suppliers who supply a red or pink parts.

Cycle–III Employee Database

Aim: An enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describe the automation schemas.

Emp(Empno, Ename, Job, Mgr, Hiredate, Sal, Comm, Deptno) Dept(Deptno, Dname, Loc)

1. List the details of employees who have joined before the end of September '81.
2. List the name of the employee and designation of the employee, who does not report to anybody.
3. List the name, salary and PF amount of all the employees (PF is calculated as 10% of salary)
4. List the names of employees who are more than 2 years old in the organization.
5. Determine the number of employees, who are taking commission.
6. Update the employee salary by 20%, whose experience is greater than 12 years.
7. Determine the department does not contain any employees.
8. Create a view, which contains employee name and their manager names working in sales department.
9. Determine the employees, whose total salary is like the minimum salary of any department.
10. List the department numbers and number of employees in each department.

PL/SQL PROGRAMS

1. Write a PL/SQL program to check the given string is palindrome or not.
2. The HRD manager has decided to raise the employee salary by 15% write a PL/SQL block to accept the employee number and update the salary of that employee. Display appropriate messages based on the existence of the record in the Emp table.
3. Write a PL/SQL program to display the top 10 rows in the Emp table based on their job and salary.
4. Write a PL/SQL program to raise the employee salary by 10% for department number 30 people and also maintain the raised details in the rais table.
5. Create a procedure to update the salaries of Employees by 20%, for those who are not getting commission
6. Write a PL/SQL procedure to prepare an electricity bill by using following table.
Table used: Elect

Name	Null?	Type
MNNO	NOT NULL	NUMBER(3)
CNAME		VARCHAR2(20)
CUR_READ		NUMBER(5)
PREV_READ		NUMBER(5)
NO_UNITS		NUMBER(5)
AMOUNT		NUMBER(8,2)
SER_TAX		NUMBER(8,2)
NET_AMT		NUMBER(9,2)

7. Create a trigger to avoid any transactions(insert, update, delete) on EMP table on Saturday & Sunday.

Semester-wise Revised Syllabus under CBCS, 2019-20
Subject: Computer Applications for Arts/Commerce
Four year B.A. /B.Com. (Hons) Semester –V (from 2022-23)
Course Code: Max Marks: 100
Course-6A: BIGDATA ANALYTICS USING R
(Skill Enhancement Course (Elective), 4 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 in R- logical, numeric, integer, character, double, complex, raw, coercion, ls() command, expressions, variables and functions, control structures, Array, Matrix, Vectors, R packages.

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—reading from .CSV files, sub setting data frames, 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, Scatterplots, Pie Charts

BOOKS

1. Seema Acharya , Subhashini Chellappan --- Big Data And Analytics second edition, 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, Raj kamal,

Preeti Saxena, McGraw Hill, 2018.

4. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today'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

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.*

A.P. State Council of Higher Education
Semester-wise Revised Syllabus under CBCS, 2019-20
Four year B.A./B.Com.(Hons) (Hons)

Course Code:

Subject: **Computer Applications for Arts/Commerce**
Four year B.A. /B.Com. (Hons) Semester –V (from 2022-23)

Max Marks: 100

Course-7A: DATA SCIENCE USING PYTHON

(Skill Enhancement Course (Elective), 4 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, Oxford Publication

Course-7A: Data Science Using Python; 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. 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.

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.*

	Government Degree College (Autonomous) Nagari, Chittoor Dt. DEPARTMENT OF COMPUTER APPLICATIONS	Program ALL Courses
Course Code 2-SE-DL-R24	TITLE OF THE COURSE DIGITAL LITERACY	Semester-II Skill Enhancement Course -1
Credits : 1	Syllabus	Hours per week: 2

Unit-1: operate the elements of a computer and performing operations on the computer

Operate the elements of a computer including power cord, power switch, network connecting cable, USB ports, Mouse operations, Keyboard operations, interface icons, GUI elements, Editing options, perform operations including switching on the computer, logging in, locating a file, opening a file, printing a document, storing a file with proper extension, creating a folder/sub folder in a volume on hard disk and desktop, shifting files from one folder to another, shutting off the computer

Unit-2: Access the Internet to browse information and E-mail operation

Access the Internet, use a search engine, find information on the topic of interest, register for a web-based E-mail account, access E-mail with attachments, reply to an E-mail, forward an E-mail and delete an E-mail message

Unit-3: Make bill payments, other applications using Internet and word processing

Make utility bill payments, booking bus/train tickets, bank transactions, personal transactions, job search through employment portals, mobile/DTH recharge, word processing basics, creating, editing and formatting of text, saving and printing of word document

Semester - 3
Skill Enhancement Course
Information and Communication Technology
Hours per week : 2 Credits :1

UNIT-I: (08 hrs) Fundamentals of Internet: What is Internet, Internet applications, Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser –Types of Browsers, Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp .

UNIT-II:(08 hrs) E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management. G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-III:(10 hrs) Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues. What are GOI digital initiatives in higher education? (SWAYAM, SwayamPrabha, National Academic Depository, National Digital Library of India, E-SodhSindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).