

Government College for Men (Autonomous), Kadapa
Department of Computer Science/Applications

Structure of B.A Computer Applications for 1st year under CBCS

Year	Semester	Paper	Title	Hrs per week	Marks	Credits
First Year	I	I	COMPUTER FUNDAMENTALS AND OFFICE TOOLS	4	100	3
			COMPUTER FUNDAMENTALS AND OFFICE TOOLS LAB	2	50	2
	II	II	Programming in C	4	100	3
			Programming in C Lab	2	50	2

Govt. College for Men (A), Kadapa
B.A 1st Semester Computer Applications Syllabus under CBCS

Paper I: COMPUTER FUNDAMENTALS AND OFFICE TOOLS

Course Objectives:

To introduce the fundamental concepts of Computers, Hardware, Software and able to interact with documentation, PowerPoint, and Spreadsheet.

Course Outcomes:

1. To learn about Basics of Computers
2. To learn about basics of Hardware Components
3. To learn about basics of Operating System Software
4. To learn about basics of Application System Software
5. To practice handful exercises on Documentation, Spreadsheet, Presentation

Unit-I: Basics of Computers: Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices.

Unit-II: Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Panel.

Unit-III: MS-Word: Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge.

Unit-IV: MS-PowerPoint: Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation.

Unit-V: MS-Excel: Overview of Excel features – Creating a new worksheet, selecting cells, Entering and editing Text, Numbers, Formulae, referencing cells – Inserting Rows/Columns – Changing column widths and row heights, auto format, changing font sizes, colors, shading.

Prescribed Book:

1. Fundamentals of Computers by Reema Thareja, Second Edition, Publishers
2. Oxford University Press, India, ISBN: 9780199499274

References:

1. Fundamentals of Information Technology Including Lab Work by Vinod Babu Bandari, Publishers: Pearson
2. Fundamentals of Computers by Raja Raman, Publishers: PHI
3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R. Grohand Faithe Wempen, Publishers: Wiley

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)

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 word

COMPUTER FUNDAMENTALS AND OFFICE TOOLS LAB

Word

1. Create curriculum vitae of a graduate
2. Design a visiting card for an Organization
3. Create a letter as the main document and create 5 records for the 5 persons use mail merge to create letter for selected persons among 5.
4. Macro's concept implementation.

Spreadsheet

1. Students Marks, Result, Grade & Rank Calculation
2. Numberconversions:
Decimal to Octal, Hexa, Decimal, Binary conversion
Binary to decimal, octal, hexa decimal conversion Octal
to decimal, hexa decimal, binary conversion Hexa
decimal to decimal, octal, binary conversion
3. Column Chart
Bar Chart
Pie Chart

Powerpoint

1. Make a Power point presentation about Social Network.
2. Make a Power point presentation about College.
3. Make a PowerPoint presentation about the given topic.

Govt. College for Men (A), Kadapa
B.A 2nd Semester Computer Applications Syllabus under CBCS

PROGRAMMING IN C

Course Objective:

This course aims to provide exposure to problem-solving through programming. It introduces the concepts of the C Programming language.

Course Learning Outcomes:

On completing the subject, students will be able to:

1. Analyze a given problem and develop an algorithm to solve the problem.
2. Understand tokens and control structures in C.
3. Understand arrays and strings and implement them.
4. Understand the right way of using functions, pointers, structures and unions in C
5. Develop and test programs written in C.

UNIT - I:

12 Hrs.

Introduction to Algorithms: Algorithm - Key features of Algorithms - examples of Algorithms, Flow Charts.

Introduction to C: Structure of C Program, Writing the first C Program, Files used in C Program, Compiling and Executing C Programs, Using Comments, Keywords, Identifiers, Basic Data Types in C, Variables, Constants, I/O Statements in C, Operators in C, Type Conversion and Type Casting.

UNIT - II:

16 Hrs.

Decision Control and Looping Statements: Introduction to Decision Control Statements, Conditional Branching Statements, Iterative Statements, Nested Loops, Break and Continue Statement, Goto Statement.

Functions: Introduction, using functions – Function declaration/ prototype – Function definition function call – return statement – Passing parameters, Recursive functions.

UNIT - III:

16 Hrs.

Arrays: Introduction, Declaration of Arrays, accessing elements of the Array – Storing Values in Array, one dimensional array -declaration, initialization, accessing one dimensional array, passing one dimensional array to function, two dimensional Arrays - declaration, initialization, accessing two dimensional arrays, passing two dimensional arrays to functions.

Strings: Introduction, String and Character functions, String Operations using, String functions- strcat (), strcmp (), strcpy (), strlen ().

UNIT - IV:

8 Hrs.

Pointers: declaring Pointer Variable, Pointer Expressions and Pointer Arithmetic, Passing Arguments to Functions using Pointers, Memory Allocation in C Programs, Drawbacks of Pointers.

UNIT – V:

8 Hrs.

Structures: Introduction to structures, Arrays of Structures, Nested Structures. Union, and Enumerated Data Types: Introduction to Union – accessing union elements, Enumerated Data Types.

TEXT BOOKS:

1. Computer Fundamentals and Programming in C by REEMA THAREJA from OXFORD UNIVERSITY PRESS

REFERENCE BOOKS:

1. E Balaguru samy— Programming in ANSI C Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" – Pearson publications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. Yashavant Kanetkar – Let Us 'C' BPB Publications.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

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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

Programming in C lab

List of Experiments:

1. Write a C program to calculate the expression: $((a*b)/c)+(a+b-c)$
2. Write a C program to calculate $(a+b+c)^3$.
3. Write a C Program to convert temperature from
 - a. Celsius to Fahrenheit.
 - b. Fahrenheit to Celsius.
4. Write a C program to find roots of quadratic equation.
5. Write a C Program to convert Hours into seconds.
6. Write a C program to Find Biggest of Three numbers.
7. Write a C program to read student marks in five subjects and calculate the Total, Average and Grade according to the following conditions:
 - i. If average ≥ 75 grade is =A.
 - ii. If average ≥ 60 and < 75 grade is = B.
 - iii. If average ≥ 50 and < 60 grade is = C.
 - iv. Otherwise grade is =D.
 - v. Check that marks in each subject ≥ 35 .
8. Write a C Program to display number of days in given month using Switch – -Case.
9. Write a C Program to check whether a given number is perfect or Not.
10. Write a C program to check whether the given number is Prime or Not.
11. Write a C program to Check whether given number is Palindrome or Not.
12. Write a C Program to check whether a given number is Armstrong or Not.
13. Write a C program to print Fibonacci Series.
14. Write a C program to print multiplication tables up to given range.
15. Write a C program to perform i) Matrix addition ii) Matrix Multiplication.
16. Write a C program to find largest number in the array.
17. Write a C Program to find factorial of a given number using functions.
18. Write a C Program to accept and display Student Details using Structures.
19. Write a C Program to swap two numbers using different parameter passing techniques.

Government College For Men (A), Kadapa
LIFE SKILL COURSE-I Semester-I
Basic Computer Applications

Objectives:

This course aims at providing exposure to students in skill development towards basic office applications.

Course Learning Outcomes:

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

1. Demonstrate basic understanding of computer hardware and software.
2. Apply skills and concepts for basic use of a computer.
3. Identify appropriate tool of MS office to prepare basic documents, charts, spreadsheets and presentations.
4. Create personal, academic and business documents using MS office.
5. Create spreadsheets, charts and presentations.
6. Analyse data using charts and spread sheets.

Unit-I: (08 hrs)

Basics of Computers: Definition of a Computer - Characteristics of computers, Applications of Computers – Block Diagram of a Digital Computer – I/O Devices, hardware, software human ware, application software, system software, Memories - Primary, Auxiliary and Cache Memory. **MS Windows** – Desktop, Recycle bin, My Computer, Documents, Pictures, Music, Videos, Task Bar, Control Panel.

Unit-II: (08 hrs)

MS-Word: Features of MS-Word - MS-Word Window Components - Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Mail Merge.

Unit-III: (10 hrs)

MS-Excel: Overview of Excel features – Creating a new worksheet, selecting cells, Entering and editing Text, Numbers, Inserting Rows/Columns – Changing column widths and row heights, Formulae, referencing cells, Changing font sizes and colors, Insertion of Charts, Auto fill, Sort.

MS-PowerPoint: Features of PowerPoint – Creating a Presentation - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and scaling of an Object – Slide Transition – Custom Animation.

RECOMMENDED CO-CURRICULAR ACTIVITIES: (04 hrs)

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

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, Group Discussion
4. Solving MCQ's available online.
5. Suggested student hands on activities:
 - Create two folders, Rename the folder, create two files each using notepad and paint, move the files from one folder to another folder, delete a file you have created, copy and paste text within notepad.
 - Create a letter head for your college with watermark, your resume, visiting card, brochure for your college activity, organization chart for your college, any advertisement, Prepare your Class time table.
 - Prepare your mark sheet, prepare your class time table, prepare a salary bill for an organization, Sort the bill as per the alphabetical order of the names, get online weather data and analyze it with various charts.
 - Create a PowerPoint presentation for a student seminar.

REFERENCE BOOKS:

1. Working in Microsoft Office – Ron Mansfield - TMH.
2. MS Office 2007 in a Nutshell –Sanjay Saxena – Vikas Publishing House.
3. Excel 2020 in easy Steps-Michael Price – TMH publications

Government College For Men (A), Kadapa
LIFE SKILL COURSE-II semester-II
Information & Communication Technology

Objectives:

This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

Course outcomes:

After completion of the course, student will be able to:

1. Understand the literature of social networks and their properties.
2. Explain which network is suitable for whom.
3. Develop skills to use various social networking sites like twitter, flickr, etc.
4. Learn few GOI digital initiatives in higher education.
5. Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
6. Get acquainted with internet threats and security mechanisms.

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, Swayam Prabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES: (04 hrs)

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

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 and Group Discussion
4. Slip Test
5. Try to solve MCQ's available online.
6. Suggested student hands on activities:
 - Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
 - Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
 - Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Code academy, Coursera. Create a registration form for your college campus placement through Google forms.