

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Communication Skills-I
Course Code:	12-AEC102-1C
Pre-requisite Course:	Basic knowledge of English Grammar

Course Objectives:

- The objective of this course is to acquaint the students with the basic concepts and techniques of communication that are useful in developing skills and communicating effectively.
- This course aims to develop and enhance the linguistic and communicative competence of the students by improving Listening, Speaking, Reading, Writing (LSRW) skills.
- The course also intends to assist the students to expose themselves to various forms of personal and professional communication.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	-	2	25	25	-	-	50

Course Contents:

Sr. No	Topic	Total Hours	Weightage (%)
1	Revisiting the English Grammar : Communicative English Grammar: Tenses, Parts of Speech, Everyday use of Modal Auxiliaries, Vocabulary building. Fundamentals of Communication: Basic building blocks of typical communication: History, Definitions, Process, Importance, Barriers. Nature of Communication, Two way process of Communication, Objectives & Levels of Communication, Communication Gap, Four Skills (LSRW) for communicative ability.	10	25
2	Listening: Difference between 'Listening' and Hearing', Listening as the first step to learn language, Types of Listening, Traits of a good listener. Various ways and means of 'Listening'. Various classroom activities.	6	15
3	Reading: Reading as a skill, Importance of effective reading, Reading comprehension & its strategies, Paralanguage for effective reading. Various class room activities.	6	20
4	Speaking: Explain following traits of speech: Volume, pitch, tone, rhythm, and intonation. (Teacher has to observe the given traits of the speaker in practical terms too). Various classroom activities.	6	20
5	Writing skill: Four C's of writing, Essentials of writing, Layout of varied business documents, Job application: Cover Letter and Resume. Informal writing practice: Leave application; complain to government authorities, E-mail etiquettes and drafting Email. Various classroom activities.	7	20

Course Learning Outcomes:

At the end of this course, the students would be able to :

1. Students will be able to learn and understand the four major skills of Communication i.e. LSRW.
2. Students will be enriched with good vocabulary and diction.

- Students' comprehension skills will be enhanced by this course.
- Students will be able to Develop and/or present verbal, visual, and multimedia materials as necessary, in
- individual and/or collaborative projects, as appropriate.

List of References:

- Raymond Murphy, Essential English Grammar: A Self-Study Reference and Practice Book for Elementary Students of English with Answers, Cambridge University Press
- Leech, Geoffrey and Jan Svartvik. A Communicative Grammar of English. New Delhi: Pearson, 2009.
- Business Correspondence and Report Writing by R. C. Sharma & Krishna Mohan (TMH Publication)
- A Guide to Business Correspondence and Communication skills by A. N. Kapoor (S.Chand & Company)
- Robert J.Dixon., Everyday Dialogues in English, Prentice-Hall of India Pvt. Ltd., New Delhi, 2007.
- Contemporary English Grammar Structure & Composition- David Green- Macmillan

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

- Listening audio and video dialogues
- Seminar and Presentation cycles
- Group Discussion
- Reading comprehension exercise through Newspaper articles or technical text
- Movie review
- Precise writing
- Drafting of informal applications and emails

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1		M		M		M		M	M	M			M	M		
CLO2		H		M	M	M		H	M	M		H	M	M		
CLO3	M	M		H		M	L	H	M	M		H	M	M	M	
CLO4	H	H		M		M	M	H	M	M		H	M	M		
CLO5																
CLO6																

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Java Script & CSS Boot Strapping with HTML
Course Code:	12-CAE208-1C
Pre-requisite Course:	Basic knowledge of HTML and CSS

Course Objective:

- This course is intended to make the students main focus about web template.
- Various types of web template how to customize the web template.
- Concept of HTML, CSS, Javascript with responsive and boot strap technology.
- This will lead the students towards web designing in their final semester project work as well in IT industry as front-end developer or web designer.
- The silent objective of this subject to encourage the students towards designing aspects and technology that will helpful for placement as well as emerging technology for future study.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No	Topic	Total Hours	Weightage (%)
1	Introduction to JavaScript: History of JavaScript, Advantages, Limitations, Script element Types and Statements: Keywords in JavaScript, Overview of Data types, Primitive Data types, Non-primitive Data types, Conditional statements, I/O in JavaScript, Loops	9	20
2	Operators: Introduction to operators Arithmetic, Comparison, Ternary, Logical, Language, Bitwise Functions in Java Script: Introduction to functions, Function definition, Passing values, Returning values, Recursion functions Arrays and Strings: Introduction to Arrays, Array declaration, Array access methods, String properties, String access methods	9	20
3	Event handling & DOM, BOM: Introduction of objects and methods, JavaScript events, Event handler, Event listeners, Event types, Introduction to DOM & BOM	9	20
4	Form Handling: Introduction to forms, Form processing, Forms object, Accessing data from forms, Form validation	9	20
5	Overview of Bootstrap: Introduction of Bootstrap, Syntax of Bootstrap, Container and Container-fluid, Connectivity of Bootstrap in page Bootstrap Component: Jumbotron, Button, Grid, Table, Form, Alert, label, Panels, Image etc.	9	20

Course Outcomes:

At the end of this course, the student would be able

- CLO.1: To understand Java script as calculative part of web page.
- CLO.2: To understand Java script as OOPs concept of functions.
- CLO.3: To understand Java script as primary validations as client side.
- CLO.4: To understand Java script as HTML form validations.
- CLO.5: To understand Java script as CSS as designing tool as layout.
- CLO.6: To implement static web site and its template as web designing.

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. Write JavaScript Program to Print Hello World.
2. Write JavaScript Program to Swap Two Variables.
3. Write JavaScript Program to Check Prime Number.
4. Write JavaScript Program to Find the Factorial of a Number.
5. Write JavaScript Program to Display the Multiplication Table.
6. Write JavaScript Program to Print the Fibonacci sequence.
7. Write JavaScript Program to declare an array and print using for loop.
8. Write JavaScript Program to Sort Words in Alphabetical Order
9. Write JavaScript program to find GCD from two integers using Recursion
10. Write JavaScript Program to create calculator.
11. Write JavaScript Program to check static login user.
12. Write a JavaScript code using User Defined Function which will calculate the area of circle.
13. Write a JavaScript code to change the background color of the Web Page.
14. Display Alert Message on Button Click Event using JavaScript
15. Write Java Script program for convert Km. to Miles.
16. Write java Script to check textbox should not be empty.
17. Write JavaScript to allow only alphabets in input field.
18. Write JavaScript - Allow only numbers in Textbox (Restrict Alphabets and Special Characters)
19. Write a JavaScript - Display Input Text into Uppercase
20. Write java Script for Form Validation
21. Implement Web bootstrapping as HTML primary tag level.

Text & Reference Books:

1. Head First HTML and CSS, A Brain Friendly Guide by Elisabeth Robson & Eric Freeman Published by O'Reilly
2. CSS Web Designing for Dummies by Richard Mansfield Published by Wiley Publishing Inc.
3. Visual Quick Start Guide HTML and CSS by Elizabeth Castro and Bruch Hyslop Published by PeachpitPress
4. Web Designing with HTML and CSS Digital Classroom by Jeremy Osborn, Jennifer Smith and the AGI training Team Published by Wiley Publishing Inc.

E-Resources/ Web Links:

- <https://www.w3schools.com/js/>
- <https://www.tutorialspoint.com/javascript/index.htm>
- <https://www.javascripttutorial.net/>
- <https://www.javatpoint.com/javascript-tutorial>
- <https://javascript.info/>

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L		M	M	M		M	M			M		L			
CLO2	L	M		H	M	M	M		M				L			
CLO3		H	L	M	M	M	L	M			L	L		M		
CLO4		H	M	L		H	M	L	M				M	M		
CLO5	L		M	L	M	H	M		M		L	L		M		
CLO6	L	M	M	L	M	H	M	L	M		M	L	M	M		

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Cyber Law
Course Code:	12-CAE210-1C
Pre-requisite Course:	-

Course Objective (CO):

This course is intended to make the students

- To learn the foundations of Cyber law and threat.
- To equip students with the case study base on various cyber crime on this digital era.
- To develop awareness for digital crime and its protection.
- To understand the IT Act 2000 and its policies of jurisdiction.
- To expose the important of Data Privacy act in this Mobile world.
- To analyse the emerging trend of Cyber Space as case study base.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1	Overview of Cyber Law : Definition , history , Need , Classification / Types of Cyber Law , Traditional V/S Cyber Crime	6	20%
2	Cyber Crime and its laws : Case study base: Data Theft , Hacking , Spreading Virus & Worms , Phishing , Cyber Stalking / Bullying , Identity Theft & Impersonation , Credit card & Online Banking Frauds , Obscenity, Pornography & Child Pornography : Case Study on unit base	8	20%
3	Cyber Crime and its laws : Case study base : Cyber Defamation, Defacement, Illegal online selling & Gambling , Denial of Service Attacks , Cyber terrorism ,Software Piracy & illegal downloading : Case Study on unit base	8	20%
4	IT Act 2000 and Cyber Space : History of IT Act , overview of IT Act 2000 , Various authorities under IT act 2000 , Penalties & Offences, amendments , Overview of cyber space jurisdiction. New issue in Cyber Space on Cloud Computing , Big data , Internet of Things , Block chain – Case study base unit	10	20%
5	Concept of Data privacy and Protection : Need to protect data in cyberspace , Types of data , Legal framework of data protection , Data protection bill -an overview , GDPR Concept of privacy , Privacy concerns of cyberspace – Case Study on unit base	8	20%

Course Learning Outcomes (CLO.):

At the end of this course, the student would be able

- CLO.1 To understand the basics of Cyber Crime types and Law.
- CLO.2 To understand Case study base crime and its Cyber law.
- CLO 3 To focus on IT ACT 2000 and make case study.
- CLO 4 To analyse Cyber Space and Data protection.

Text Book:

1. Ian J Lloyd, Information Technology Law, Oxford University Press, 7th Edition, 2014
2. Nandan Kamath, Law Relating to Computers Internet & E Commerce Universal Law Publisher, 5th Edition, (2012)

Reference Book:

1. Aparna Viswanathan, Cyber Law Indian and International Perspectives, Lexis Nexis, 2012
2. Karnika Seth, Computers, Internet and New Technology Laws-A comprehensive reference work with special focus on developments in India. Lexis Nexis, Updated Edition 2016
3. Anirudh Rastogi, Cyber Law, Lexis Nexis, 2014 Fundamentals of Network Security by E. Maiwald, McGraw Hill.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L		L	L		H	M	L	H	L			L		M	
CLO2	L		M		L		L		M	L		L	L	H		
CLO3		L	M	L	M	H		H	L		M			L		
CLO4	H		L	M	M			M		M		H	M		H	
CLO5																
CLO6																

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Python Programming
Course Code:	12-CAM207-1C
Pre-requisite Course:	Python Basic, Condition, Loop, functions, file handling, Python GUI

Course Objective:

- This course is focus to learn about emerging programming concept that learns python importance, history, and area of python as technology development.
- For UG level python with variable, control statement.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No.	Topics	Total Hours	Weightage (%)
1.	Beginning with Python : • Introduction of Python • Features of Python • History of Python • Python Virtual Machine • Memory Management in Python • Comparisons between C and Python	10	20
2.	Programming skills with Python : • Data types in Python: Built-in data type • Operators in python • Input – output statement of python • Variable declaration with data types • Control statements: Conditional Statement. If Statement, If Else statement, Comprehension statement (multiple conditions) • Looping: for loop, while loop	10	20
3.	Built In Functions of Python: • Built in general functions • String Methods: • List Methods: • Tuples Methods:	10	20
4.	File handling in python: • Introduction of File handling in python • Opening and reading text file • Using loop read text file • Writing data in the file • Reading file in buffer size • Writing data in binary file	9	20

	Manipulation of file process using renaming and deleting file.		
5.	Python GUI – tkinter - Importing the module – tkinter - Create the main window (container) - Add any number of widgets to the main window - Apply the event Trigger on the widgets.	9	20

Course Learning Outcomes:

At the end of this course, the student would be able

- CLO.1 : To understand the scope of python
- CLO.2 : To understand and implement programming concepts in python.
- CLO.3 : To understand inbuilt library of python with functions.
- CLO.4 : To understand and implement File handling using python.
- CLO.5 : To understand GUI programs
- CLO.6 : To understand Tkinter

List of References:

- 1) A Byte of Python, By Swaroop C H
- 2) Python Cookbook, Recipes of Mastering Python 3, By David Beazely & Brian K. Jones
- 3) Core Python Programming By, Dr. R. Nageswara Rao, 2018 edition

E-Resources/ Web Links:

- <https://www.tutorialspoint.com/python/index.htm>
- <https://docs.python.org/3/tutorial/>
- <https://www.python.org/about/gettingstarted/>
- <https://www.w3schools.com/python/>
- <https://www.programiz.com/python-programming>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. Write a Python program to display 'Hello World' Message on Screen.
2. Write a Python program to swap two variables
3. Write a Python program to display the Fibonacci series
4. Write a Python program to calculate sum of given number.
5. Write a Python Program to print first prime number.
6. Write a Python Program to check Armstrong Number
7. Write a Python Program to create a sequence of numbers using range data type to display 1 to 30, with an increment of 2.
8. Write a Python Program to find area of circle.
9. Write a Python program to implement Factorial series up to user entered number.
10. Write a Python program to check the given number is palindrome or not.
11. Write a python program to display ascending and descending order from given 10 numbers.
12. Write a Python program to print the duplicate elements of an array
13. Write Python programs to create functions and use functions in the program.

14. Write Python programs to using lambda function.
15. Write Python programs to load the module in Python code.
16. Write a program to print following pattern

```

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

```
18. Write Python programs to implement a concept of list.
19. Write Python programs to implement a concept of tuples.
20. Write Python program to add your input data into scjpcps.txt file
21. Write a Python program to read data fromscjpcps.txt.
22. Write a Python program to Displaying Text and Images With Label Widgets
23. Displaying Clickable Buttons With Button Widgets
24. Write a Python program to Getting User Input With Entry Widgets
25. Write a Python program to Getting Multiline User Input With Text Widgets
26. Write a Python program to Assigning Widgets to Frames With Frame Widgets
27. Write a Python program to Adjusting Frame Appearance With Reliefs
28. Write a Python program to Understanding Widget Naming Conventions.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L	M		M	M	M			M					M		
CLO2			L	M	M	L	L		M					L		
CLO3		M	L	H	M	L	L	L					M			
CLO4	L	L		M	M	M	L		L					L		
CLO5	L	L	M	M	M	H	M	M	M	L	H	M	M	M		
CLO6	L	M	M	H	M	H	M	H	M	L	H	M	H	M	M	

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Advance Programming using C
Course Code:	12-CAM301-1C
Pre-requisite Course:	Basic Knowledge of C language.

Course Objective:

- This course is intended to develop problem solving skills in students with advance programming skills.
- Students are expected to learn advance programming concept using C language.
- The course aims to make the students formulate a complete problem in an advanced programming language and solve it.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	4	4	25	25	25	25	100

Course Contents:

Sr. No	Topics	Total Hours	Weightage (%)
1	User-Defined Functions: Introduction, Need for user-defined functions, Arguments and return types, Classifications of function using arguments and return types, Nesting of functions, Recursion, Functions with arrays, The scope and lifetime of variables in functions	9	20
2	Structures and Unions: Introduction, Structure definition, Giving values to members, Structure initialization, Comparison of structures variables, Arrays of structures, Arrays within structures, Structures within Structures, Structures and functions, Unions, Size of structures, Bit fields.	9	20
3	Pointers: Introduction, Understanding pointers, Accessing the address of a variable, Declaring and initializing pointers, Accessing a variable through pointer, Pointer expressions, Pointer increments and scale factor, Pointers and arrays, Pointers and character strings, Pointers and Functions, Pointers and structures.	9	20
4	File Management in C: Introduction, Defining, creating and opening a file, Closing a file, Input / Output operations on files, Error handling during I/O operations, Random access files, Command line arguments. Dynamic Memory Allocation: Introduction, Dynamic Memory allocation, Memory allocation functions (malloc, calloc etc). Basic linked list operations.	9	20
5	The Preprocessors: Introduction, Types of Preprocessors Directives. Macro: Introduction, Format of Macro, Simple Macro Substitution, Argument Macro Substitution, Nested Macro Substitution, File inclusion, Compiler control directives	9	20

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

- CLO 1.To have fundamental knowledge on flowcharts and algorithms
- CLO 2. To formulate the problem and express the same using flowcharts and algorithms
- CLO 3.To understand the basic terminology used in computer programming using C
- CLO 4.To study, analyze and understand logical structure of a computer program, and different construct to develop a program in 'C' language
- CLO 5.To write, compile and debug programs in C language
- CLO 6.To design programs involving decision structures, loops and functions

Course outcomes:

At the end of this course, the student would be able

- To understand the concept of software modules (using function).
- To use by structure, unions and pointers in designing application in C
- To apply the knowledge of the advance concepts in using dynamic memory allocation
- To understand store/retrieve data to/from files on auxiliary memory

List of References:

1. Programming in ANSI C, By E Balaguruswami, Tata McGraw-Hill Publishing Company Limited.
2. Programming with C, By Bayron Gottfried, Tata McGraw-Hill Edition.
3. Let Us C, By Yashavant Kanetkar, BPB Publications.
4. Working with C, By Yashavant Kanetkar, BPB Publications.
5. C in Depth, By Suresh K. Srivastava, BPB Publications.
6. Programming in C, by Reema Thareja Publisher – Oxford.

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. Write a program to check the given number is Palindrome or not using User Defined Function (UDF).
2. Write a program to find factorial of given no using UDF.
3. Write a program to find factorial of given no using recursion.
4. Write a program to display first 25 terms of Fibonacci series using recursion.
5. Write a program using a recursive function to find the GCD (Greatest Common Divisor) of two Positive integer numbers.
6. Write a program to swap value of two integer number using UDF
7. Write a function prime that returns 1 if its argument is a prime and return zero Otherwise.
8. Write a program that will print the longest word written in a line using UDF.
9. Write a program that will scan a character string passed as an argument and convert all Lowercase character into their uppercase equivalents using UDF.
10. Write a program that uses a UDF to sort an array of integer.
11. Write a program to search a number within an array using UDF.
12. Write a program which explains the use of nesting of functions.
13. Write a function power that computes x raised to the power y for integers x and y and return Double-type value.
14. Define a structure type struct personal that would contain person name, date of joining and salary using this structure to read this information and Display on screen.
15. Design a structure student_records to contain Roll_no, Name, City and Percentage obtained. Develop a program to read data for 5 students and Display them.
16. Write a program using structure within structure.
17. Write a program using structure within Function.
18. Write a program declare following structure member: name, code, age, weight and height. Read all members of the structure for 10 persons and find list of persons with all related data whose weight > 50 and height > 40 and print the same with suitable format and title.
19. Write a program to print the value and address of the element.
20. Write a program to use of pointer in arithmetic operation.
21. Write a program to accept 10 numbers and display its sum using pointer.
22. Write a program to accept 10 numbers and sort them with use of pointer.
23. Write a program to swap the two values using pointers and UDF.
24. Write a program with structure and pointer.
25. Write a program using pointer to determine the length of a character string.
26. Write a program using pointers to read an array of integers and print its elements in reverse order.
27. Write a program using UDF and pointers to add two matrices and to return the resultant matrix to the calling function.
28. Create one text file store some information into it and print the same information on Terminal.
29. A file named data contains series of integer no. Write a c program to read that no. and then Write all odd no into file

named odd no. and write all even no into file named even no. Display all the contents of these file on screen.

30. Write a c program to read data from keyboard, write it to a file called input and Display data of input file on the screen.

31. Write a program that counts the number of characters and number of lines in a file.

32. Write a c program to read mark data which contains roll no, name, sub1, sub2, sub3 file and generate the annual examination results are tabulated as follows:

Result

Roll no Name Sub1 Sub2 Sub3 Total per% Class

33. Write a c program to input employee no, employee name and basic and to store output into empdata file in following format.

A/c Department

Emp-No Name Basic DA HRA MA PF GROSS

NET-PAY 1 xyz 5000 2500 500 100

500 8100 7600

2

3

DA = 50% of Basic HRA = 10% of

Basic MA = 100 PF = 10% of Basic

GROSS = BASIC + DA + HRA + MA NET-PAY = GROSS – PF

34. Write a c program to read empin data file which contains empno, empname and basic. To create empout data file as per practical no 33 format.

35. Write a program using fseek and ftell functions.

36. Two files DATA1 and DATA2 contain sorted lists of integers. Write a program to produce a third file DATA which holds a single sorted, merged list of these two lists. Use command line arguments to specify the file names.

37. Write a program to work as a dos copy con command using command line argument.

38. Write a C program to work as a dos type command using command line argument.

39. Write a C program to work as a dos copy command using command line argument.

40. Write programs which explain the use of memory allocation functions.

41. Write a program which explains the use of macro.

Mapping of CLO with PO And PSO

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	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L	M		H	H	M		L	L				L			
CLO2			L	M	M	L		H						L		
CLO3		M	L	H	M	M	L	L							M	
CLO4	L	L		M	M	L	L		M					M		
CLO5		L	M		M		M		L				L	H		
CLO6	M	M	M	H	H	M	M	H	H				H	M	M	

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Statistical Computing
Course Code:	12-MDC211-1C
Pre-requisite Course:	Basic Knowledge of Computer

Course Objective:

The objective of this course is basic knowledge of statistical concepts like measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting. This course intended to learn the theory of optimization methods and algorithms developed for solving various types of optimization problems

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	-	2	4	50	25	-	25	100

Course Contents:

Sr. No	Topics	Total Hours	Weightage (%)
1	FREQUENCY DISTRIBUTION Class interval, Types of Classes, Class frequency, Class mark, Class Boundaries, Width of a class, Relative frequency, Percentage frequency, Cumulative frequency. MEASURES OF CENTRAL TENDENCY Introduction, Arithmetic Mean for raw data, Discrete frequency distribution, Continuous frequency distribution, Properties of A.M., Merits & Demerits of A.M.- Median for raw data, Discrete frequency distribution, Continuous frequency distribution, Merits and demerits of Median, Mode for raw data, Discrete frequency distribution, Continuous frequency distribution, Merits & demerits of mode	12	25
2	MEASURES OF DISPERSION Introduction, Range, coefficient of range, Quartiles, Quartiles deviations, coefficient of quartile deviations, Mean deviation and coefficient of mean deviation, S.D and variance for all types of frequency distribution, Coefficient of variation	9	15
3	CORRELATION Definition of Correlation, Types of Correlation, Scatter Diagram Method, Karl Person's, Correlation Coefficients, Rank Correlation Coefficients, Correlation Coefficients for Bi-variant frequency distribution, Probable error for Correlation Coefficients	9	20
4	REGRESSION Definition of Regression, Regression lines, Regression Coefficients, Properties of regression Coefficients, Fitting of regression lines and estimation for Bi-variant frequency distribution	9	20
5	Sampling Methods: Meaning of Population and sample, Difference between Population survey V/S Sample Survey, Characteristics of ideal sample, Sampling Methods: Procedure, Merits, Demerits and Calculation - Simple random sampling, Stratified random Sampling, Multi Sampling (Theory Only), Cluster Sampling (Theory Only)	9	20

Course Learning Outcomes:

At the end of this course, the students would be able to:

- CLO.1 : Analyze the statistical data.
- CLO.2 : Calculate and apply measures of location and measures of dispersion grouped and ungrouped data cases.
- CLO.3 : Apply discrete and continuous probability distributions to various business problems

- CLO.4 : Handle, solve and analyze problems using linear programming and other mathematical programming algorithms.
- CLO.5 : Learn different techniques to solve Non- Linear Programming Problems.
- CLO.6 : Deal with real world problems of Network analysis, Project Management for their optimal solutions.

List of References:

1. Statistical Methods, S.P. Gupta, Published by New India Publishing Agency
2. Business Statistics, R.S. Bhardwaj, Publishing Made Easy · Alexa
3. Fundamental of Statistics, S.C. Gupta, Publisher: Himalaya Publishing
4. Operation Research, Sharma S.D., Kedar Nath & Co. Meerut, 1988-89.

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. Write a program to calculate the Arithmetic Mean of N numbers using an array.
2. Write a program to calculate Median of N numbers.
3. Write a program to find Mode of N numbers.
4. Write a program to find Standard Deviation of N numbers.
5. Write a program to calculate Range.
6. Write a program to calculate Quartile Deviation.
7. Creating a datasheet of numbers for given data.
8. Creating invoice numbers for given data.
9. Creating a bill book of numbers for given data.
10. Creating histogram, standard Error for given data etc.

Mapping of CLO with PO And PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L		M	M	L		M	M			M		L			
CLO2	L	M		H	M	M	M		M	M			L			
CLO3			L	M	M	M	L	M			L	L		M		
CLO4		M	M	L		H	M	L	M	L			M	M		
CLO5	L		M	L	M	H	M		M		L	L	M	M		
CLO6	M	L			M					M		L		L		

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	
Course Title:	PC-Assembling and Maintenance
Course Code:	12-SEC103-1C
Pre-requisite Course:	Select the essential components of a computer, Select computer components for specific needs, Assemble the components of a computer.

Course Objective:

- This course aims to make the students familiar with basic hardware components and functions of computer system parts.
- This course aims to make the students familiar with configuration and installation of hardware components and computer system parts.
- This course enables the students to understand the fundamentals of PC assembly.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
-	-	4	2	-	-	25	25	50

Course Contents:

Sr. No	Topics	Total Hours	Weightage (%)
1	Hardware Fundamentals. To identify the different parts of computer and peripherals. Function of various parts of Computer. Power Supply Unit, Motherboard, Central Processing Unit with heat sink, Other Chipset, RAM – Random Access Memory & ROM – Read Only Memory, BIOS – Basic Input / Output System, CMOS IC, Different types of Buses (ISA & PCI) and Connectors, Different types of I/O Ports, Jumpers, Display Card. HDD – Hard Disk Drive, CD-ROM Disk & Disk Drive, DVD – Digital Versatile Disk. NIC – Network Interface Card, Sound Card, Other Add-ON Cards, Keyboard & Mouse, MODEM, Printers & Plotters, Scanner, PDA and gadgets	3	20
2	Computer Assembling: Collect the proper/required computer parts and tools. Sequence steps to assemble a computer as per guidelines provided by the expert. Steps to upgrading a computer system. Computer Configuration: Run CMOS setup utility and configure computer system	4	20
3	Operating System Fundamentals: To identify the basic feature of different types of Operating Systems	3	20
4	Operating System Installation: Selection of the operating system regarding Configuration of computer, installation of various operating systems	3	20
5	Troubleshooting and Preventive Maintenance. Identify the proper area of error / trouble / Fault. Identify the software / Hardware error. Software Errors: Installation Problem, Booting Problem. Device Driver Problem, File Corruption. Virus Problem, Memory Problem. Hardware Errors: Power Problem, Short-Circuit. Fusing / Burning Problem, Display Problem. Memory Problem, CMOS problem.	3	20

Course outcomes:

After completion of this course students would be able:

1. To have fundamental knowledge on computer hardware.
2. To understand the basic terminology used in computer peripheral devices.
3. To assemble and disassemble various peripheral devices of a Computer System.

4. To troubleshoot and repair various Operating Systems.
5. To get the knowledge of working of different hardware components.

List of reference: -

1. Computer today -By Donald (McGraw Hill)
2. Servicing personal computers- By Michael H Tooley.
3. PC AND CLONES Hardware, Troubleshooting and Maintenance Govindarajulu, Tata Mc- grow- Hill Publication
4. PC Troubleshooting and Repair Stephen J. Bigelow Dream tech Press, New Delhi

E-Resource / Web Links:

- <http://williamstallings.com/ComputerOrganization/>
- <https://www.pearsonhighered.com/cs-resources/products/product.html#product,isbn=0132916525>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. To implement POST (power on self-test) operation.
2. Identify various input and output devices and connect the same with cabinet.
3. Identify various components within the cabinet (on the motherboard) and learn the interconnections among them.
4. Identify various components within the cabinet (off the motherboard) and learn the interconnections among them.
5. Connect various computer parts to SMPS (Switch mode power supply).
6. Connect and Configure RAM, ROM and HDD on mother board.
7. Identify various components used in networking in your laboratory. Learn the interconnection between the component, computer and server.
8. Connect and Configure processor on motherboard.
9. Connect and Configure NIC CARD, VGA CARD, SOUND CARD and all DATABUS cable on mother board.
10. Connect and Configure printer and Scanner to CPU.
11. Connect and Configure MODEM to CPU.
12. Assembling and Disassembling of a Computer System

Mapping of CLO with PO And PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L		H	M	M		L	L		M	L	L	H	M	M	
CLO2		L			L			M						M		
CLO3	M	L	M		L	M	M		M			M	M		H	
CLO4				H		M		L		L				M		
CLO5		L		L	L		L		M		M		H	H		
CLO6																

H: High, M: Medium, L: Low

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Universal Human Values-II
Course Code:	12-VAC106-1C
Pre-requisite Course:	Basic Knowledge of Professional Ethics

Course Objective:

- The course provides good knowledge of Professional Ethics.
- Understanding Harmony in the Family and Society- Harmony in Human Relationship

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	-	-	4	25	25	-	-	50

Course Contents:

Sr. No	Topics	Total Hours	Weightage (%)
1	Course Introduction - Need, Basic Guidelines, Content and Process for Value Education: • Understanding the need, basic guidelines, content and process for Value Education • Self-Exploration-what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self-exploration • Continuous Happiness and Prosperity- A look at basic Human Aspirations • Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority • Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario • Method to fulfill the above human aspirations: understanding and living in harmony at various levels	6	10
2	Understanding Harmony in the Human Being - Harmony in Myself: • Understanding human being as a co-existence of the sentient 'I' and the material 'Body' 8. Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha • Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer) • Understanding the characteristics and activities of 'I' and harmony in 'I' • Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail • Programs to ensure Sanyam and Swasthya - Practice Exercises and Case Studies will be taken up in Practice Sessions.	4	10
3	Understanding Harmony in the Family and Society- Harmony in Human Human Relationship • Understanding Harmony in the family – the basic unit of human interaction • Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship • Understanding the meaning of Vishwas; Difference between intention and competence • Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship • Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals	4	10

	Visualizing a universal harmonious order in society- Undivided Society (Akhand Samaj), Universal Order (Sarvabhaum Vyawastha)- from family to world family! - Practice Exercises and Case Studies will be taken up in Practice Sessions.		
4	Understanding Harmony in the Nature and Existence - Whole existence as Co-existence - Understanding the harmony in the Nature - Interconnectedness and mutual fulfillment among the four orders of nature recyclability and self-regulation in nature - Understanding Existence as Co-existence (Sah-astitva) of mutually interacting units in all-pervasive space - Holistic perception of harmony at all levels of existence - Practice Exercises and Case Studies will be taken up in Practice Sessions.	6	10
5	Implications of the above Holistic Understanding of Harmony on Professional Ethics - Natural acceptance of human values - Definitiveness of Ethical Human Conduct - Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order - Competence in professional ethics: a) Ability to utilize the professional competence for augmenting universal human order b) Ability to identify the scope and characteristics of people-friendly and ecofriendly production systems, c) Ability to identify and develop appropriate technologies and management patterns for above production systems. - Case studies of typical holistic technologies, management models and production systems - Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers b) At the level of society: as mutually enriching institutions and organizations	4	10

Course Learning Outcomes (CLO.):

At the end of this course, the student would be able

1. Introduce yourself in detail. What are the goals in your life? How do you set your goals in your life? How do you differentiate between right and wrong? What have been your achievements and Shortcomings in your life? Observe and analyze them.
2. List down all your desires. Observe whether the desire is related to Self (I) or Body. If it appears to be Related to both, see which part of it is related to Self (I) and which part is related to Body.
3. Observe on how many occasions you are respecting your related ones (by doing the right evaluation) and on how many occasions you are disrespecting by way of undervaluation, over-evaluation or otherwise evaluation
4. Write a note in the form of story, poem, skit, essay, narration, dialogue to educate a child. Evaluate it in a group. Develop three chapters to introduce 'social science- its need, scope and content' in the primary education of children
5. Suggest ways in which you can use your knowledge of Technology/Engineering/ Management for universal human order, from your family to the world family.
6. Course Introduction - Need, Basic Guidelines, Content and Process for Value Education.
7. Understanding Harmony in the Family and Society- Harmony in Human Human Relationship
8. Implications of the above Holistic Understanding of Harmony on Professional Ethics.

List of References:

The primary resource material for teaching this course consists of

- The text book R.R Gaur, R Sangal, G P Bagaria, A foundation course in Human Values and professional Ethics, Excel books, New Delhi, 2010, ISBN 978-8-174-46781-2
- The teacher's manual R.R Gaur, R Sangal, G P Bagaria, A foundation course in Human Values and

professional Ethics – Teachers Manual, Excel books, New Delhi, 2010

- A set of DVDs containing
 - · Video of Teachers' Orientation Program
 - · PPTs of Lectures and Practice Sessions
 - · Audio-visual material for use in the practice sessions

In addition, the following reference books may be found useful for supplementary reading in Connection with different parts of the course:

1. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.
2. PL Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
3. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
4. Ivan Illich, 1974, Energy & Equity, the Trinity Press, Worcester, and HarperCollins, USA
5. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, limits to Growth, Club of Rome's Report, Universe Books.
6. Subhas Palekar, 2000, How to practice Natural Farming, Pracheen(Vaidik) Krishi Tantra Shodh, Amravati.
7. A Nagraj, 1998, Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak.
8. E.F. Schumacher, 1973, small is Beautiful: a study of economics as if people Mattered, Blond & Briggs, Britain.
9. A.N. Tripathy, 2003, Human Values, New Age International Publishers.

Relevant websites, movies and documentaries

1. Value Education websites, <http://uhv.ac.in>, <http://www.uptu.ac.in>
2. Story of Stuff, <http://www.storyofstuff.com>
3. Al Gore, An Inconvenient Truth, Paramount Classics, USA
4. Charlie Chaplin, Modern Times, United Artists, USA
5. IIT Delhi, Modern Technology – the Untold Story
6. Gandhi A., Right Here Right Now, Cyclewala Productions

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3	PSO 4
CLO1	L	M		L				M		L		L		L	L	
CLO2	L		L	L			L	M						L		
CLO3	L	M		L		L		L		L		L		L	L	
CLO4		L	L			M	L		L			L		M		
CLO5		L	M	L	L	M	M	M			L		L	M		
CLO6																

H: High, M: Medium, L: Low

Branch Name:	BCA (Bachelor of Computer Application)
Program Code:	CS101
Course Title :	Basics of Windows Control panel security
Course Code :	12-CAE209-1C
Pre-requisite Course:	Basic Knowledge of Windows OS Hardware and Software

Course Objective (CO):

This course is intended to make the students

- Learn Windows operating system is developed by Microsoft Corporation. Because It provides Graphical User Interface (GUI), multitasking capability to users. It also provides virtual memory management and several peripheral devices. According to statistics, about 90% of computers have migrated to Windows operating system.
- Control Panel is a component of Microsoft Windows that provides the ability to view and change system settings.
- It helps in adding and removing software's and hardware's, controlling user accounts, changing the accessibility setting of the computer system, changing the network settings of the system.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)								
Lecture	Tutorial	Practical	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
3	-	2	4	18	50	09	25	-	-	09	25	100

Subject Contents			
Sr . N o.	Topics	Total Hours	Weight (%)
1.	Computer Operating System: Basics of Operating System, WINDOWS, The user interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc., Use of Common applications.	11	20
2.	Windows Setting: Control Panels, Wallpaper and Screen Savers, Setting the date and Sound, Setting External Device Like(Printer, Scanner, Wi-Fi Chip, Lan Cable etc...)Concept of menu Using Help	11	20
3.	Control Panel System and Security and Ease of Access : Security Tools Windows Update, Firewall, and System Maintenance. Ease of Access Tools Customize settings to make your computer easier to use, especially for those with accessibility needs.	10	20

4.	Manage Hardware, Sound and Programs: configure your computer's hardware and sound settings, printers, audio devices, and power options Manage your software, including installing, uninstalling, and changing default programs.	8	20
5.	User Accounts and Network and Internet: Set up and manage user accounts, passwords, and account types. Control panel offers tools for managing your network connections, proxy settings, and more.	8	20

Course Learning Outcomes (CLO.):

At the end of this course, the student would be able

- CLO.1 To understand the basics of Windows OS.
- CLO.2 To understand various kinds of functions for Windows OS and Settings.
- CLO.3 To implement various Types of Control Panel Settings.
- CLO.4 To apply various Changes for OS, Users and Network Level.

Practical List

1. Don't put off automatic updates
2. Back up your files
3. Set up Microsoft Defender properly
4. Secure your Windows login with a password (and consider logging in with Windows Hello)
5. Remove software you don't need and any
6. Do a permissions audit
7. Check your privacy settings

List of Text Reference book :

1. Windows 7 Tweaks: A Comprehensive Guide on Customizing, Increasing by Steve Sinchak
2. Guide to Operating Systems by Greg Tomsho
3. Windows File System Troubleshooting by MVP & Mike Halsey & Andrew Bettany
4. Top 100 Tips for Windows 10 by Sievers Tim

Mapping of CLO , PO And PSO

	PO.1	PO.2	PO.3	PO.4	PO.5	PO.6	PO.7	PO.8	PO.9	PO.10	PO.11	PO.12	PSO.1	PSO.2	PSO.3
CLO.1	L		L	L		L	M	L	L	L					L
CLO.2	L	L	M		H		L		L	L		L	M		
CLO.3		L	L	L	M	H		L	L		M			L	
CLO.4	L		L	L	M			L		L		L			M