Engineering &Technology (EEE/CSE/CE/ME/BCA/CC/SACS)
Semester- I

L-2 T-1 P-2 C-4

Business Communication & Presentation Skills-CSS020

Course Objectives:

- To provide an outline to effective Organizational Communication.
- To understand the variations of Business communication.
- To impart the correct practices of the strategies of Effective Business writing.
- To Apply Business Communication process in professional life.
- To focus on making students aware of the general requirements of business communication and effective presentation skills.

Course Outcomes (Cos) On completion of this course, the students will be able to:

CO1. Understand various levels of organizational communication and communication barriers while developing an understanding of Communication as a process in an organization.
CO2. Apply his/her ability to write error free while making an optimum use of correct Business Communication.
CO3. Apply to draft effective business correspondence with brevity and clarity.
CO4. Apply their Critical thinking by designing and developing clean and lucid writing skills.
CO5. Apply verbal and non-verbal communication ability through Effective presentation skills.

Articulation Matrix

(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)

CO/PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	2	1	2	1	-	-	-	-	1	1	-	-	-	-		
CO2	2	-	1	2	-	-	-	2	-	2	-	-	-	1		
CO3	2	2	1	1	-	-		-	-	2	-	-	-	-		
CO4	1	2	1	1	-	-	-	-	-	2	-	-	1	-		
CO5	1	1	2	1	-	-	-	-	-	2	-	-	-	-		

High-3 Medium-2 Low-1

UNIT -1 Fundamentals of Communication and Business Communication Process 9 hours

Nature, meaning, scope and importance of business communication.
Process of communication, Barriers to communication, Types of communication (formal and informal, Oral and written)
Business Correspondence:
Business Communication, Importance of business communication; ABC of Technical Communication - Accuracy, Brevity, Clarity; Channels of communication - Downward communication, Upward communication, Diagonal communication, Horizontal communication.

UNIT - 2 Application of Business Communication Skills (Verbal/ Written) 9 hours

Interpersonal Communication and Personality Development: Models of interpersonal development, Johari window, Knapp's model, styles of communication; Team work; Persuasion techniques; Mobile Etiquette, e-mail Etiquette.
Technical Written Communication: Differences between Technical writing and General writing; Report writing-types of reports, structure / format, language style, writing technical reports; Writing scientific papers

UNIT - 3 Skills of Business Correspondence **9 hours**

Career Oriented Written Communication: Writing SOPs; Job Application; Language style and format; Resume writing- design and style; Cover Letter; Business Letters; Letters of enquiry and responses, Letters of complaint, Letters of adjustment, Sales letters; Agenda and minutes of the meeting.

UNIT - 4 Effective Presentation Skills **9 hours**

Structure of presentations. Use of aids like power point, Do's and Don'ts of presentation, Body language during presentations, Types of presentations.

UNIT- 5 Employability and Corporate Skills **9 hours**

Interview Skills and Group discussions: Interviews- Purpose, Planning, Preparation, Language and Stye, Sample interview questions and answers; • Group Discussions- Types of GD's, Features of good GDs, Preparing for a group discussion and Leadership skills.

Practical

Lab Sessions with the help of Language lab software:
Tense Buster, Study Skills.

Topics to be covered in the Language Laboratory Sessions:

- Self- Introduction
- JAM Sessions
- Extempore/ Role plays
- Picture description
- Debates/ Group discussions
- Working in teams
- Oral Presentations
- Telephone etiquettes
- Movies & Videos (Based on Learning English, With Hindi & English Subtitles.
- Assignments-Letter Writing/Technical Communication/Submission of CV/Models
- Worksheets

15 hours
Total 45=15=60 Hours

References:

1. Communication Skills – Dr Nageshwar Rao and Dr Rajendra Das, Himalya Publishing House,2014 edition.
2. Business Communication – Shalini Verma, Vikas Publishing House Second Edition
3. Effective business communication – Krizan, Merrier, Logan and Williams, Cengage Learning, 2008.
4. https://presentationskills.me/body-language/
5.A.J. Thomson and A.V. Martinet, A practical English Grammar,
6.Business Correspondence and Report Writing - By Sharma;
7. TMH. Living English Structure – By W.S. Allen; Longmans
8.English Grammar – Ehrlich, Schaum Series;
9.TMH. Spoken English for India – By R.K. Bansal and IB Harrison Orient Longman. New International Business English – by Joans and Alexander; OUP.
10. Communication Skills – Dr Neeta Sharma, Effective Technical Communication – Rizvi; TMH. Communication for Science & Engineering, by Dr Binod Mishra, Business Communication by Dr R.C. Sharma.

List of e-Learning Resources

1. **https://nptel.ac.in**
2. **https://www.coursera.org/**
3. **https://www.envision-creative.com/top-10-powerpoint-tips-dos-and-donts/**
4. **https://education4fun.com/cse-it/year-i/sem-ii/business-communication-and-presentation- skills-bcps/**

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Subject Name	L	T	P	Credits
Mathematics & Statistics	3	1	-	4

Unit I: SETS AND RELATIONS

Set Theory: Definition of sets, countable and uncountable sets, Venn Diagrams, proofs of some general identities on sets. Relation: Definition, types of relation, composition of relations, Pictorial representation of relation, Equivalence relation, Partial ordering relation.

Unit II: GRAPH THEORY

Introduction and basic terminology of graphs, Planer graphs, Multi graphs and weighted graphs, Isomorphic graphs, Paths, Cycles and connectivity, Shortest path in weighted graph, Introduction to Eulerian paths and circuits, Hamiltonian paths and circuits, Isomorphism and Homomorphism of graphs.

Unit III: ERRORS AND SOLUTION OF TRANSCENDENTAL EQUATIONS

Errors & Approximations, Solution of Algebraic & Transcendental Equations: Regular Falsi, Newton- Raphson, Solution of simultaneous linear equations by Gauss Elimination, Gauss Jordan, and Gauss- Siedel Iterative methods.

Unit IV: PROBABILITY

Significant digits and rounding of numbers, data collection, Measures of central tendency, measures of dispersion, Mean, Median, Mode, Range, Standard deviation, Mean deviation, Quartile deviation, Coefficient of Range, Coefficient of QD & QV, Coefficient of Variation, Skewness, Dispersion.

Unit V:

Probability and events, probability distributions, Elements of binomial and poisson distribution, Normal distribution curve and properties, Karl Pearson Coefficients of Correlation or covariance, Rank Correlation Methods, Regression, Properties of Regression Coefficients, Curve Fitting (Method of Least Square).

Reference Books:

1. Advance Engg. Mathematics. By Ramana, Tata McGraw hill.
2. Higher Engineering Mathematics by BS Grewal, Khanna Publication.
3. Advance Engineering Mathematics by D. G. Guffy.
4. Engineering Mathematics by S S Sastri. P.H.I.
5. Mathematics for Engineers by S.Arumungam, SCITECH Publuication.
6. Advanced Engineering Mathematics by Erwin Kreyszig, Wiley India.
7. Deo, Narsingh, “Graph Theory With application to Engineering and Computer Science.”, PHI

Subject Name	L	T	P	Credits
Computer Fundamentals	3	1	-	4

Course Objectives:

- Give students an in-depth understanding of why computers are essential components in business, education and society.
- Gain in-depth knowledge about the general features of a computer
- Learn various types of memory &I/O management schemes.
- Provides knowledge about fundamentals of organization of a computer
- To study different OS and compare their features.

Unit I

Introduction to Computers: Introduction, Characteristics of Computers, Block diagram of computer, Generation of Computers, Types of computers, Mini Computers, Micro Computers, Mainframe Computers, Super Computers etc., Applications of Computers. **Computer Software**: Introduction, Software: Definition, Relationship between Software and Hardware, Software Categories, System Software, Application Software**. Number System**: Decimal, Binary, Octal, Hexadecimal, Conversions of number systems.

Unit II

Basic computer organization: Block diagram of computer, **Input devices**: classification of input devices, **Output devices**: classification of output devices, Printer, types of printers, **Central Processing Unit (CPU)**, Introduction, Elements of CPU: Control Unit (CU), Arithmetic Logical Unit (ALU), Registers, Instruction format Instruction set, Processor Speed, **Memory**: Introduction, memory measuring units, main memory, types of primary memory chips, Secondary storage: Introduction, types of secondary storage devices.

Unit III

SDLC: Software development life cycle, Algorithm: Definition, Characteristics, Advantages and disadvantages, Flowchart: Definition, Define symbols of flowchart, Advantages and disadvantages. **Programming Logic Buildings:** Introduction, Logic Buildings using flowchart and algorithms.

Unit IV

Computer Languages: Machine language, Assembly language, High level language, Program Language Translators: Assembler, Compiler, Interpreter, **Programming Languages**: Introduction, Evolution of Programming Languages, Classification of Programming Languages, Generations of Programming Languages, Features of a Good Programming Language, What are the characteristics of a good program, Top-down design, Bottom-up design.

Unit V

Operating System: Introduction, Operating System, Evolution of Operating System, Types of Operating System, Functions of an Operating System, **Dos**–History, Files and Directories, Internal and External Commands, Batch Files, etc. **Networking Basics:** Introduction, Types

of Networks, Topology, Client-Server Concepts.

Reference Books:

1. Computer Fundamental Organization, B. Ram
2. Computer Fundamentals, Anita Goel, Pearson, 2010.
3. Fundamental of Computers – By V.Rajaraman B.P.B. Publications
4. Fundamental of Computers – By P.K. Sinha
5. Computer Today- By Suresh Basandra
6. Computer Networks- By Andrew S. Tanenbaum

Course Outcomes:

- Bridge the fundamental concepts of computers with the present level of knowledge of the students.
- Familiarise operating systems, programming languages, peripheral devices, networking, multimedia and internet
- Understand binary, hexadecimal and octal number systems and their arithmetic.
- Understand how logic circuits and Boolean algebra forms as the basics of digital computer.
- At the completion of this course students will be introduced to the basics of networking and Logic Building concepts of programming.

List of Experiments

1. Study of Hardware devices like keyboard, Mouse, Monitor, CD –ROM etc.
2. Study of Motherboard and its components.
3. Assembling and disassembling a computer.
4. Study of BIOS settings.
5. Formatting and partitioning Hard disk.
6. Installation of Windows Operating system.
7. Installation of Linux Operating system.
8. Installation of various device drivers like printer, scanner, webcam and motherboard etc.
9. How to create virtual machine and dual boot.
10. Installation of utility software like MS-Office, Photoshop, PDF Readers.
11. Study of Computer Network LAN, MAN, WAN and various networking cables and networking devices.
12. Study of IP-Addressing Schemes.

13. Creating LAN using crossover cable and straight through cable.
14. Sharing and Mapping printer, drives and folders in computer network.
15. Making image of a system.
16. Making bootable pen drive.
17. How to extend the RAM space using pen drive.
18. Accessing Remote Computer using team weaver and windows remote desktop.
19. Study of troubleshooting of hardware and software generated problems.
20. Some Dos (Internal & External commands) and Net Commands.
21. Perform these commands internal commands.
    DIR,TYPE,DEL,ERASE,MD,CD,COPY,RMDIR,VER,DATE,TIME,PAT
    H,CLS,RMDIR,VER,DATE,TIME,PATH,CLS,BREAK, SET,EXIT.
22. Perform external commands. APPEND, CHKDISK,ATTRIB,SYS,EDIT.
23. Write an algorithm for adding 2 no.
24. Write an algorithm for swapping two no using third variable.
25. Write an algorithm for swapping two no without using third variable.
26. Write an algorithm for finding simple interest.
27. Write an algorithm for finding area of circle.
28. Write an algorithm for finding whether a given no is even or odd.
29. Write an algorithm for finding largest no among two no.
30. Draw a flowchart for adding 2 no.
31. Draw a flowchart for swapping two no using third variable.
32. Draw a flowchart for swapping two no without using third variable.
33. Draw a flowchart for finding simple interest.
34. Draw a flowchart for finding area of circle.
35. Draw a flowchart for finding whether a given no is even or odd.
36. Draw a flowchart for finding largest no among two no.

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Course Objectives:

Subject Name	Subject Code	L	T	P	Credits
Networking Essentials	SACS030	3	1	4	6

- To understand the basics of networking and its underlying principles.
- Enables learners to understand computer networking concepts.
- To understand how they work, operate, communicate with ports and Protocols.
- To understand Standards and models associated with networking
- To understand technology and their troubleshooting mechanisms.

Unit-I Explain the concept of network:
Uses of computer networks, network software, reference models Network Standardization. the concept of a network, Describe network data, the network transmission speed and capacity, the roles of clients and servers in a network, the roles of network infrastructure devices, the basic requirements for getting online, Describe the different types of networks used by cell phones and mobile devices, Describe the requirements for host connectivity, Explain the importance of network documentation, Create a simulated network using Packet Tracer, Describe the purpose and function of Packet Tracer, Install Packet Tracer on a local device, Investigate the Packet Tracer user interface, Configure a Packet Tracer network, Build a simple home network, Describe common types of network cables. Describe Ethernet twisted-pair cables, Describe coaxial and fiber-optic cabling, Explain how a twisted-pair cable sends and receives signals, Verify connectivity in a simple routed network.

Unit–II The importance of standards and protocols in network communications
Describe network communication protocols, Describe network communication standards, Compare the OSI and TCP/IP models, Explain the OSI model Layer 1 and Layer 2 functions in an Ethernet network, Explain how communication occurs on Ethernet networks, Explain the process of encapsulation and Ethernet framing, Explain the function at each layer of the 3-layer network design model, Explain how to improve network communication at the access layer, Explain why it is important to contain broadcasts within a network, Create a fully connected LAN, Explain the need for routing, Explain how routers use tables, Build a fully connected network, Explain the features of an IP address, Explain the purpose of an IPv4 address, Calculate numbers between binary and decimal systems, Explain how IPv4 addresses and subnets are used together, Describe the different IPv4 address classes, Describe the public and private IPv4 address ranges, Compare uncast, multicast, and broadcast addresses, Configure a DHCP server, Compare static and dynamic IPv4 addressing, Configure a DHCP server to dynamically assign IPv4 addresses, Explain the principles of IPv4 and IPv6 address management, Describe network boundaries, Explain the purpose of Network Address Translation in small networks, Explain why IPv6 addressing will replace IPv4 addressing, Explain features of IPv6.

Unit-III The function of common layer services

Explain client and server interaction, Compare TCP and UDP transport layer functions, Explain how TCP and UDP use port numbers, Explain the function of common application layer services, Describe common network, applications, Describe DNS, Describe HTTP and

HTML, Describe FTP, Describe Telnet and SSH, Describe email protocols, Configure an integrated wireless router and wireless client to connect securely to the internet, Describe the components required to build a home network, Describe wired and wireless network technologies, Describe Wi-Fi, Explain how wireless traffic is controlled, Configure wireless devices for secure communications, Configure Wi-Fi settings on mobile devices to connect to the internet, Describe ISP connectivity options, Explain the purpose and characteristics of network virtualization, Configure mobile devices for wireless connectivity, Explain how to use security best practices to mitigate attacks, Describe different types of security threats, Describe social engineering attacks, Describe various types of malicious software, Describe denial of service and brute force attacks, Explain how antimalware software mitigates data loss and service disruptions, Explain how security tools and software updates mitigate network security threats,

Unit –IV How to use security best practices to mitigate attacks

Describe different types of security threats, Describe social engineering attacks, Describe various types of malicious software, Describe denial of service and brute force attacks, Explain how antimalware software mitigates data loss and service disruptions, Explain how security tools and software updates mitigate network security threats, Configure basic network security, Describe basic ways to address wireless security vulnerabilities, Configure user authentication, Configure firewall settings, Compare in-band and out-of-band management access, Describe Cisco LAN switches, Describe the Cisco LAN switch boot process, Describe Cisco small business routers,
Describe the Cisco router boot process,

Unit -V Troubleshoot basic network connectivity issues
Describe some of the approaches used to troubleshoot networks, Describe the process of detecting physical layer problems, troubleshoot using network tilities, troubleshoot a wireless network problem, explain common Internet connectivity problems, explain how to use outside sources and Internet resources for troubleshooting. Use the Cisco IOS-Use correct commands to navigate the Cisco IOS modes, explain how to navigate Cisco IOS to configure network devices,
Use show commands to monitor device operations,

Course Outcomes:

- Identify the concepts in basics of computer
- Define the concepts of networking and topologies
- Identifying the various networking devices
- Evaluate the process of network configuration
- Functioning the network security ideas

Text Book:

1. A. S. Tanenbaum “Computer Network: Second Ed. Prentice Hall, India (tan).
2. B. A. Frouzan, Data Communication, Tata Mc Graw Hill.

Reference Books:

3. CCNA Cisco Certified Network Associate: Study Guide (With CD) 7th Edition (Paperback), Wiley India, 2011

4. CCENT/CCNA ICND1 640-822 Official Cert Guide 3 Edition (Paperback), Pearson,2013

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List of Practical: (Packet Tracer)

1. Deploy Devices
2. Deploy and Cable Devices
3. Configure End Devices
4. Create a Simple Network
5. Observe Data Flow in a LAN
6. Connect to a Web Server
7. Configure DHCP on a Wireless Router
8. Examine NAT on a Wireless Router
9. The Client Interaction
10. Observe Web Request
11. Use FTP Services
12. Use Telnet and SSH
13. Configure Basic Wireless Security
14. Compare In-Band and Out-of-Band Management Access
15. Navigate the IOS
16. Use Cisco IOS Show Commands
17. Implement Basic Connectivity
18. Configure Initial Router Settings
19. Configure SSH
20. Build a Switch and Router Network
21. Use the ipconfig Command
22. Use the ping Command
23. Troubleshoot a Wireless Connection
24. Skills Integration Challenge

B.C.A.

Semester-I

L-3 T-1 P-4 C-6

BCC240: Programming in C

Course Objectives

Course Outcomes (COs)

Articulation Matrix

CO/PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2
CO1								
CO2								
CO3								
CO4								
CO5								

High-3 Medium-2 Low-1

Unit I **12 Hours**

Algorithms & flowcharts; Rules/conventions of coding, documentation, naming variables; History of C; Structure of a C program, Data types; Constant & Variable; Operators & expressions; Control Constructs – if-else, for, while, do-while; Case statement.

Unit II **12 Hours**

Arrays; Formatted & unformatted I/O; Type modifiers & Storage classes; Ternary operator; Type conversion & type casting; Priority & associativity of operators.

Unit III **12 Hours**

Functions; Arguments; Return value; Parameter passing – call by value, call by reference; Return statement; Scope, visibility and life time rules for various types of variables, static variable; Calling a function; Recursion – basics, comparison with iteration, tail recursion, when to avoid recursion examples.

Unit IV **12 Hours**

Special constructs – Break, continue, exit (), goto & labels; Pointers - &and * operators, pointer expression, pointer arithmetic, dynamic memory management functions like malloc (), calloc(), free(), String;

Unit V **12 Hours**

Structure – basic, declaration, membership operator, pointer to structure, referential operator, self-referential structures, structure within structure, array in structure, array of structures; Union – basic, declaration; Typedef

List of Experiments

1. Write a program for simple arithmetic operations?
2. Write a program for finding greatest number among two numbers?
3. Write a program for the greatest number among the three numbers?
4. Write a program for finding an even or odd number?

5. Write a program for finding leap year?
6. Write a program to swap two numbers using a third variable?
7. Write a program to swap two numbers without third variable?
8. Write a program for printing of table which is given by the user?
9. Write a program for printing of table with valid condition?
10. Write a program to print in * in the pattern pyramid?
11. Write a program to print binary number (0, 1) in pyramid pattern?
12. Write a program to find the largest number among two numbers using ternary operator?
13. Write a program to check given number is prime or not?
14. Write a program to generate the Fibonacci series?
15. Write a program for finding sum & average of array element?
16. Write a program to calculate the area of giving the shapes: 1. Circle 2. Triangle 3. Rectangle 4. Square using switch case statement?
17. Write a program to swap two numbers using a third variable to function?
18. Write a program to swap two numbers without using a third variable to function?
19. Write a program for triangle to the given pattern

```
*
* *
* * *
* * * *
* * * * *
```

20. Write a program for pyramid to the given pattern

```
*
* *
* * *
* * * *
```

21. Write a program for finding reverse number which is given by the user?
22. Write a program for finding the sum of the given number?
23. Write a program to find even or odd number using functions?
24. Write a program to find largest and smallest element from an array?
25. Write a program for finding the sum of two matrices?
26. Write a program for finding the factorial number?

27. Write a program finding factorial using recursion?
28. Write a program finding power of a given number using recursion?
29. Write a program to print Fibonacci series using GOTO?
30. Write a program of special constructs using continue?
31. Write a program of special constructs using break?
32. Write a program to store information of student using structure?
33. Write a program to find the address of a variable using pointer variable?
34. Write a program finding power of a given number?
35. Write a program to connect two strings using string function?
36. Write a program to compare one string to another string using string function?
37. Write a program to calculate the length of string using string function?
38. Write a program to copy one string to another string using string function?
39. Write a program to copy one string to another string without string function?
40. Write a program to calculate the area of a circle using the macro function?
41. Write a program to include user defined header file in C Program.?
42. Write a program to check macros which is defined or not in the program?
43. Write a program to a read one character from the file using file function?
44. Write a program to a write one character to the file using file function?
45. Write a program to append one character to the file using file function?
46. Write a program to read numbers and characters from the file using file function?
47. Write a program to write numbers and characters to the file using file function?
48. Write a program to append numbers and characters to the file using file function?

Total: 90 Hours

Reference Books:

1. Kerninghan & Richie: The C Programming language, PHI
2. Cooper Mullish: The Spirit of C, Jaico Publishing House, Delhi
3. Kanetkar Y: Let us C
4. Kanetkar Y: Pointers in C.