



COMPUCOM Group of Colleges

Approved by AICTE, Govt. of India & Affiliated to RTU, Kota & University of Rajasthan, Jaipur

SP-5, 5A, EPIP, Sitapura, Jaipur - 302022 (Rajasthan)

E-mail : info@compucomgrp.in • Website : www.ciitm.org • Tollfree No. : 1800 8900 750

infoCOM

A dictum of Holistic Growth • NEWSLETTER • Issue - IV • November 2022

EDITORIAL BOARD

EDITOR



Dr. Shalini Yadav
Professor, Dept. of English

REVIEWER



Dr. Deepak Chauhan
Professor, Dept. of S & H

MEDIA COORDINATOR



Ms. Preeti Sharma

STUDENT VOLUNTEERS

Vimal Teterwal
(B.Tech CE IV Year)

Amritesh Mishra
(B.Tech CS III Year)

Himanshu Sharma
(B.Tech CS II Year)

Dimple (BCA II Year)

Abrar Ahmad (B.Tech I Year)

Tania Das (BCA I Year)

CHIEF PATRONS



Mr. S. K. Surana
Chairman



Mr. Vaibhav Surana
Vice Chairman



Prof. (Dr.) M.R. Farooqi
Principal



Prof. Pawan Agarwal
Registrar



Prof. (Dr.) Akash Saxena
Dean Research

PATRONS

International Conference on "Emerging Trends in Global Economic Development"



An International conference on the topic "Emerging Trends in Global Economic Development" was conducted at Compucom Group of Colleges. As keynote speaker, knowledgeable businessman and NRI, Mr. Ajay Surana, CEO, ITNEER, USA meticulously deliberated on the topic. He shared his views and opinions with students about grabbing excellent career opportunities by being acquainted with latest economic development trends and implementing technology. Honourable Mr. S. K. Surana, Chairman, Compucom Groups of Colleges, Prof. (Dr.) M. R. Farooqi, Principal and Prof. Pawan Agarwal, Registrar graced the occasion with their esteemed presence. The conference was highly illuminating and attended by eminent scholars and academicians to enhance their existing knowledge in the area by the deliberation.



Glimpses

Achievements

Events & Activities

Conferences and FDPs

Publications

Innovative Strokes



Hon'ble Chairman's Birthday Celebration

With vivacity and ecstasy, Compucom family celebrated the birthday of Honorable Chairman, Mr. S. K. Surana, a phenomenal personality on November 9, 2022. All teaching and non-teaching staff, representatives from Compucom Software Ltd. and Jan TV organized the elaborated event to

celebrate it with utmost enthusiasm and cheerfulness. The ceremony began with a shower of flowers, gifts and memento and the light was thrown on the journey of our esteemed chairman and his valuable contribution to the education sector. The ambience was full of gladness and positivity. The chairman thanked all the organizers and attendees and shared words of wisdom.



International Literature Summit @ Chandigarh

Prof. (Dr.) Shalini Yadav participated, recited her poems and presented two papers as a guest poet and writer in 4th International Literature Summit and World Poetry Conference organized by Aazaad Foundation and World Literature India at Chandigarh from 6 to 7 Nov. 2022, in which 70 poets, scholars, and educationists hailing from India and abroad put their heads and hearts together to debate the issues related to the "Dwindling human values in contemporary times and the role of Literature".

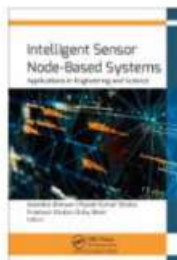


Book Publications Hearty Congratulations!



Kishore Mishra, Assistant Professor, Department of Computer Science, Compucom Institute of Information Technology & Management, Jaipur has co-authored and got published the book titled 'Computer Architecture' as per latest syllabus of University of Rajasthan, Jaipur and P.D.U.S. University, Sikar for B.C.A. Part-I with Parth Publishers, India.

Heartiest Congratulations!



Dr. Anamika Ahirwar, Professor, Department of Computer Science, Compucom Institute of Information Technology & Management, Jaipur has co-authored and got published the book titled 'Intelligent Sensor Node-Based Systems: Applications in Engineering and Science' with CRC Press, Taylor and Francis Group, & Apple Academic Press, USA. Heartiest Congratulations!



NPTEL Online Certification Course

Congratulations! Mr. Sandeep Kumar Bairwa, faculty in the Computer Science and Engineering Department, CIITM campus, has earned a NPTEL certification, which has helped to put our college name on the toppers list boards of NPTEL. Keep doing great!



Inauguration of Cultural Club

To promote extra-curricular activities, a cultural club is formed in the college in the coordinatorship of Ms. Preeti Sharma, Ms. Ashwini Toshar and Mr. Abhishek Sharma. The club was inaugurated by Honourable Mr. S. K. Surana, Chairman, Compucom Foundation. Prof. (Dr.) M. R. Farooqi, Principal and Dr Ajay Jain, Dean Academics were present at the jiffy. Mr. Surana sang a song for the students to initiate it and to motivate them. Many interested students and faculties performed and volunteered to organize activities in future. It's proved to be a great initiative for the students and faculties to showcase their talent.



Placement Activities

We proudly state about the placements of students under the banner of Compucom Foundation. 22 companies came last month at campus including CY Future, Ecuzen Software Ltd., G.V.K., PANTALOONS, TCIL, Bodhisatva Artificial Intelligence Pvt. Ltd., ENLIST, PHOENIX, SAMBHAV, NIGAM, WEGLOBE, DONKHORIAS etc. 98 students had received 294 offer letters from various companies. Many of them enthusiastically joined the esteemed companies and are getting great work experience. All the best for great career ahead!

Placement Drive @ Compucom

Starbits IT Solutions & Briskminds

- A huge placement drive was held by Starbits IT Solutions and Compucom College in which 54 students appeared and 10 students got shortlisted from first phase. Mainly B.Tech and MCA students participated in it and Mr. Anas Ansari, TPO, Compucom Group of Colleges organized the drive successfully.
- 57 students appeared for the profile of Sales Force Developer in the drive organized by Briskminds at College campus. Mainly B.Tech, BCA and MCA students took participation. The offers received are extremely lucrative.



CONFERENCES

1. Dr Shalini Yadav presented a Research Paper entitled "Mature and Abiding Relationships in Techno-advanced Era: Soulful Tales from Stars from the Borderless Sea" by Shalini Mullick in the International Literature Summit and World Poetry Conference-IV, Chandigarh on 6th-7th November, 2022 organized by Azad Foundation and World Literature India.



2. Dr Shalini Yadav presented a Research Paper entitled "Contemporary World and Poetic Imagination" in the International Literature Summit and World Poetry Conference-IV, Chandigarh on 6th-7th November, 2022 organized by Azad Foundation and World Literature India.

PUBLICATIONS



Dr Shalini Yadav's English poem 'Mission' got published in KEL27, USA-International with its Korean Translation.

Importance of Mathematics for Computer Science Students

Introduction

Mathematics has been a difficult subject for many students since its inception. On the other hand, Computer Science is quite interesting and students study it with a hope of becoming a programmer. Is it really that simple? No, it is not so, because Computer Science is, in fact, quite closely linked to Mathematics.

For many years, there has been much debate about the importance of Mathematics usage in Computer Science. Some believe that it adds only little value in Computer Science while others (mostly) think it is the foundation on which Computer Science is built. According to the Universities even if Mathematics has such value, the question still stands tall, "Why is Mathematics so important in Computer Science?" So let's focus on that now.

Why is Mathematics so important in Computer Science?

Imagine the Burj Khalifa (Tallest building in the world). Now, what is the most important part of this building? Answer is "height", no, it's not just the height (well, that too!) but mainly its foundation. If the Burj Khalifa did not have a strong foundation, it would have been fairly weak and much more likely to fall than stand.

Now, in case you are wondering about this off-topic story, Mathematics is the foundation on which Computer Science is built i.e. you feel that Burj Khalifa get it so? In fact, it can even be said that Computer Science is the subset of Mathematical Sciences in general. How so? Well, some points that demonstrate this, are given below:

1. Discrete Mathematics is the Foundation of Computer Science

Ever heard of Logic Notation, Set Theory, Combinatorics, Graph Theory, Probability, Number Theory, Algebra, etc.? Don't be overwhelmed, these are

all parts of Discrete Mathematics and also a basic foundation for Programming and Computer Science. It means you need to study these for Computer Science.

A prime example of this is Algebra. While Boolean Algebra is used in Logic Gates, Relational Algebra is used in Databases. In case you need another example, Number Theory has multiple applications in Cryptography and Cryptanalysis.

2. Mathematics Teaches the Usage of Algorithms

Algorithms are fundamentals or main part of Computer Science and all of you must have heard of them one way or another. If not, you need to study again. These are basically a set of instructions that demonstrate the implementation of a program or an application.

Now, where did you first use an algorithm? It was not the Computer Science class but actually the Mathematics class. Don't believe me? Well, " $4 + 5 = 9$ " is a basic algorithm you learned in Mathematics class that demonstrates the sum of 4 and 5. Mathematics is actually very important in learning the basic usage of algorithms that are utilized in an advanced form in Computer Science.

3. Mathematics provides Analytical Skills Required in Computer Science

Analytical skills are necessary for problem-solving and data analysis. Guess where do you first use these skills? Is it used in Mathematics? Mathematics always forces you to analyze your equations and understand the derivation flow in case a mistake is made. This mistake needs to be fixed in order to obtain the final solution.

This provides lots of analytical skills that can be used later in finding and fixing bugs. Even though there are

modern tools that can do this job automatically, the experience and knowledge gained about the program flow and debugging is invaluable.

4. Mathematical Concepts are required in many Disciplines of Computer Science

Computer Science is an umbrella term that contains many disciplines like Operating Systems, Databases, Networking, Artificial intelligence, Embedded systems, Data analytic etc. While there are some disciplines that you can handle with minimal knowledge of Mathematics, most of them require at least some level of competency.

For example, fields like Artificial Intelligence and Machine Learning require a thorough knowledge of Mathematical concepts like Linear algebra, Multivariable Calculus, Probability Theory, etc. that makes Mathematics pretty important.

Conclusion

Is Mathematics really necessary for studying Computer Science? Some would say that it depends on the job. For Example- creating a blog on food does not necessarily require any knowledge of mathematics but creating a successful blog is another thing entirely. It requires a focus on audience preferences, topic popularity, article ratings, etc. And guess what, Mathematics is required for all of this.

So we should accept that Mathematics is present in the foundation of Computer Science. And if you want to succeed in any discipline of Computer Science, it is much better to inculcate love of Mathematics, as that will help you tremendously.



Dr. Arun Kumar Varshney
Professor, Dept. of Mathematics

Uses of Computer in Education

1. Huge & Organized Store of Information

Vast or Immense storage is yet another main great characteristic of a computer. Students and teachers can download and store a lot of educational materials, books, presentations, lecture/ address notes, and question papers, and so on in computers. Students can find many different ways to solve a certain problem given to them. Through Computer, they can interact with people having same issues & decisions.

2. Quick Processing of Data

Speed is the fundamental attributes of a computer. We can easily find information with just a single touch of a button.

3. Audio-visual Guides in Teaching Process for a Viable Learning

One of the primary uses of computers in education is 'the Access to the Internet' for information search about any topic. Appealing and Better introduction (presentation) of data through applications programming software like Microsoft PowerPoint

to introductions for creating splendid presentations for lectures & notes.

4. Parents can know their Wards' Progress

The Computer has helped parents and guardians a lot as they can likewise know by checking every minute progress of their children through computers and the web by browsing the school's website. They can check different assessment results, attendance reports, participation in curricular and co-curricular activities, and significantly more.

5. Quick Communication & Correspondence

Another main advantage of using computers in the education field is the improvement in the quality of teaching-learning process and communication between students & teachers. For this, they use Microsoft PowerPoint to prepare electronic presentations about their lectures.



Jainesh Babel (BCA I Year)

What is NPTEL?

- National Programme on Technology Enhanced Learning (NPTEL) is a project of MHRD initiated by 7 IITs along with the IISc, Bangalore in 2003.
- NPTEL is the chief coordinator of the Massive open online courses (MOOC) platform- SWAYAM.
- SWAYAM is a programme initiated by Government of India to provide education with nine National Coordinators (AICTE, NPTEL, UGC, CEC, NCERT, NIOS, IGNOU, IIMB & NITTTR).

Why should one be concerned?

- 40% credits can be transferred on to the academic record of the students for courses done on SWAYAM !
(https://www.ugc.ac.in/UGC_Regulations_Stand_alone.aspx)
- RTU honours degree can only be obtained if 20 credits are earned through MOOC certificates earned from SWAYAM –NPTEL portal!
- NPTEL provides University rankings, IIT Certifications for over 640 courses, internships- workshops-jobs for students and faculty, GATE exam coaching, Mentor & FDP certificates for faculty, etc.

Where should one start?

<https://swayam.gov.in/>
<https://archive.nptel.ac.in/noc/NPTELSemester.html>

- Our Local Chapter details: College Id – 3750
(compucom Institute Of Technology & Management)



Mr. Sandeep Kumar Bairwa
Faculty, Dept. of CSE

The Nature

The natural world is an incredible wonder that inspires us all. It underpins our economy, our society, indeed our very existence. Our forests, rivers, oceans and soils provide us with the food we eat, the air we breathe, and the water we irrigate our crops with. We also rely on them for numerous other goods and services we depend on for our health, happiness and prosperity.

These natural assets are often called the world's 'natural capital'. These benefits are also hugely important to the economy- from framing and forestry to leisure and tourists.

Because nature is free, we often take it for granted and overexploit it. We clear forests, overfish oceans, pollute rivers and build on wetland without taking account of impact this will have. By not taking into account the benefits we get from nature, we create huge social and economic cost for ourselves.

Animals help plants reproduce by carrying pollen from plant-to-plant and by spreading seeds. Animals that eat insects and small mammals help reduce damage by caterpillars, rabbit, and other plant-eaters. Both domestic and wild animals are a critical component of ecosystem and our environment. Domesticated animals, such as livestock, provide us with food and fiber, wildlife support healthy ecosystem.

- Save trees and save the planet.
- Plant a tree and help your children breath in future.
- God gave animals life you have no right to kill them.
- Wildlife is Mother Nature's greatest treasure, and to protect it, we must take every measure.
- Keep the earth clean and green.



Riya Dev (BCA I Year)

Significance of Technical Communication in Engineering Curricula

I. Introduction

J. Harmer (2007) told in the book *The Practice of English Language Teaching* that English was initially used like 'a lingua franca in India, where a plethora of indigenous languages made the use of any one of them as a whole-country system problematic. The imposition of English as the language of administration helped maintain the colonizer's power.' (Harmer, 14) Later due to the increased usage of English, it was added in school curricula at different levels and taught as a second language whole over the country via traditional methods.

In present era of digitalization, industries have become very demanding in hiring professionals. One of the foremost needs of the industry is to have effective communication skills that is why, even the curriculum is designed to enhance the engineer's skill set and technical knowledge they gain in the duration of the course. As professional communication skills and technical expertise are equally important in industry, technical communication is preferably added in the curricula with other humanities-based subjects. Technical communication includes nitty-gritties of professional communication supplemented with technical writing giving emphasis on technical project proposals, survey and technical reports, presentations, technical articles among other writing tools. I discuss here the scope and significance of Technical Communication course, affixed in the syllabi of Rajasthan Technical University, Rajasthan to improve grey areas of persistent communicative challenge for an engineering student populace.

Today, in a world where technological changes have occurred at a very fast pace, the methods and resources used in teaching learning of English have also been updated. Nowadays classes are equipped with fixed data projectors, white boards and computers with round-the-clock Internet access where learner can use a search engine like Google and the results can be shown in seconds. Usage of latest language learning resources has assisted English for gaining currency and supremacy as a global language and brought learners of it more close as a denizen of global world, in this modern-day scenario. Therefore it is proficiency in English that fetches students their dream jobs; helps a professional surge ahead of others; keeps afloat multinational organization; elevates a common mortal to the dizzy heights of achievements; and in way, defines and redefines our existence in this competitive world.

Whether you are a student of a technical institution, an executive or engineer working in an MNC, an entrepreneur trying to set up a business or a scientist working in the laboratory, everyone needs effective communication skills in order to be efficacious to perform tasks such as planning, organizing, executing, staffing, and controlling etc. Due to inclination towards technical courses like engineering in the past decade, technical communication and advanced media of oral and written communication are prescribed in the syllabi of technical courses to equip the learners with a skills' set to decide their career's curve.

Engineers as professionals have to be involved frequently in informal/formal conversations, discussions, meetings, presentations, phone calls, teleconferencing, videoconferencing and so on. Therefore fundamentals of communication are added for students with technical writing including project proposals, articles and various kinds of reports, which supports the students to be effective communicators and achieve their goals in lives.

II. Technical Communication

Technical communication is the process of communicating or exchanging a specific message or information targeting a specific audience with a specific purpose where that specific information may include 'simple definitions of tools, complex descriptions of machines and processes, or sophisticated explanation and interpretation of scientific principles' according to M Ashraf Rizvi (2010) what he mentioned in the book *Effective Technical Communication*. (Rizvi, 10) Consequently technocrats and professionals may face communication challenges that can be in the transmission of information effectively either to one individual or a group of professionals. To make it an effective transmission, linguistic competence is required with subject competence and organizational competence. Therefore, the technical communication course run by Rajasthan Technical University for the students of third semester accumulatively encapsulates four units.

The main focus areas of the pedagogy of technical communication are correspondence skills (including knowledge of all-purpose conventions of LSRW); Technical writing skills (for explanation, demonstration and distribution of technical information to technical or non-technical readers); Research skills (for

delivering/sharing information and describing assignments and projects) etc.

III. Scope and Significance

With the info-revolution and socio-economic transformations in this epoch, the scope and impact of technical communication proficiencies have been amplified. Thus the world fitting as an international hub for commerce and technology sharing provides dais to the professionals for economic and professional growth at individual level and organizational level both. Since the space for utilizing one's technical communication skills in any organization differs relying on the needs of the organization and industry considering product's orientation and customers' expectations; therefore, the following disciplines are assimilated within the broader term technical communication.

The professional biosphere demands persons who can convey their viewpoints commendably, without any hesitation or lacuna in skills in the specific field. Frequently engineering learners underrate their requirement to be skilled in writing, designing, editing, marketing or elaborating the content distinctly, briefly and in operative style for diverse audiences-general and professionals. Upcoming engineering experts must advance technical communication skills effectively in themselves for broadening their work sphere. In their article 'Technical Communication for Engineers: Improving Professional and Technical Skills' A. G. Eggleston & R. J. Rabb (2018) talked about, integrating a sophomore-level, project-based, technical communications course, and reinforcing the knowledge and skills throughout the engineering curriculum' so that budding engineers be prepared 'to meet current challenges in their disciplines' and to be effective communicators for 'a variety of audiences'.

Technical communication course is a wholesome package providing students expertise in the subsequent fields:

- Understanding the importance of communication in professional world and dealing with issues and barriers and learning the strategies to eliminate barriers.
- Consider ways of grabbing the listener's attention, holding their interest, and concluding strongly.
- Learn to use appropriate body language and tone of voice for effective communication.
- Distinctly communicate specific information from a technical field to a

Contd

Contd from prev. page....

non-technical audience.

- Pinpoint and practice suitable formats and settlements taken from different disciplines.
- Estimate usefulness and legitimacy of information means and resources, such as websites, business brochures and documents, and professional journals and magazines etc.
- Develop strategies for information design, to include producing visually enhanced documents.
- Summarize larger texts in clear, direct style, for practical applications.
- Design and produce a research project appropriate to the students major or their career interest/inclinations.
- Edit documents with peer exchange and according to professional guidelines.

Though technical communication skills are vital to professional success, it not only depends on one's bravura manner of communicating but also 'on the ability to analyze, organize, and present essentials information effectively'. After studying this course, engineering students would be ready and confident with skill-set to deal with situations in varied competitive and result-oriented technical environment of the organizations within and outside.

IV. Conclusion

The emerging IT sector is generating an inducing effect on technical communication skills including adoption of high-tech communication capabilities, competency to put forward and describe complex technical information in a simple and familiar style, ability to understand and explain quantitative data, cultural awareness capability, and ability to analyze and prioritize information. Due to the prioritization of technical communication skills over technical and professional skills, engineering students need to realize that without effective technical communicational skills, knowledge of highly sophisticated technical or professional skills will be inadequate. Thus it is proven that technical communication course is reasonably significant and has proposed the engineering populace plenteous hand-on-experience for refining their linguistic competence and organizational competence as a counterpart to subject competence for successful accomplishment of the upcoming tasks and challenges at professional front.



Dr. Shalini Yadav
Professor, Dept. of English

Lipophilicity Fundamentals

Lipophilicity is the tendency of a compound to partition into a non polar lipid matrix versus an aqueous matrix. It is an important determinant of many other drug properties. Lipophilicity is readily calculated. It is a rapid and effective tool for initial compound property assessment. One traditional approach for assessing lipophilicity is to partition the compound between immiscible non polar and polar liquid layers. Traditionally, octanol has been widely used as the non polar layer and aqueous buffer as the polar layer. Similar to lipids, octanol contains nonpolar (e.g., hydrocarbon) substructures and an alcohol substructure that has hydrogen bonding acceptor, hydrogen bond donor (HBD), and dipolarity characteristics. The non polar layer is usually assumed to be octanol, unless otherwise indicated. The partitioning values that are measured are termed log P and log D. Subscripts are often used to indicate greater detail for the term, such as log Pow for log P determined by partition between octanol and water, or log D7.4 for log D determined at pH 7.4. It is important to recognize that log P and log D are different: log P: log₁₀ of the partition coefficient of the compound between an organic layer (e.g., octanol) and an aqueous layer (e.g., buffer) at a pH where all the compound molecules are in the neutral form.

$$\log P = \log_{10} \left(\frac{[\text{Compound}_{\text{organic}}]}{[\text{Compound}_{\text{aqueous@pH (all molecules neutral)}}]} \right)$$

log D: log₁₀ of the distribution coefficient of the compound between an organic layer (e.g., octanol) and aqueous layer (e.g., buffer) at a specified pH (x). A fraction of the compound molecules might be in the ionic form and a fraction might be in the neutral form.

$$\log D_{\text{pH}(x)} = \log_{10} \left(\frac{[\text{Compound}_{\text{organic}}]}{[\text{Compound}_{\text{aqueous@pH}(x)}]} \right)$$

log P depends on the partitioning of the neutral molecules between the two matrices. log D depends on the partitioning of the neutral fraction of the molecule population plus the partitioning of the ionized fraction of the molecule population between the two matrices. Ions have greater affinity for the polar aqueous phase than do the unionized molecules. The fraction of the compound molecule population that is ionized depends on the pH of the aqueous solution, the pKa of the compound, and whether it is an acid or a base. For acids, the neutral/anion ratio of molecules in solution decreases with increasing pH; therefore, the log D decreases with increasing pH. Conversely, for bases, the neutral/cation ratio of molecules in solution increases with increasing pH; therefore, the log D increases with increasing pH. An acid at two pH units below its pKa is approximately 99% in the neutral form and 1% in the anionic form, and the log D is approaching the log P. A base at two pH units above its pKa is approximately 99% in the neutral form and 1% in the cationic form, and the log D is approaching the log P.



Ms. Reena Sharma
Assistant Professor, Department of Chemistry

POWER OF NATURE

I'm sitting near the window,
I'm looking at the moon
I'm certainly not a werewolf
But I love the moon
I love its colors
I love the starry sky
I love to look at them



Shiv Ram
(B.Tech I Year)

Wherever I am
The moon is power
The moon is freedom
The moon is faith
And the starry sky is my spirit
Its true power of nature.

Heartfelt Condolences from Compucom Family

On the sudden demise of Honourable Shri Shubh Karan Surana, Founder, Compucom Foundation, Jaipur, and father of our Honourable Chairman Mr. S. K. Surana, whole Compucom family offers sincere condolences and prayers for the departed soul to rest in peace!

In Loving Memory



SHUBHKARAN SURANA

January 11, 1929 - November, 12, 2022



