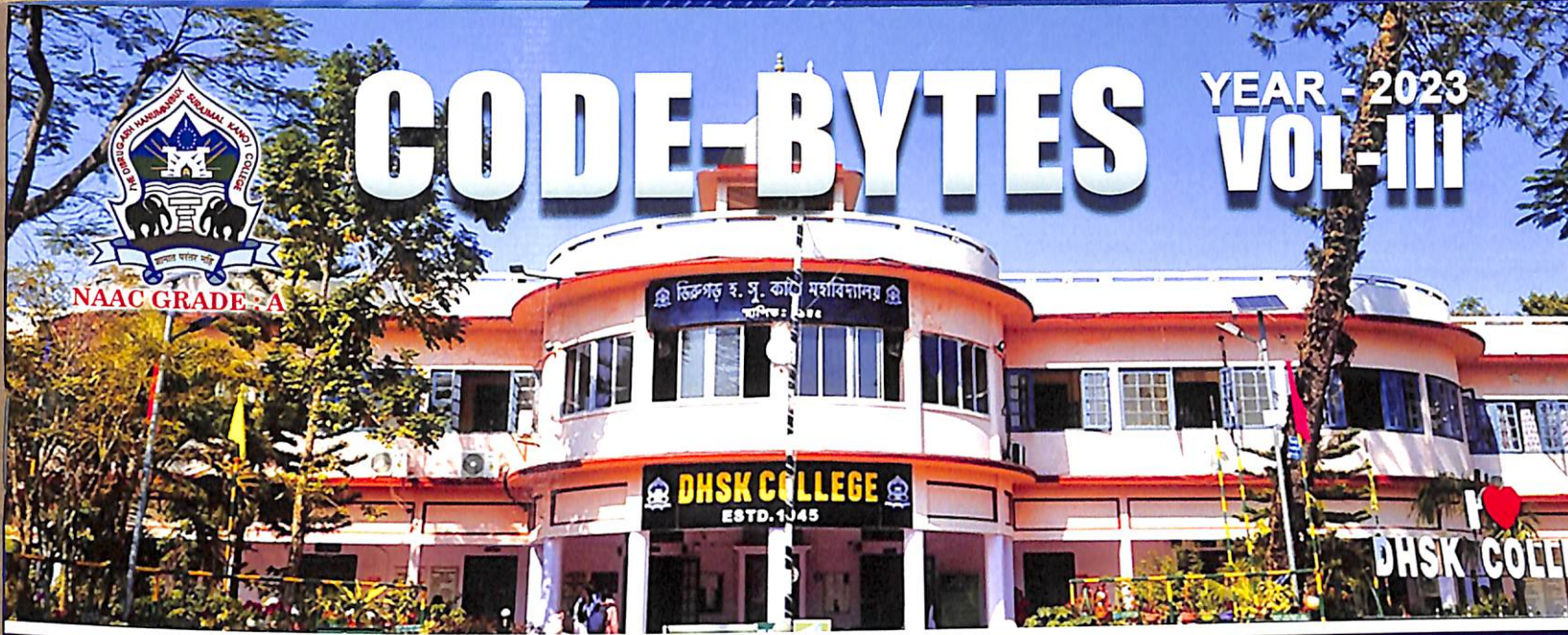


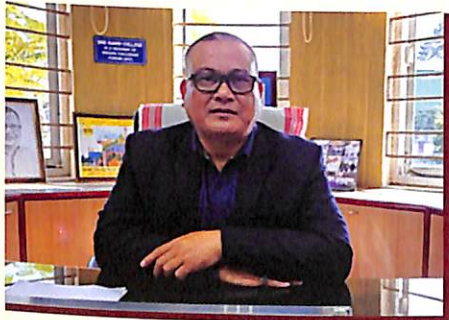
CODE-BYTES

YEAR - 2023
VOL-III



NEWS LETTER

Department of Computer Science (BCA) DHSK College, Dibrugarh



From the PRINCIPAL'S DESK

We are currently living in an age where technology is rapidly advancing and changing the way we live our lives. This is also true for education, where technology has been integrated into the learning process. The application of technology has made the processes of learning and teaching more efficient and enjoyable. One of the main benefits of education at IT age is that it provides students with access to a wealth of information and resources. Education at this age allows for personalized learning. For example, adaptive learning software can adjust the difficulty of questions based on a student's performance, ensuring that they are challenged but not overwhelmed. Moving a step further Artificial Intelligence has brought a significant change on education, revolutionizing the way students learn and teachers deliver instruction. AI has made education more accessible to all the students covering the remote corners of the nation also. Online courses, virtual classrooms, and AI-based educational platforms enable students to access quality education anytime and anywhere. While AI offers personalized learning experiences, it cannot replace the important role of a teacher in education. The human element, including emotional support, mentorship, and guidance, remains crucial for effective learning. However, it is important to balance the benefits of AI with ethical considerations and the preservation of human interaction and

Contd. to P/2

EDITORIAL



"Achieving the Digital Frontier:
Information Technology's
Revolutionary Power "

I on behalf of the Editorial Board welcome to the third volume of the Departmental Newsletter. We hope that our efforts are recognised and valued by all and we pledge to continue providing content that each of you will enjoy reading. A note of gratitude for all my seniors, fellow staff and students for sourcing in the required resources and helping me in editing this volume of the departmental newsletter.

IT (information technology) is advancing at an accelerating rate, changing the world drastically. It's a critical time in human history since this evolution is changing the way we work, live, and interact. Understanding the complex effects of IT on society and

Contd. to P/3

skills development in education. AI cannot replace the value of human AI cannot replace the value of human interaction and personal connection in education. Over-reliance on AI-powered tools can lead to a lack of critical thinking and problem-solving skills in students. It is important to note that technology should be used as a tool to enhance learning, rather than replace traditional teaching methods. As AI becomes more prevalent, there is a need to develop students' critical thinking, problem-solving, and creativity skills, which are uniquely human and not easily replicated by AI systems. Dependence of students on technology is limiting the students thinking capabilities and calculating skills and also wasting their valuable time in various non productive activities such as video games and surfing through the web. And it also decreases the interest on studies and learning of the students. As technology is more useful for studying and effective learning, it also distracts the students from the study and involves them in other kinds of activities. Therefore, today's generation must learn to use technology for their own betterment and development. As in the words of Ludovic Tendon:

"Technology should be your Servant, not your Master."

Dr. S.K. Saikia
Principal
DHSK College, Dibrugarh

From the Desk of **VICE-PRINCIPAL**



DHSK college introduced the subject Computer science in the year 2008 and BCA course in 2010. Since then department is nurturing the students so that they can become a successful person in their life. Now, IT changed the whole world in an unprecedented way. Lastly AI and Human Brain project (HBP) research trying to change mankind in an unimaginable way. New technology creating many avenues of employment and challenges. Whole job market is influenced by the use of IT. Social order is also changing along with the new technologies. DHSK college wants to take this opportunity brought by IT sector by imparting knowledge to the youths of this region. To keep records, the department is publishing its annual Newsletter since last few years. This time also faculty members and students are trying their best to publish it covering all the happening of the department. I hope that this issue will be leaf of history for future generations.

Thank You

Dr. Priya Dev Goswami
Associate Professor
Department of Mathematics

Data Alchemy: Turning Information

Pratham Debnath
BCA 4th Semester
DHSK College, Dibrugarh



Big data analytics and data science are revolutionizing industries worldwide, leveraging statistical analysis, machine learning, and data visualization to extract insights from vast datasets. These technologies empower businesses to enhance customer experiences, streamline processes, and make informed decisions. In finance, data science enables automated trading and risk assessment, while big data analytics identifies market trends for targeted advertising. In healthcare, data science improves diagnosis and treatment, while big data analytics reduces costs by analyzing patient records. In retail, data science drives customer segmentation and recommendation systems, while big data analytics optimizes supply chain management. Despite challenges like security and scalability, the fusion of these technologies is driving innovation and spawning new business models, offering indispensable insights and fostering growth in the digital era.

Acc.No. 1506



From the Desk of HoD **Department of Computer Science DHSK College, Dibrugarh**

Mr. Harjinder Singh

The Department of Computer Science is an academic department within a DHSK College that offers undergraduate programs Bachelor of Computer Application. BCA is a popular course for students interested in pursuing a career in the field of information technology.

The department typically offers a comprehensive curriculum covering subjects such as programming languages, database management, software engineering, web development, networking, and computer architecture. The goal is to provide students with a strong foundation in both theoretical concepts and practical skills relevant to the field of computer applications.

The BCA program usually spans over three years and includes classroom lectures, laboratory sessions, projects, and internships to provide students with hands-on experience and real-world exposure.

The department have faculty members who are experts in various domains of computer science and who conduct research in cutting-edge technologies. As the Head of the Department, I have a positive and optimistic view of our department. Here are some key points from my perspective:

1. Academic Excellence: Our department is committed to providing high-quality education in the field of computer applications. We constantly strive to update our curriculum to keep pace with the latest developments in technology and industry trends.
2. Skilled Faculty: We have a team of experienced and highly qualified faculty members who are dedicated to nurturing the intellectual and professional growth of our students. They bring a wealth of industry experience and academic expertise to the classroom.
3. State-of-the-Art Facilities: Our department is equipped with modern laboratories, computing facilities, and software tools to support hands-on learning and research activities. We believe in providing our students with a conducive environment for experimentation and innovation.
4. Industry Partnerships: We maintain strong ties with leading companies and organizations in the IT industry to facilitate internships, guest lectures, workshops, and other industry-oriented activities. These partnerships help bridge the gap between academia and industry, ensuring that our students are well-prepared for their future careers.
5. Skill Development: In addition to academic rigor, we emphasize the Skill development of our students. We offer opportunities for extra courses like hardware & networking, DTP & Designing along with Ability Enhancement.
6. Career Opportunities: Graduates from our BCA program are in high demand in the job market. They are equipped with the technical skills, problem-solving abilities, and professional demeanour required to excel in various roles such as software development, system analysis, database administration, and more.

Overall, I am proud of the accomplishments of our department and the contributions we make to the success of our students and the broader community. We are continuously striving for excellence and innovation in everything we do.

Thank You

appreciating both its great advantages and possible drawbacks is essential as we traverse the digital frontier.

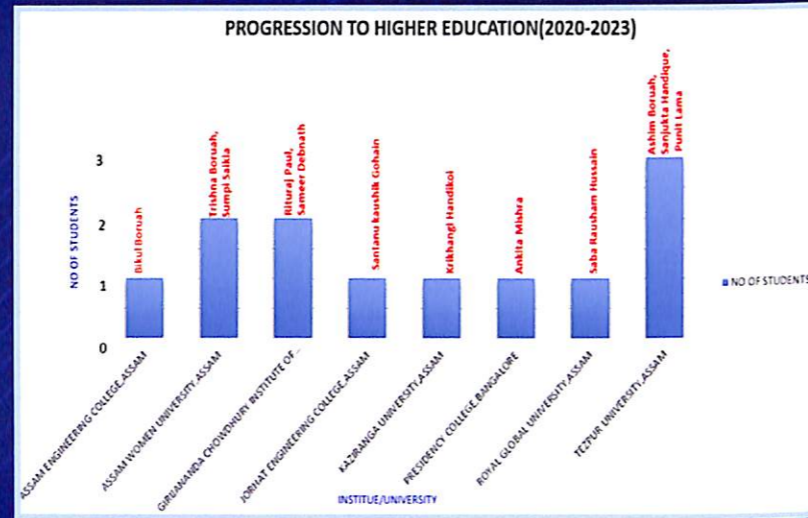
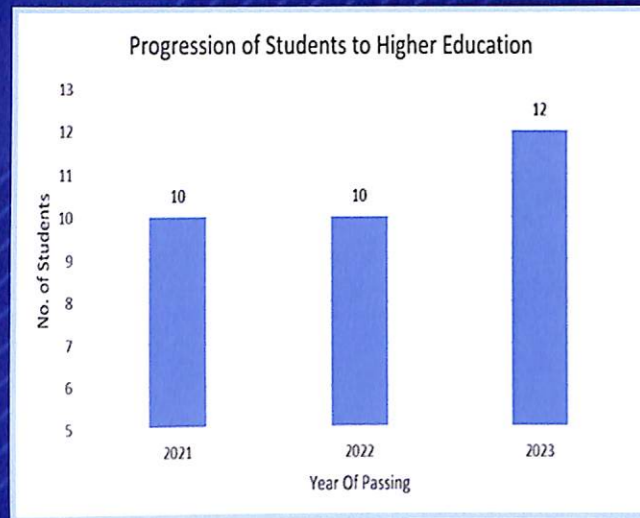
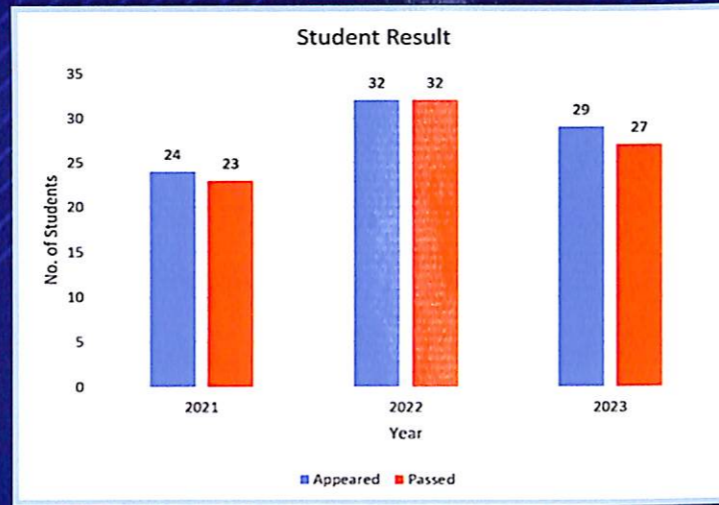
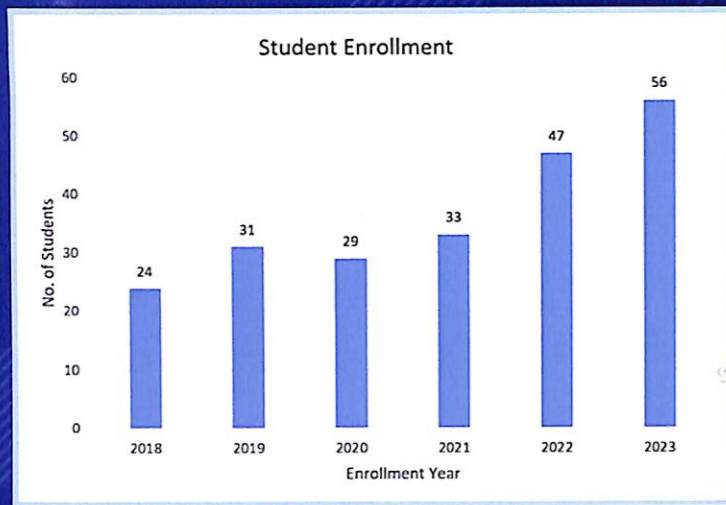
One of the most prominent advantages of information technology lies in its ability to enhance communication on a global scale. The advent of the internet, social media, and instant messaging platforms has connected people across borders, fostering a sense of unity and collaboration. Individuals and businesses can now seamlessly exchange ideas, share information, and collaborate on projects, transcending geographical constraints.

Education is another domain significantly impacted by information technology. The digitalization of learning materials, the rise of e-learning platforms, and the integration of virtual reality in education have democratized access to knowledge. Students around the globe can now engage with educational resources, connect with experts, and participate in collaborative projects, transcending traditional classroom boundaries.

The information technology era is changing how we connect, work, and live. The advantages are numerous and diverse, transforming business and education in addition to promoting international connection. To secure a sustainable and inclusive digital future, it is necessary to proactively address the issues of privacy, cybersecurity, and the digital divide. It is crucial that we use information technology responsibly as we traverse the digital frontier, adhering to the values of equity, creativity, and ethics.

Mrs Pinakshi Konwar
Editor

Student Information 2018 - 2023



BCA STAFF



My Experience In BCA

Shilpi Sikha Boruah
6th Semester, BCA
DHSK COLLEGE

"Things End. But memories last forever"

My journey at DHSK College pursuing BCA has been nothing short of an enriching experience, marked by academic challenges and memorable moments. The transition from Sivasagar to Dibrugarh was a significant shift, and my first day was a mixed emotion of nervousness and excitement. Being an extrovert, I quickly overcame the initial hesitation, forming strong bonds with classmates specially with my benchmate and leaving a positive impression on both my classmates and my teachers, especially with our HoD Sir.

The faculty, initially perceived as strict for me but I soon realized their supportive and motivating sides. They guided me through the academic rigors, fostering an environment conducive to learning. As a science student, the transition to coding presented challenges in the first semester, but due to the HoD's engaging teaching style and the innate appeal of mathematics helped me regain confidence. I was also able to successfully navigate through the vast syllabus of BCA and performed well in end-semester exams.

During freshers, I was able to connect with my seniors who proved to be not just friendly and caring but also played a fundamental role in making my initial college days enjoyable. The department picnic to Nari Village and the vibrant atmosphere during freshers, where I participated in an ethnic dance, remain embedded in my memory as truly memorable events.

The 2nd semester introduced me to intriguing subjects like "Data Structure" and "Computer Architecture & Organizations." While some challenges arose in "Accounting and Financial Management," but the unwavering support from my teachers and friends ensured my success in the subject. The 3rd and 4th semesters brought dynamic subjects like "Software Engineering", "Artificial Intelligence", and Database Management using Wamp Server. Despite their complexity, these subjects fascinated me, challenging me to go deeper into the world of computer science.

The 5th semester marked a crucial phase where I collaborated with classmates on a Minor Project under the guidance of our HoD. This collaborative effort not only enhanced my coding skills but also provided valuable insights from both our instructor and my friends. The project exemplified the spirit of teamwork and learning that defines my academic journey at DHSK College.

At the end, my time at DHSK College has been an impactful journey, where academic challenges were met with resilience, friendships were forged, and personal growth was nurtured. The supportive environment, dedicated faculty, and engaging curriculum have collectively shaped my journey through BCA, leaving me with a sense of accomplishment and readiness for the future.

Thank You

Add-on Courses Offered in BCA

A Certificate Course on
Hardware & Networking
2nd Semester
Teacher :
Mr. Kakul Bezbaruah

A Certificate Course on
DTP and Photoshop
3rd Semester
Teacher :
Mr. Debajit Bora

A Certificate Course on
**Numerical Ability
Enhancement**
4th Semester
Teacher :
Ms. Alakananda Konwar



*"Dream big,
work hard,
stay focused."*

List of Students Admitted in the 1st Semester, Batch : 2023 - 26

Name of the Students	Hailing From	Name of the Students	Hailing From
Abee chettri	Doomdooma	Kukil Sonowal	Dibrugarh
Parag Jyoti Gogoi	Doomdooma	Uday Shankar gogoi	Moranhat
Ankupal Das	Dergaon	Ankur Borah	Moran
Mohammad Fuzail	Dibrugarh	Ankita Sutradhar	Dibrugarh
Sagar Chetry	Moran	Isha Bhagat	Dibrugarh
Danial Deori	Namsai	Rituraj Chetia	Jagun
Debabrata Saikia	Dibrugarh	Faizan Sultan Ahmed	Dibrugarh
Ankush Kr. Prasad	Dibrugarh	Abhirup Chakraborty	Dibrugarh
Priyanka Boruah	Silapathar	Nischay Saha	Dibrugarh
Baishali Bhattacharjee	Dibrugarh	Suraj Prakash Hazarika	Sivasagar
Monuj Gogoi	Lakhimpur	Saustav Chakraborty	Dibrugarh
Jaing Emboi	Namsai	Nupur Sonowal	Dibrugarh
Priyanshi Roy	Dibrugarh	Bishal Nandi	Sonari
Pragya Panwar	Dibrugarh	Pritisha Gogoi	Digboi
Gyandeep Dehingia	Duliajan	Manab Chowdhury	Doomdooma
Nandita Kalita	Digboi	Runax Changmai	Tengakhat
Junash Nag	Tengakhat	Bhumika Tanti	Moran
Arup Urang	Chabua	Wasim Ishaan Ahmed	Dibrugarh
Anuj Sonowal	Naharkatia	Khushi Kumari Kanu	Doomdooma
Tasneem Ahmed	Dibrugarh	Nikhil Bhagat	Dibrugarh
Piyush Patel	Dibrugarh	Bikash Kumar Singh	Dibrugarh
Kapil Upadhyaya	Moranhat	Sumitra Gogoi	Tinsukia
Richard Gogoi	Nazira	Amitava Sarkar	Duliajan
Jagriti Hazarika	Tinsukia	Sandhya Sah	Chabua
Bhairab Deka	Morigaon	Somya Dweep	Naharkatia
Mujahid Islam Khan	Dibrugarh	Tathagata Kashyap	Dibrugarh
Sibu Newar	Sonari	Parthiv Buragohain	Digboi
		Debasish Das	Roing



**Department of Computer Science
Bachelor of Computer Application : Batch 2023-26**



**Department of Computer Science
Bachelor of Computer Application : Batch 2022-25**



**Department of Computer Science
Bachelor of Computer Applications : Batch 2021-24**



Courageous Steps !

Khogen Gogoi
BCA, 4th Semester
DHSK College, Dibrugarh

In the journey of life, where paths diverge,
And challenges emerge with every urge,
If you hold steadfast, with courage to surge,
You'll find within you, a boundless reserve.

When doubts assail, and fears entwine,
Remember, your efforts, a beacon they shine,
Reflecting your spirit, pure and fine,
A testament to strength, your soul's design.

Let determination guide your way,
Through the twists and turns, come what may,
Each step you take, each word you say,
Defines the essence of your sway.

Deepfake Technology Innovation vs. Integrity

Aman Rajbongshi
BCA, 4th Semester
DHSK College, Dibrugarh



Deepfake technology, a fusion of reality and virtuality propelled by AI, presents a dual narrative of fascination and fear. While its adept manipulation of videos and images sparks innovation in entertainment and healthcare, it simultaneously casts a shadow of ethical uncertainty. Revolutionizing filmmaking and medical training, it also breeds misinformation and privacy breaches, threatening the fabric of trust in elections and personal privacy.

Navigating this ethical minefield demands a delicate balance. As we admire its creativity, we must also address the risks of exploitation. Responsible innovation and clear regulations are essential to guide deepfake technology towards a future where integrity prevails.



Standing : Mr. Harjinder Singh
From Left : Dr. Anup Jyoti Bharali, Dr. Priya Dev Goswami, Sjt. Abhimanyu Baruah,
Dr. Sashi Kanta Saikia, Dr. Ananta Kumar Dutta

BCA Management Committee : 2023

1. President, GB Advisor (Mr. Abhimanyu Baruah)
2. Principal & Secretary, Chairperson (Dr. Sashi Kanta. Saikia)
3. Vice Principal, Member (Dr. Priya Dev Goswami)
4. Coordinator, IQAC, Member (Dr. Anup Jyoti Bharali)
5. Academic Co-ordinator, Member (Dr. Ananta Kumar Dutta)
6. HoD, Computer Science, Member (Mr. Harjinder Singh)
7. Office Assistant, Member (Sri Bhuvan Jyoti Baruah)

INTRODUCTION TO WEBSOCKET : ENHANCING REAL-TIME COMMUNICATION

Niyar Mukuta Dutta
BCA 4th Semester
DHSK College, Dibrugarh



In the ever-evolving landscape of web development, the need for real-time communication between clients and servers has become increasingly essential. Traditional web protocols like HTTP are inherently request-response based, which can be inefficient for applications requiring constant updates and immediate data transfer. This is where WebSocket steps in, offering a solution that revolutionizes real-time communication on the web.

WebSocket is a communication protocol that enables bidirectional, full-duplex communication channels over a single TCP connection. Unlike HTTP, which follows a stateless, request-response model, WebSocket establishes a persistent connection between the client and server, allowing them to exchange data in real-time without the overhead of repeated connections.

At its core, WebSocket provides a simple and efficient mechanism for establishing and maintaining connections. The initial handshake between the client and server is performed over HTTP, but once the connection is established, WebSocket switches to its own protocol.

This handshake includes headers indicating the intention to upgrade the connection to WebSocket,

after which both parties can exchange messages asynchronously.

One of the key advantages of WebSocket is its ability to facilitate low-latency communication. By eliminating the need for multiple HTTP requests and responses, WebSocket significantly reduces the overhead associated with traditional polling techniques. This makes it ideal for applications such as live chat, online gaming, financial trading platforms, and collaborative editing tools, where timely updates are crucial.

WebSocket is also platform-independent and widely supported by modern web browsers and web servers, making it accessible to developers across different environments. Its simplicity and versatility have made it a fundamental technology for building interactive and immersive web experiences.

In summary, WebSocket represents a fundamental shift in web communication paradigms, offering developers a powerful tool for creating real-time applications that deliver seamless and engaging user experiences. Its efficient, bidirectional nature makes it an invaluable asset for modern web development, enabling a wide range of applications to thrive in the dynamic online landscape.

COMPUTER LABORATORY



Contact Information

- Website : dhsk.org
- Dr. Priya Dev Goswami (Vice - Principal) : 9435473872
- Mr. Harjinder Singh (HoD, Computer Science): 7002345114
- Mrs. Pinakshi Konwar (Faculty) : 8876910113

Teaching Staff of BCA



Mr. Harjinder Singh



Mrs. Pinakshi Konwar



Ms. Alakananda Konwar



Mr. Bhagwan Shah

“Behind Every successful individual stands a teacher, a beacon of guidance and inspiration, igniting the flame of learning within”



Mr. Kakul Bezbaruah



Mr. Debajit Bora



Ms. Puja Bhattacharjee

Non -Teaching Staff



Shiba Tanti



One day Seminar on “Structured Query Language and Database Management”
Speaker : Dr. Rizwan Rehman, Assistant Professor, Dibrugarh University
on 8th April, 2023



One day Seminar on “Opportunities in Industry and Information Technology” organized by Department of Computer Science (BCA)
Speaker : Dr. Pranjal Kr. Phukan, General Manager BCPL Dibrugarh, Assam
on 24th March, 2023



One day Seminar on “Generative Adversarial Network”
Speaker : Dr. Sadiq Hussain, System Administrator, Dibrugarh University on
4th May, 2023



Vishwakarma Puja Celebration
in Computer Laboratory on
17th Sept, 2023



Farewell, 6th May 2023



Freshers & Teachers Day, 5th September 2023



Departmental Wall Magazine

Editorial Board

Advisors -

Dr. Sashi Kanta Saikia (Principal)
 Dr. Priya Dev Goswami (Vice Principal)
 Mr. Harjinder Singh (HoD, Comp. Sci.)
 Mrs. Pinakshi Konwar (Editor)

Student Member -

Prashanjeet Dutta, BCA, 4th Semester
 Aryan Kr. Ekka, BCA, 4th Semester
 Pratham Debnath, BCA, 4th Semester