Souvenir

TECH FEST 2020

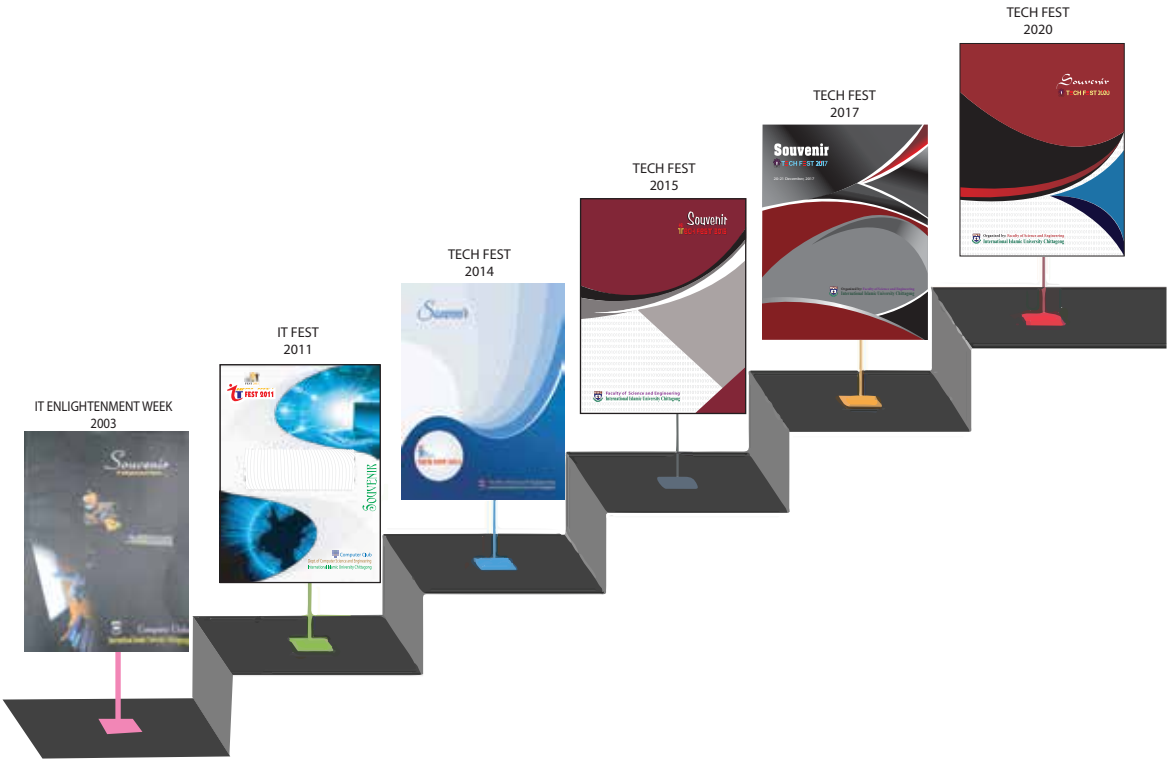
21-22 January, 2020

Organized by: Faculty of Science and Engineering

International Islamic University Chittagong

Souvenir

TECH FEST (2003-2020)



[একথা কি সত্য নয়, আমি যমীনকে বিছানা বানিয়েছি? পাহাড়গুলোকে গেঁড়ে দিয়েছি পেরেকের মতো? তোমাদের (নারী ও পুরুষ) জোড়ায় জোড়ায় সৃষ্টি করেছি? তোমাদের ঘুমকে করেছি শান্তির বাহন, রাতকে করেছি আবরণ এবং দিনকে করেছি জীবিকা আহরণের সময়? তোমাদের উপর সাতটি মজবুত আকাশ স্থাপন করেছি এবং একটি অতি উজ্জল ও উত্তপ্ত বাতি সৃষ্টি করেছি? আর মেঘমালা থেকে বর্ষণ করেছি অবিরাম বৃষ্টিধারা, যাতে তার সাহায্যে উৎপন্ন করতে পারি শস্য, শাকসবজি ও নিবিড় বাগান? নিঃসন্দেহে বিচারের দিনটি নির্ধারিত হয়েই আছে। যেদিন সিংগায় ফুঁক দেয়া হবে, তোমরা দলে দলে বের হয়ে আসবে। আকাশ খুলে দেয়া হবে , ফলে তা কেবল দরজার পর দরজায় পরিণত হবে। আর পর্বতমালাকে চলমান করা হবে, ফলে তা মরীচিকায় পরিণত হবে। (সূরা আন নাবা: ৬-২০)]

Faculty of Science and Engineering
International Islamic University Chittagong

Souvenir

Tech Fest 2020
21-22 January, 2020

Organized by
Faculty of Science & Engineering
International Islamic University Chittagong, Bangladesh

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Editorial

At the very outset, I would like to express my heartfelt gratitude to Almighty Allah (SWT) who has enabled us to publish a souvenir on the occasion of Tech Fest-2020 held on 21 and 22 January, 2020.

For the first time a Souvenir was published on the occasion of IT Fest which was organized with the initiative of the Computer Club, Department of Computer Science & Engineering, IIUC in a small scale in 2011. The 2nd Souvenir was published on the occasion of Tech Fest which was held with the initiative of Faculty of Science & Engineering, IIUC on a large scale where 1000 participants participated in 2014. The 3rd and 4th Souvenirs were published on the occasion of Tech Fests which was held with the initiative of Faculty of Science & Engineering, IIUC in 2015 and 2017 respectively. For the fifth time, a souvenir is going to be published on the occasion of Tech Fest held in 2020.

The contents of the souvenir are initiated with the messages from dignitaries succeeding write-ups of the faculty members, background of the Tech Fest, overview of the departments, articles, list of faculty members, club executives, the organizing committee, the list of winners , and Album etc.

The souvenir is a quest to keep the memories of Tech Fest-2020 alive in the minds of the faculty members, students, participants, media partners and well-wishers around us. I believe that this souvenir is like a mirror which reflects the comprehensive education system at IIUC with creative co-curricular activities besides its academic programs.

I would like to extend my ardent gratitude to all those who have contributed sincerely in various ways to make the publication successful. Despite our all-out care, there might remain some printing mistakes. I apologize if anything happens so.

May Allah accept our efforts and give us the best rewards here and hereafter.

Dr. A.N.M. Rezaul Karim
Associate Professor
Dept of Computer Science & Engineering
International Islamic University Chittagong

TECH FEST 2020

Tech Fest 2020
21-22 January, 2020

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Professor K. M. Golam Muhiuddin
Vice-Chancellor
International Islamic University Chittagong

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Inaugural Ceremony

Date:	January 21, 2020
Venue:	IIUC Auditorium
Chief Guest:	Professor Dr. Mohammad Ali Azadi Pro Vice Chancellor, IIUC
Special Guest:	Prof. Dr. Kazi Deen Mohammad Vice-Chairman, Board of Trustees, IIUC
Guest of Honor:	Prof. Dr. Mohammad Shamsul Arefin CSE, CUET
Chairman:	Prof. Dr. Md. Delawer Hossain Dean, Faculty of Science & Engineering, IIUC

Prize Giving Ceremony

Date:	January 22, 2020
Venue:	IIUC Auditorium
Chief Guest:	Professor Dr. Mohammad Ali Azadi Pro Vice Chancellor, IIUC
Special Guest:	Prof. Ahsanullah Bhuiyan Chairman, Finance Committee, IIUC Mr. Rana Sohel Chief Operating Officer, LEADS Corporation Limited
Chairman:	Prof. Dr. Md. Delawer Hossain Dean, Faculty of Science & Engineering, IIUC

Events

- Seminar
- Inter University Hackathon Competition
- Cyber Gaming Contest
- Tech Olympiad
- Inter-University Idea Generation Competition
- Mobile Games and Apps Development Competition
- Embedded System & Circuit Design Challenge
- Inter-University Programming Contest
- Inter University Robo Fight Competition
- Medicinal Plant Show Competition
- Inter-University Project Showcase Competition
- Inter-University Poster Presentation Competition

Message

I am pleased that the Faculty of Science and Engineering (FSE) of International Islamic University Chittagong (IIUC) has successfully accomplished its science and technology festival "Tech Fest-2020" at the vast green campus of IIUC. I am also happy to learn that a Souvenir is going to be published on the successful completion of the festival.

I am happy that FSE of IIUC was able to bring together the students of various streams from different universities in and around Chittagong on a common platform to interact and share their innovative ideas, knowledge and to highlight new concepts in the field of science and technology on the eve of Tech Fest 2020. As far my knowledge goes, the technology festival was in the form of competitions, lectures, workshops, and exhibitions. For such an arrangement, I would like to congratulate the Faculty of Science and Engineering (FSE) and hope that it will continue its uninterrupted efforts to make such arrangements in the future.

I wish the publication of the Souvenir a grand success.

Professor K.M. Golam Muhiuddin
Vice-Chancellor
International Islamic University Chittagong

Message

I am happy to know that the Faculty of Science and Engineering (FSE) of International Islamic University Chittagong (IIUC) is going to publish a Souvenir after its successful completion of Tech Fest-2020 which welcomed the students of various universities in and around Chittagong.

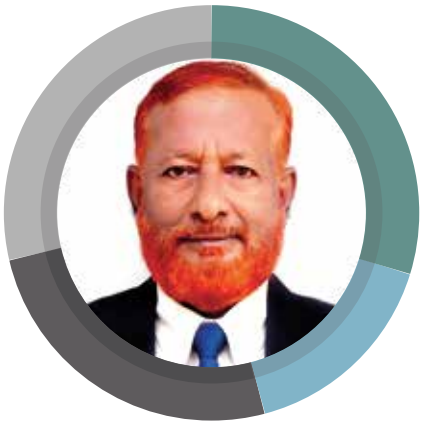
Tech Fest is a certainly great platform, particularly for the students of science and engineering, to proliferate their latent intellect by participating in various scientific and technological events which will surely open up the doors of advanced knowledge to meet the demand of our country. I believe Tech Fest 2020 opened up such a platform where various issues of science, technology and engineering were discussed through participants' interaction, sharing and discussion.

Therefore, I would like to appreciate the Faculty of Science & Engineering on arranging such an event and hope that it will continue in the coming years.

I wish every success of the publication of Souvenir following the festivity of Tech Fest 2020.

A.N.M Shamsul Islam
Chairman, Board of Trustees
International Islamic University Chittagong

Message



It gives me immense pleasure to have a chance to write a few lines about the Tech Fest 2020 which was arranged and successfully completed by the Faculty of Science & Engineering of International Islamic University Chittagong (IIUC) during January 21-22, 2020 at IIUC Campus, Kumira, Chittagong in which large number of students from different universities in and around Chittagong has participated and displayed their technical expertise and latent skills through competition, interaction and exchange of views and ideas on the recent innovations in the field of science and engineering. It is also remarkable that a souvenir is going to be published to keep the events alive.

Really, it was a thrilling Tech Fest which was also enjoyed by me. I was highly pleased and charmed by observing the innovative and competitive face and notions of brilliant participants of different universities including IIUCians. I hope, this kind of Fest will not only be simply a show business but encourage students to show their skills and technological innovative thoughts by making new instruments and taking part in the competition of different events which also fullfill the 'Outcome Based Education' vision of IIUC. Without competition, life is like a tideless river where lot of germs can develop. So, without Tech Fest, life of science students is a tree without fruit.

My heartfelt congratulations to all concerned faculty members and students for organizing such a memorable innovative science festival and hope that this fest will be continued in the coming years with more new skills and ideas.

Professor Dr. Mohammad Ali Azadi
Pro Vice-Chancellor
International Islamic University Chittagong

Message

It am pleased to say that by the grace of Almighty Allah(s.w.t), the Tech- Fest- 2020 of the Faculty of Science and Engineering has completed successfully. In this regard, I express my wholehearted gratitude to Allah (s.wt) for His kind blessings to all of us. As a convener of Tech-Fest 2020 Organizing Committee, I offer my heartiest thanks to IIUC authority, all the members of Organizing Committee and Sub-Committees of Tech Fest-2020, all teachers, club members, Volunteers, students and staffs of FS&E, Head of Divisions and others for their cooperation, spontaneous support and sincere effort for Tech Fest 2020 (Alhamdulillah).

Tech Fest is known for hosting a variety of events that include competitions, exhibitions, lectures as well as workshops. The aim of this Tech Fest was to celebrate and promote education and research in the fields of science and engineering at IIUC. It offers a lot and expects students to be motivated. It is for students to decide what will be his/her next steps to stand on his/her feet. It helps the students to develop technical excellence, team spirit and focuses mind setup. I urge interested and prospective students to find out more.

The Outcome Based Education (OBE) has been implemented in the academic programs of IIUC since autumn -2017 Semester. OBE is an approach of curriculum design and teaching that focuses on what students should be able to do at the end of course/program. Tech-Fest gives the opportunity to the students of FSE to demonstrate their knowledge, skills & attitudes. I encourage all students to achieve those essential outcomes.

So, students of FSE should take part in Tech-Fest every year to show their competenc. Who knows, it might encourage them to boldly go where they have never gone before. There will be silver lining moment where they will find what interests them in the beautiful world of technology. I congratulate all students took part in this program.

Prof. Dr. Md. Delawer Hossain
Dean, Faculty of Science & Engineering
Director, IQAC
Convener, Tech Fest 2020
International Islamic University Chittagong

Message

First of all, I would like to express my deepest gratitude to Almighty Allah for the successful completion of TECH FEST 2020.

Celebrating the TECH FEST gives an opportunity for the students of Faculty of Science & Engineering to meet one another. It also gives the members a platform to showcase and demonstrate their talents in Engineering & Technology. Further, publishing the articles by the members & learners in the souvenir definitely give them an opportunity to think and write about their creative best.

My sincere thanks and appreciation to all the members of the organizing committee and the sub-committees for their sincere efforts and enthusiasm to make our TECH FEST 2020 a grand success. This was not possible without the team work of our members and support of our management. I express my heartfelt thanks to the sponsors and the management of IIUC.

I am confident that the Faculty of Science & Engineering, IIUC will continue its efforts and advance its successful journey in the years to come.

Prof. Mohammed Shamsul Alam
Dept. of Computer Science & Engineering, IIUC
& Co-convener, Tech Fest 2020

Message

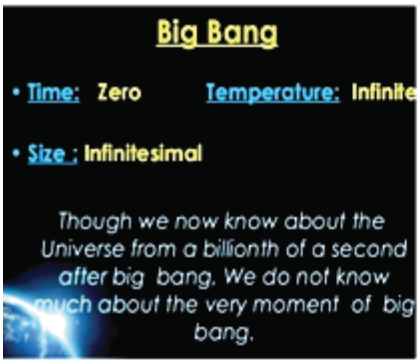
I am happy to welcome you to our grand Fest titled as "Tech Fest 2020". It's a great pleasure for us that all the members of Faculty of Science and Engineering of International Islamic University Chittagong (IIUC) have organized "TECH FEST" and now consequently we are going to publish a souvenir on the eve of "Tech Fest 2020". This is indeed a creative academic venture for students as well as teachers of the Faculty of Science and Engineering to gather ideas, knowledge and thoughts in a new dimension.The program maintains at its heart the sharing and development of technical knowledge regarding various application of idea on science and engineering. It also sees as essential the dissemination of work that helps ensure rapidly increasing quantities and qualities of knowledge. It goes without saying that the Fest will continue to showcase the most recent developments in concepts, applications, devices and practical exposure of technology. Advances in storage and grid integration are essential for the continuous expansion. The opportunity to share our knowledge with other Universities following gathering with experts over a broad range of topics critical to the future is unique to IIUC.

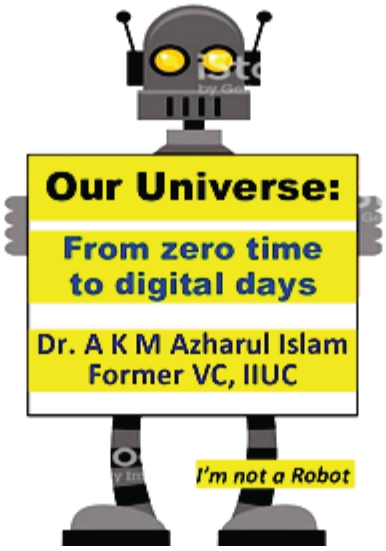
We are really grateful to Honorable Vice-Chancellor Professor K. M. Golam Muhiddin for his encouraging support all the time. We are also grateful to our Honorable Pro Vice-Chancellor Professor Dr. Mohammad Ali Azadi for his kind cooperation at very moment of this festival. We are also grateful to Honorable Dean, Professor Dr. Md. Delawer Hossain, for his kind cooperation at all time. We extend our thanks and appreciation to all the officials and authority as well as all the Founder members of IIUC for taking the necessary measures to publish this souvenir on the occasion of Tech Fest 2020. We are also grateful to our colleagues who have contributed from the very beginning to the success of this fest. All participants and judges of other Universities are always encouraging us making the program a success.

I do strongly hope that this Festival will play a meaningful role in reaching the goal of digital Bangladesh. May Allah (SWT) accept our endeavors and efforts.

Professor Dr. Mohammed Aktar Sayeed
Department of Pharmacy &
Member Secretary
Tech Fest 2020.

Our Universe: From Zero Time to Digital Days





Overview

1. Introduction

Tech Fest which explores digital revolution is the annual science and technology festival of International Islamic University Chittagong. The program includes events and workshops where visitors can find out about privacy in a digital age, what human-machine collaboration might mean for our jobs in the future. The theme for Tech Fest 2020 is about looking at how digital technology revolutionizes our homes and offices in the future to how our personal information is used on the internet. The Tech Fest teams also demonstrate the capabilities of the state of the art facilities for our future generations.

In this article we will give a simplified view of how the universe evolved from zero time about billions of years ago into what we see today's digital world. The latest scientific Big Bang theory of the origin of the Universe, cooling and expanding universe, and creation of electrons, protons, neutrons, and gravity dictating the structure of the universe are described in brief.

Further in the article we will discuss one Qur'anic verse which refers to similar events like the Big Bang, and another verse that describes the expansion of the universe. Qur'anic verses also refer to Gravitation and Taqdir of natural law which imply that everything in the universe is working according to a set pattern; i.e., according to set "laws of nature" in modern scientific knowledge.

The birth of electron during Big Bang and its subsequent discovery in 1897 has led to the revolution of modern day digital technology. This has become possible as the electrons play an indispensable role in numerous physical phenomena, such as electricity, magnetism, chemistry and thermal conductivity, and they also participate in gravitational, electromagnetic and weak interactions.

2. Origin of the Universe – Modified scientific theory

a. The Big Bang, cooling and expanding Universe

George Gamow (1904-1968) was a Soviet-American theoretical physicist and cosmologist. He formally proposed the model of the formation of the Universe in 1948, after a lengthy discussion on other models of the universe by a number of scientists (e.g. Albert Einstein, 1917; William de Sitter, 1917; Alexander Friedmann, 1922; George Lemaitre, 1927, etc.). Lemaitre is credited for introducing the idea of the "primeval atom", where galaxies originated as fragments ejected by the explosion of this atom.

George Gamow modified Lemaitre's hypothesis in 1948 into the "Big Bang theory" of the origin of the universe. In this theory, Gamow proposed that the universe was created in a gigantic explosion, whereby the various elements observed today were produced within the first few minutes after the Big Bang, as the extremely high temperature and density of the universe would fuse subatomic particles into the chemical elements.

The Big Bang theory is a cosmological model of the observable universe from the earliest known periods through its subsequent large-scale evolution. If the observed conditions are extrapolated backwards in time using the known laws of physics, the prediction is that just before a period of very high density there was a singularity. Current knowledge is insufficient to determine if the singularity was primordial. Most astrophysicists say that all the matter found in the universe today including the matter in people, plants, animals, the earth, stars, and galaxies was created at the very first moment of time. Scientists believe, the universe began with every speck of its energy jammed into a very tiny point. This extremely dense point exploded with unimaginable force, creating matter and propelling it outward to make the billions of galaxies of our vast universe. Astrophysicists dubbed this titanic explosion the Big Bang. The universe is currently estimated at roughly 13.8 billion years old. In comparison, the solar system is only about 4.6 billion years old.

The Big Bang has another unique character. We know that an explosion of a man-made bomb expands through air, the Big Bang did not expand through anything. This is due to the reason that there was no space to expand through at the beginning of time. Rather, physicists believe the Big Bang created and stretched space itself, expanding the universe.

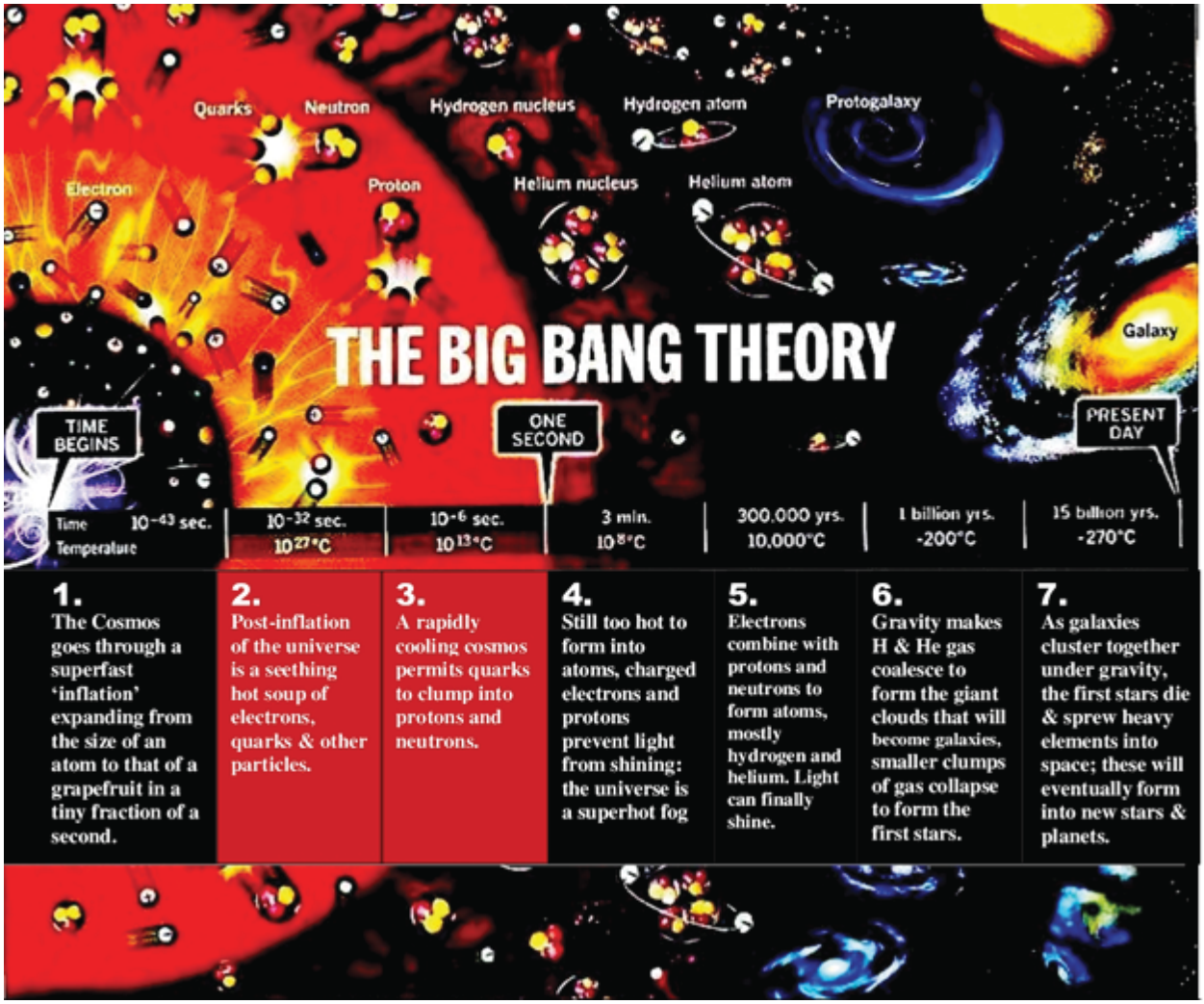
b. Cooling and expanding Universe

The immense heat after the Big Bang created conditions unlike any conditions astrophysicists see in the universe today. While planets and stars today are composed of atoms of elements like hydrogen and silicon, scientists believe the universe at the earliest time was too hot for anything other than the most fundamental particles - such as quarks and photons.

As the universe quickly expanded, the energy of the Big Bang became more and more "diluted" in space, causing the universe to cool. Rapid cooling allowed for matter to form in the universe, although physicists are still trying to figure out exactly how this happened.

c. Birth of proton, neutron and electron - building blocks of matter

In the first moments after the Big Bang, the universe was extremely hot and dense. As the universe cooled, conditions became just right to give rise to the building blocks of matter – the quarks and electrons of which we are all made. A few millionths of a second later, quarks aggregated to produce protons and neutrons. Within minutes, these protons and neutrons combined into nuclei. As the universe continued to expand and cool, things began to happen more slowly. It took 380,000 years for electrons to be trapped in orbits around nuclei, forming the first atoms. These were mainly helium and hydrogen, which are still by far the most abundant elements in the universe. Present observations suggest that the first stars formed from clouds of gas around 150–200 million years after the Big Bang. Heavier atoms such as carbon, oxygen and iron, have since been continuously produced in the hearts of stars and hurled throughout the universe in spectacular stellar explosions called supernovae.



The widely accepted theory for the origin and evolution of the universe is the Big Bang model, which states that the universe began as an incredibly hot, dense point roughly 13.8 billion years ago. Picture shows a breakdown of the Big Bang to now in 7 steps.

But stars and galaxies do not tell the whole story. Astronomical and physical calculations suggest that the visible universe is only a tiny amount (4%) of what the universe is actually made of. A very large fraction of the universe, in fact 26%, is made of an unknown type of matter called 'dark matter'. Unlike stars and galaxies, dark matter does not emit any light or electromagnetic radiation of any kind, so that we can detect it only through its gravitational effects. An even more mysterious form of energy called "dark energy" accounts for about 70% of the mass-energy content of the universe. Much less is known about it than dark matter. This idea stems from the observation that all galaxies seems to be receding from each other at an accelerating pace, implying that some invisible extra energy is at work.

d. Gravity and its effect

About a billion years after the Big Bang, gravity caused the atoms to gather in huge clouds of gas, forming collections of stars known as galaxies. Gravity is the force that pulls any objects with mass towards one another -- the same force, for example, that causes a ball thrown in the air to fall to the earth.

Over billions of years, stars 'cook' hydrogen and helium atoms in their hot cores to make heavier elements like carbon and oxygen. Large stars explode over time, blasting these elements into space. This matter then condenses into the stars, planets (like earth), and satellites that make up solar systems like our own.

Gravity plays a starring role in the theory of the Big Bang, the immense expansion event from which the universe's billions of galaxies herald. Gravity dictates the structure of the universe, from the way cosmic bodies form to the way they orbit more massive planets or stars.

Gravity is one of the four forces of nature, along with electromagnetism, strong force and weak force. All of these forces are tied up in the big bang theory. Furthermore, Einstein's groundbreaking theories about the nature of gravity were central to the understanding of the universe he presented with general relativity.

The first force that we ever became aware of was probably gravity. We see gravity at work any time we drop a book, step on a scale or toss a ball up into the air. Its such a constant presence in our lives, we seldom marvel at the mystery of it. Every time we jump, we experience gravity. It pulls us back down to the ground. Without gravity, we would float off into the atmosphere - along with all of the other matter on Earth. Gravity holds the moon, planets, sun, stars and galaxies together in the universe in their respective orbits. It can work over immense distances and has an infinite range.

Although many people had already noted that gravity exists and worked on it, British scientist Newton (c. 1643-1727) was the first to develop a cohesive explanation for gravity. As the legend goes in the 1600s, an English physicist and mathematician named Isaac Newton was sitting under an apple tree. Apparently, an apple fell on his head, and he started wondering why the apple was attracted to the ground in the first place.

Newton's theory in the 1680s states that each particle of matter attracts every other particle (for instance, the particles of 'Earth' and the particles of 'we') with a force that is directly proportional to the product of their masses and inversely proportional to the square of the distance between them.

3. Origin of the Universe – What Qur'an says?

The Qur'an, which was revealed more than fourteen centuries ago, mentioned facts which are only recently discovered or proven by scientists. There are in reality many scientific facts found in the Qur'an. At this point it is important to note that the Qur'an is not a book of Science but a book of 'Signs', i.e. ayaats (verses). There are more than six thousand 'Signs' in the Qur'an of which more than a thousand deal with hard core Science.

a. Qur'anic verses

The Holy Qur'an states: بَدِيْعُ السَّمٰوٰتِ وَ الْاَرْضِ ؕ وَ اِذَا قَضٰۤى اَمْرًا فَاِنَّمَا يَقُوْلُ لَهٗ كُنْ فَيَكُوْنُ

"He is the Originator of the heavens and the earth. When He decrees a thing, He does only say to it, 'Be!' and it is." (Qur'an 2: 118)

In the Qur'an Allah, the Lord of the Worlds, exhorts humanity to investigate and reflect upon the heavens, the earth, mountains, stars, plants, seeds, animals, the alternation of the night and the day, the creation of man, the rain and many other created things. Examining these, man comes to recognize the artistry of Allah's creation in the world around him, and ultimately, to know the Creator, Who created the entire universe and everything in it from nothing. The Holy Prophet of Islam (PBUH) said that it was the 'bounden duty of every Muslim, man and woman, to acquire knowledge.'
We will explore Qur'anic verse which describes the so-called Big Bang, and then other verse that describes the expansion of the universe. Let us first mention the ayaat "He created the heavens and the earth from nothing" (Qur'an 6:101). This verse shows the scientific fact that was discovered many centuries later, which is that the universe came into being through the explosion of a single point-mass that had zero volume.

We noted earlier that modern cosmology, observational and theoretical science, clearly indicates that at one point in time, the entire universe was nothing but a cloud of 'smoke' (e.g. an opaque, extremely dense and hot gaseous structure). Scientists now can observe new stars forming out of the remnants of that 'smoke'. From the same smoke, the earth and the sky (sun, moon, stars, planets, galaxies, etc.) formed. So we can say that the earth was a connected entity. Then these are made up of single fumes but separate from each other. The Originator of the universe also says in the Qur'an about the early moments of the universe:

أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَاوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ

"Do not the Unbelievers see that the heavens and the earth were joined together (as one unit of Creation) and then

We clove them asunder (We opened them up)? We made from water every living thing. Will they not then believe?" (Qur'an 21:30)

The Arabic word fafataqnahuma ("and then We opened them up") means that something is cloven asunder. Lane's Lexicon describes the essential meanings as the cleaving asunder of something united to make it disunited [Lane's Lexicon, page 2331 (1863)].

Thus the 'Big Bang' verse makes a few clear statements: The heavens and the Earth (ie: the cosmos), while differentiated now, were once a closed-up mass, described as ratqan (رَتْقًا); (b) The heavens and the Earth were opened up (fafataqnahuma) from their state of being ratq; (c) Unbelievers will 'see' this, i.e. there will be observational evidence of this for unbelievers; (d) Water is the source of all life.

Thus the basics of the Big Bang theory are similar to the Qur'anic verse discussed. In short, the Big Bang hypothesis states that all of the current and past matter in the Universe came into existence at the same time. At this time, all matter was compacted into a very small ball with infinite density and intense heat called a 'Singularity'. Suddenly, the 'Singularity' began expanding and the universe as we know it began. Many scientists who have not conditioned themselves blindly to be atheists now accept that there is a Creator who has infinite power in the creation of the Universe. This creator should be a being who both created time and matter; that is to say, a being independent of both of them. The well-known American astrophysicist Hugh Ross explains this truth as*: "If the time and matter emerged with a Bang, then the cause who generated the Universe should be entirely independent of time and place in the universe. This shows us that the Creator is beyond all dimensions in the universe."*

Verse related to expansion: The Quran describes the expansion of the universe: "And it is we who have built the universe with (Our creative) power; and verily, it is We who are steadily expanding it." (Qur'an, 51:47– translation by M Asad). M. Pickthall's translation reads like this - "We have built the heaven with might, and We it is who make the vast extent (thereof)."

Evolutionary growth is the paramount law of the Qur'anic cosmology, first from Allah's decree into actual existence, and from there into the universe we see today. It was not until 1925, when Edwin Hubble provided evidence of receding galaxies, that the expanding universe came to be accepted as a scientific fact.

As seen before the verse 21:30 ends by addressing the unbelievers: "Will they not then believe?" That is: will the unbelievers not believe in Allah and Islam, when the verses about the beginning of the universe and the origin of life are stated.

All these are from the Almighty Allah, and taught by the Prophet of Islam (pbuh) 1450 years ago, in the depths of the Arabian Desert. In truth these are now scientifically supported. In fact many other scientific facts have also been disclosed many centuries before being discovered by the scientists.

Despite rejection of the unbelievers Professor Alfred Kroner (1939-2019), a world-famous geologist, explained: 'Thinking about many of these questions and thinking where Muhammad (pbuh) came from, he was after all a Bedouin. I think it is almost impossible that he could have known about things like the common origin of the universe, because scientists have only found out within the last few years with very complicated and advanced technological methods that this is the case.'

The Qur'an has said all these about 1450 years ago. It also describes geographical concepts and knowledge that the sun and the earth rotate in certain directions that were proven after Qura'nic revelation.

b. Gravity and little-known Muslim influence

Did Newton's gravitation ideas fall from an apple tree? Such question is justified as very little is known about Muslims' influence on Sir Isaac Newton's scientific breakthrough.

Sir Isaac Newton, one of the greatest physicists ever, said: "If I have seen further it is by standing on the shoulders of giants." We know Isaac Newton very well, but we do not know the 'giants'. he referred to. We are well aware of a

famous picture of Isaac Newton, where he is seen experimenting with light (see picture: 2nd row- last frame). But we are not aware that the same experiment was done by Ibn al-Haytham more than seven centuries before him.

Source: Wiki

Thabit ibn Qurra (c. 826 or 836-901) and Ibn al-Haytham (c. 965-1040) are the two Muslim scientists who wrote about calculus. We know of Ibn al-Haytham (Optics, Astronomy, Mathematics; born Basra) and his writings about gravity. Abu Bakr al-Razi's main interests were in Medicine, Philosophy, Alchemy (Born in Iran, c. 854-932, centuries before Newton). He made a strong distinction between absolute and relative space; absolute space, which is three dimensional and infinite, exists quite independently of the bodies contained in it. And Ibn Sina (born Uzbekistan, c. 980-1037; died Iran) contributed in Medicine, Psychology and Pharmacology to Geology, Physics, Astronomy, Chemistry and Philosophy and tried to relate velocity with weight, which is a precursor to the concept of momentum. Famous Persian polymath Al-Biruni (c. 973-1050) proposed that heavenly bodies have mass, weight, and gravity, just like the Earth. He criticized both Aristotle and Ibn Sina for holding the view that heavenly bodies lack these properties and that only the Earth has mass, weight and gravity. The 12th-century scholar Al-Khazini suggested that the gravity an object contains varies depending on its distance from the centre of the universe (referring to the centre of the Earth). These discoveries are all connected to Newton.

Now let us look at Newton's laws of motion. Ibn Sina and Ibn al-Haytham, among others, are seen to be writing about law of inertia, the first law of motion. Abul Barakat Al-Baghdadi (c 1080-1165) writes that force is proportional to acceleration, which we get to know from Newton's second law. Ibn Bajja (c 1085-1138, Astronomer, Philosopher, Physician, Physicist, Poet) wrote that for every force there is a reaction force, which became the forerunner to Newton's third law of motion.

So one may wonder how do so many things that Newton worked come to light as being described by Muslim scientists long before his discoveries? The 'giants' they say, are Copernicus, Kepler, Descartes, Tycho Brahe, and Galileo. But actually, it just might be that Sir Isaac Newton was also influenced by Muslim scientists.

Some clear marks of influence are seen in Newton's writings from Ibn Tufail's philosophical romance Hayy ibn Yaqzan. It is known that both the Latin and English translations of the book by Edward Pococke and Simon Ockley were available at Isaac Newton's time. Ibn Tufail's influence is seen in other philosophers, scientists, and fiction authors of the time too. The talented man he was, Ibn al-Haytham's name is frequent. Isaac Newton even kept a copy of Ibn al-Haytham's magnum opus, Kitab al-Manazir in his personal library.

Sir Isaac Newton also practiced alchemy. And, he did not only practice it, he read Jabir's book and was influenced by it. A book called Summa Perfectionis was based on the Arabic work Kitab al-Mulk, from the Jabirian Corpus. It was translated into English by Richard Russell, and appeared in three other versions, one of which was Willam Starkey's Secrets Reveal'd, the one which Newton owned.

So, it is likely, Newton's ideas didn't fall from an apple tree after all. Perhaps they fell from the great minds of Muslim scientists before him.

c. Gravity, orbit and Taqdir in the Qur'an

The creation of the universe, the orbit of the natural world is bound by the laws of the universe. Gravity is one of the four forces of nature. One of the striking features of gravity is its universal nature. Each particle of the universe is under the influence of this force. Everything in the universe under the influence and control of gravity has attained a large size and complex structure.

The Holy Qur'an contains the verse: "It is Allah Who has raised the heavens without any supports that you could see, and then He established Himself on the Throne (of Dominion). And He it is Who has made the sun and the moon subservient (to a law), each running its course till an appointed term. He governs the entire order of the universe and reveals the signs so that you can be sure of meeting your Lord." (13: 2)

Further Qur'an declares about the orbital motion of the moon and the sun: "We have appointed stages for the moon till it returns in the shape of a dry old branch of palm-tree. Neither does it lie in the sun's power to overtake the moon nor can the night outstrip the day. All glide along, each in its own orbit." (36:39-40).

The law of gravity applies because of the mass of matter is formed from particles (atoms/molecules). This is also true between the moon and the object. Allah has set or fixed the orbit of this moon as this mass (moon) and the other body (earth) is under the influence of gravitational force which is inherent characteristics of the body of mass formed from atoms/molecules.

Taqdir of electron, atom, material bodies like Earth, Sun, Moon etc: The root meaning of the word 'Taqdir' (root qadar) is measure, standard, or pattern. It implies that everything in the Universe is working according to a set pattern; i.e., according to set 'laws of nature' in modern scientific terminology. Discussions are abundant that life and living entities are dependent on natural law, and the overall management of the heavens and the earth is based on a provision which is also based on Taqdir. This is because Allah created all things from atoms and molecules, each of which is subordinate to and subject to certain characteristic laws in terms of its properties. For example, different types of atoms/molecules are formed with electron, proton, and neutrons. These atoms/molecules then produce different kinds of materials having different numbers of these three basic particles.

Each one of the characteristic features of electron, proton, neutron and atoms and molecules is predetermined (that is, the characteristics is predetermined/prefixed). Thus properties of different substances will be different due to their formation from different numbers of these basic particles. Further all the materials are subject to gravity due to their possessing mass.

Let us mention hot gas/air (formed by the atoms, molecules) by way of example. It becomes lighter and leaves the relatively cold space to fill the vacuum up. This behavior is due to characterictics/Taqdir as mentioned. On the other hand, the planets and stars created by these are performing their duty under a definite arrangement (Taqdir), fulfilling the purpose of creation. They never deviate from their behavior, never violate the limits. Agai water is formed by the mixing/combination of hydrogen and oxygen atoms. And the water mass and density are determined by the provision of the amount of material in water. Similarly, water sometimes evaporates, sometimes freezes, sometimes stagnates, sometimes flows in the form of currents, and sometimes appears as floods. All these behavioral properties are due to the predetermined characteristics of atoms/molecules forming the substances. According to this provision of the Creator, the management of the entire universe is being conducted.

In order to further illustrate that the natural world is bound by the compulsive and infallible law let us quote the following Qur'anic verse:

وَٱلشَّمۡسُ تَجۡرِي لِمُسۡتَقَرّٖ لَّهَاۚ ذَٰلِكَ تَقۡدِيرُ ٱلۡعَزِيزِ ٱلۡعَلِيمِ وَٱلۡقَمَرَ قَدَّرۡنَٰهُ مَنَازِلَ حَتَّىٰ عَادَ كَٱلۡعُرۡجُونِ ٱلۡقَدِيمِ

"And the sun runs to a term appointed for it. That (is the) Decree (of) the All-Mighty, the All-Knowing. As for the moon, We have ordained ˹precise˺ phases for it, until it ends up like an old, curved palm stalk." (36:38-39) The word qaddarnāhu means 'We have ordained/decreed it'.

The whole world and all its affairs, all its workings, and everything that goes with it is mentioned in the Qur'an. Allah says in the Qur'an: "He created the heavens and the earth in [the] truth. He wraps the night over the day and wraps the day over the night. And He subjected the sun and the moon, each running for a term specified. Unquestionably, He (is) the Almighty, the Oft-Forgiving" (39:5)

Therefore, the specific universal divine law that exists in humans and the natural world is called taqdir in this sense. Humans have been granted the ability to apply 'Free will' for their development. He is also subject to judgment whether this duty is being performed properly. Human life may attain/approach its auspicious end through proper practice of the provisions of Allah, or the human race faces its consequences as a result of its violation.

Thus the word Taqdir or Divine Decree means that both the law of nature and the law of religion (Shariah) have been devised by Allah and He alone holds Supreme power over these laws which are operating in the universe. Allah has laid down the principles for every material or spiritual thing.

4. Discovery of electron and its nature

a. Identification of electron in the post-Big Bang era

We noted earlier that the universe at its birth at zero time to 10^{-32} – 10^{-6} sec cooled to a temperature suitable to give rise to quarks and electrons (see Big Bang picture). Billions of years after that stage the present era began and electron and other particles are being identified. Sir Joseph John Thomson (1856-1940), a British physicist and Nobel Laureate in Physics, is credited with the discovery of the electron in 1897, the first subatomic particle to be discovered.

b. Nature of electron, molecule and matter – question of Taqdir

What are the characteristics of electron? Electrons are the negatively charged particles of atom. Together, all of the electrons of an atom create a negative charge that balances the positive charge of the protons in the atomic nucleus. Electrons are extremely small compared to all of the other parts of the atom. The wave properties of electrons are easier to observe with experiments. Laboratory instruments are capable of trapping individual electrons as well as electron plasma by the use of electromagnetic fields. Electrons are also important for the bonding of individual atoms together.

Electrons have three fundamental properties: charge, mass, and spin. The electron charge, e is 1.60×10^{-19} C and mass at rest me, is 9.11×10^{-31} kg. Electrons spin on their axes in much the same way that planets do. Spinning electrons, like any other moving electric charge, create a magnetic field around themselves. That magnetic field affects the way electrons arrange themselves in atoms and how they react with each other. The field is also responsible for the magnetic properties of materials. Elecrron can be either free (not attached to any atom), or bound to the nucleus of an atom. Electrons in atoms exist in spherical shells of various radii, representing energy levels.

Electrons are essential in the world of electronics. The very small particles can stream through conducting wires and circuits, creating currents of electricity. The electrons move from negatively charged parts to positively charged ones. The negatively charged pieces of any circuit have extra electrons, while the positively charged pieces want more electrons. The electrons then jump from one area to another. When the electrons move, the current can flow through the system.

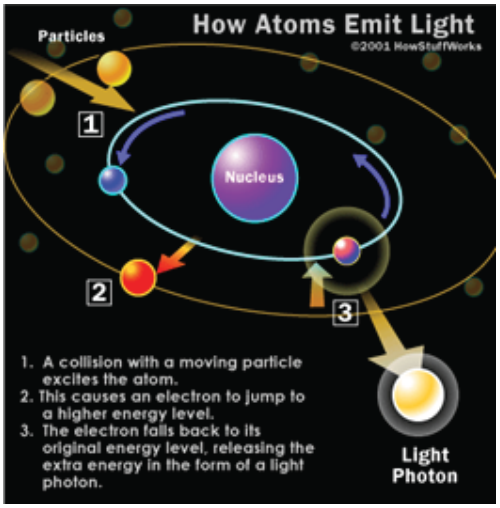
Question of Taqdir: Each one of the characteristic features of electron (as well as proton, neutron and atoms and molecules) is predetermined as has already been mentioned in section 3c during discussion of gravity, orbit and Taqdir in the Qur'an. All things are created and are made up of electrons, neutrons, protons, atoms, and molecules (scientific knowledge - all things are formed from electrons, neutrons, protons, atoms, and molecules). In Qur'anic language each of the particles, atoms and molecules is subordinate to and subject to certain characteristic laws in terms of its properties. In fact the whole world and all its affairs, all its workings (like gravity etc), and everything that goes in accordance with and is bound by the compulsive and infallible law of the Creator.

5. Electrons and digital world

a. How do electrons give off light?

Light is the result of electrons moving between defined energy levels in an atom, called shells. When something excites an atom, such as a collision with another atom, an electron may absorb the energy, boosting it up to a higher-level shell. The boost is short-lived, however, and the electron immediately falls back down to the lower level, emitting its extra energy in the form of an electromagnetic energy packet called a photon. The wavelength of the photon depends on the distance of the electron's fall. Some wavelengths, such as radio waves, are invisible. Photons with wavelengths in the visible spectrum form all the colours that we can see.

LED, a light-emitting diode, is a semiconductor light source that emits light when current flows through it. Electrons in the semiconductor recombine with electron holes, releasing energy in the form of photons.



b. Modern day electronics and digital technology

Electrons play an essential role in numerous physical phenomena, such as electricity, magnetism, chemistry and thermal conductivity. Thesey also participate in gravitational, electromagnetic and weak interactions. Since an electron has charge, it has a surrounding electric field, and if that electron is moving relative to an observer, the observer will observe it to generate a magnetic field. Electromagnetic fields produced from other sources will affect the motion of an electron according to the Lorentz force law. Electrons radiate or absorb energy in the form of photons when they are accelerated.

The exchange or sharing of the electrons between two or more atoms is the main cause of chemical bonding of a material. If an electron collides with a positron (antiparticle of electron with positive charge),, both the particles can be annihilated to give gamma ray photons.

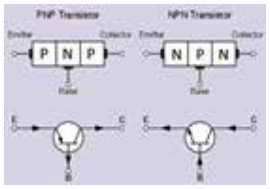
The identification of the electron in 1897, along with the invention of the vacuum tube, which could amplify and rectify small electrical signals, inaugurated the field of electronics and the electron age. Electrons are involved in many applications such as electronics, welding, cathode ray tubes, electron microscopes, radiation therapy, lasers, gaseous ionization detectors and particle accelerators.

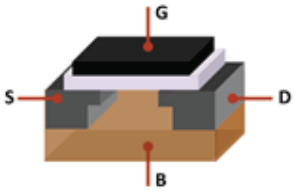
Electronics is widely used in information processing, telecommunication, and signal processing. The ability of electronic devices to act as switches makes processing of digital information possible. Interconnection technologies such as circuit boards, electronics packaging technology, and other varied forms of communication infrastructure complete circuit functionality and transform the mixed electronic components into a regular working system, called an electronic system; examples are computers or control systems. An electronic system may be a component of another engineered system or a standalone device. As of 2019 most electronic devices use semiconductor components to perform electron control.

Commonly, electronic devices contain circuitry consisting primarily or exclusively of active semiconductors supplemented with passive elements; such a circuit is described as an electronic circuit. Electronics deals with electrical circuits that involve active electrical components such as vacuum tubes, transistors, diodes, integrated circuits, optoelectronics, and sensors, associated passive electrical components, and interconnection technologies. The nonlinear behaviour of active components and their ability to control electron flows makes amplification of weak signals possible.

Electrical and electromechanical science and technology deals with the generation, distribution, switching, storage, and conversion of electrical energy to and from other energy forms (using wires, motors, generators, batteries, switches, relays, transformers, resistors, and other passive components). This distinction started around 1906 with the invention by Lee De Forest of the triode, which made electrical amplification of weak radio signals and audio signals possible with a non-mechanical device





From L to R: Nobel Laureates John Bardeen, William Shockley and Walter Brattain at Bell Labs, 1948. 2nd & 3rd: Mohamed M. Atalla (Born Egypt: 1924-2009) developed the silicon surface passivation process (1957) and invented the MOSFET transistor (1959) with D Kahng. Atalla in 1960, and then Kahng in 1961, proposed the concept of the MOS integrated circuit. 4. Transistor and 5. MOSFET

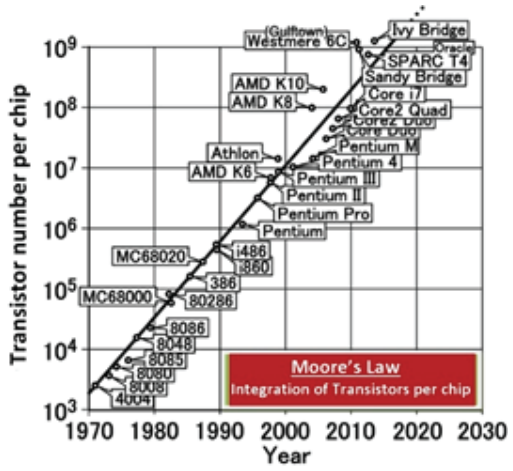
Solid-state electronics: It emerged after the first working transistor was invented by William Shockley, Walter Houser Brattain and John Bardeen at Bell Labs in 1947. The MOSFET (MOS transistor) was later invented by Mohamed Atalla and Dawon Kahng at Bell Labs in 1959. The MOSFET was the first truly compact transistor that could be miniaturised and mass-produced for a wide range of uses, revolutionizing the electronics industry, and playing a central role in the microelectronics revolution and Digital Revolution. The MOSFET has since become the basic element in most modern electronic equipment, and is the most widely used electronic device in the world.

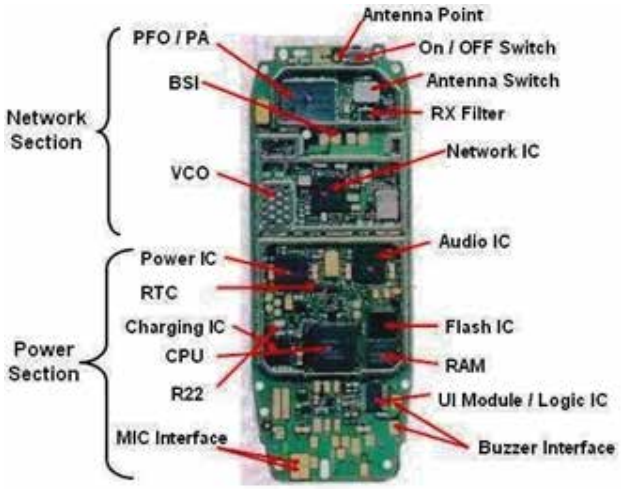


Today's society shows the ever-growing computer, Google maps and internet-centric lifestyle, which includes the rapid influx of computers and mobiles.

Integrated circuit (IC), also called microelectronic circuit, microchip, or chip, an assembly of electronic components, fabricated as a single unit, in which miniaturized active devices (e.g., transistors and diodes) and passive devices (e.g., capacitors and resistors) and their interconnections are built up on a thin substrate of semiconductor material (typically silicon). The resulting circuit is thus a small monolithic “chip,” which may be as small as a few square cm or only a few square mm. The individual circuit components are generally microscopic in size.

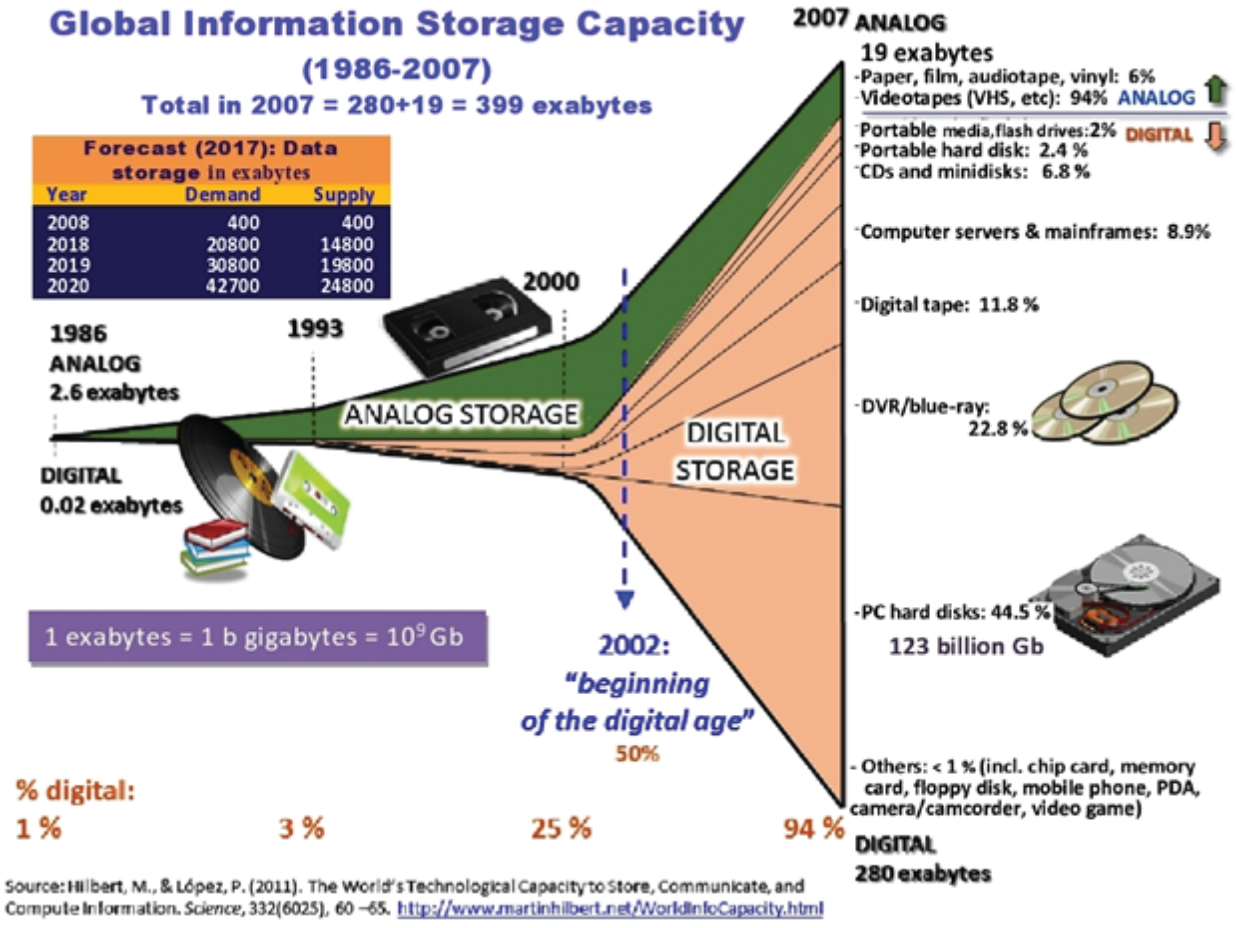
Microprocessors are the most-complicated ICs. They are composed of billions of transistors that have been configured as thousands of individual digital circuits, each of which performs some specific logic function. A microprocessor is built entirely of these logic circuits synchronized to each other. Microprocessors typically contain the central processing unit (CPU) of a computer.





Moore's law is the observation made in 1965 that the number of transistors in a dense integrated circuit doubles about every two years. The observation is named after Gordon Moore, the co-founder of Fairchild Semiconductor and was the CEO of Intel. Moore predicted that this trend would continue for the foreseeable future.

The evolution of Global Information Storage Capacity (1996-2007) is shown in the figure below along with table of forcast of demand and supply (2009-2020):



Source: Hilbert, M., & López, P. (2011). The World's Technological Capacity to Store, Communicate, and Compute Information. *Science*, 332(6025), 60 –65. http://www.martinhilbert.net/WorldInfoCapacity.html

Digitization (less commonly digitalization) is the process of converting information into a digital (i.e. computer-readable) format, in which the information is organized into bits. The result is the representation of an object, image, sound, document or signal (usually an analog signal) by generating a series of numbers that describe a discrete set of points or samples. The result is called digital representation or, more specifically, a digital image, for the object, and digital form, for the signal. In modern practice, the digitized data is in the form of binary numbers, which facilitate computer processing and other operations, but, strictly speaking, digitizing simply means the conversion of analog source material into a numerical format; the decimal or any other number system that can be used instead.

ICT is a broad subject and the concepts are evolving. It covers any product that will store, retrieve, manipulate, transmit, or receive information electronically in a digital form (e.g., personal computers, digital television, email, or robots).

The digital revolution is the shift from mechanical and analogue electronic technology to digital electronics which began anywhere from the late 1950s to the late 1970s with the adoption and proliferation of digital computers and digital record keeping that continues to the present day. Implicitly, the term also refers to the sweeping changes brought about by digital computing and communication technology during (and after) the latter half of the 20th century. Analogous to the Agricultural Revolution and Industrial Revolution, the Digital Revolution marked the beginning of the Information Age.

Central to this revolution is the mass production and widespread use of digital logic, MOSFETs (MOS transistors), and integrated circuit (IC) chips, and their derived technologies, including computers, microprocessors, digital cellular phones, and the Internet. These technological innovations have transformed traditional production and business techniques.

The Internet of Things (IoT) refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of wireless networks, it's possible to turn anything, from something as small as a pill to something as big as an aeroplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real-time data without involving a human being. The Internet of Things is making the fabric of the world around us more smarter and more responsive, merging the digital and physical universes.

A lightbulb that can be switched on using a smartphone app is an IoT device, as is a motion sensor or a smart thermostat in your office or a connected streetlight. An IoT device could be as fluffy as a child's toy or as serious as a driverless truck. Some larger objects may themselves be filled with many smaller IoT components, such as a jet engine that's now filled with thousands of sensors collecting and transmitting data back to make sure it is operating efficiently. At an even bigger scale, smart cities projects are filling entire regions with sensors to help us understand and control the environment.

OECD Digital Economy Outlook 2015, © OECD 2015

Rank	Country	ICT sector (%)			
1	South Korea	10.7	16	Switzerland	4.63
2	Japan	7.02	17	France	4.33
3	Ireland	6.99	18	Slovenia	4.26
4	Sweden	6.82	19	Denmark	4.06
5	Hungary	6.09	20	Spain	4.00
6	US	5.89	21	Canada	3.86
7	India	5.87	22	Italy	3.72
8	Czech Rep	5.74	23	Belgium	3.72
9	Finland	5.60	24	Austria	3.56
10	UK	5.53	25	Portugal	3.43
11	Estonia	5.33	26	Poland	3.33
12	Slovakia	4.87	27	Norway	3.32
13	Germany	4.84	28	Greece	3.31
14	Luxembourg	4.54	29	Iceland	2.87
15	Netherlands	4.44	30	Mexico	2.77

The economic impact of the digital revolution has been wide-ranging. Without the World Wide Web (WWW), for example, globalization and outsourcing would not be nearly as feasible as they are today. The digital revolution radically changed the way individuals and companies interact. Small regional companies were suddenly given access to much larger markets. Concepts such as on-demand software services and manufacturing and rapidly dropping technology costs made possible innovations in all aspects of industry and everyday life.

But digital revolution is taking away intellectual labour from people. The ability of people to perform simple problem solving and decisions making is rapidly losing its value. Computers equipped with sophisticated algorithms are lot more effective, lot more reliable and lot cheaper for controlling processes, making decisions and solving problems repetitively. Humans will be pushed away from all the mundane daily tasks like accounting, management, tracking, driving, scheduling, following, etc. It will all eventually be done by computers (A. Gnum).

6. Conclusion

Our universe is both ancient and vast, and expanding out farther and faster every day. This present day scientific theory is in line with the Qur'anic revelation more than 14 centuries ago.

The electron, proton and neutron i.e. building blocks of matter were born during creation of the universe. But these fundamental particles were discovered billions of years after they were born.

Allah created all things from atoms (consisting of e, p, n) and molecules, each of which is subordinate to and subject to certain characteristic laws in terms of its properties - the characteristics is predetermined (prefixed) as Taqdir. The life and living entities are dependent on natural law, and the overall management of the heavens and the earth is based on a provision which is also based on Taqdir.

The law of gravity applies between heavenly bodies as well as between a heavenly body (Earth) and another body on Earth. Allah has set or fixed the orbit of the moon and the Earth as their masses are under the influence of gravitational force which is inherent characteristics of the body of mass formed from atoms/molecules. The possible influences of Muslim scientists on the works of great scientist Newton are also described.

There has been wide ranging economic impact of the digital revolution. This is due to the mass production and wide-spread use of digital logic, MOSFETs and integrated circuit (IC) chips, and their derived technologies, including computers, microprocessors, digital cellular phones, and the Internet. These technological innovations have trans-formed traditional production and business techniques. Further without WWW, globalization and outsourcing would not have been feasible as they are today. The digital revolution in this age is radically changing the way individuals and companies interact.

Source and Image Credit

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স্রষ্টার অস্তিত্ব নিরুপণে সৃষ্টির বিশ্লেষণ ঃ সবুজ গাছে আগুন উৎপাদন

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সূচনা

সবুজ বৃক্ষ আল্লাহর এক মহান সৃষ্টি। আপাতদৃষ্টিতে গাছের অনেক উপকারের কথা আমরা জানি। গাছ জীবজগতকে বাঁচিয়ে রাখার জন্য ফল, ফুল, কাঠ, খাদ্য, ছায়া ইত্যাদি দেয়। বর্তমান শতাব্দীর বিজ্ঞানের অগ্রযাত্রার আগ পর্যন্ত মানুষের তাই ধারণা ছিল। মানুষ তথা তাবৎ জীব গোষ্ঠীর তা স্থলে হোক, জলে হোক বা অন্তরীক্ষে হোক, বেঁচে থাকার জন্য প্রতি মুহূর্তে অক্সিজেন অপরিহার্য। এই অক্সিজেনের কারখানা হলো সবুজ বৃক্ষ। অক্সিজেন ছাড়া কিছুই জ্বলে না। জ্বালানী জ্বলার জন্য সবুজ বৃক্ষের অক্সিজেন একান্ত প্রয়োজন। বিজ্ঞানের আবিষ্কারের অনেক পূর্বে (চৌদ্দশত বছর আগে) অক্সিজেনের উৎসের এই তথ্য কুরআনের ৩৬ নং সূরা ইয়াসিনের ৮০নং আয়াতে আল্লাহ পাক আমাদের দিয়েছেন, "তিনি, যিনি তোমাদের জন্য সবুজ বৃক্ষ থেকে আগুন উৎপন্ন করেন! তখন তোমরা তা থেকে আগুন জ্বালাও" (৩৬:৮০)। এই প্রবন্ধে সূরা ইয়াসিনের এই আয়াতের বৈজ্ঞানিক বিশ্লেষণের চেষ্টা করা হয়েছে।

সৃষ্টির অধ্যয়নে স্রষ্টাকে জানো

মহান স্রষ্টা সম্পর্কে জানার কৌতুহল হলে তাঁর সৃষ্টি সম্পর্কে জানার জন্য নির্দেশ দিয়েছেন মহান আল্লাহ রব্বুল আলামীন। আসলে সৃষ্ট জীবসমূহের সুবিশাল নিয়মতান্ত্রিক জীবন পদ্ধতি ও মানুষের উপকারার্থে তাদের ব্যবহার ও প্রয়োজনীয়তা বিশ্লেষণ করলে অনুধাবন করা যায় যে প্রত্যেক সৃষ্টির পেছনে একজন স্রষ্টার অস্তিত্ব বিদ্যমান। আজাদী (১৯৯৭) এ বিষয়ে কয়েকটি উদাহরণ দিয়ে ব্যাখ্যা প্রদান করার চেষ্টা করেছেন। প্রত্যেকটি সৃষ্টির বহুবিদ উদ্দেশ্য রয়েছে। আল্লাহর এক একটি নির্দেশের পেছনে হাজারো কারণ লুকায়িত থাকে যা আমাদের চোখে ধরা পড়ে না। সৃষ্টিকে জানতে পারলে স্রষ্টাকে বুঝা সহজ। তাঁর সম্পর্কে সরাসরি ধারণা পাবার জন্য যে মেধা বা ক্ষমতার প্রয়োজন তা আমাদের নেই। মহান আল্লাহ তাঁর সৃষ্টির উপর যৎসামান্য প্রভুত্ব দিয়ে মানুষকে তাঁর খলিফা হিসাবে প্রতিনিধিত্ব দিয়েছেন তা অধ্যয়ন ও ব্যবহার করে মানুষ নিজের প্রয়োজনে নতুন নতুন উপাদান বা যন্ত্রপাতি সৃষ্টির মাধ্যমে মানব কল্যাণে নিয়োজিত হতে পারে এবং স্রষ্টাকে বুঝার পথ সহজতর করতে পারে।

এই অধ্যয়নকে সহজতর করার জন্য পবিত্র কুরআন শরীফে উদ্ভিদ, সমুদ্র,নক্ষত্রমন্ডল, মেঘমালাসহ আরো অনেক বিষয়ের কথা বিশেষভাবে উল্লেখ করা হয়েছে। আসলে যে কোন সৃষ্টিকেই অধ্যয়ন করলে সমগ্র সৃষ্টির উপর স্রষ্টার যে নিয়ন্ত্রণ আছে তা ধরা পড়ে। নির্দিষ্ট কিছু সৃষ্টির উদাহরণ সম্ভবত এজন্যই দেয়া হয়েছে যে, নানা সীমাবদ্ধতার কারণে মানুষ যেন বিশাল সৃষ্টির মধ্য খেই হারিয়ে না ফেলে এবং এগুলো অধ্যয়ন করলেও অনেক সুফল লাভের সম্ভাবনা থাকে। বর্তমানে বিজ্ঞানের জয়যাত্রা তারই এক প্রকৃষ্ট উদাহরণ। সৃষ্টির বিভিন্ন প্রকৃতিকে অধ্যয়ন করে এবং তাকে কাজে লাগিয়ে বিজ্ঞানের অগ্রযাত্রা শুরু হয়েছে। স্থলভাগের সর্ববৃহৎ প্রাণী হাতির মল থেকে শুরু করে ক্ষুদ্রাতিক্ষুদ্র জীব বা উদ্ভিদের চালচলন ও জীবনচক্র অধ্যয়ন করে মানবতার কল্যাণে মানুষ অনেক অবদান রাখতে সক্ষম হয়েছে। স্রষ্টার সৃষ্টি বনরাজির একটি মৌলিক অঙ্গ গাছ নিয়ে পবিত্র কুরআনে যে সমস্ত বিষয়ের অবতারণা করা হয়েছে তার একটি বাক্য নিয়ে এই প্রবন্ধে আলোচনা করে স্রষ্টাকে জানার চেষ্টা করা হয়েছে।

সবুজ বৃক্ষ বেহেশতেও আছে

গাছ বা সবুজ বৃক্ষ আল্লাহ যে শুধুমাত্র দুনিয়াতে সৃষ্টি করেছেন তা নয়, সুন্দর বৃক্ষপল্লব বেহেশতেরও অংশ। এমনকি মুসা (আ) আল্লাহ পাকের যে নূরের দর্শন লাভ করেছেন তাও স্বর্গীয় বৃক্ষের উপরই আবর্তিত হয়েছিল। অতএব শুধু বাহ্যিকভাবে নয় বরঞ্চ নৈসর্গিক দিক থেকেও বৃক্ষ যে কত মূল্যবান তা প্রণিধানযোগ্য। যাই হোক নৈসর্গিক বিষয়ে আমাদের জ্ঞান সীমিত। শুধুমাত্র বৃক্ষের বাহ্যিক বিষয় আলোচনা করতে গেলে পরিবেশসহ বিভিন্ন বিষয়ের সংশ্লিষ্টতা এত ব্যাপকভাবে এসে যায় যে, ছোট্ট এই প্রবন্ধে তার বিষদ ব্যাখ্যা সম্ভব নয়। তবে যে বাক্যটি (৩৬:৮০) প্রস্তাবনায় উল্লেখ করা হয়েছে তাতে বৃক্ষের গুণাবলীর অন্তত একটি দিক নিয়ে বিধৃত করা হয়েছে।

জ্বালানীর উৎস

উপরে উল্লেখিত সূরা ইয়াসিনের ৮০নং আয়াতে বলা হয়েছে, "এবং তিনি তোমাদের জন্যে সবুজ বৃক্ষ থেকে আগুন উৎপন্ন করেন! অতঃপর তোমরা তা থেকে আগুন জ্বালাও।" (৩৬:৮০)

আপাতদৃষ্টিতে আগুন জ্বালাবার মত উপাদানগুলোর দিকে দৃষ্টি দিলেই আমাদের বোধগম্য হবে কাঠ এবং কয়লা, তেল, গ্যাস জাতীয়

খনিজ জ্বালানীসমূহ উদ্ভিজ পদার্থ থেকে তাপ-চাপ ও সময়ের পরিবর্তনের ফলে সৃষ্ট। বর্তমান বিজ্ঞান অনেক অনুসন্ধানের পর তা স্বীকার করে নিয়েছে। কিন্তু তারপরেও প্রশ্নটি থেকে যায়, যে যুগে বাক্যটি প্রিয় পয়গম্বরের নিকট প্রেরিত হয়েছিল সে যুগে এসব নানা ধরনের জ্বালানী সম্পর্কে মানুষের ধারণা ছিল না। কাজেই ড. আজাদীর (আজাদী:১৯৯৭, ১৯৯৮, ১৯৯৯, ২০০০, ২০০৩) প্রবন্ধসমূহে উল্লেখিত যুক্তিতর্কের মত এ আয়াতটিও প্রমাণ করে আল কুরআন মানবসৃষ্ট কিতাব নয়।

আল্লাহ প্রদত্ত এ দৃষ্টান্ত তখনকার লোক যেমন তাদের শুকনো কাঠ জ্বালানোর সাথে সম্পৃক্ত করে এর মমার্থ অনুধাবন করেছে, আজ বিজ্ঞানের উন্নতির শীর্ষযুগে এসেও এর এতটুকু ব্যত্যয় ঘটে নি। মানুষ যে আগুন জ্বালায়, গাড়ী চালায়, মহাসমুদ্র, মহাশূন্য পাড়ি দেয় তার সবটার পেছনে যে পদার্থ শক্তি যোগায় তা উদ্ভিজ পদার্থেরই রূপান্তর। অন্যভাবে বলা যায়, উদ্ভিদ যে সমস্ত পদার্থ ব্যবহার করে এসব জ্বালানী শক্তি সঞ্চয় করে সে সমস্ত পদার্থ থেকেও শক্তি উৎপাদন সম্ভব। এ বিষয়ে আমাদের গবেষণা অত্যন্ত সীমিত বিধায় আমরা বুঝতে পারি না। অথচ আল্লাহর বাণী শ্বাশত। কেননা আল্লাহর কাছে অতীত বর্তমান ভবিষ্যত সবই সমান। তাঁর এই বাণী অতীতে যেমন ছিল, বর্তমানেও তাই এবং ভবিষ্যতেও একই থাকবে। অধ্যবসায়ের সাথে গবেষণা করলে তাঁর বাণীতে উল্লেখিত বৈজ্ঞানিক তথ্যসমূহের বিভিন্ন উপাদান ব্যবহার করে আমরা আমাদের প্রভূত কল্যাণ সাধন করতে সক্ষম হবো। তিনি পবিত্র কুরআনে যথার্থ ঘোষণা দিয়েছেন, যার মর্মার্থ হলো 'পবিত্র কিতাব কোন কিছুই বাদ দেয়নি'। অথচ আমরা ঘূর্ণাক্ষরেও এ সৃষ্টির প্রতি নিবেদিত হয়ে শোকর করি না।

জ্ঞান সাধনা জিহাদের সমতুল্য

হয়তো আমরা অনেকেই জানি না যে, মানুষ যা সৃষ্টি করে চলেছে তা মহান আল্লাহর সৃষ্ট বস্তু ও জীবসমূহের ব্যবহার এবং আল্লাহর হুকুমসমূহের নিত্য-নতুন আবিষ্কার। এ কথাটি না বুঝার আরো কারণ হলো আধুনিক আবিষ্কারসমূহের প্রায় সবকটাই করেছে অমুসলিম বিজ্ঞানীগণ। ফলে এর আবিস্কারের কথা যতটা ফলাও করে প্রচার হয়েছে এটা যে আল্লাহর দান তা তেমন করে কখনো প্রচার হয়নি। এমনকি অনেক মুসলমানেরও ধারণা বিদেশী তথা ভিন্নধর্মী বহুজাতিক কোম্পানীগুলোই বিভিন্ন ধরনের জ্বালানী উৎপাদন করছে। মুসলমান বিজ্ঞানীগণ বিজ্ঞান সাধনায় আত্মনিবেদিত না হলে মানুষের আবিষ্কারের পেছনে যে মহান আল্লাহর করুণা বিদ্যমান তা প্রচার করা সহজ হবে না। এ জন্যই জ্ঞান সাধনা, আল্লাহর সৃষ্ট কৌশল সম্পর্কে জানা এবং তা মানুষের উপকারে ব্যবহার করা জিহাদের একটি অংশ হিসাবে মুসলিম পন্ডিত ব্যক্তিগণের কাছে স্বীকৃতি পেয়েছে।

সভ্যতার বিকাশে আগুন

এ সমস্ত আলোচনা রেখে এখন আমরা ফিরে আসি সবুজ বৃক্ষে আগুন উৎপন্ন করার বিষয়ে। অন্যান্য আধুনিক জ্বালানীসমূহ বাদ দিয়ে এখানে শুধু কাঠের আগুনের কথাই বলবো। কিন্তু তার আগে সূরা ইয়াসিনের আলোচ্য ৮০ নং আয়াতের গুরুত্ব নিয়ে আলোচনা করতে হয়। বাক্যটির আগে পরে সূরাটিতে কী নিয়ে আলোচনা করা হয়েছে, তা দিয়েই আমরা বাক্যটির গুরুত্ব নির্ধারণ করতে পারবো। সূরা ইয়াসিনের আলোচ্য আয়াতটির আগের তিনটি আয়াতে আল্লাহ বলেছেন, "মানুষ কি দেখে না যে আমি তাকে সৃষ্টি করেছি বীর্য থেকে; অতঃপর এখনই সে হয়ে গেল প্রকাশ্য বাক-বিতণ্ডার কারণ। সে আমার সম্পর্কে এক অদ্ভুত কথা বর্ণনা করে। অথচ সে নিজের সৃষ্টি ভুলে যায়। সে বলে, কে জীবিত করবে অস্থিসমূহকে যখন সেগুলো পঁচে গলে যাবে? বলুন, যিনি প্রথমবার সেগুলো সৃষ্টি করেছেন তিনিই জীবিত করবেন। তিনি সর্বপ্রকার সৃষ্টি সম্পর্কে সম্যক অবগত।" (৩৬:৭৭-৭৯)

এমন কয়েকটি সৃষ্টি নৈপুণ্যর কথা বলেই অবতারণা করা হয়েছে গাছের ভিতর আগুন উৎপাদনের বিষয়টি। কেননা এটি মানুষের কল্যাণের জন্য আল্লাহপাকের এক বিশেষ সৃষ্টি বৈকি।মানুষের সভ্যতার বিকাশ বা বিজ্ঞানের অগ্রযাত্রা সমস্তই এ আগুনের উপর নির্ভরশীল। কিন্তু একটা সাধারণ গাছ দেখলে মানুষের কখনোই ধারণা হবে না যে এটা আগুন। এর মধ্য থেকেই আল্লাহ আগুন নির্গত করেন। মানুষের চোখের অন্তরালে এ সৃষ্টিকে তিনি উদাহরণ হিসাবে স্থাপন করে বুঝাতে চেয়েছেন যে তিনিই সৃষ্টি সম্পর্কে অবহিত।

আরো কিছু আগের আয়াতে গেলে দেখা যাবে আল কুরআনের ঐ সূরায় চতুষ্পদ জন্তু ও তাদের উপকারিতার কথা বলা আছে এবং তাদেরকে মানুষের বশ্যতা স্বীকার করার ব্যবস্থা করা হয়েছে। বস্তুতপক্ষে মানুষ বিরাট আকারের হাতিসহ ছোট-বড় বিভিন্ন জানোয়ারকে পোষ মানায় এবং তাদের উপকার গ্রহণ করে।

এরও আগের আয়াতে মানুষের জীবন চক্র, চন্দ্র-সূর্যের গতি ও সীমাব্ধতা এবং কেয়ামতের কথা বলে একেবারে শেষদিকে এসে সবুজ বৃক্ষ থেকে আগুন উৎপাদনের কথা একটি বিশেষ গুরুত্ব রাখে। এর পরের বাক্যগুলি অনুধাবন করলেই বুঝা যায় ঐ উদাহরণ দেয়ার পর তিনি স্রষ্টা হিসেবে কত বিশাল বৈভবের অধিকার দাবি করেছেন। পরবর্তী আয়াতসমূহে আল্লাহ বলেন, "যিনি নভোমন্ডল ও

তখন তাকে বলে দেন– হও, তখনই হয়ে যায়। অতএব পবিত্র তিনি, যাঁর হাতে সবকিছুর রাজত্ব এবং তারই দিকে তোমরা প্রত্যাবর্তিত হবে।" (৩৬:৮১-৮৩)

আগুন, গাছ ও জ্বীন

উপরিউক্ত আয়াতগুলো থেকে বুঝা যায়, আলোচ্য আয়াতটি উল্লেখ করার আরো মর্মার্থ দাঁড়াতে পারে যে,লোকেরা যখন পঁচা গলা হাড় থেকে মানুষকে পুনরায় সৃষ্টির সম্ভাবনার বিষয়ে প্রশ্ন তুলেছে, তখন আল্লাহ দেখিয়ে দিলেন মানুষের শরীর নিঃসৃত উপাদান (যেমন শুক্রানু ও ডিম্বানু) থেকেও তিনি সৃষ্টি করতে পারেন। এমনকি আমরা যাকে কাঠ হিসেবে দেখি তার থেকে তিনি একেবারেই ভিন্নতর জিনিস যেমন আগুনও সৃষ্টি করতে পারেন। অর্থাৎ মানুষ শুধু নয় আগুনের তৈরি জ্বীনদেরও পূর্ণ অবয়বে সৃষ্টি করা আল্লাহর জন্যে সহজ। প্রকৃতপক্ষে আগুনের তৈরি যাক্ষুম বৃক্ষের কথাও পবিত্র কুরআনে উল্লেখ করা হয়েছে, যা হবে দোযখীদের খাদ্য (৪৪:৪৩-৪৬)। ব্যাখ্যায় উল্লেখ করা আছে যে যাক্ষুম গাছের মূল থাকবে আগুনের সাথে সংযুক্ত। এসব কিছুই তাঁর পক্ষে সম্ভব। মানুষের পক্ষে ভিন্ন মাত্রার বস্তু অনুধাবন করা কঠিন। অন্যদিকে, মানুষ সভ্যতার অগ্রগতির জন্যে যাসৃষ্টি করে যাচ্ছে, তার গোঁড়ায় রয়েছে আল্লাহর সৃষ্ট এসব উপাদান।

সৃষ্টির রূপান্তর

স্রষ্টার সৃষ্ট এসব উপাদান ব্যবহার করে নিঃশেষ করা যায় না। শুধুমাত্র এক অবস্থা থেকে আরেক অবস্থায় রূপান্তর করা যায়।মানুষের অবস্থাও তাই। মানুষ মাটি থেকে সৃষ্ট, মরে গেলে মাটির সাথে মিশে যায়। পরবর্তীতে ঐ মাটি থেকে আল্লাহ মানুষকে পুনরায় সৃষ্টি করবেন। এখানে আরেকটা বিষয় উল্লেখ করা যুক্তিসংগত যে, মাটির তৈরি মানুষের প্রায় যাবতীয় খাদ্য মাটির উপর জন্মানো বৃক্ষের উপর নির্ভরশীল। অনুরূপভাবে হাদীসের বিভিন্ন বর্ণনা হতে বুঝা যায় আগুনের তৈরি জ্বীনের খাদ্যও আগুনের উপাদান কয়লার উপর নির্ভরশীল।

এখানে স্বাভাবিকভাবে প্রশ্ন আসে যে, মানুষ যেমন মরে গেলে মাটিতে রূপান্তরিত হয়। তাহলে জ্বীনেরা মরে গেলে কি আগুনের উপাদানের সাথে মিশে কয়লা ইত্যাদি হয়ে যায়? এর উত্তর আমাদের জানা নেই।কিন্তু এটা সত্য যে আল্লাহর সৃষ্ট জীবসমূহের জীবন পদ্ধতি চক্রাকারে আবর্তিত হয়। এগুলো সম্পর্কেও আমাদের জ্ঞান এখনো সীমিত। এগুলো অধ্যয়ন করে মহান স্রষ্টাকে উপলব্ধি করার সাথে সাথে আমাদের নিজেদের কল্যাণ সাধনের অনেক সুযোগ রয়েছে।

অক্সিজেন ও কাঠ কীভাবে তৈরি হয়

কাঠ পোড়ালেই আগুন উৎপন্ন হয়। আগুন উৎপাদনে বাতাসে অক্সিজেনের সাথে বিক্রিয়া একটা প্রধান অংশ। এ অক্সিজেনের উৎপাদকও হলো সবুজ বৃক্ষ। সবুজ বৃক্ষের পত্র-পল্লবে পতিত সূর্যের আলো এবং মাটি থেকে শুষে নেয়া পানি ও খনিজ পদার্থ থেকে সালোকসংশ্লেষণ প্রক্রিয়ায় গাছ যা কিছু তৈরি করে, তাই ধীরে ধীরে জমা হতে থাকে কাঠ হিসাবে। এই প্রক্রিয়ারই বাই-প্রোডাক্ট হিসাবে উৎপাদিত হয় অক্সিজেন। 'সবুজ বৃক্ষ থেকে আগুন উৎপাদন' সংক্রান্ত আয়াত দ্বারা একই সাথে অক্সিজেন উৎপাদনকে বুঝানো হয়ে থাকতে পারে। সূরা আল-ওয়াক্বিয়ার (৫৬) ৭১-৭৩নং আয়াতসমূহ পর্যালোচনা করলে তা অনুধাবন করা যায়।

আগুন নিয়ে গবেষণার ইঙ্গিত

উপরে বর্ণিত আয়াতসমূহে উল্লেখ করা হয়েছে, "তোমরা যে আগুন প্রজ্জ্বলিত কর সে সম্পর্কে ভেবে দেখেছ কি? এই বৃক্ষ তোমরা সৃষ্টি করেছ, না আমি সৃষ্টি করেছি? আমিই এটাকে করেছি নিদর্শন এবং মরুবাসীর জন্য সামগ্রী।" (৫৬:৭১-৭৩)

এখানে সরাসরি বৃক্ষের কথা না বলে আগুন কেন জ্বলে, কীভাবে জ্বলে সে বিষয়ে গবেষণা করার জন্য নির্দেশনা দেয়া হয়েছে এবং ঐ গবেষণায় আগুন প্রজ্জ্বলনে যে সমস্ত উপাদান পাওয়া যাবে সেগুলোর সৃষ্টিকর্তা কে, সে সম্পর্কে আলোকপাত করতে আহ্বান জানানো হয়েছে। পরক্ষণেই সূত্র টানা হয়েছে বৃক্ষের। অর্থাৎ গবেষণার কী ফলাফল পাওয়া যাবে মহান আল্লাহ তারও ইঙ্গিত দিয়েছেন। এভাবেই মহান আল্লাহ কুরআনকে মানুষের কাছে সহজতর করার প্রয়াস পেয়েছেন। অর্থাৎ যতই গবেষণা করা হোক না কেন, আগুন জ্বালানোর কোন না কোন উপাদান হবে বৃক্ষ থেকে উৎপন্ন। এসব উপাদানের একটি হিসেবে অক্সিজেনকে বর্তমান বিজ্ঞান জানে।

আসলেই অক্সিজেন ছাড়া আগুন জ্বলে না। শুধু আগুন জ্বালানো নয়, আগুন দিয়ে কী কাজ হবে তাও নির্ভর করে অক্সিজেনের মাত্রার উপর। আধুনিক প্রযুক্তিগুলোর দিকে তাকালে আমরা তার দৃষ্টান্ত দেখতে পাব। ওয়েল্ডিংয়ের সময় কোন ধাতব পদার্থ জোড়া লাগবে বা কাটা যাবে, তা নির্ভর করে জ্বালানী ও অক্সিজেনের মিশ্রনের উপর। গাড়ির ইঞ্জিন কতটুকু ইফিসিয়েন্ট হবে তা নির্ভর করে জ্বালানি ও অক্সিজেনের মিশ্রণের উপর। অর্থাৎ গাড়ির কার্বোরেটর এডজাস্টমেন্ট স্থির থাকলে বিশুদ্ধ ও দূষিত বাতাসে গাড়ির ইফিসিয়েন্সি ভিন্ন হবে। অথচ

কোষের জারণে অক্সিজেন

অক্সিজেনের সহায়তায় শুধু যে আগুন জ্বলে তা নয়, মানুষসহ সমস্ত বহুকোষী প্রাণী ও উদ্ভিদ শ্বাস-প্রশ্বাসের মাধ্যমে অক্সিজেন গ্রহণ করে চালিয়ে রাখে জীবিকা শক্তি। বাতাসে যে পরিমাণ অক্সিজেন আছে তার চেয়ে অক্সিজেনের পরিমাণে যদি সামান্য তারতম্য হয়, তাহলে সমস্ত প্রাণিকুল হয় অক্সিজেনের অভাবে অথবা অক্সিজেনের আধিক্যে তাপমাত্রা বৃদ্ধির ফলে মারা যাবে। আল্লাহ সৃষ্ট বৃক্ষকুল তাঁর অমোঘ নির্দেশে বাতাসে অক্সিজেনের এক অনাবিল ভারসাম্য বজায় রাখছে, যাতে সমগ্র প্রাণিকুলের অস্তিত্ব টিকে আছে। এখান থেকে আমাদের আগের বক্তব্যের সমর্থন পাওয়া যায় যে, একটি সৃষ্টিকে অধ্যয়ন করতে গিয়ে একাধিক উপকার অর্জন করা সম্ভব। আমরা কি গাছের এ ভূমিকাকে গাছের এক ধরনের এবাদত বলতে পারি না? গাছও এভাবেই আল্লাহর নির্দেশ পালন করছে।

আল্লাহর ইবাদতে নিবেদিত গাছ

তাই যদি হয় তাহলে এটাও কি বলা যাবে না যে আল্লাহর নির্দেশ পালন করতে গিয়ে সবুজ গাছে আগুন উৎপন্ন হচ্ছে? হ্যাঁ তাই। গাছের সালোক সংশ্লেষণ ও শ্বসনের মত স্বাভাবিক প্রক্রিয়া সমূহকে আল্লাহর সৃষ্টি নিয়মের প্রতি বৃক্ষের আনুগত্য বা ইবাদত হিসেবে গণ্য করা যায়। কেননা আল্লাহর এই অমোঘ নীতি পালন করতে গিয়ে গাছপালা উপকার করছে মানুষসহ লাখো সৃষ্ট জীবের। বৃক্ষের এ ইবাদতের ফলে যে কাঠ সৃষ্ট হয় তাতে আগুনের উপাদান লুকিয়ে থাকছে, যা মানুষ না জ্বালানো পর্যন্ত বুঝতে পারে না। মানব সভ্যতার ক্রমবিকাশের মূল উপাদান আগুনের উৎস এরই মাঝে লুকিয়ে আছে। কাজেই মানুষ যখন তার পুনর্বার সৃষ্টি সম্পর্কে সন্দেহ পোষণ করেছে, তখন আল্লাহ সবুজ বৃক্ষের মধ্যে এমন একটা সৃজনী দেখিয়ে দিলেন, যা মানুষ স্বাভাবিকভাবে দেখে না। জ্বালালেই শুধু বুঝতে পারে।

আল্লাহর হুকুমে আগুন তাপবিহীন

এখন হয়তো কেউ বিতর্ক করতে পারে কাঠ জ্বালালে আগুন হবে, এটা তো স্বাভাবিক ব্যাপার। এতে আবার আল্লাহর হুকুম কিসের? কিন্তু না এটা আমাদের অজ্ঞতা।এটা যে আল্লাহর হুকুম, পবিত্র কুরআনে ঐতিহাসিক ঘটনা দিয়ে তিনি এ সম্পর্কে দৃষ্টান্ত দিয়েছেন। আগুন সাধারণত সব কিছুকে জ্বালিয়ে ছারখার করে দিলেও হযরত ইব্রাহীম (আ) এর একটা কেশাগ্রও পোড়াতে পারেনি। কারণ আল্লাহ ঐ আগুনকে পোড়ানোর হুকুম দেন নি। এরকম আরো ঘটনার উল্লেখ তিনি করেছেন যাতে তাঁর সৃষ্ট পদার্থের গুণাবলি যে তাঁরই হুকুম মাত্র, তা বুঝা যায়। যেমন– ধারালো ছুরির ধার ক্ষমতা ঈসমাইল (আ) এর ক্ষেত্রে কাজ করেনি, কারণ তা ছিল আল্লাহর হুকুম। কিংবা আসহাবে কাহাফকে ৩'শ বছর(সৌর) এবং ৩০৯ বছর (চন্দ্র) ঘুমন্ত অবস্থায় জীবিত রাখার যে ঘটনা, তা ছিল আল্লাহর হুকুম (১৮:২৫)। মাছের পেট থেকে নিক্ষিপ্ত হওয়ার পর ইউনুস (আ) কে সামান্য লতা-গুল্মের আবরণ দিয়ে আরোগ্য করে তোলা হয়, এটাও ছিল আল্লাহর হুকুম। এতসব অস্বাভাবিক ঐতিহাসিক ঘটনার থেকে স্বাভাবিক নিয়মাবলিও যে আল্লাহর হুকুম সেটাই প্রতিভাত হয়।

স্বাভাবিক ও অস্বাভাবিক হুকুম

এখন কথা হচ্ছে, অসাধারণ কিছু হুকুমের উদাহরণ দিয়ে স্বাভাবিক ঘটনাগুলি যে আল্লাহর হুকুম তা বাস্তবে প্রমাণের উপায় কী? উপায় হলো, আমাদের সাধনা আর অধ্যবসায় দিয়ে প্রকৃত ঘটনা জানার চেষ্টা করা। আল্লাহ তাঁর প্রিয় বান্দাদের উপকারার্থে একবার যেটা হুকুম করেছেন স্বীয় বৈশিষ্ট্যের ফলে তা তুলে নেননি। তিনি নিখিল বিশ্বকে বিস্তরণশীল হওয়ার হুকুম করেছেন, কেয়ামত পর্যন্ত তা হতেই থাকবে। জোয়ার-ভাটার যে হুকুম করা হয়েছে, তা অনন্তকাল ধরে চলতেই থাকবে। আমাদের ধারণার মধ্যে তাঁর সে সব স্বাভাবিক হুকুম বাস্তবায়িত হতে দেখি সেগুলো অব্যাহত রয়েছে। ঐ সব প্রবাহমান ঘটনাগুলো বিশ্লেষণ করলে আমরা বুঝতে পারি তার হুকুমসমূহ একেবারে শূন্যের উপর কাজ করে না। কিছু না কিছু পদ্ধতি তৈরি হয়ে থাকে। চন্দ্র-সূর্যের অবস্থান, মহাকর্ষ বা মধ্যাকর্ষণ বল, এসব পদ্ধতি দ্বারা মহাবিশ্ব আবর্তিত হচ্ছে।

অনুরূপভাবে অস্বাভাবিক ঘটনাগুলোর যে উদাহরণ তিনি দিলেন সেগুলোও কিন্তু তাঁর হুকুমে সৃষ্ট পদার্থের গুণাবলি পরিবর্তনের মাধ্যমে হয়েছে। তাঁর এই হুকুম তিনি তুলে নেন নি। কাটা না কাটা, জ্বালানো না জ্বালানো, রোগের আরোগ্য সব হুকুমই কিন্তু বিদ্যমান। স্বাভাবিক হুকুমগুলো প্রকাশ্যভাবে আমরা দেখছি আর অস্বাভাবিক হুকুম আমদের নাগালের বাইরে। আমরা সামান্য জ্ঞান দিয়ে যতটুকু হুকুম ব্যবহার করার পরিবেশ সৃষ্টি করতে পারি ঠিক ততটুকুই সুফল লাভ করতে পারি। এটাকেই আমরা জ্ঞান রূপে জানি। যেমন তরুলতা প্রক্রিয়াজাত করে আমরা যতটুকু আরোগ্যের হুকুম উন্মুক্ত করে ব্যবহার করতে পারি ততটুকুই উপকৃত হই। যত সাধনা করা হবে তত বেশি আল্লাহর হুকুম উন্মোচন করে অধিক সুফল লাভ করা সম্ভব হবে। এ আলোচনা থেকে বুঝা যায়, আল্লাহর সৃষ্টিকূল নিয়ে অধ্যয়ন করলে শুধু একাধিক উপকার লাভ করা যাবে তা নয় উপকারের মাত্রাও অনাবিলভাবে বেড়ে যাবে।

এটা তো হলো একটা উদাহরণ। মানুষ আল্লাহর সাহায্যে অন্যান্য স্বাভাবিক হুকুমগুলোকেও যে কাজে লাগাতে পারবে না, তা নয়। তবে এর জন্য প্রয়োজন হবে প্রচন্ড অধ্যবসায়ের। অ্যাটম বোমার যে বিধ্বংসী ক্ষমতা আইনস্টাইনের সূত্র থেকে অবিষ্কার করা হয়েছে,

ইঙ্গিতও পবিত্র কুরআনে উল্লেখ করা হয়েছে হযরত মূসা (আ) এর তূর পাহাড়ের অস্বাভাবিক ঘটনার মাধ্যমে। এভাবে আসহাবে কাহাফের ঘুমন্ত অবস্থায় জীবিত থাকার ঘটনা, কাবা থেকে আকসা পর্যন্ত মেরাজের রাত্রিতে রাসূল (সা) এর দ্রুত ভ্রমণ কিংবা দহনবিহীন আগুনের স্রষ্টার যে সমস্ত অস্বাভাবিক হুকুম যুগে যুগে নবীগণ তথা মানুষের উপকারের জন্য প্রেরণ করা হয়েছে, মানুষ হয়তো প্রচন্ড অধ্যবসায় আর সাধনা দ্বারা আল্লাহর হুকুমসমূহ বিশ্লেষণের চেষ্টা করে কিছু না কিছু উপকার অর্জন করত পারে।

দাজ্জাল কর্তৃক মৃতকে পুনরায় জীবিত করার ক্ষমতা সংক্রান্ত একটি কাহিনী প্রচলিত আছে। হযরত ঈসা (আ) কে দেয়া আল্লাহর যে হুকুম রয়েছে, সাধনা-কৌশল দ্বারা তা বাস্তবায়ন করতে গিয়ে হয়তো বৈজ্ঞানিক দুর্ঘটনায় এ সংক্রান্ত সীমিত ক্ষমতা দাজ্জাল লাভ করবে। এটাও আল্লাহর হুকুমের বাইরে হবে না। তাই বলে দাজ্জালদের ব্যবহারের জন্য আল্লাহ পাক অস্বাভাবিক ঘটনাগুলি কুরআনে বিধৃত করেন নি। এগুলি এসেছে মুসলমানদের কাছে মানবতার জন্যে।

তবে একটা অস্বাভাবিক ঘটনার ধারে কাছে মানুষ কিছুতেই পৌঁছাতে পারবে না, সেটা হলো কুরআন সৃষ্টি।কারণ কুরআনের বহু আয়াতে আল্লাহ চ্যালেঞ্জ করেছেন। এদিকে শ্রম দেয়া মানেই নিজেদের কল্যাণের পায়ে কুঠারাঘাত করা। এমনকি কুরআনে নির্ধারিত নিয়মনীতির সমান্তরাল কিছু সৃষ্টি করে সমাজে ব্যবহার করলেও অকল্যাণ অবধারিত। মানুষের মনগড়া রীতিনীতি থেকে যে সামাজিক অস্থিরতার সৃষ্টি হচ্ছে এগুলো তার প্রকৃষ্ট প্রমাণ। চৌদ্দশত বছর পূর্বে প্রেরিত বাণী এখনো অম্লান, কল্যাণকর, একইভাবে কার্যকর এবং চিরদিন তাই থাকবে। কেননা এটাই আল্লাহর বাণী, এমনই শ্বাশত তাঁর হুকুম। এগুলোর সঠিক বিশ্লেষণ ও সৌম্য ব্যবহারে বিশ্বাসীগণ এগিয়ে আসলে দুনিয়া ও আখেরাত উভয় জাহানে সুফল লাভ সম্ভব হবে।

খেলাফত প্রতিষ্ঠায় বিজ্ঞান ও কুরআন সাধনা জিহাদের সমতূল্য

একটু আগে আমরা আল্লাহর হুকুমসহ বিশ্লেষণ ও গবেষণা করে নিজের কল্যাণ সাধনের বিষয়ে আলাপ করছিলাম। ধরা যাক, দাজ্জাল না হয়ে যদি কোন মুসলমান কাউকে জীবিত করার ক্ষমতা অর্জন করতো তাহলে সে নিজেকে আল্লাহ দাবি করতো না, মানুষকে বিপথে টানতো না। যেমন হযরত ঈসা (আ) মৃতকে জীবিত করার অলৌকিক ক্ষমতা পেয়েও মানুষকে বিভ্রান্তির পথে ডাকেন নি। অর্থাৎ গবেষণা করে জ্ঞানার্জনে কোন দোষ নেই। দোষ হলো জ্ঞানের অপব্যবহারে।

কাজেই অস্বাভাবিক ঘটনার এ সমস্ত উদাহরণ থেকে তাত্ত্বিক ব্যুৎপত্তি নিয়ে মুসলমানরা যদি জ্ঞান সাধনায় এগিয়ে যায়, তাহলে স্রষ্টার উপর বিশ্বাসে মানুষের বিভ্রান্তির অবকাশ থাকবে না। বরং আল্লাহর খেলাফত প্রতিষ্ঠিত হবে। কিন্তু মুশরিক সম্প্রদায় আজ জ্ঞান-বিজ্ঞানে এগিয়ে থাকায় যত অশান্তি সৃষ্টি হচ্ছে। অবদমিত হচ্ছে আল্লাহর অনুগত বান্দা। আর গর্বে আস্ফালন বেড়ে যাচ্ছে মুশরিকদের। এ আস্ফালন বন্ধ করতে আল্লাহর খেলাফত প্রতিষ্ঠার জন্য যদি জ্ঞানী-গুণী বিশ্বাসী বান্দাগণ এগিয়ে আসেন, তাহলে তা হবে জিহাদের সমতুল্য। প্রকৃতপক্ষে বর্তমান বিশ্বে টেকসই জিহাদ হতে হবে এভাবেই। জ্ঞানার্জনের প্রতিযোগিতাই আমাদেরকে প্রতিষ্ঠিত করতে পারে শ্রেষ্ঠ উম্মত হিসাবে। এভাবেই আমরা যথাযথ সম্মান প্রদর্শন করতে পারি আমাদের প্রিয় নবীজির প্রতি। আর এজন্যে আমরা সূত্র হিসাবে আল-কুরআনে দেয়া নিদর্শনসমূহের ব্যবহার করতে পারি।

বিশ্বে কেন আমরা পরাজিত ও অবহেলিত

যদি সবুজ গাছের মধ্যে স্বাভাবিক আগুনের যে অস্বাভাবিক হুকুম আছে সেদিকে দৃষ্টি ফেরাই, তাহলে দেখতে পাব,আল্লাহ শুধুমাত্র তার প্রভুত্ব জাহির করার জন্য পবিত্র কুরআনে তথ্যটির উল্লেখ করেননি। বরং সে বিষয়ে অধ্যয়ন বা গবেষণা করে সভ্যতার মাপকাঠিতে আমরা যেন এগিয়ে থাকতে পারি সে সুযোগ তিনি আমাদেরকে দিয়েছেন। দুর্ভাগ্যবশত, আমরা তা সাধন করে ব্যবহারে সচেষ্ট নই। আল্লাহর হুকুমসমূহের মধ্যে যে কী অসীম কল্যাণ নিহিত, তা আমরা বিশ্বাসীরা অনুধাবন করি না। এজন্যই আমরা আজ পরাজিতের গ্লানি ভোগ করছি।

একটু আগেই আমরা বলেছি গাছ সালোকসংশ্লেষণ প্রক্রিয়ায় প্রতিনিয়ত আল্লাহর হুকুম পালন করছে। যার কোন ব্যত্যয় হচ্ছে না। দিন এবং রাত ছড়ানোর মাধ্যমে আল্লাহর হুকুম বাস্তবায়িত হচ্ছে। আর তারই মাঝে সঞ্চারিত হচ্ছে আগুন তৈরির এ হুকুম। এ পর্যায়ে আমরা বলতে পারি, সূর্যের তাপ ও মাটি থেকে শোষিত পানি ধীরে ধীরে সবুজ পল্লবে যে বিক্রিয়া করে তাই আগুন হিসাবে জমা হয়। এ উদাহরণ অনুসরণ করে মানুষও যে সূর্যের তাপ ও পানি থেকে আগুন উৎপাদন করছে না, তা নয়। 'তাপবিদ্যুৎ' এর একটি প্রকৃষ্ট উদাহরণ। কিন্তু দুঃখজনক হলেও সত্য বর্তমানে এসব আবিষ্কারের পেছনে মুসলমানদের অবদান গৌণ। এতে আমরা কুরআনের অনুসারীগণ যথাযথভাবে কুরআনকে অনুধাবন করছি বলে প্রতীয়মান হয় না।

লিগনিফিকেশন, সিলিকন, সবুজ উদ্ভিদ ও গবেষণা

সবুজ গাছে কাঠের মধ্যে ধীরে ধীরে জ্বালানী দ্রব্য জমানোর এ প্রক্রিয়াকে আমরা বিজ্ঞানের ভাষায় লিগনিফিকেশন বলি। শুকনো কাঠে জমানো এ সমস্ত দ্রব্যাদিকে কাঠের সিলিকন বলে এবং এ সমস্ত সিলিকন কণা চিরানো কাঠের কোষের মধ্যবর্তী ছোট ছোট গহ্বরে স্ফটিক কণার মত চিক চিক করে। পরীক্ষা-নিরীক্ষায় দেখা যায়, যে গাছটি যত বেশি সিলিকন জমা করে তা তত বেশি দাহ্য হয়। আগুন উৎপাদনকারী এ সমস্তকণার আরো যে কত গুণাবলি আমাদের কাছে অজানা রয়ে গেছে বা থাকতে পারে, তা গবেষণা না করলে বুঝা যাবে না।

গাছ সব সময় সূর্যের আলোর দিকে তার শাখা-প্রশাখা বিস্তার করে। বাস্তবেও আমরা তাই জানি। কিন্তু আমরা কি ঘূর্ণাক্ষরেও চিন্তা করি কোন দিকে গাছের শাখা-প্রশাখা বিস্তার হবে, তার সিগন্যাল ধীরে ধীরে জমানো এই সিলিকন কণাগুলোর মধ্য দিয়েই প্রবাহিত বা নিয়ন্ত্রিত হতে পারে? না, কোন বিজ্ঞান এখনো একথা স্পষ্ট করে বলে না। এ কণাগুলো মৃত কোষে জমা হলেও এরা কীভাবে আল্লাহর হুকুম পালন করতে গিয়ে বহুবিধ কাজ করতে পারে এ বিষয়ে গবেষণার অবকাশ আছে।

ডুপিং, মাইক্রোচিপস, কম্পিউটার ও সবুজ উদ্ভিদ

আমরা জানি, খনিজ সিলিকন ডুপিংয়ের সাহয্যে মাইক্রোচিপস তৈরি করে কম্পিউটারসহ বিশ্বের অনেক কলাকৌশল নিয়ন্ত্রণ করা হচ্ছে। গাছের মধ্যে লিগনিফিকেশন প্রক্রিয়ায় জমানো এই জৈব সিলিকন কণাও কিন্তু এক ধরনের ডুপিং। গুণাগুণ জানা থাকলে গাছের এ জৈবিক কণা ব্যবহার করে আরো দ্রুতগতিসম্পন্ন, স্বনিয়ন্ত্রিত ও স্বয়ংক্রিয় কলাকৌশল আবিষ্কার সম্ভব হতো, তা বলার অপেক্ষা রাখে না। কিন্তু এ বিষয়ে গবেষণা কেবল একজন উদ্ভিদ জৈববিশারদের পক্ষেই সম্ভব। আরো দরকার হতে পারে জৈবতরিৎ বিষয়ে অভিজ্ঞ গবেষকের। দলবদ্ধভাবে কাজ করলে অভিষ্ট লক্ষ্যে পৌঁছানো সহজ হবে। এখানেই দলবদ্ধভাবে কাজ করার সুফলতা। এজন্যই আল্লাহ পাক মুমিনদের দলবদ্ধভাবে কাজ করা নির্দেশ দিয়েছেন। আর এজন্যই হয়তো বলা হয়, দলবদ্ধভাবে কাজ করলে কমপক্ষে ২৫গুণ অতিরিক্ত সওয়াব লাভ করা যায়। দলবদ্ধভাবে ইবাদত করা শুধু নামাজের ক্ষেত্রে কার্যকর নয়, বাস্তব ক্ষেত্রেও এর প্রভাব আছে। শুধু আমাদের যাবতীয় কাজ স্রষ্টার জন্য নিবেদিত'- এই নিয়ত থাকতে হবে।

ধর্মহীনদল, মত ও সংস্কৃতি শ্বাশত নয়, আল্লাহর প্রতিনিধিত্ব অর্জন, অর্থাৎ খেলাফত প্রতিষ্ঠায়ও অকার্যকর

আসলে শুধু আল্লাহর হুকুম কায়েমের জন্য বা ধর্ম পালনের জন্য নয়, বাস্তব জীবনেও আল্লাহ ও তাঁর রাসূলের প্রদর্শিত পথ মেনে না নিলে কোন জামায়াত বা দলবদ্ধতা শাশ্বত হতে পারে না। আমাদের মধ্যে তথাকথিত পণ্ডিত ব্যক্তিগণ যারা ধর্মের নামে দলবদ্ধ হয়ে স্বদেশের উন্নয়নের জন্য কাজ করাকে অত্যন্ত ঘৃণার চোখে দেখেন, তাদের চোখে আঙ্গুল দিয়ে বুঝানো যায় ধর্মহীন জামায়াত শাশ্বত (ঝঁংঃধরহধনষব) নয়। তাদের অনেকে বাংলাদেশী বা অন্যান্য সংস্কৃতির নামে দলবদ্ধতার কথা বলেন। কিন্তু তা শাশ্বত হতে পারে না, কেননা কালচার বা সংস্কৃতি সময়ের সাথে পরিবর্তিত হয়। এখনকার বিশ্বায়ন প্রক্রিয়ায় কালচার যে কীভাবে নিয়ন্ত্রিত হচ্ছে তা বুঝা খুব কঠিন নয়। বিশ্বায়ন যে কীভাবে বেশ্যায়ন হচ্ছে তা সেই প্রগতিবাদীরা নিজেদের কলামে লিখতে লিখতে ক্লান্ত হয়ে পড়ছেন।

অন্যদিকে সংস্কৃতি সব বয়স বা শ্রেণির জনগণকে এক করতে পারে না। কিশোরদের সংস্কৃতি এক রকম, বুড়োদেরটা আরেক রকম, এমনকি নারীদেরটাও ভিন্ন রকম। ধর্ম যেমন রাজা-বাদশা, ফকির-নকীর, ছোট-বড়, ধনী-গরীব, কিশোর-বুড়ো, নারী-পুরুষ নির্বিশেষে সবাইকে এক কাতারে বন্দি করে তা আর কোথাও সম্ভব নয়। অতএব অন্য কিছু শাশ্বত হতে পারে না। আরো উদাহরণ দেয়া যায়, যে অর্থ কড়ির জন্য যদি জমায়াত করা হয় তাও কিন্তু শাশ্বত নয়। আমাদের গ্রামে-গঞ্জে অর্থভিত্তিক যে সমস্ত সমবায় সমিতি গড়ে উঠে সময়ের সাথে সেগুলোর ভাঙ্গন আর অবলুপ্তির কথা আমরা সবাই জানি। এমনকি অর্থের জন্য বিশ্বের বড় বড় দেশের সমবায়ও (ইউরোপিয়ান অর্থনৈতিক সহযোগিতা) তর্ক-বিতর্কে ভারাক্রান্ত। নেতা-নেতৃত্বের দ্বন্দ্বে ভরপুর। আর আমাদের রাজনৈতিক ভাঙ্গন তো পার্থিব রাজনৈতিক জামায়াতের নশ্বরতার প্রকৃষ্ট উদাহরণ। লেলিন বা মাওয়ের মতো অত্যন্ত প্রভাবশালী ব্যক্তিদের নেতৃত্বে গঠিত মতবাদভিত্তিক জামায়াত বা দল রাষ্ট্রীয় ব্যবস্থায় বিলুপ্তিও এর প্রমাণ দেয়। অতএব, এতসব উদাহরণের পরও যদি আমরা এক আল্লাহ ও তাঁর রাসূলের নেতৃত্বে শাশ্বত দলভিত্তিক সমাজ ও সাধনার সৃষ্টি করতে না পারি, তাহলে সভ্যতা ও বিজ্ঞানের বর্তমান অগ্রযাত্রায় বিশ্বাসীদের অবদান হয়ে যাবে অত্যন্ত গৌণ এবং আমরা হবো শাসিত।

বস্তুতপক্ষে পারিবারিক, সামাজিক পর্যায়ে এমনকি রাষ্ট্রীয় পর্যায়ে তথা আন্তর্জাতিক পর্যায়েও আমাদের জামায়াত বা দল প্রতিষ্ঠায় বা একতাবদ্ধ হওয়ার যে নশ্বরতার সৃষ্টি হয়েছে তাতে উদ্বিগ্ন না হয়ে পারা যায় না। এতে প্রতীয়মান হয় যে আল্লাহর প্রতি আমাদের বিশ্বাসের মাত্রা ও ইবাদতের জন্য যে আত্মত্যাগ, তাতে ভাটা পড়ে গেছে। ঈমানের দৃঢ়তায় বলীয়ান হয়ে, ধর্মীয় আদর্শের ভিত্তিতে দলবদ্ধ হয়ে যদি আমরা জ্ঞান-বিজ্ঞান সাধনার দ্বারা আল্লাহর সৃষ্টিকে ব্যবহার করে সুফল লাভে সচেষ্ট হই, তাহলেই আল্লাহ পাক

যে খেলাফত প্রদান করেছেন তা সঠিকভাবে প্রতিষ্ঠা করা আমাদের জন্য সহজতর হবে।

উপসংহার

বর্তমান শতাব্দীতে বিজ্ঞানের আবিষ্কার মানুষকে তাক লাগিয়ে দিয়েছে। নিত্য নতুন আবিষ্কার মানুষের কাজকে সহজ থেকে সহজতর করে দিচ্ছে। জ্বালানীর অন্যতম মাধ্যম অক্সিজেনসহ বহুবিধ জীবাশ্ম জ্বালানী ব্যবহার মানব সভ্যতাকে দ্রুততর গতিতে এগিয়ে নিচ্ছে। এই অক্সিজেনসহ প্রায় সব জ্বালানীর উৎস সবুজ গাছ, মানুষ তা জেনেছে এই সেদিন মাত্র। অথচ চৌদ্দশত বছর আগে আল্লাহ পাক এই অমোঘ সত্য তথ্যটি কুরআনে পাকের সূরা ইয়াছিনের ৮০নং আয়াতে উল্লেখ করেছেন। কুরআনে পাকের প্রত্যেকটি আয়াত শাশ্বত ও মানব কল্যাণে নিবেদিত। সবুজ গাছ অক্সিজেন দিয়ে ইবাদত তথা আল্লাহর হুকুম পালনের মাধ্যমে পরিবেশকে সর্বদা দূষণ মুক্ত ও যাবতীয় শক্তি উৎপাদনের কাজে সাহায্য করছে। প্রাকৃতিক পরিবেশ ঠিক রাখার কাজে সবুজ গাছ সদা নিয়োজিত।

অতএব সদা সর্বদা শয়তানী প্ররোচনায় সন্ত্রাসের যাঁতাকালে নিষ্পেষিত সামাজিক তথা রাষ্ট্রীয় পরিবেশকে কলুষমুক্ত রাখতে হলে কুরআন পাকে নির্দেশিত আল্লাহর হুকুম কায়েম তথা এবাদতের কোন বিকল্প নেই। মানুষের চলার পথের সব সমস্যার সমাধান আল কুরআনে আল্লাহ পাক দিয়েছেন। আল্লাহ বলেন, "এবং ওরা তোমার নিকট এমন কোন সমস্যা উপস্থিত করেনি যার সঠিক সমাধান ও সুন্দর ব্যাখ্যা আমি তোমাকে দান করিনি।" (২৫:৩৩)

পবিত্র কুরআনে বর্ণিত আল্লাহর হুকুম সমাজে তথা রাষ্ট্রে কায়েম হলে সমাজ সন্ত্রাস ও কলুষমুক্ত হতে বাধ্য। যেমনটি সবুজ বৃক্ষে কায়েম হওয়ার ফলে অক্সিজেন নির্গমনের কারণে প্রাকৃতিক পরিবেশ সর্বদা কলুষমুক্ত রয়েছে এবং প্রাকৃতিক পরিবেশ কলুষমুক্ত রাখতে আমরা ব্যক্তিগত, সামাজিক, রাষ্ট্রীয়ভাবে সবাই গাছ লাগাচ্ছি। ঠিক তেমনি সামাজিক পরিবেশকে কলুষমুক্ত ও সন্ত্রাসমুক্ত রেখে শান্তি সুখের ফল্গুধারা বয়ে দেবার জন্য আল-কুরআনে বর্ণিত পরম দয়ালু সৃষ্টিকর্তার সামাজিক, অর্থনৈতিক তথা সার্বিক হুকুমগুলো কায়েমের দায়িত্ব কার? এ দায়িত্ব ব্যক্তিগতভাবে এবং রাষ্ট্রীয়ভাবে আমরা যতদিন পালন না করবো ততদিন সমাজ তথা রাষ্ট্র সন্ত্রাস ও কলুষমুক্ত হতে পারবে না। বিচার দিনে সবুজ বৃক্ষের মত নিজকে নির্দোষ প্রমাণ করতে ব্যর্থ হওয়ার কারণে এক ভয়ংকর আগুনে আমাদের নিপতিত হতে হবে (আজাদী,২০০৩)। একদিকে মুসলিম নাম ধারন করেছি অন্যদিকে আল্লাহর দেয়া আইনের পরিবর্তে নিজেদের মনগড়া (ব্রিটিশ প্রবর্তিত) আইনে আমরা চালিত হচ্ছি বলে আমরা ও আমাদের নেতৃবৃন্দ হয়ে পড়ছি আল্লাহর শরীকদার তথা মুশরিক, নচেৎ মুনাফিক। যাদের গন্তব্য স্থান আগুন।

আসুন এ আগুন থেকে বাঁচার জন্য আজই আমরা আল-কুরআনকে অর্থ সহকারে বুঝে পড়ি এবং তাতে বর্ণিত আল্লাহ প্রদত্ত সামাজিক ও রাষ্ট্রীয় হুকুম তথা সার্বিক নিয়ম নীতিকে বাস্তবায়নে সচেষ্ট হই। "হুকুম বিধান তাঁরই এবং তাঁরই নিকট তোমরা প্রত্যাবর্তিত হবে।" (২৮:৮৮)

আল্লাহ আমাদের তাঁর হুকুম পালনের তৌফিক দিন। শুধু নামে নয় সার্বিক কর্মেও মুসলমান হওয়ার যোগ্যতা দিন।

তথ্যপঞ্জী:

১। কুরআনুল করিম (১৯৯২): বাংলা অনুবাদ ও সংক্ষিপ্ত তাফসীর (১৪১৩ হিজরি), অনুবাদ সম্পাদক: মওলানা মুহিউদ্দিন খান, খাদেমুল হারমাইন বাদশাহ ফাহাদ কুরআন মুদ্রণ প্রকল্প, মদীনা।
২। কুরআনুল করিম (১৯৮৩): বাংলা তরজমা, ইসলামিক ফাউন্ডেশন, ঢাকা।
৩। আজাদী, মো. আলী (১৯৯৭): আল কুরআন ও জীবজগৎ, আত তাকবীর ৩:২৭-৩২।
৪। আজাদী, মো. আলী (১৯৯৮): বিশ্বসৃষ্টির আদি ও অন্ত: বিজ্ঞান ও কুরআন, আত তাকবীর ৪:২৪-৩০।
৫। আজাদী, মো.আলী (১৯৯৯): কিয়ামত কখন ও কীভাবে: আল-কুরআন ও বিজ্ঞান, আত তাকবীর ৫:৬-১২।
৬। আজাদী, মো. আলী (২০০০): কুরআন ও বিজ্ঞানের আলোকে সমুদ্র ও মহাসমুদ্র, আত তাকবীর ৬:৬-১১।
৭। আজাদী, মো. আলী (২০০৩): কিয়ামত ও তারপর: কখন ও কোথায়-বিজ্ঞান ও কুরআন, মনযিল ১৯-৩০, ইসকপ, চট্টগ্রাম।
৮। ওনৎধযরস ও.অ. বঃ ধষ. (১৯৯৭): অ নৎরবভ ওষষঁংঃৎধঃবফ মঁরফব ঃড়ঁহফবৎংঃধহফ ওংষধস, উধৎংংধষধস, ঐড়ঁংঃড়হ, ঞবীধং. টঝঅ ৭৪চ

"আমি আল্লাহ্‌কে সবচেয়ে বেশী ভয় পাই। তারপর সেই মানুষকে ভয় পাই যে আল্লাহ্‌কে মোটেই ভয় পায়না।"--- শেখ সাদী

রমাদান: ইসলাম ও বৈজ্ঞানিক দৃষ্টিকোন

প্রফেসর ড. মোহাম্মদ আলী আজাদী
উপ-উপাচার্য
আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম।

ভূমিকা

রমাদান বা রমজান আরবী বার মাসের নবম মাস। জান্নাত নামক ভিন গ্রহ থেকে সৃষ্টিকর্তা কর্তৃক প্রেরিত পৃথিবীর প্রথম মানুষ এবং প্রথম নবী হযরত আদম (আ:) থেকে শুরু করে শেষ নবী হযরত মুহাম্মদ (স:) পর্যন্ত সকল নবী-রাসুলগন আল্লাহর মনোনীত ইসলাম ধর্মের অনুসারী এবং মুসলিম ছিলেন এবং সবাই রোজা রেখেছেন। রমাদানের পুরোমাস মুসলমানেরা সূর্যোদয়ের পূর্ব থেকে অর্থাৎ সুবেহ-সাদেক থেকে সূর্যাস্ত পর্যন্ত সব ধরণের খানাপিনা, পানাহার,পাপাচার, কামাচার এবং যাবতীয় -বিলাস ও জৈবিক চাহিদা থেকে বিরত থাকে- ইহাকেই সিয়াম (বিরত থাকা, সংযম) সাধনা বা রোজা রাখা বলা হয়। এটি মহান রবের নির্দেশ। সুতরাং রোজা কোন নতুন ব্যবস্থাপনা নয়। মানব জাতির আত্মিক এবং শারীরিক সুস্থতা এবং একইসাথে পরকালীন মুক্তি ও জান্নাত লাভের জন্য পৃথিবীতে মানব আগমনের শুরু থেকে রোজা মানবজাতির জন্য সৃষ্টিকর্তার এক মহান উপহার। শেষ নবী হযরত মুহাম্মদ (স:) এর উপর নাযিলকৃত পবিত্র কুরআনে তাই বলা হয়েছে "হে মুমিনগণ (যারা ঈমান এনেছ বা বিশ্বাসীগণ) তোমাদের উপর সিয়াম (রোজা) ফরজ করা হয়েছে, যেভাবে ফরজ করা হয়েছিল তোমাদের পূর্ববর্তীদের উপর, যাতে করে তোমরা তাক্ওয়া (আল্লাহর ভয়) অর্জন করতে পার" (সূরা বাকারা ২:১৮৩)। এ প্রবন্ধে রোজার বৈজ্ঞানিক দৃষ্টিকোন নিয়ে আলোচনা করা হয়েছে।

রোজা শুরুর সংক্ষিপ্ত ইতিহাস

হযরত আদম (আ:) যখন নিষিদ্ধ ফল খাওয়ার পর তাওবাহ করেছিলেন তখন ৩০ দিন পর্যন্ত তার তাওবাহ কবুল হয়নি। ৩০ দিন পর তাঁর তাওবাহ কবুল হয়। তারপর তাঁর সন্তানদের উপরে ৩০টি রোজা ফরয করে দেয়া হয় [ফাতহুল বারী ৪র্থ খন্ড ১০২-১০৩ পৃষ্ঠা]। নূহ (আ:) এর যুগেও রোজা ছিল। কারণ, রাসুলুল্লাহ (স.) বলেন: হযরত নূহ (আ:) ১ লা শাওয়াল ও ১০ জিলহজ্ব ছাড়া সারা বৎসর রোজা রাখতেন। [সুনানে ইবনে মাজাহ ১৭১৪ সনদ Hadis.com]। হযরত ইবরাহীমের (আ:) যুগে ৩০টি রোজা ছিল বলে কেউ কেউ লিখেছেন। হযরত দাউদ (আ.) এর যুগেও রোজার প্রচলন ছিল। হাদিসে বলা হয়েছে, আল্লাহর নিকট সবচেয়ে প্রিয় রোজা হযরত দাউদ (আ.)-এর রোজা। তিনি একদিন রোজা রাখতেন এবং একদিন বিনা রোজায় থাকতেন [নাসাঈ ১ম খন্ড ২৫০ পৃষ্ঠা, বুখারী, মুসলিম, মিশকাত ১৭৯ পৃষ্ঠা] আরববাসীরাও ইসলামের পূর্বে রোজা সম্পর্কে কমবেশী ওয়াকিফহাল ছিল। মক্কার কুরাইশগণ অন্ধকার যুগে আশুরার দিনে অর্থাৎ ১০ মুহররম এ জন্য রোজা রাখতো। এই দিনে খানা-কাবার ওপর নতুন গেলাফ চড়ানো হতো [মুসনাদ ইবনে হাম্বল: ৬ষ্ঠ খন্ড, পৃ: ২৪৪; সহিহ বুখারী ১৫৯২, Hadis.com, তাওহীদ পাবলিকেশন] মদীনায় বসবাসকারী ইহুদীরাও পৃথকভাবে আশুরা উৎসব পালন করতো। [সহীহ বুখারী: কিতাবুস সওম, ১ম খন্ড, পৃ: ১৬২] অর্থাৎ ইহুদীরা নিজেদের গণনানুসারে সপ্তম মাসের ১০ম দিনে রোজা রাখতো।

রোজা প্রত্যেক নবীর উম্মতের উপর ফরজ ছিল- বিষয়টি চৌদ্দশত বছর আগে পবিত্র কুরআনের সূরা বাকারার ১৮৩ নং আয়াতে সুন্দরভাবে ব্যক্ত করা হয়েছে -"হে মুমিনগণ (যারা ঈমান এনেছ) তোমাদের উপর সিয়াম (রোজা) ফরজ করা হয়েছে, যেভাবে ফরজ করা হয়েছিল তোমাদের পূর্ববর্তীদের উপর, যাতে করে তোমরা তাক্ওয়া অবলম্বন করতে পার" (সূরা বাকারা ২:১৮৩)।

রোজা মানে কি?

রোজা শব্দটি ফার্সি (روزه রুজে), সাউম বা সিয়াম (বহু বচন) শব্দটি আরবি (صوم স্বাউম্) থেকে এসেছে। সিয়াম ইসলাম ধর্মের পাঁচটি মূল ভিত্তির তৃতীয়। সউম মানে বিরত থাকা, বা পুঁড়িয়ে ফেলা। ইসলামী বিধান অনুসারে প্রতিটি প্রাপ্তবয়স্ক মুসলমানের জন্য রমযান মাসের প্রতি দিন রোজা রাখা ফরজ (فرض ফার্দ্ব) বা অবশ্য পালনীয়। রোজার মূল উদ্দেশ্য হচ্ছে আল্লাহর নির্দেশ পালন ও তার সন্তুষ্টি অর্জন। সুবেহ-সাদিক থেকে সূর্যাস্ত পর্যন্ত শুধু পানাহার বন্ধ রাখলে উপবাস হবে, কিন্তু সিয়াম পালন হবে না। সিয়াম বা সংযম পালন বলতে বুঝায় পানাহার বন্ধের সাথে সাথে সকল ধরণের কুপ্রবৃত্তি, অন্যায়, অনাচার, দূর্নীতি, জুলুম, নির্যাতন, অন্যের অধিকার হরণ, ঘুষ, গুম-খুন, হারাম-উপার্জন ইত্যাদি অপকর্ম পরিত্যাগ করা। এবং বাকী ১১ মাসে রমজানের এক মাসের বিভিন্ন ব্যাপারে সংযমের কঠোর ট্রেনিং বা অনুশীলন কর্মে এবং চিন্তা-চেতনায় প্রতিফলিত করা। তাই হাদিস শরীফে বলা হয়েছে, কোন কোন ব্যক্তির

শুধু উপাস থাকার সমিল হবে, কারণ সে রোজা রাখল কিন্তু কোন অন্যায়, হারাম কাজ ত্যাগ করল না, তাই রোজার থেকে কোন আত্মিক বেনিফিট সে হাসিল করতে পারবে না। মুসলমানদের রোজা (এক নাগাড়ে ১২-১৪ ঘন্টা কিছুই না খেয়ে থাকা, সুবেহ-সাদিক থেকে সূর্যাস্ত পর্যন্ত) এবং অন্যান্য ধর্মাবলম্বীদের রোজাব্রত বা সংযম পালনের মধ্যে বিস্তর পার্থক্য রয়েছে। মুসলিমরা রোজা রাখলে তাকে বলা হয় সিয়াম'। মুসলিম ছাড়া অন্য ধর্মাবলম্বীরাও উপবাস করে, তবে তা ভিন্ন ধরণের। খ্রিস্টানরা রোজা রাখলে তাকে বলা হয় 'ফাস্টিং'। হিন্দু বা বৌদ্ধরা রোজা রাখলে তাকে বলা হয় 'উপবাস'। বিপ্লবীরা রোজা রাখলে তাকে বলা হয় 'অনশন'। মুসলমান ছাড়া অন্য ধর্মের অনুসারীরা উপবাসের সময় পানিসহ সিলেকটিভ জিনিষ খেতে পারে, কিন্তু মুসলমানেরা লাগাতার এক মাস (রমাদান মাস) ডন থেকে ডাস্ক পর্যন্ত কিছুই খেতে পারে না। এ রকম উপবাসকে বা রমাদানের রোজাকে মেডিক্যাল সাইন্সের ভাষায় 'অটোফেজি' বলে। মুসলিমেরা রোজা বা সিয়াম পালনে-দুইটি বৃহৎ বেনিফিট হাসিল করে, একটি হল আত্মিক, অন্যটি বাইপ্রোডাক্ট হিসেবে রোগ বিহীন সুন্দর সুস্বাস্থ্য। তবে যারা পেট পুরে ইফতারী খায়, এবং পেট পুরে সেহরী খায়, তাদের পক্ষে অটোফেজির মাধ্যমে সুস্থ রোগবিহীন শরীর অর্জন করা সহজ নয়। যারা পেটকে ১ ভাগ খাদ্য, ১ ভাগ পানি দিয়ে পূর্ণ করে এবং ১ ভাগ খালি রাখে, তারাই অটে-াফেজির সুফল অর্জন করতে পারবে।

অটোফেজি কি? উপবাসের (রোজার) উপর গবেষণা করে নোবেল পুরস্কার

Autophagy একটি গ্রিক শব্দ। Auto অর্থ স্বয়ংক্রিয় বা নিজে নিজে, এবং Phagy অর্থ খাওয়া। সুতরাং, অটোফেজি মানে স্বয়ংক্রিয়ভাবে নিজে নিজেকে খাওয়া। ১২-১৪ ঘন্টা সম্পূর্ণ উপবাসের সময় সেল বা কোষসমূহ নিজেকে নিজে খেয়ে ফেলার নাম অটোফেজি। খুব বেশি দিন হয়নি, মেডিক্যাল সাইন্স 'অটোফেজি'র সাথে পরিচিত হয়েছে। ২০১৬ সালে নোবেল কমিটি জাপানী বিজ্ঞানী সেল বায়ো-লজিস্ট ডক্টর 'ওশিনরি ওসুমি'-কে অটোফেজি আবিষ্কারের জন্যে নোবেল পুরস্কার দেন। Japanese cell biologist Yoshinori Ohsumi won the Nobel Prize in Medicine in 2016 for his research on how cells recycle and renew their content, a process called autophagy. Fasting activates autophagy, which helps slow down the aging process and has a positive impact on cell renewal.

আমাদের শরীরে আই.জি.এফ (IGF - Insulin Growth Factor) হরমোন থাকে। এই হরমোনের কাজ হল-শরীরে নতুন কোষ তৈরী করা। এই হরমোন শরীরে যখন বেড়ে যায়, তখনই শরীরে ব্যাপক হারে কোষ বাড়তে থকে এবং শরীর ও মোটা হতে থাকে। এমত-াবস্থায় (মোটা শরীরে) শরীরে বিভিন্ন ধরণের রোগ সৃষ্টি হয়, যেমন ডায়াবেটিস (সুগার বেড়ে যায়), প্রেসার, প্রেসার থেকে হার্ট সমস্যা, ক্যানসার, কিডনী ও চোখের সমস্যা ইত্যাদি। এখন প্রশ্ন হল- IGF হরমোন শরীরে বাড়ে কেন? উত্তর হল- যখনই প্রয়োজনের অধিক খাওয়া হবে, তখনই আই.জি.এফ. বেড়ে যাবে। এখন প্রশ্ন হল ডক্টর "ওশিনরি ওসুমি" কেন নোবেল প্রাইজ পেলেন? উত্তর হল-যদি কোন মানুষ বছরে কমপক্ষে ২০-২৫ দিন দৈনিক ১২-১৪ ঘন্টা সম্পূর্ণ উপবাস করে, তখন তার শরীর থেকে IGF এর পরিমান প্রয়োজ-নের থেকে অনেকটাই কমে যাবে। এই অবস্থায় তার শরীরে নতুন কোষ তৈরী হতে পারবে না এবং শরীরের সবল কোষগুলো দূর্বল কোষগুলোকে (টিউমার,সিস্ট-এবনরম্যাল কোষসমূহ, এবং কোষস্থিত বর্জ্য) খেতে শুরু করবে, যার ফলে ডায়াবেটিস (সুগার বেড়ে যায়), প্রেসার, প্রেসার থেকে হার্ট সমস্যা, ক্যানসার, কিডনী ও চোখের সমস্যা ইত্যাদির সম্ভাবনা জিরো (০) হয়ে যাবে। এই প্রক্রিয়াকে 'মেডিকেল সায়েন্সের' ভাষায় "অটোফেজি" বলা হয়। এই গবেষণার জন্যই বিজ্ঞানী "ওশিনরি ওসুমি"কে নোবেল পুরস্কার দেয়া হয়। ক্যানসার থেকে দূরে থাকার বা ক্যানসার নিরাময়ের জন্য এর থেকে ভাল পদ্ধতি আর নেই। পুরস্কার পাওয়ার পর ড. ওসুমি বলেন-"আরও ভাল হত যদি কেউ বছরে লাগাতার ২০-২৫ দিন ছাড়াও সপ্তাহে আরও ২দিন সম্পূর্ণ উপবাস করেন। তিনি আরও বলেন-"তিনি নিজেও এই-রকম জীবন যাপন করেন। এই ঘটনার কিছুদিন পর এক মুসলিম বন্ধু থেকে তিনি জানতে পারেন,মুসলিমরা প্রতি বছর রমাদান মাসে পুরো এক মাস উপবাস করেন। এছাড়াও সপ্তাহে ২ দিনও কিছু মুসলিম উপবাস করেন এবং এ পদ্ধতি মুসলি-মরা চৌদ্দশত বছর ধরে করে আসছেন। ব্যাপারটি জানার পর ড. ওসুমি চমকে উঠেন এবং আগ্রহভরে জিজ্ঞাসা করেন- কে এই পদ্ধতি আবিস্কার করেছেন? উত্তর দেয়া হয়-শেষ নবী হযরত মুহাম্মদ (স:)। এখন সেই বিজ্ঞানী কুরআন নিয়ে গবেষণা করছেন।

এতদিন অনেক লোক রোজাকে ইসলাম ধর্মের নিছক একটি কঠিন ধর্মীয় অনুশীলন মনে করত, এবং যা স্বাস্থ্যের জন্য ক্ষতিকর। কিন্তু মেডিক্যাল সাইন্স যখন ঘোষণা দিল, মানব শরীরের বিভিন্ন জটিল রোগ-বালাই এমন কি ক্যান্সার থেকে নিরাপদ থাকার জন্য মুসলিমদের সিয়াম পালনের মাধ্যমে অটোফেজি'ই (Autophagy) একমাত্র মহৌষধ, তখন অভিজাত সহ উচ্চ শিক্ষিত প্রায় সবাই রোজা রাখার জন্য উদগ্রীব হল।

অটোফেজি কিভাবে কাজ করে?

লাগাতার ১২-১৪ ঘন্টা উপবাসের সময় সেল বা কোষসমূহ নিজেকে নিজে খেয়ে ফেলার নাম অটোফেজি। মেডিক্যাল সাইন্স নিজের গোস্ত নিজেকে খেতে বলে না। দীর্ঘ ১২-১৪ ঘন্টা এক নাগাড়ে সম্পূর্ণ পানাহার পরিত্যাগ করলে শরীরের কোষগুলো বাহির থেকে

সাইন্সের ভাষায় তাকে অটোফেজি বলা হয়। অটোফেজির সময় কোষসমূহ ভাইরাস এবং ব্যাকটেরিয়াকেও ধ্বংস করে এবং শরীর ক্ষতিগ্রস্থ স্ট্রাকচার (গঠন) থেকে মুক্তি পায়। সেল বা কোষের স্বাস্থ্য নবায়ন এবং বেঁচে থাকার জন্য অটোফেজি একটি ক্রিটিক্যাল পদ্ধতি। আমাদের ঘরে যেমন ডাস্টবিন থাকে, অথবা আমাদের কম্পিউটারে যেমন রিসাইকেল বিন থাকে, তেমনি আমাদের শরীরের প্রতিটি কোষের মাঝেও একটি করে ডাস্টবিন আছে। সারা বছর শরীরের কোষগুলো খুব ব্যস্ত থাকার কারণে, ডাস্টবিন পরিষ্কার করার সময় পায় না। ফলে কোষগুলোতে অনেক আবর্জনা ও ময়লা জমে যায়। শরীরের কোষগুলো যদি নিয়মিত তাদের ডাস্টবিন পরিষ্কার করতে না পারে, তাহলে কোষগুলো একসময় নিষ্ক্রিয় হয়ে শরীরে বিভিন্ন প্রকারের রোগের উৎপন্ন করে। ক্যান্সার বা ডায়াবেটিসের মত অনেক বড় বড় রোগের শুরু হয় এখান থেকেই। মানুষ যখন খালি পেটে থাকে, তখন শরীরের কোষগুলো অনেকটা বেকার হয়ে পড়ে। কিন্তু তখন কোষগুলো আমাদের মত অলস হয়ে বসে থাকে না, তখন প্রতিটি কোষ তার ভিতরের আবর্জনা ও ময়লাগুলো পরিষ্কার করতে শুরু করে। কোষগুলোর আমাদের মত আবর্জনা ফেলার জায়গা নেই বলে তারা নিজের আবর্জনা নিজেই খেয়ে অর্থাৎ রিসাইকেল করে এনার্জি তৈয়ার করে। মেডিক্যাল সাইন্সে এই পদ্ধতিকে বলা হয় অটোফেজি। শুধু এ জিনিসটা আবিষ্কার করেই জাপানের ওশিনরি ওসুমি ২০১৬ সালে নোবেল পুরস্কার পান। ইসলাম ধর্মে প্রতি বছর রমজান মাসের লাগাতার এক মাস ছাড়া বাকী ১১টি চন্দ্র মাসেও প্রতি সপ্তাহে ২টি বা মাসের ১৩,১৪, ১৫ তারিখেও রোজা রাখার নিয়ম সুদীর্ঘ হাজার বছর ধরে প্রচলিত আছে। ফরজ রোজা আল্লাহ পাকের নির্দেশে মুসলমানেরা মানবজাতির আদি পিতা হযরত আদম (আ:) থেকে করে আসছেন, তার বৈজ্ঞানিক দিক Yoshinori Ohsumi 'র পরীক্ষায় উঠে এসেছে। রোজা রাখলে স্বাস্থ্য সুন্দর হয়, রোগ বালাই দূর হয়। কিছু তথাকথিত পন্ডিতদের জন্য দু:খ হয়, যারা স্বাস্থ্যের কথা ভেবে রোজা নিজে রাখেন না অন্যকেও না রাখার জন্য অসিয়ত করেন। রোজাদারেরা তো প্রতিবছর একমাস রোজা রেখে শরীরের অটোফেজি করে নেয়। কিন্তু যারা রোজাব্রত পালন করেন না তারা কিভাবে শরীরের অটোফেজি করবেন?

জাপানী প্রফেসর অসুমির কাজ (Ohsumi Work's)

ঈস্টের মধ্যে অটোফেজি স্টাডি করতে গিয়ে অসুমি বিজ্ঞানের এক নতুন ফিল্ড সৃষ্টি করলেন। তিনি আবিস্কার করলেন অটোফেজির জিনসমূহ মানুষসহ উন্নত প্রাণীরাও ব্যবহার করে। বহুকোষী প্রাণী, উদ্ভিদ এবং এককোষী প্রাণীরাও দুর্ভিক্ষের সময় অটোফেজির উপর নির্ভর করে। যদিও ১৯৬০ সালে ইহা প্রথম আবিস্কার হয়, কিন্তু অসুমি'র গবেষণা শুরু হয় ১৯৮০'র শেষের দিকে এবং ১৯৯০ এর প্রথম দিকে এবং দীর্ঘ গবেষণায় বর্তমানে প্রমাণিত হয়েছে যে, প্রদাহ, স্মৃতিভ্রংশ, এবং পারকিনসন্স জাতীয় রোগের বিরুদ্ধে অটোফেজির বিরাট ভূমিকা রয়েছে। ২০১৬ সালে অসুমি নোবেল এওয়ার্ড পান। যখন ওসুমি অটোফেজির উপর গবেষণা শুরু করেন তখন এই ফিল্ডে প্রতি বছর বিশটির নিচে প্রকাশনা বের হত, বর্তমানে প্রতিবছর ৫০০০ এর উপর গবেষণা প্রবন্ধ এই বিষয়ের উপর প্রকাশিত হয়। যেহেতু ক্যানসার এবং দীর্ঘায়ু গবেষণাসহ এই সাবজেক্টটি অত্যন্ত বিচিত্র।

মানব শরীরে অটোফেজি বা রোজার কিছু মহা উপকার

রোজার ফজিলতের বিষয়ে কোরআন-হাদিসে অনেক ব্যাখ্যা রয়েছে। অটোফেজি বা রোজার শারীরিক বড় ধরনের উপকারিতা নিয়ে ব্যাখ্যা দিয়েছেন বিশ্বখ্যাত চিকিৎসকরা। এখানে রোজার কিছু দূর্লভ উপকারের বিশ্লেষণ দেয়া হলো।

১. যৌবন দীর্ঘস্থায়ী হবে, সহজে বুড়া হবেন না

আমেরিকার ন্যাশনাল ইন্সটিটিউট অব এজিংয়ের নিউরো সায়েন্স ল্যাবরেটরির প্রধান ড. মার্ক পি ম্যাটসন ও তার সহকর্মীরা দেখান যে, নিয়মিত ডায়েটিং করলে একজন মানুষের দেহে যে প্রভাবগুলো পড়ে, রোজা বা উপবাসও সেই একই প্রভাব ফেলে। ইঁদুরের ওপর এবং পরে মানুষের ওপর ইন্টারমিটেন্ট ফাস্টিং বা একদিন পরপর উপবাসের প্রভাব নিয়ে গবেষণাটি তারা পরিচালনা করেন। তারা বলেন, উপবাসের ফলে দেহে এমন কিছু প্রোটিন উৎসারিত হয় যেটা মস্তিষ্কের কোষগুলোকে অক্সিডেশনজনিত ক্ষতি থেকে রক্ষা করে এবং স্নায়ুকোষের উৎপাদন বাড়িয়ে দেয়। ফলে বয়সজনিত রোগ যেমন, অ্যালঝেইমার, হান্টিংটন বা পার্কিনসন্সের ঝুঁকি অনেকখানি কমে যায়। গবেষণায় তারা দেখেন, কয়েক ঘণ্টা পরপর নিয়মিত খাদ্য গ্রহন রক্তে শর্করার মান সবসময় উঁচু রাখে। শক্তি উৎপাদনের জন্য এই শর্করাকে বিপাক হতে হয়। এই বিপাকের একটি উপজাত হলো জারণ। এই জারণের ফলে দেহে সৃষ্টি হয় অস্থিতিশীল অক্সিজেন অণু, যার সবচেয়ে ধ্বংসাত্মক পরিণতি হলো বুড়িয়ে যাওয়াকে ত্বরান্বিত করা, কিন্তু রোজা বা উপবাস এ প্রক্রিয়াকেই পাল্টে দেয়, ফলে যৌবনকে দীর্ঘ সময় ধরে রাখতে সাহায্য করে। অনাহারের ফলে দেহে যে সাময়িক শক্তি সংকট হয় তা মস্তিষ্কের কোষগুলোকে প্রোটিন উৎপাদনে উৎসাহ দেয়, এমনকি নতুন ব্রেন সেলও জন্মায়।

২. ডায়াবেটিসের ঝুঁকি কমবে

রোজা রাখলে ডায়াবেটিসের ঝুঁকি কমে। ম্যাটসনের ব্যাখ্যায় বলেন, নিয়মিত খাওয়া-দাওয়া মানে দেহকোষগুলোতে ইনসুলিনের স্থিতিশীল সরবরাহ। এই তৃপ্ত এবং অলস কোষগুলো তখন হয়ে যায় ইনসুলিন-রেজিস্ট্যান্ট। আর ডায়াবেটিসের লক্ষণ এটাই। কিন্তু মাঝে

মাঝে খাওয়া-দাওয়া বাদ দিলে এ কোষগুলো আরও সংবেদনশীল হয়ে ওঠে এবং বিপাক করতে পারে দক্ষভাবে। ফলে ডায়াবেটিসের ঝুঁকি কমার সঙ্গে সঙ্গে উচ্চরক্তচাপ এবং হার্ট-এটাকের আশংকাও কমে।

৩. ওজন বাড়বে না বরং কমবে

ওজন কমাতে চাইলেও রোজা বা উপবাস শরীরের জন্যে খুব কার্যকরী। ড. এরিক রভুসিনের গবেষণা থেকে দেখা গেছে ওজন কমাতে গিয়ে প্রতিদিন কঠোরভাবে খাবার নিয়ন্ত্রণের চেয়ে একদিন স্বাভাবিক খাওয়া-দাওয়া এবং তার পরদিন কিছুই না খাওয়া এরকম 'সবিরাম উপবাস' অনেক ভালো ফল দিতে পারে। তিনি বলেন, ওজন নিয়ন্ত্রণের জন্যে দিনের পর দিন না খেয়ে থাকার চেয়ে সবিরাম উপবাস একটি ভালো বিকল্প। তবে রমজানে নিয়ম-মাফিক ৩০ দিন রোজার কোন বিকল্প নেই।

৪. স্ট্রেস বা চাপ কমবে

যুক্তরাষ্ট্রের ন্যাশনাল একাডেমি অব সায়েন্সেস এর গবেষণায় দেখা গেছে উপবাস স্ট্রেস কমাতে সাহায্য করে, সুস্থতার অনুভূতিকে বাঁড়ায় এবং দীর্ঘজীবন এনে দেয়।

৫. রক্তের লিপিড বা কোলেস্টেরল কমবে

সংযুক্ত আরব আমিরাতের কয়েকজন কার্ডিওলজিস্ট একদল স্বেচ্ছাসেবীর ওপর একটি গবেষণা চালান। ৩০ দিন রোজা রাখার পর দেখা গেল দেহের ওজন বা সুস্থতাবোধের ওপর কোনো প্রভাব না পড়লেও তাদের রক্তের লিপিড প্রোফাইলের ওপর চমৎকার প্রভাব পড়েছে। অর্থাৎ তাদের রক্তে এলডিএল বা ক্ষতিকারক কোলেস্টেরল কমেছে।

৬. ব্লাড প্রেসার বা রক্তচাপ কমাবে

গবেষণায় আরো দেখা গেছে রোজা বা উপবাস ব্যায়ামের চেয়েও কার্যকরভাবে হার্টবিট ও ব্লাড প্রেশার কমাতে পারে।

৭. দূরারোগ্য ব্যাধি ক্যান্সারের ঝুঁকি কমবে

ক্যান্সারের ক্ষেত্রে উপবাসের কোনো প্রভাব আছে কি-না তা নিয়ে মানুষের ওপর এখনো কোনো গবেষণা না হলেও প্রাণীদের ওপর এরইমধ্যে এ গবেষণা পরিচালিত হয়েছে এবং তাতে দেখা গেছে উপবাসের ফলে তাদের লিম্ফোমার ঝুঁকি কমেছে, টিউমার অপসারণ পরবর্তী বেঁচে থাকার হার বেড়েছে এবং ক্যান্সারাস কিছু কিছু সেলের ফের বৃদ্ধিকে ঠেকায়।

৮. ক্ষুধা মন্দা দূর করবে

বিজ্ঞানের বিভিন্ন বিশ্লেষণ থেকে দেখা যায় একটানা ৩০ দিন সিয়াম সাধনার ফলে একজন প্রকৃত রোজাদারের মধ্যে অনেকগুলি বৈশিষ্ট্য সৃষ্টি হয়। যেমন- ক্ষুধার অনুভূতি জাগ্রত হবে, আনন্দ-বেদনার অনুভূতি প্রকট হবে। খিদে পাওয়া মানুষের জন্মগত অনুভূতি। তাই মানুষ খাদ্য চায়। যে খাদ্য শরীরকে যোগায় পুষ্টি আর শক্তি। আমাদের মস্তিষ্কের এক বিশেষ অংশের নাম হাইপেথ্যালামাস (hypothalamus)। এখানে আছে ভোজন-কেন্দ্র (feeding centre) যা খিদের অনুভূতি জাগায়। ভোজন কেন্দ্রকে পরিচালনা করে হাইপোথ্যালামাসের আর একটি অংশ যার নাম পরিতৃপ্তি কেন্দ্র (satiety centre)। পরিতৃপ্তি কেন্দ্র ভোজন কেন্দ্রের কাজ কর্ম দেখাশুনা করে। অর্থাৎ কখন খিদার সাড়া দেয়া দরকার, কতটা খাওয়া উচিত, এসব কাজ তার নিয়ন্ত্রণে থাকে। শরীরের খাবারের ঘাটতি দেখা দিলে রক্তে শর্করা বা কার্বোহাইড্রেটের পরিমাণ কমে যায়, যার ফলে পরিতৃপ্তি-কেন্দ্র ভোজন কেন্দ্রের উপর থেকে বিধি-নিষেধ তুলে নেয়। ভোজন-কেন্দ্রের উত্তেজনা বাড়ে। কিন্তু মানুষ যদি দৈনিক একটানা ১২ থেকে ১৪ ঘন্টা পানাহার থেকে বিরত থাকে তাহলে ভোজন-কেন্দ্র শরীরের বিস্তৃত স্নায়ু তন্ত্রকে প্রভাবিত করে যা হাইপোথ্যালামাস অঞ্চলকে উদ্দীপিত করে এবং আবেগ অনুভূতি জাগ্রত করে। এভাবে ৩০ দিন একটানা সিয়াম প্র্যাকটিস করলে রোজাদারের অনুভূতি শক্তি লক্ষ্যণীয় যোগ্যতায় উত্তীর্ণ হয়। ফলে মানুষের সুখ-দুঃখ, আনন্দ-বেদনা, দৈনন্দিন ঘটনা প্রভৃতি অনুভব করা সহজ হয়। কিন্তু অনুভূতি শক্তি সক্রিয় থাকলে অন্যান্য প্রাণীর শব্দ ধ্বনি, গাছ, লতা-পাতা ইত্যাদির মর্মর ধ্বনি উপলব্ধিকে নিবিড়ভাবে নাড়া দেয়। পক্ষান্তরে অনুভূতি শক্তি দূর্বল হলে উল্লেখিত বিষয়সমূহ অনুধাবন করা মোটেও সম্ভব নয়। তাই এ মর্মে আল-কুরআনে মহান আল্লাহ বলেন: সাত আসমান ও পৃথিবী এবং এগুলোর মধ্যে যা কিছু আছে সবাই তাঁর প্রশংসা করে এবং এমন কিছু নেই যা তাঁর প্রশংসায় তসবীহ পাঠ করে না; অথচ তা তোমরা অনুধাবন করতে পার না। তিনি সহনশীল, ক্ষমা পরায়ণ। (17:4)The seven heavens and the earth and all that is therein, glorify Him and there is not a thing but glorifies His Praise. But you understand not their glorification. Truly, He is Ever Forbearing, Oft-Forgiving. (17:44)। সুতরাং মানুষের অনুধাবন বা অনুভূতি শক্তি জাগ্রত করার জন্য রোজা একটি প্রভাবশালী রুকন।

রোজা মানে উপাস থাকা নয় বরং নিয়মমাফিক পরিমান মত খাদ্য গ্রহন

অনেকেই মনে করে থাকে রোজা মানে সারাদিন অনাহারে থাকা। যার কারণে শরীরে পুষ্টি অভাব ঘটতে পারে। এ ধরনের লোকদের জেনে রাখা উচিৎ রোজার অর্থ অনাহারে থাকা কিংবা উপোস করা নয়। বরং রমজান মাসের জন্য খাদ্য গ্রহণের সময়সূচী পরিবর্তন করা। রমজান মাসে সন্ধ্যা থেকে ভোর রাত ব্যাপী পানাহার করা যায়। তবে সাধারণত: প্রায় সবাই সন্ধ্যায় ইফতারীর কিছু সময় পর লাইট ডিনার এবং রাত শেষে ভোর রাতে সেহরী খেয়ে থাকে। সূর্যোদয় থেকে সূর্যাস্ত পর্যন্ত কেবল পানাহার থেকে বিরত থাকতে হয়। এতে স্বাস্থ্যহানী কিংবা পুষ্টির অভাবজনিত সংকট সৃষ্টি হওয়ার সম্ভাবনাই নেই। উপরন্ত টাইমলী খানা খাওয়ায় এতে রয়েছে ডাক্তারী জ্ঞানের ভাষায় বিশেষ শারীরিক কল্যাণ।

রোজা অগ্নাশয় বা প্যানক্রিয়াস গ্রন্থি থেকে ইনসুলিন নিঃসরণে বিপত্তি ঘটায় না

পর্যবেক্ষণ থেকে দেখা যায় রোজা পালনের ফলে শরীরের অতিরিক্ত ওজন হ্রাস পায় এবং বিপাক ক্রিয়া শক্তিশালী হয়, যা ডায়াবেটিস রোগ থেকে আত্মরক্ষার সম্ভাবনাকে উজ্জ্বল করে তোলে। ডায়াবেটিস মারাত্মক বিপাক (metabolism) জনিত রোগ। মানব দেহের প্যানক্রিয়াস বা অগ্নাশয় গ্রন্থি (pancreas gland) থেকে ইনসুলিন নামের এক প্রকার হরমোন নিঃসৃত হয। এ ইনসুলিন গ্লুকোজকে ভেঙ্গে শরীরে বিভিন্ন কাজে লাগায়। কিন্তু প্যানক্রিয়াস গ্লান্ড বা গ্রন্থি থেকে ইনসুলিন নিঃসৃত না হলে কিংবা বন্ধ হয়ে গেলে রক্তে গ্লুকোজের পরিমাণ বেড়ে যায়। এর নাম ডায়াবেটিস। করুণাময় আল্লাহ বৎসরে একমাস রোজার বিধানকে বিধিবদ্ধ করে দিয়েছেন এ জন্য যে, যাতে করে বিপাক ক্রিয়া সক্রিয় থাকে এবং প্যানক্রিয়াস গ্রন্থি থেকে ইনসুলিন নিঃসরণে বিপত্তি না ঘটে। তবে মু'মিনগণ আল্লাহপাকের সন্তুষ্টি অর্জনের লক্ষ্যে রোজা পালন করতে গিয়ে এরূপ শারীরিক কল্যাণ অর্জন করে থাকেন।

মানুষ হঠাৎ হার্ট ফেল করে মারা যায়- কারণ কি?

হার্টের স্বাভাবিক কর্মকান্ড নির্বিঘ্নে চলে করোনারী ধমনীর মধ্য দিয়ে রক্ত প্রবাহিত হলে। করোনারী ধমনীর অনেক শাখা-প্রশাখা হৃদপিন্ডের পেশীর ভেতরে বিস্তার লাভ করে এবং কোষ সমূহের স্বাভাবিক কাজকর্ম ঠিক রাখে। কিন্তু হার্টের কাজকর্মে বিপত্তি ঘটে তখন যখন করোনারী ধমনীতে জমে যায় টুকরা টুকরা চর্বি, ফলে রক্ত প্রবাহ বাধাগ্রস্থ হয়। হঠাৎ হার্ট ফেল করে মানুষ মারা যায়। কিন্তু বৎসরে একমাস রোজা পালন করার ফলে করোনারী ধমনী চর্বি মুক্ত থাকে। চিকিৎসা বিজ্ঞানীরা মুসলিম দেশসমূহে জরিপ পরিচালনা করে এ তথ্য প্রকাশ করেছেন বিভিন্ন বিজ্ঞান ম্যাগাজিনে।

রোজায় এসিডিটি বৃদ্ধি করে না

সাধারণত: গ্যাসট্রিক রোগীরা সহজে রোজা পালন করতে চায় না। কারণ তাদের ধারণা এতে Acidity বৃদ্ধি পাবে। বর্তমানে এ ধারণা সম্পূর্ণ ভুল প্রমাণিত হয়েছে। কেননা পরীক্ষা-নিরীক্ষা করে দেখা গেছে রোজা পালন করলে অস্বাভাবিক গ্যাসট্রিক এসিডিটি (Abnormal gastric acidity) স্বাভাবিক পর্যায়ে চলে আসে এবং পেপটিক আলসার থেকে রোগী পরিত্রাণ লাভ করে। "Scientific Indications in the Holy Quran" গ্রন্থে এ বিষয়ে একটি গবেষণামূলক প্রতিচিত্র উপস্থাপন করা হয়েছে, যা এখানে তুলে ধরা হল:

No acidity due to fasting: Abnormal gastric acidity, both hypo and hyperchlorhydria are mostly change to normal acidity due to month long fasting in Ramadan. Since fasting normally reduces gastic acidity (lowest gastric acid is normally found in the early moring before the taking of any food following fasting after dinner), Ramadan fasting should naturally help in reducing and preventing hyper acidity which is one of the important factors which cause peptic ulcers.

Incidence of peptic ulser is much less in Muslim majority countries. This may be due to regular Ramadan fasting and absence of alcohol in their diet. Dr. E.T. Hess of Wusasa hospital, Zaria, hortem Nigeria wrote in 1960, "As regards your inquiry reference cases of peptic ulser, the incidence of this disease here amongst the Africans living in a tribal manner appears to be absolutely nil. T.L cleave further repoted higher incidence of peptic ulsers among the Chinese in Indonesia and Malayasia then the local Javanese and Malay Muslims."

রোজার মাধ্যমে এসিডিটি কমে যায়

রমজান মাসে রোজা রাখার ফলে গ্যাসট্রিক অম্লতা কমে যায় এবং Hypo I Hyper অম্লতা (Acidity) স্বাভাবিক অবস্থায় পরিবর্তিত হয়ে সেই ঘটনাকেই পৃষ্ঠপোষকতা দান করে। এ পৃষ্ঠপোষকতার পক্ষে তারা তুলে ধরেছেন যে, মিশরীয় গ্রামবাসীদেও, উত্তর নাইজেরিয়ার অধিবাসীদের, জাভা ও মালয়ী মুসলমানদের ঐ রোগ নেই। এরা সিয়াম পালন করে বলেই এদের মধ্যে পেপটিক আলসার রোগের আক্রমণ খুব কম।

আমেরিকার বিখ্যাত চিকিৎসাবিদ উৎ উবরি বলেছেন, Take the food away from stomach and then you have begun to strave not the sick man but the disease. The digestive organs are given same rest to work with redoubled energy and vigour just as a land which was left without cultivation for one year brings abundant crop as in the year following, or just as a man can work with redoubled vigour after some rest."

এসব তথ্য থেকে এ সত্য প্রমাণিত হয় যে, রোজা (fasting) পালন করার দরুণ গ্যাসট্রিক এসিডিটি অনেকাংশে হ্রাস পায় এবং রোগী পেপটিক আলসার থেকে রক্ষা পায়। অর্থাৎ গ্যাসট্রিকের বিরুদ্ধে রোজা ঢালের মত কাজ করে। পাকস্থলী বিশ্রাম পায় বিধায় পরিপাকে অংশ গ্রহনকারী অঙ্গগুলি দ্বিগুণ শক্তি লাভ করে যা পরবর্তী কার্য সম্পাদনে শক্তি যোগায়। তাই মহানবী (সাঃ) বলেছেন, রোজা (আত্মরক্ষার) ঢাল স্বরূপ। (আলহাদীস)
সুতরাং রোজা শারীরিক রোগ প্রতিরোধে যেমন ঢালের মত কাজ করে তেমনি মিথ্যার বিরুদ্ধে, অন্যায়, অবিচার, অনৈতিকতার বিরুদ্ধে ঢাল স্বরূপ কাজ করে।

রোজা হল সার্জারীবিহীন অপারেশন (Fasting-is an "operation without surgery")
নি:সন্দেহে রোজা হল সার্জারীবিহীন উত্তম বায়োলজিক্যাল ট্রিটমেন্ট পদ্ধতি -যাকে বলা হয় সার্জারী ছাড়া অপারেশন। মানব সভ্যতার সাথে সাথে হাজার হাজার বছর ধরে ইহা প্রমানিত হয়েছে এবং মানুষের জানা আছে যে দীর্ঘায়িত বৈজ্ঞানিক উপবাস অতি দ্রুত এবং কার্যকরী ভাবে ওজন কমানো, টক্সিক বস্তু অপসারণ, হিলিং, দীর্ঘায়ু লাভে অতি গুরুত্বপূর্ণ ভূমিকা পালন করে। রোজা একদিকে আরোগ্যক্ষম (Curative) এবং একই সাথে প্রতিষেধক (Preventive)- এর কারণ নিচে দেয়া হল ।

বন্য প্রাণিদের কোন ডাক্তার নাই এবং ডাক্তার লাগেও না। কারণ তারা প্রাকৃতিক নিয়মেই চলে। এবং প্রকৃতি নিজেই এমন সিস্টেম শরীরের ভিতর দিয়েছে, যা ব্যবহার করলে অসুখ বিসুখ থেকে দূরে থাকা সম্ভব। যেমন প্রাণিকুলের মধ্যে শীত নিদ্রার সময় অনেক প্রাণী কয়েকমাস না খেয়ে থাকে, যেমন- ভল্লুক, পরিযায়ী তিমি, ক্যাটারপিলার (প্রজাপতির শুককীট), সালমন, সজারু, সাপ, স্যালাম্যান-ডারস, স্পাইডারস, কচ্ছপ, এবং ব্যাঙ । মানুষসহ প্রত্যেক প্রাণীর শরীর এমন বুদ্ধিদীপ্তভাবে ডিজাইন করে বানানো হয়েছে যে- ঐ উপবাসের সময় শরীরে জমাকৃত বস্তুর উপর অটোলাইসিস বা অটোডইজেশসান এর মাধ্যমে প্রানীকুল বেঁচে থাকতে পারে। শরীরে যে সমস্ত কোষ এবং টিসু বুঁড়া হয়ে গেছে, নষ্ট হয়ে গেছে, অসুস্থ বা দূর্বল হয়ে পড়েছে বা মারা গেছে, নিকৃষ্ট এবং কলুষিত পদার্থ, জারিত বর্জ্য, জমাকৃত চর্বিসহ, ফোঁড়া, মৃত এবং মৃত্যু পথের কোষ, ধাক্কা খেয়ে ফুলে যাওয়া কোষ, নষ্ট টিসু, শক্ত হয়ে যাওয়া চামড়া, চামড়ার ফোঁড়া, জমাকৃত রুগ্ন কোষ, বিভিন্ন ধরণের নিউপ্লাজম (টিসুর অস্বাভাবিক গ্রোথ বা টিউমার)- উপবাসের সময় অতি চমৎকারভাবে অটোলাইসিস বা অটোডাইজেশসানের মাধ্যমে গলে, জ্বলে শক্তি নি:স্বরণ করে নি:শেষ হয়ে যায়, এবং উৎপাদিত শক্তি নিজে ব্যবহার করে। আর সংবহনের মাধ্যমে বর্জ্য শরীর থেকে বেরিয়ে যায়। উপবাসের ২য় সপ্তাহে শরীরের প্রোটিন চাহিদা ২০০ গ্রাম থেকে কমে ১৫-২৯ গ্রামে চলে আসে, এবং উপবাসের সময় ঐ পরিমান প্রোটিনই যথেষ্ট।

কিন্তু দু:খের বিষয় বর্তমান পশ্চিমা এবং পাশ্চাত্য খাদ্য মারাত্নকভাবে কৃত্রিম ঘ্রাণ এবং রাসায়নিকভাবে তৈরী ক্যালোরিং এজেন্ট, টক্সিক পেস্টিসাইড, হারবিসাইড, ফানজিসাইড, ইনসেকটিসাইড এবং অন্যান্য টক্সিক রাসায়নিক বস্তু দিয়ে ওভারলোডেড। এবং দশকের পর দশক এসমস্ত ওভারলোডেড টক্সিক বস্তু শরীরে জমে তার সাথে পরিবেশ দূষণ, ড্রাগ এবং ঔষধ গ্রহনের ফলে আমাদের শরীরের স্বাভাবিক ক্রিয়া ব্যাহত হচ্ছে এবং নির্গমন ব্যবস্থা দূর্বল হয়ে পড়েছে। অন্যথায় উপবাসের সময় বর্জ্য নির্গমন অঙ্গ (লিভার, কিডনী, চামড়া, ফুসফুস) দিয়ে দ্রুত বর্জ্য পদার্থ শরীর থেকে বের হয়ে শরীর নিরোগ হয়ে যাওয়ার কথা। অর্থাৎ রোজার মাধ্যমে সার্জারীবিহীন অপারেশন সংঘটিত হয়।

রোজা হল-সুপার এনার্জির চাবি (Fasting- is the key of Super Energy)
উপবাস সুপার এনার্জি-হাউসের তালা খুলে দেয়। উপবাসের একশন সকল কোষে পৌঁছায়। ইহা কেউ কারো জন্য করে দেবে না, ইহা নিজের কর্তব্য কাজ, যাহা কেবল নিজেকে করতে হবে। অন্য কেহ আমার জন্য খাবে না, আমাকে নিজেকে খেতে হবে। মানুষের ৯৯% ভুগানি ভুল এবং অপ্রাকৃতিক বা অস্বাভাবিক খানার জন্য হয়ে থকে। যে কোন মেশিনের দক্ষতা নির্ভর করে কোয়ালিটি এবং পরিমান মত ফুয়েল দেয়ার উপর। মানুষের ক্ষেত্রে ইহা দ্বিগুন। শরীরের একটি মাদার ন্যাচার হলো ("Mother Nature and its beauty is the signature of God")- অসুস্থ হলে সে খেতে চায় না । না খেয়ে বা উপাস করে, শরীর নিজেকে নিজে সুস্থ করতে চায় । এটা একটা সহজাত প্রবৃত্তি। ঐ সময় খানা কমে যায়, অরুচি এসে যায়। বিষয়টি সেল্ফ ট্রিটমেন্ট। আমরা বুঝি না, জোর করে বাচ্চাকে এবং নিজেকে খাওয়ানো হয়। তাই রোগ সারে না। ঐ সময় খানার অরুচি বা না খাওয়ার প্রবনতা কেন হয়? কারণ খানা খেলে হজমের জন্য এনার্জি প্রয়োজন। ঐ এনার্জি আহত-শরীর বা অসুস্থ স্থানকে সুস্থ করতে কাজে লাগায়। তাই খানা খেয়ে তা-হজমের জন্য শরীর

করতে চায় না বলেই, অরুচির বা না খাওয়ার টেনডেনসি দিয়ে তা জানান দেয়, ইহার নাম শরীরের মাদার নেচার। সুতরাং উপবাস হল একটি প্রাকৃতিক সহজাত প্রবৃত্তি এবং বৃহৎ সংশোধক। তাই উপবাস হল-সুপার এনার্জির চাবি।"
"When health is absent, wisdom can not reveal itself, strength can not be exerted, wealth is useless, and reason is powerless"-Herophiles, 300 B.C.

বর্তমান যুগের গুরুত্বপূর্ণ আবিস্কার কোনটি?
ক. মঙ্গোলিয়ার সমতলে ১২ কোটি বছর আগের ডাইনোসোরের ডিম আবিস্কার?
খ. প্রাচীন কালের সমাধি, শহর তাদের সমর্থনের শাস্ত্রীয় এবং তাদের সাথে 'বাইগন সভ্যতার' অতুলনীয় স্পেসিমেন?
গ. রেডিও একটিভ সময়-ঘড়ি যার দ্বারা প্রফেসর লেইন (Tufts University) পৃথিবীর বয়স বের করেছেন ১২৫ কোটি বছর?
ঘ. জেট বিমান? স্পেস ভ্রমন? লেসার? টিভি? রেডিও? কম্পিউটার? টেলিফোন? সেল ফোন? অটোমোবাইলস?
উপরের কোনটিই রোজার (উপবাসের) সাথে তুলনা হয়না,-অর্থাৎ রোজাই হলো বর্তমান যুগের সবচেয়ে বড় আবিস্কার।
রোজার (উপবাসের) মাধ্যমে শারীরিক, মানসিক এবং আধ্যাত্বিকভাবে পুনর্যৌবন লাভ করার পদ্ধতি আবিস্কার হলো- বর্তমান যুগের সবচেয়ে বড় আবিস্কার। গবেষকেরা বলেন উপবাসের মাধ্যমে মানুষ চিরযৌবন কোয়ালিটি সৃষ্টি করতে পারে, যা অকাল বার্ধক্য এবং অকালমৃত্যু প্রবনতা রোধ করার পদ্ধতি।

রোজা (উপবাস) প্রচন্ড শক্তি (Vital Force) **সঞ্চয় করে-যা শরীরের জন্য অপরিহার্য**
আমরা যে খাদ্য খাই, তা প্রথমে চিবানো হয়, তারপর গলাধ:করণ করে হজম করা হয়, তারপর শরীরে শক্তি হিসেবে গৃহীত হয় এবং পরে ডাইজেস্টেড বস্তু বর্জ্য-হিসেবে শরীর থেকে বেরিয়ে যায়। বর্জ্য নি:স্বরণের জন্য আমাদের শরীরে ৫টি বৃহৎ অঙ্গ আছে, (১) বাউয়েলস (কোলন এবং রেক্টাম), (২) কিডনী (বৃক্ক), (৩) লিভার, (৪) ফুসফুস, এবং (৫) চামড়া। এ ৫টি অঙ্গ ঠিকভাবে কাজ করার জন্য শরীরকে অবশ্যই উচ্চ মানের প্রচন্ড শক্তি (যা শরীরের এনার্জি রিজার্ভ) তৈয়ার করতে হয়। (১) মুখ থেকে পায়ু পর্যন্ত ৩০ ফুট লম্বা খাদ্য নালী দিয়ে লার্জ মিল (বড় খানা) হজম হওয়ার পর বাউয়েলস দিয়ে পাস করানোর জন্য প্রচন্ড শক্তি দরকার হয়। (২) মানব কিডনীর ২০ লক্ষ ফিল্টার দিয়ে তরল বর্জ্য পাস করতে ব্যাপক শক্তির প্রয়োজন হয়। (৩) কোটি কোটি শরীর কোষের জন্য খাদ্য তৈরী করার কাজে লিভার এবং পিত্ত-থলির জন্য প্রচন্ড রাসায়নিক শক্তির প্রয়োজন হয়। (৪) প্রতি নি:শ্বাসে গভীরভাবে শ্বাস নিয়ে দুই কোয়ার্টর্স অক্সিজেন নিয়ে সারা শরীরের রক্তস্রোত কে পরিশোধিত করতে এবং টক্সিন এবং কার্বনডাই অক্সাইড বের করে দিতেও ব্যাপক শক্তির প্রয়োজন হয়। (৫) চামড়ার (যাকে তৃতীয় কিডনী বলা হয়) নয় কোটি ষাট লক্ষ ছিদ্র দিয়ে ফুসকুড়ি, ব্রণ, ঘাম, কটুস্বাদ-গন্ধ হিসেবে শরীরের টক্সিন বস্তু বের করে দিতে প্রচুর শক্তির প্রয়োজন হয়।

উপরের এই প্রচন্ড শক্তি তৈয়ারীর জন্য এবং ইয়থনেস ধরে রাখার জন্য অলৌকিকত্ব (Miracle) নিজের মধ্যেই আছে- তা হল প্রাকৃতিক পুষ্টি, ব্যায়াম এবং রোজা (উপবাস)। অকাল বার্ধক্য রোধ করার জন্য কোন অলৌকিক ক্ষমতা নাই। অলৌকিক ক্ষমতা সহজভাবে মাদার নেচার পালনের মধ্যে রয়েছে। নিজের স্বাস্থ্য নিজেকে রক্ষা করতে হবে, ইহা ক্রয় করা যায় না। সৃষ্টি কর্তার দেয়া প্রাকৃতিক নিয়ম মেনে চলার মধ্যে (Natural law) রয়েছে সীমাহীন শক্তি, প্রচন্ড ক্ষমতা, বিস্ময়কর এনার্জি, প্রভাবশালী স্পন্দনশীল স্বাস্থ্য । স্বাস্থ্যকর প্রাকৃতিক পুষ্টিসম্পন্ন 'ল' হচ্ছে নিজেকে নিজে শোধন করা- আর তা হল রোজা (উপবাস) রাখা, যা রক্ত-সংবহনকে মুক্ত এবং স্বাস্থ্যকর রাখবে, ব্যায়ামের দ্বারা চামড়া এবং পেশী সজীব থাকবে- যা শরীরকে যৌবনের দিকে নিয়ে যাবে।

রোজা মন এবং আত্তাকে জাগায়
প্রাচীনকালে অর্থাৎ স্বরণাতীত কাল থেকে মানুষ রোজা রাখত স্বাস্থ্য সুরক্ষার জন্য বা যৌবন ধরে রাখার জন্য নয় বরং আধ্যাত্বিক বা আত্তাকে আলোকিত করার জন্য। এই হিসেবে দেখা যায় মহান দার্শনিক পিতাগোরাস তার শিষ্যদেরকে তার দরবারে আধ্যাত্বিক দীক্ষা (রহস্যময় দর্শন বুঝার জন্য) নেয়ার জন্য আসার আগে ৪০ দিন রোজা পালন করে আসতে বলতেন। তিনি মনে করতেন ৪০দিন রোজা পালন করলেই কেবল তার শিষ্যদের মন পরিপূর্ণভাবে পরিশোধিত হবে, স্বচ্ছ এবং সুগভীর হবে যাতে তার উপস্থাপিত জীবনের গুঢ় রহস্য বুঝতে পারবে।

রোজা ফটোগ্রাফিক মেমোরি সৃষ্টি করে
রোজা এক্সট্রাসেনসরি পারসেপসান সৃষ্টি করে। সত্যিকারভাবে হালাল উপার্জিত রুজি খেয়ে সঠিকভাবে রোজা পালন করলে ফটোগ্রাফিক মেমোরি তৈয়ার হয়। ১ থেকে ৩ দিন উপাস করার পরে বুঝা যায় মাথা থেকে কালো মেঘ সরে গেছে। আপনি দেখবেন আপনার চিন্তা স্বচ্ছ হচ্ছে, আগে সিদ্ধান্ত নিতে গড়িমসি হত, এখন সঠিক সিদ্ধান্ত নিতে বেগ পেতে হচ্ছে না, তাড়াতাড়ি হচ্ছে। কোন

আভ্যন্তরীন মানসিক শান্তি আসছে। যদি আপনি শরীর এবং মনকে বিশুদ্ধ করতে পারেন, আপনি অনুধাবন করতে পারবেন যে, আপনি অনেক বড় এক মহাশক্তির কাছাকাছি আসতে পেরেছেন। আপনার আভ্যন্তরীন এই শক্তি আপনাকে একজন পজিটিভ চিন্তার মানুষ হিসেবে গড়ে তুলতে সাহায্য করবে। মেমোরি ক্ষুরের কিনারা থেকেও ধারালো হবে। আপনি বহু বছর পিছনের নাম, জায়গা, এবং বিষয়াদি স্বরণ করতে পারবেন। মুখস্থ করা বা পড়ে যাওয়া বইয়ের বিভিন্ন পৃষ্ঠার লিখন চোখের সামনে দেখবেন (ফটোগ্রাফিক মেমোরি)। আমাদের বর্তমান বিশ্ব-সমাজে এখনও সেরকম কিছু লোক আছে (যেমন ড. জাকির নায়েক)। "শিক্ষা জীবন-প্রস্তুতিকরণের জন্য নয়, বরং শিক্ষা নিজেই-জীবন"। "মানসিকভাবে এবং আধ্যাত্মিকভাবে বর্ধন লাভই হল মানব জীবনের গোল"। এ ক্ষেত্রে রোজা তিন ভাবে কাজ করে: আপনি নিজে আপনার শরীরকে (১) ফিজিক্যালি (শারীরিক), (২) মেনটালি (মানসিক) এবং (৩) স্প্রিচুয়ালি (আধ্যাত্মিক) বিশুদ্ধ করতে পারেন, এবং তাহলে আপনি সুপার জীবনীশক্তি এবং সুপার স্বাস্থ্য উপভোগ করতে পারবেন, আপনার মন স্পঞ্জ এর মত হবে, যে-মন নতুন তথ্য এবং জ্ঞান শুষে নিতে পারবে। সব জিনিষের বড় জিনিষ হল আভ্যন্তরীন শান্তি এবং আধ্যাত্মিক প্রশান্তি এবং ইহাই মানব জীবনকে মানব-হিসেবে বেঁচে থাকার জন্য স্বার্থক করে তুলতে পারে। সত্যিকার রোজার মাধ্যমে আপনি "পিস অব মাইন্ড" বা মানসিক শান্তি পাবেন, যাহা জীবনের সর্বশ্রেষ্ট এবং সবচেয়ে দুর্লভ উপহার।

"আপনি মহান প্রভুর রহস্যময় বাহু দিয়ে পরিবেষ্টিত" -Hidlegard of Bingen

[Raw, Organic Fruits and Vegetables are Mother NatureÕs Miracle Cleaners.]

[If you must eat meat, it should be only 2 or 3 times weekly, otherwise fruits and vegetables are ok.]

রোজার মাধ্যমে সময় মত পরিমিত খাও, খাদ্যের দাস হয়োনা: স্বাস্থ্য সুরক্ষা হবে

"খাদ্যের দাস হয়োনা"-বেশীরভাগ মানুষ খাদ্যের দাস, ক্ষুধা লাগুক, না লাগুক, শুধু খায়, তাদের শরীর খাদ্যের ভারে নাজুক। হযরত আলী (র:) এর একটি উপদেশ হল: "হে বৎস! আমি কি তোমাকে ৪টি নির্দেশ দিব, যা মেনে চললে তোমার কোন ঔষধের দরকার হবে না: (১) ক্ষুধা না লাগলে খাবে না, (২) ক্ষুধা থাকতে খাওয়া বন্ধ করবে, (৩) খাদ্যকে ধীরে ধীরে চিবায়ে খাবে, (৪) ঘুমানোর আগে টয়লেটে যাবে। কেবল রোজার সময় এই ৪টি জিনিষ অক্ষরে অক্ষরে পালনের সুবর্ণসুযোগ। পরিমিত পানাহারের ব্যাপারে পবিত্র কুরআনে আল্লাহ পাক বলেন-"হে বনী-আদম! তোমরা প্রত্যেক সালাতের সময় পরিস্কার পরিচ্ছদ পরিধান করবে। আহার করবে ও পান করবে, কিন্তু অপব্যয় করবে না। তিনি অপব্যয়ীদের পছন্দ করেন না। (৭:৩১)"।

রাসুল (স:) বলেছেন, পেটটা তিনভাগ করে এক ভাগ খেতে হবে, একভাগ পানি, একভাগ খালি রাখতে হবে। (Ahmad, At-Tirmidhi, An-Nasaa'I, Ibn Majah)

বিশ্বখ্যাত পুষ্টির শিক্ষক প্রফেসর আরনোল্ড এর মতে "Life is a tragedy of nutrition" খুবই সত্যি কথা, "গধহ ফরমং যরং মৎধাব রিঃয যরং শহরভব ধহফ ভড়ৎশ" "মানুষ তার 'ছুরি আর কাঁটা চামচ' দিয়েই তার কবর খনন করে"। অর্থাৎ অতি ভোজন, এবং সময় অসময়ে যা খুশী তা খেয়েই মানুষ অসুস্থ হয়ে মুত্যূ আলিঙ্গন করে কবরে যায়। রোজার মাধ্যমে দিনের বেলা একটি নির্দিষ্ট সময় পাকস্থলীকে বিশ্রাম দিলে নব যৌবন লাভ করা যায়- আধুনিক বিজ্ঞান তাই বলে। এতক্ষণ রোজার শারীরিক উপকারিতার কথা বিস্তারিতভাবে জানলাম। প্রশ্ন আসতে পারে রোজা রাখলেই কি-আধ্যাত্মিক সিদ্ধি লাভ হয়? কই তা ত সচারচর হচ্ছে বলে প্রতীয়মান হয় না। তার ব্যাখ্যা হল: অসুখের ঔষধের সাথে ডাক্তার কিছু পথ্যসহ বিধি-নিষেধ দেন, যেমন অনেক সময় কিছু রোগের জন্য ইলিশ মাছ, রেড মিট (লাল গোস্ত), ইত্যাদি খেতে বারণ করেন। কিন্তু আপনি ঔষধও খেলেন, তারসাথে নিষিদ্ধ মাছ, মাংস ও খেলেন। অসুখের উপসম হল না, বরং বেড়ে গেল। তাতে কি ঔষধের দোষ, না ডাক্তারের দোষ? বরং নিজের দোষ। রোজার ক্ষেত্রেও তাই, রোজা রাখার সাথে সাথে যে সমস্ত কাজ করা নিষেধ, তা করা যাবে না, তাহলেই রোজার মাধ্যমে আধ্যাত্মিক সফলতা বা আল্লাহর সান্নিধ্য লাভ সম্ভব হবে। আর না হলে বুঝতে হবে, রোজা রেখে শুধু উপবাস থাকছি, বিধি নিষেধ মানছি না। হে আল্লাহ আপনি আমাদেরকে সঠিকভাবে রোজা রাখার এবং আপনার বিধি নিষেধ মেনে চলে সুস্বাস্থ্য এবং তাকওয়া অর্জনের তৌফিক দান করুন।

এক নযরে রোজার উপকারিতাসমূহ

(১) ডায়াবেটিস রিস্ক কমে যাবে;
(২) কার্ডিওভাসকুলার রিস্ক কমে যাবে;
(৩) দীর্ঘায়ু লাভ হবে;
(৪) ক্যানসারের বিরুদ্ধে প্রটেকশন হবে;
(৫) স্নায়ুবিক রিস্ক কমে যাবে;
(৬) ইনফ্ল্যামেশন কমে যাবে;
(৭) লিপিড লেভেল ব্যালেন্সড হবে;
(৮) ব্লাড প্রেসার নরম্যাল হবে;
(৯) অক্সিডেটিভ চাপ কমে যাবে;
(১০) ওজন সঠিক হবে;
(১১) শরীর থেকে টক্সিক বস্তু বেরিয়ে যাবে;
(১২) চক্ষু উজ্জ্বল হবে;
(১৩) শরীরের সব প্রাকৃতিক সংবেদন প্রকট হবে;
(১৪) সব কিছুর প্রকৃত স্বাদ আস্বাদন করা যাবে;
(১৫) ফটোগ্রাফিক মেমোরি হবে, স্বরণশক্তি প্রকট হবে।

Introduction to Outcome Based Education Processes at IIUC

Prof. Dr. Md. Delawer Hossain, Director, IQAC, IIUC

1. **Introduction:** The objective of this paper is to indicate how Outcome Based Education (OBE) can benefit all students and teachers of IIUC in general and Faculty of Science and Engineering in particular. Implementation of OBE is an important issue for all IIUC students and teachers in daily tasks. OBE is currently preferred globally to promote educational revitalization and has been implemented in many countries of the world. . In order to obtain Accreditation from the Higher Education Authority in Bangladesh, undergraduate curriculum needs to be transformed to integrate Outcome-Based Education (OBE) in accordance with requirements from:

- University Grants Commission of Bangladesh (UGC)
- Board of Accreditation of Engineering and Technical Education(BAETE)
- Bangladesh Accreditation Council (BAC)

It is thus my heartfelt hope that my brief note benefits all IIUC students and teachers. Before discussing about OBE process at IIUC, a brief introduction of IIUC with few points of previous education process have been discussed in the next few sections.

1.1 IIUC at a Glance: Having fulfilled the requirements as laid down in the Private University Act of 1992, and after obtaining the necessary clearance from University Grants Commission (UGC) and the permission of Government of Bangladesh (GOB), International Islamic University Chittagong (IIUC) started functioning on February 11, 1995, with the aim of providing quality education at a reasonable cost. The credit for the idea of establishing this University goes to Islamic University Chittagong Trust (IUCT).

In the line of promoting effective learning and assessment process, Institutional Quality Assurance Cell (IQAC) has been established at IIUC on March 11, 2014 to develop a culture of Continuous Quality Improvement(CQI). It is a culture, where Quality of teaching, research, learning and assessments of educational processes and outcomes shall be improved step-by-step by keeping teaching faculty involved, Again, it is a culture where the current shortfalls or problems shall be identified and corrected. Following sections will give introductory idea about OBE at IIUC.

At IIUC, there are about 40 buildings having floor space of more than ~500,000 sft. One unique feature of IIUC is the arrangement of a separate teaching facility for the female students. Currently, about 4000 (four thousand) female students are studying at IIUC in a conducive environment in the Female Academic Zone. IIUC does not allow political & non- political party meeting within the campus. However it gives space for discussion/ meetings on various religious and national programs under the banners of various students clubs. The University has a Disciplinary Committee for taking precautions and actions against any sort of unexpected incidents in the campus. It has also established an Anti-Militancy and Anti-Terrorism Cell as per Govt.Act-2016.

The University is committed to the life-long success of students in its undergraduate and master's programs through high-quality instruction and learning experiences. IIUC has Integrated Education Policy, where a student achieves holistic learning through awareness of his surroundings and other relevant knowledge bases. IIUC emphasizes the diffusion of scientific, technical and professional knowledge on the one hand, and building up of character in youth by making religion and ethics an integral part of education on the other . In this regard, there are some courses for the students of all Faculties at IIUC, which are not a part of the main curriculum of the Departments, but these are named-as University Requirement Courses (URC). Rules and regulations about Registration and Examination of IIUC are given in the guide books, which are published by IIUC authority.

1.2 The Vision, Mission, Objectives and Motto of IIUC:

a. **Vision of IIUC:** To make IIUC as the Centre of Excellence in the field of Shari'ah , Business, Science, Engineering and Technology, Arts & Humanities, Law and Social Science. IIUC cherishes the dream of becoming one of the highest seats of learning and creating knowledge in the South East Asia.

b. Mission of IIUC

i. To produce properly trained up manpower to contribute to socio-economic development and moral uplift ment of the society,
ii. To cultivate expertise as well as sensitivity and intelligence among the students,
iii. To have an ability to think freely beyond their areas of study, who shall sustain justice in all walks of life

c. The objectives of the University:

i. To create a new generation of competent youths, who will be equipped with academic excellence, profes sional expertise and adorned with moral height.
ii. To follow a policy of continued modernization of knowledge and academic curricula in different disciplines of education so that the students can imbibe the true spirit of religious value as an effective guiding principle in their professional and daily life.

d. The Motto of the University is to "Combine Quality with Morality".

1.3 Co-Curricular and Extra-curricular activities: IIUC supports student participation in a broad array of Co-Curricular and Extra-curricular activities as an integral component of its commitment to student life and success. These activities mainly include leadership training, cultural, environmental, recreational and social activities, debating and public speaking programs, intellectual discussions, games & sports, excursion & study tours at home and abroad to complement their academic pursuits. All Co and Extra-curricular activities are run by the clubs named after the Departments such as Computer club, Business club etc under the close supervision & monitoring of Students Affairs Division (STAD).

2 Outcome-Based Education (OBE): Outcome-Based Education (OBE) is an approach of curriculum design and teaching that focuses on what students should be able to do (attained) at the end of course /program. Significant development of outcome based education approaches begins in 1960s by Carroll (1963), Bloom (1968), Spady (1988), among others. It is currently preferred globally to promote educational revitalization and has been implemented in many countries such as Canada, the United States, Australia, Hong Kong, New Zealand and Malaysia. OBE has been implemented since the 1980s with various forms at different levels of the education system, from nursery/primary schools to Universities. Also, in Bangladesh OBE has become a critical aspect of accreditation process of Universities. OBE can be considered as a reform of the traditional education system .

The primary aim of OBE is to facilitate desired changes within the learners, by increasing knowledge, developing skills and/or positively influencing attitudes, values and Judgment (Davis 2003,Butler, 2004). As a whole, it targets the cognitive, affective and psychomotor domains of learning, thus, facilitating better understanding and retention of the topics learned. In the OBE processes, anticipation of real benefits is more directed and real coherent curriculum. Over the few years, University Grants Commission (UGC) in Bangladesh has stressed the importance of emerging the Outcome-Based Education (OBE). Accordingly, in the 36th Academic Council (AC) Meeting held on April 15, 2017, IIUC agreed to implement the Outcome Based Education (OBE) from Autumn -2017.

2.1 Definition of Outcome Based Education (OBE):

A nation should produce well-educated, smart people, regardless of academic disciplines. The principle resource driving the knowledge economy is the ability in answering the following.

a) Know what we are looking for?
b) Where is the information?
c) How we can find it?
d) How we can apply it for our benefits and the economy?
e) How we can expand the knowledge?

The quality of education in our institutions can be improved with integration of OBE that focuses on what students should be able to do at the end of course /program. This ensures the continuation of learning process and skills for getting the right students for right employment. The implementation OBE requires restructuring of the educational program, courses, curriculum, assessment and reporting systems. The key feature of the OBE system are (Spady, 1994):

i. Developing a clear set of learning outcomes around which all of the system's components can be focused.
ii. Establishing the conditions and opportunities that encourage all students to achieve those essential outcomes.

The OBE transformation emphasizes setting clear standards for observable and measurable outcomes; this system can be judged by the following attributes: (a) creation of a curriculum framework that outlines specific, measurable outcomes, (b) a commitment not only to provide an opportunity of education, but to require learning outcomes for advancement . In an OBE system, it is often suggested that "learners are responsible for their own learning and progress" (Cockburn, 1997). In this regard, OBE emphasizes the teacher's responsibility to clearly define the outcomes and to assist students to achieve those outcomes. It also emphasizes the learner's responsibility to try to achieve the outcomes.

One of the benefits of outcomes-based education is that it can provide administrators with some level of control over the outcomes of education, and at the same time provide teachers with a large degree of freedom to select the content and methods through which they will help their students achieve those outcomes. The control (or, the overall direction) will come through the specification of the syllabus objectives and outcomes, and the freedom comes through the choices (about content, teaching methods and assessment) that are left up to institution and individual teaching.

2.2 OBE Implementation at IIUC: The development of the educational system often depends on the history of a country. Outcomes-based education recently has become a major focus in teaching and learning enhancement for many fields of studies. Over the few years, University Grants Commission (UGC) in Bangladesh has stressed the . importance of the Outcome Based Education (OBE). Accordingly, in the 36th AC Meeting held on April 15, 2017, IIUC agreed to implement the Outcome Based Education (OBE) from Autumn -2017. OBE implementation requires restructuring of the educational programs courses, curriculums, assessments and reporting systems. The program also develops assessment and evaluation processes to determine the extent to which the program objectives and student outcomes are achieved.

There are two basic types of outcomes from any educational system. The first type includes performance indicators such as test results, completion rates, post-course employment rates, etc. The second type of outcome is less tangible and is usually expressed in terms of what students know, are able to do, or are like as a result of their education. OBE is this second type of outcome.

2.3 Related terms in OBE:

i) Objectives: Statements that describes the expected accomplishments of graduates during the first few years after graduation.
ii) Outcomes: Statements that describes what students are expected to know and able to do by the time of graduation.
iii) Performance Criteria: Specific measurable statements identifying the performance(s) required to meet the outcome.
iv) Assessment: Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes and program educational objectives. Effective assessment uses relevant direct, indirect, quantitative and qualitative measures as appropriate to the objective or outcome being measured. Appropriate sampling methods may be used as part of an assessment process.
v) Evaluation: Evaluation is one or more processes for interpreting the data and evidence accumulated through assessment processes. Evaluation determines the extent to which student outcomes and program educational objectives are being attained. Evaluation results in decisions and actions regarding program improvement.
vi) Course Outcomes: Course outcomes (COs) describe what the students would be able to do after the completion of a course.
vii) Student Learning outcomes (SLOs): SLOs are statements that describe what students are expected to know and be able to do by the time of graduation. SLO could result from a program, a course, a chapter or a section/ topic of a chapter.
viii) Program Educational Objectives (PEO): Program educational objectives are broad statements that describe what graduates are expected to attain within a few years (4 to 5 years) of graduation. Program educational objectives are based on the needs of the program's constituencies.

ix) Program Outcome (PO): Program Outcomes are the narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the knowl edge, skills & attitude that the students acquire while progressing through the program.

2.4 Major factors in characterizing and ensuring quality assurance of an OBE program: Following are the factors in characterizing and ensuring quality assurance of an OBE program:

i. Mission - what is the institutional mission?
ii. Constituents or stakeholders - whom the program serves?
iii. Students - student progress must be monitored to foster success in attaining student outcomes and be advised regarding curriculum and career matters.
iv. Program Educational Objectives - what graduates are expected to attain within a few years of graduation so that the needs of the program's constituencies are met?
v. Program outcomes - what students can do by the time of graduation e.g. skills, knowledge, and behaviors as they progress through the educational?
vi. Curriculum – which effectively develops students' abilities in support of student outcomes and program educational objectives?
vii. Continuous Quality Improvement (CQI) - documented processes for assessing and evaluating the extent to which both the program educational objectives and the student outcomes are being attained by the following means:
    i. Processes (internal practice to achieve the outcomes),
    ii. Facts (data collection)
    iii. Evaluation (interpretation of facts) and Action (feedback to support decision making and improve processes)

2.5 The Student Learning Outcomes (SLO): The student learning outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. Key things students should understand and be able to do or the qualities they should develop (Outcomes). Both program structures and curricula are designed to achieve those capabilities or qualities (Constructive alignment). Program structures & curriculum are regarded as means not ends. If they do not do the job they need to be changed, Continuous Quality Improvement (CQI).

2.6 Course Intended Learning Outcomes (ILOs)

The course ILO involves the following:

i What role does this course play within the major?
ii. How is the course unique or different from other courses?
iii. Why should/do students take this course?
iv. What essential knowledge or skills should they gain from this experience?
v. What knowledge or skills from this course will students need to have mastered to perform well in future classes or jobs?
vi. Why is this course important for students to take?

2.7 Course Objectives: Often written in terms of teaching intentions and typically indicate the subject content that the teacher intends to cover. These sound like "Provide students with basic concepts of…", "Explain theories of…", "Illustrate the difference between…" etc. Make sure your objectives are SMART:

- S stands for specific. Do your learning objectives outline skills that you are able to measure?
- M stands for measurable. Your objectives should be able to be measured in classroom setting, through observed performances.
- A stands for action-oriented. All educational objectives should include action verbs that call for the performance of a specific task.
- R stands for reasonable. Make sure your learning objectives reflect realistic expectations of the students given the time frame of course.
- T stands for time-bound. All educational objectives should outline a specific timeframe they need to be met by.

2.8 Differences between 'Traditional Education System' & 'Outcome Based Education(OBE) System':

In the traditional education system, students are provided with a learning environment with little attention to whether or not students ever learn the material and the students obtain grades and rankings compared to each other, thus students become examination oriented or CGPA driven. Graduates do not prepare to make them fit as the work force. They are found as weak in terms of soft skills required for the jobs e.g. communication skills, interpersonal skills, analytical skills, etc. Main differences between 'Traditional Education System' & 'Outcome Based Education (OBE) System' are shown in table 2.1.

Table 2.1 Differences between 'Traditional Education System' & 'Outcome Based Education System.

Sl .	Traditional Education System'	'Outcome Based Education (OBE) System'
1	• Old approaches and no involvement of Stakeholders	New approaches ,where Stakeholders involvements are important
2	• What are we doing?	● What are our students becoming?
3	• Input Based assessment and no Improved Learning	● Outcome Based assessment and Improved Learning
4	• Quantitative assessment	● Holistic assessment
5	• No formal channel for institution to disagree and not properly managed education System	●Institution can correct factual errors or can appeal and properly managed education System
6	• Educational activities as an end and Graduates are not relevant‖ to Industry & other	●Educational activities as a means to an end and Graduates are more —relevant‖ to Industry & other
7	• Practice determine the outcomes and Graduate Attributes are not defined,	● Outcome informs practice and Graduate Attributes well defined,
8	• Process for meeting external standards	● Process for feedback/improvement
9	• Learners are passive	● Learners are active
10	• The approach is exam-driven	● Learners are assessed on an ongoing basis
11	• Rote-learning is encouraged	● Critical thinking, reasoning,
12	• The syllabus is content-based and divided into subjects and no directed and coherent curriculum.	● Content is integrated and learning is relevant and connected to real-life situations and more directed and coherent curriculum.
13	• Learning is textbook/ work sheet bound and teacher-centered	● Learning is learner-centred, the teacher facilitates and constantly applies group work and team work to consolidate the new approach
14	• The teacher sees the syllabus as rigid and non-negotiable	● Learning programmers are seen as guides that allow teachers to be innovative and creative in designing their programmers
15	• Emphasis is on what the teacher hopes to achieve	● Emphasis is on what the learner will be able to know and do
16	• Content is placed into rigid time-frames	● Flexible time-frames allow learners to work at their own pace
17	• The curriculum design process is not open to public comment.	● Comment and input from the wider community is encouraged
18	• CQI is not important.	● Strong emphasis on CQI

2.9 Changes to be made: The following changes in our education system are required:

a. Course Content: Reviewing course content to suit specified Learning Outcomes, current development, industrial needs, job specifications, professional body requirement (accreditation), etc.

b. Teaching-Learning Methods – Introducing innovative/flexible teaching methods/delivery tools to develop PEO and PO among students/graduates.
c. Assessment & Evaluation Tools - Introducing variety of assessment and evaluation tools to measure the achievement of PEO and PO.
d. Data & Evidence Collection - Collecting evidences of process involved and the achievement of the PEO and PO.
e. OBE Management System – Create an effective OBE management system/team.

2.10 The teachers of IIUC are now oriented towards OBE system:

With the rapid advancement of engineering and technology as well as change of business functions, job functions of engineers are also changing rapidly. To meet these changes engineering programs are also being changed. These changes are mandated to each of the engineering programmings and well defined outcomes for the graduates being produced with certain skills and abilities to satisfy the criteria of various accreditation agencies. Within an institution, OBE implementation requires restructuring of the educational program, courses, curriculum, assessment and reporting systems.

Teachers are actively utilizing the OBE component such as Lesson Plan, Mission & Vision of IIUC, Mission and Vision of the Faculty/Program, Course Outcome(CO), Student Learning Outcome (SLO), Program Outcome (PO), Program Educational Outcome (PEO), Mapping of SLO to PEO, PEO to Mission, PO to PEO, etc. Accordingly assessments processes (direct and indirect method) are practicing for CO/PO./PEO measurements/assessments. A scale of 1 to 4 is used to evaluate the degree of attainment of the performance criteria. CO is considered acceptable (i.e. target achieved) if at least 50% of the students are at Satisfactory level. Target of achievement may be re-fixed by each academic committee of the program during each semester. Using of Bloom's taxonomy, mapping between CO to PO, PEO as per OBE are performing. Teachers, students and stakeholders familiarization to for the OBE processes implementation at IIUC, which helps to develop CQI culture for Accreditation of the program(s) of the respective department at IIUC.

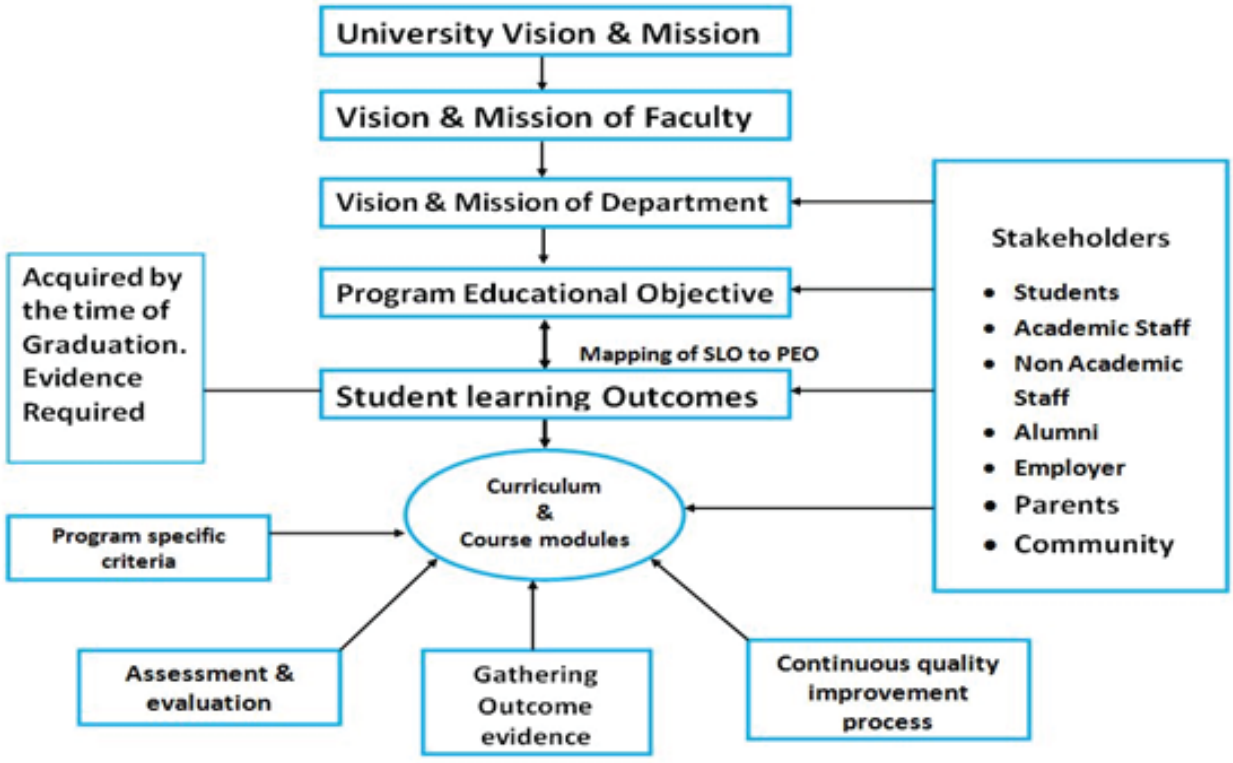


Figure 2.1: A diagrammatical description of the OBE System.

2.11 Process of OBE: OBE is a process that involves assessment and evaluation practices in education to reflect the attainment of expected learning and showing mastery in the program area. That is, OBE is the process that focuses at achieving certain specified outcomes in terms of individual student learning. It is "a culminating demonstration of learning". "Demonstration" meant that learners would actually DO something tangible, visible, and observable. Doing required skill & competence, not just knowledge and understanding. The student learning outcomes (SLO) are statements that describe what students are expected to know and be able to do by the time of graduation. Requirements for OBE process are shown in table 2.2.

The keys to having an outcome-based system are:

1) Developing a clear set of learning outcomes around which all of the system's components can he focused.
2) Establishing the conditions and opportunities within the system that enable and encourage all students to achieve those essential outcomes.

Table 2.2 Requirements needed for OBE Process.

Topics	Remarks
High degree of supervision	**Costs are involved**
Office space	
Lectures to be constantly changing or renewed	
Flexibility in the distribution of resources	
Extra loads for Faculties to be avoided	
Pedagogical skills	**Needs Training for All**
Scientific skills	
Time management	
Project based on staff research	

2.12 Formulation of PEO: The formulation of PEOs for each program to be based on the Vision, Mission, and Objectives of the University, as well as the Vision and Mission of the Faculty. The PEOs shall be designed to address the requirements and expectation of various stakeholders. The mapping of the PEOs, Faculty's Vision and Mission and the Stakeholders' requirements are to be shown. It can be seen from the mapping that the PEOs are mapped into the Vision and Mission of the Faculty as well as the stakeholders' requirements. The PEOs described the expected accomplishments of graduates after five (5) years graduation. The achievement of PEOs will directly ensure the achievement of the vision and mission of University and the Faculty as well as the requirements of stakeholders.

2.13 Formulation of PO: The Faculty of Science and Engineering recognizes the importance of POs as the primary document in the implementation of any engineering academic program. In 2017, the BAETE has formulated common PLOs for Engineering Programs as given in the IEB SA Format Manual-2017. The PLO for undergraduate academic program is defined in section 2.3.ix

2.14 Formulation of CO: Course outcome is developed using Bloom's Taxonomy that involves three learning domains: cognitive, affective, and psychomotor which has six cognitive levels, five affective levels and seven psychomotor levels.

2.15 Purposes of undergraduate education: OBE advocates about the students' achievement in- high order learning and the mastery of cognitive thinking skills. Ensuring that all learners are equipped with the knowledge, competence and qualities needed to be successful after they exit their educational system. Objective of OBE is to develop a Culture of Continuous Quality Improvement (CQI) in Education. OBE has become a critical aspect of accreditation process .There are two main purposes for Attaining Quality in Higher Education:

(a) To attain outcomes in terms of Knowledge, Skills and Attitudes, so that graduate are being able to meet the needs of stakeholders;
(b) To improve institutional Capacity & Process to facilitate the attainment of Intended Learning Outcomes (ILOs).

2.16 The Graduate Profile: The Graduate Profile is a description of the personal qualities, skills and attributes a student is expected to obtain by the end of an undergraduate degree program at the University . Following performance levels are required for the Graduates Profiles as expected by different authority/ author are given in the table 2.3:

Table 2.3: Graduates Profiles as expected by different authority/ author.

Sl. #	Eight core purposes of undergraduate education expected by Derck Bok-2006.	Graduate Profile as expected by UGC (UGC, Oct. 2012)	*Engineering Graduates shall attain the following POs (Program Outcomes) by the time of graduation as expected by BAETE (SA Report Manual 2017,BAETE)		
			Program Outcomes (POs)	Blooms Taxonomy Learning Domain	Knowledge Profile
1	Learning to communicate,	Intellectual skills matching with program of study	(a)Engineering Knowledge	Cognitive	K1-K4
2	Learning to think,	Practical & problem solving skills,	(b)Problem Analysis	Cognitive	K1-K4
3	Building character,	Numeracy & analytical skills	(c) Design/ Development of Solutions	Cognitive, Affective	K5
4	Preparation for citizenship,	Entrepreneurship and innovation skills	(d) Investigation	Cognitive, Psychomotor	K8
5	Living with diversity,	Communication & ICT skills	(e) Modern Tool Usage	Psychomotor, Cognitive	K6
6	Preparing for a global society,	Interpersonal, teamwork & leadership skills,	(f) The Engineer and Society	Affective	K7
7	Acquiring broader interests,	Self management & personal development skills	(g) Environment and Sustainability	Affective, Cognitive,	K7
8	x	Commitment to community, country & humanity	(h)Ethics	Affective	K7
9	x	x	(i) Individual and Teamwork	Psychomotor, Affective	K1-K8
10	x	x	(j)Communication	Psychomotor, Affective	K1-K8
11	x	x	(k) Project Management and Finance	Cognitive, Psychomotor	K1-K8
12	x	x	(l)Life-Long Learning	Psychomotor, Affective	K1-K8

* In addition to incorporating the above-listed POs, the educational institution may include additional outcomes in its learning programs. An engineering program that aims to develop the above-mentioned POs must ensure that its curriculum encompasses all the attributes of the **Knowledge profile** (K1-K8) as presented in Table 2.3.1 and as included in the table 2.3. The range of Complex Problem solving (P1-P7) and Complex Engineering Activities (A1-A5) that should be addressed in the program are given in Table 2.3.2 and 2.3.3, respectively.

Table 2.3.1: Knowledge Profile (BAETE)

Knowledge Profile	Possible Course and topics
K1 A systematic, theory-based understanding of the natural sciences applicable to the discipline.	Physics, Chemistry, Biology, Geology. Biochemistry
K2 Conceptually-based mathematics, numerical analysis, statistics and formal aspects of computer and information science to support analysis and modeling applicable to the discipline.	Calculus of variation, Ordinary and partial differential equations, Advanced mathematics, numerical analysis, Statistics, Relevant aspects of computer and information science.
K3 A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.	Engineering graphics, Mechanics, Electric and electronic circuits, Computing, Material Science, Thermodynamics and fluid mechanics.
K4 Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.	Electives such as Automatic control, Power plant, Robotics, System dynamics, Energy systems
K5 Knowledge that supports engineering design in a practice area.	Design processes, Innovative methods, Codes, Standards, Techniques such as Taguchi methods, TRIZ and House of Quality.
K6 Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.	Manufacturing, energy and Power production, Construction, Transportation, Communication

K7	Comprehension of the role of engineering in society and identified issues in engineering practice in the discipline: ethics and the professional responsibility of an engineer to public safety; the impacts of engineering activity: economic, social, cultural, environmental and sustainability.	Ethics and professional responsibility of an engineer to public safety; the impact of engineering activity; Economic, social, cultural, environmental and sustainability.
K8	Engagement with selected knowledge in the research literature of the discipline.	Studying and summarizing selected published research papers in the discipline.

Table 2.3.2: Range of Complex Engineering Problem[1] Solving

Attribute	Complex Engineering Problems have characteristic P1 and some or all of P2 to P7
Depth of Knowledge required	**P1**: Cannot be resolved without in-depth engineering knowledge at the level of one or more of K3,K5,K6 or K8 which allows a fundamental-based, first-principles analytical approach
Range of conflicting requirements	**P2:** Involve wide-ranging or conflicting technical, engineering, financial and other issue.
Depth of analysis required	**P3**: Have no obvious solution and require abstract thinking and originality in analysis to formulate suitable models.
Familiarity of issues	**P4:** Involve infrequently encountered issues
Extent of applicable codes	**P5:** Are outside problems encompassed by standards and codes of practice for professional engineering
Extent of stakeholder involvement & level of conflicting requirements	**P6:** Involve diverse groups of stakeholders with widely varying needs.
Interdependence	**P7:** Are high-level problems that include many component parts or sub- problems. It will include teamwork between diverse groups of experts in solving this class of problems.
[1]Engineering problems that cannot be resolved without in-depth engineering knowledge and have some or all of the characteristics mentioned in Table 2.3.2	

Table 2.3.3: Range of Complex Engineering Activities

Attribute	**Complex activities means (engineering activities or projects that have some or all of the following characteristics:**
Range of resources	**A1**: Involve the use of diverse resources (for this purpose, resources include people, money, equipment, materials, information and technologies)
Level of interaction	**A2**: Require resolution of significant problems arising from interactions between wide-ranging or conflicting technical, engineering or other issues
Innovation	**A3**: Involve creative use of engineering principles and research-based knowledge in novel ways.
Consequences to society and the environment	**A4:** Have significant consequences in a range of contexts, characterized by difficulty of prediction and mitigation.
Familiarity	**A5:** Outside problems encompassed by standards and codes of practice for professional engineering.

2.17. Following are the Expectations from Students of IIUC : –

- Students must come being prepared for each class; contribute by teaching others, actively participating, taking risks, learning from instructor/ classmates.
- Students are expected to be able to do more challenging tasks other than to memorize and reproduce what was taught.
- Students should be able to write project proposals, complete projects, analyze case studies, give case presentations, show their abilities to think, question, research, and make decisions based on the findings.
- Be more creative, able to analyze and synthesize information.
- Able to plan and organize tasks, able to work in a team.
- Able to plan and organize tasks, able to work in a team as a community or in entrepreneurial service teams to propose solutions to problems and market their solutions.
- They must show respect, trust and openness,
- They should be committed to learning with continual improvement.

2.18 OBE Cycle: Outcome Based Education (OBE) system has a Continuous Quality Improvement (CQI) mechanism. Following works are to be completed to run the OBE Cycle in a semester: .i. Course outcome (CO), Program Outcome (PO), Program educational Outcome (PEO), Mapping of SLO to PEO, PO to PEO, CO to PO to be written for each program and approved by the concerned authority and respective meeting to be documented. Class room teaching Observation peer report, Faculty Course review report, Student Course Evaluation report etc. must be filled by respective stakeholders within due date. Survey with Stakeholders to be completed and data to be analyzed. Departmental (Approved Examination Committee) shall take active role for OBE processes/OBE Cycle to establish the culture of CQI.

3. Bloom's Taxonomy of Learning:

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. During the 1990's a new group of cognitive psychologist, lead by Lorin Anderson (a former student of Bloom's) , updated the taxonomy reflecting relevance to 21st century work. This system defines different capabilities in a hierarchical fashion that may be developed in trainees as a result of learning experiences. These capabilities are not restricted to any specific subject areas. These are described in terms of the components OBE, where the trainee will be able to do and to prove that the trainee has achieved the various levels of learning outcomes. The scheme identifies and classifies the products of learning experiences. An Outcome-Based Education (OBE):

i. must have program educational objectives and program outcomes,
ii. shall be producing graduates with certain skills and abilities to meet the needs of the stakeholders or constituents,
iii. must uphold that the education should focus on developing the human capital which requires well-educated, smart people, regardless of academic discipline.

Human capital is renewable through continuous learning and this ability must be an integral part of a sustained economy and for development of intelligent capital. The Engineers Mobility Forum requires developing certain criteria for quality assurance and process for global engineering practice. Bloom's Taxonomy was created in 1956, which promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts (rote learning). The uses of Bloom's Taxonomy in Teaching-Learning are as follows:

1. Setting Learning Outcomes (LOs) & educational objectives
2. Selecting teaching methods/strategies
3. Selecting teaching aids-materials
4. Preparation of assessment tools
5. Development & review of curriculum
6. Development & review of Syllabus

Learning can generally be categorized into three domains: cognitive, psychomotor and affective. According to Bloom's Assessment involves:

i The Cognitive Domain – knowledge-based domain, consisting of six levels, encompassing intellectual or thinking skills (Bloom,1956a).{ Knowledge}
ii. The Psychomotor Domain – skills-based domain, consisting of six levels, encompassing physical skills or the performance of actions. (Attitude)
iii. The Affective Domain – attitude-based domain, consisting of five levels, encompassing attitudes and values (Krathwohl, Bloom, Masia, 1973) (Skills)

3.1 USE of BLOOM'S TAXONOMY:

Bloom's Taxonomy provides a clear and robust tool for guiding the development of teaching and learning. Some of the reasons for employing Bloom's Taxonomy include:

i. Accurately measuring students' abilities requires an understanding of the different levels of cognition that are critical for learning.
ii. Developing intended student learning outcomes according to Bloom's Taxonomy which helps students understand what is expected of them.
iii. Using Bloom's Taxonomy to develop intended student learning outcomes which help professors to plan and deliver appropriate instruction.

iv Developing intended student learning outcomes using Bloom's Taxonomy helps faculty to design and implement appropriate assessment tasks, measures, and instruments.

v. Having intended student learning outcomes based on Bloom's Taxonomy helps to ensure that instruction and assessment are appropriately aligned with the intended outcomes

3.2 Hierarchy Levels and Comparison of old and revised Bloom's Taxonomy in Cognitive Domain: Table 3.1 shows the six (6) cognitive levels (new version by Anderson et al. 2000 and Old version) of Bloom's Taxonomy (Rashid-2012)

Table 3.1: Hierarchy Levels and Comparison of old revised Bloom's Taxonomy in Cognitive Domain

 **New Version by Anderson et.2001**	 **Old Version**
1 Remembering: can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, reproduce state
2 Understanding: can the student explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
3 Applying: can the student use the information in a new way?	Choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.
4 Analyzing: can the student distinguish between the different parts?	Appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
5 Evaluating: can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate
6. Creating: can the student create new product or point of view?	Assemble, construct, create, design, develop, formulate, write.

3 .3. Bloom's Taxonomy: There are three Major Domains in Bloom's Taxonomy. Figure 3.1 shows the relation among the three major domains Knowledge, Skill & Attitude. i. Knowledge is power, ii. Skills speaks louder than words and iii. Attitude is a little thing, but it makes a big difference. 3-component of education are interlinked with one another: one can supplement the other but cannot complement.

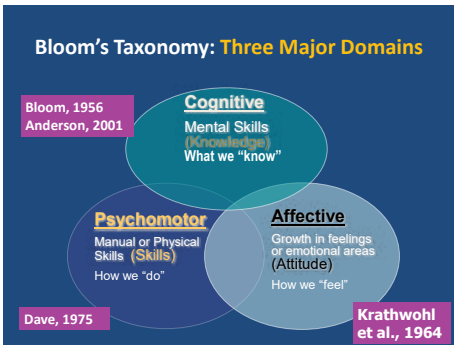


Figure 3.1 Key Words (related to Cognitive (Knowledge), Affective (Attitude) and Psychomotor (Skill) are shown in Table 3.2,

Table 3.2 Definition of Bloom's sub-Domains.

SL #	Cognitive (Knowledge)	Affective (Attitude)	Psychomotor (Skills)
1	**Remembering** (Knowledge): Ability to recall facts and basic concepts, retrieve information what has been learnt before	**Receiving phenomena**: Awareness, willingness to hear, selected attention.	**Perception**: Using sense organs to obtain cues needed to guide motor Actively.
2	**Understanding:**(Comprehension) Ability to explain ideas or concepts in own words or translating/ interpreting into alternative ways	**Responding to phenomena**: Complies to given expectation; shows interest	**Set**: Being ready to perform a particular action: mental, physical or emotional.
3	**Applying** (Application): Ability to apply knowledge and ideas in a new situations or to address problems to find out a working solution	**Valuing:** The worth or value a person attaches to a particular object, phenomenon or behavior.	**Guided response:** Performing under guidance of a model: limitation or trial and error.
4	**Analyzing** (Analysis): Ability to breakdown an idea into its component parts to draw or discover probable connection among different ideas	**Organization**: Committed to a set of values as displayed by behavior	**Mechanism**: Being able to perform a task habitually with some degree of confidence and proficiency.
5	**Evaluating** (Synthesis): Ability to justify a stand or decision	**Characterization** (Internalizing values): Has a value system that controls their behavior. Total behavior is consistent with internalized values	**Complex response**: Performing a task with a high degree of proficiency and skill.
6	**Creating** (Evaluation): Ability to put ideas together in new ways to produce new or original work		**Adaptation**: Using previously learned skills to perform new but related tasks.
7	-	-	**Origination**: Creating new performance after having developed skills

It is not necessary that we follow these steps of learning process for each and every task or concept. Students should however be tested for the major concepts and theories at different Bloom's level in a complete course. However, the wordings of the old Bloom's Taxonomy match more with engineering terminologies Table 3.3 and Figure.3.2.

Table 3.3: Bloom's Taxonomy in its various forms of cognitive domain represents the process of learning.

Level of learning		Bloom's Taxonomy in its various forms represents the following process of learning (Figure 3.2)	Order of Learning
Step 1.		First, we must remember a concept.	
Step 2:	Support	Before we can understand the concept, we must remember it.	Lower Order of Learning
Step 3:		Before we can apply the concept, we must understand it.	
Step 4:	Explore	Before we analyze it we must be able to apply it.	Higher Order of Learning
Step 5:		Before we can evaluate its impact, we must have analyzed	
Step 6:	Design	Before we can create we must have remembered, understood, applied, analyzed, and evaluated pt.	

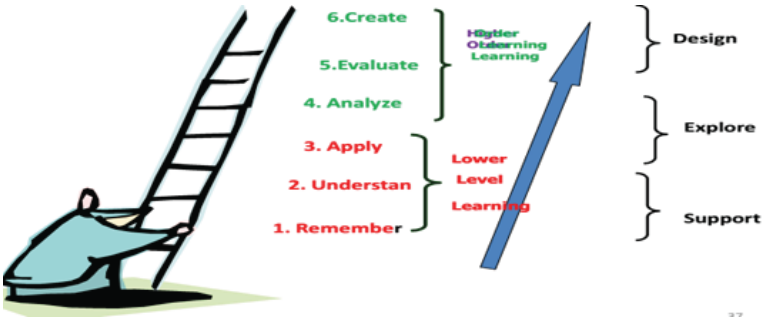


Figure 3.2 Bloom's cognitive domain, Six sub-domains of cognitive domain

3.4 Use of action verbs for assessment: Action verbs are useful in framing questions for assessing student learning (program outcomes) in various learning domain. Several action verbs are listed in Tables 3.4.1 to 3.4.3 for each of the learning domains.

3.4.1 Cognitive learning action verbs: Cognitive learning is demonstrated by knowledge and thinking skills. It is divided into six progressive levels as in Table 3.4.1

Table 3.4.1 : Cognitive learning action verbs	
Level	**Some action Verbs**
1.Remembering	Define, describe, duplicate, list, label, memorize, name, relate, recall, repeat, reproduce, state, select, outline, order, identify,
2.Understanding	Classify, describe, distinguish, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase, estimate, indicate, summarize, give example.
3.Applying	Apply, compute, choose, change, demonstrate, draw, dramatize, discover, employ, illustrate, use, interpret, operate, schedule, sketch, show, solve, write, modify, practice, predict, produce, write.
4.Analyzing	Analyze, breakdown, appraise, calculate, compare, contrast, criticize, categorize, differentiate, discriminate, distinguish, diagram, examine, illustrate, experiment, question, model, test, point out, infer, questions, separate, subdivide,
5.Evaluating	Appraise, argue, defend, design, formulate, organize, plan, prepares, judge, select, support, value, evaluate, conclude, compare, interpret, select, rate, justify, modify, integrate, setup,
6. Creating	Arrange, assemble, construct, create, design, develop, formulate, write. rewrite, synthesizes, rearrange, plan, value, tell, propose, revise

3.4.2 Affective learning action verbs: Affective learning involves behaviors that indicate attitude of awareness interest, attention, sense of responsibility, listening to and responding in interactions with others, ability to demonstrate appropriate attitudinal characteristics or values in real life situation. Affective learning has five six progressive levels as in Table 3.4.2

Table 3.4.2 : Affective learning action verbs	
Level	**Some action Verbs**
1. Receiving phenomena	Chooses, describes, follows, identifies, listen, replies, uses, gives, holds, locates, names, points to, selects
2.Responding to phenomena	Answers, assists, complies, greets, helps, reads, responds, reports, selects, conforms, discusses, performs, practices, labels, presents
3. Valuing	Describes, differentiates, explains, follows, initiates, invites, joins, justifies, proposes, reads, selects, shares, studies, works ,follows, presents,
4. Organization	Adheres, alters, arranges, combines, compares, explains, integrates, modifies, orders, organizes, prepares, synthesizes, orders, relates, defends, generalizes, identifies, completes,
5 Characterization	Acts, discriminates, displays, influences, modifies, questions, revises, solves, uses, verifies, influences, listens, proposes, qualifies, serves,

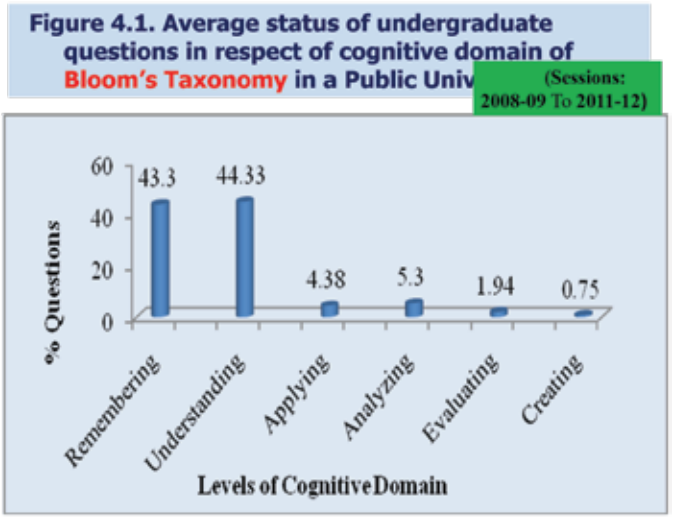
3.4.3 Psychomotor learning action verbs: Psychomotor learning is demonstrate by physical skills such as coordination, manipulation, applying strength and speed that lead to activates such as use of tools, instruments, and devices. Psychomotor skills develop in seven progressive steps over time as in Table 3.4.3

Table 3.4.3 : Psychomotor learning action verbs	
Level	**Some action Verbs**
1. Perception	Chooses, describes, distinguishes, detects, differentiates , identifies, isolates, relates, selects, separates
2. Set	Begins, displays, explains, reacts, responds, starts, volunteers, moves, proceeds
3. Guided response	Assembles, builds, calibrates, constructs, fastens, measures, dismantles, displays, fastens, fixes, manipulates, measures, mixes, mends, organizes, sketches
4. Mechanism	Same list as for guided response
5 Complex response	Same list as for guided response
6. Adaption	Adapts, alters, changes, rearranges, reorganizes, revises, varies
7.Origination	Arranges, combines, composes, constructs, creates, designs, originates

Table- 3.4.4: Objectives of the Course

Objectives of Study	
Ask	**Why do you study?**
Answer (KSA)	1. **Knowledge**: To acquire Knowledge;
	2. **Skill**: To improve skills
	3. **Attitude:** To develop +ve attitude and morality

4. Making Creative Questions: Questions requiring creativity of the learners to answer, may be termed as creative. These are usually higher level questions as per Bloom's taxonomy of learning, which need a great deal of creative thinking on the part of learners to answer. The teaching resource must also be well-conversant with the Bloom's taxonomy of learning to set the creative questions in the examination. Despite the fact about 90% of total questions in the higher education of Bangladesh are lower level questions (Figure 4.1), this is not at all helpful to raise the quality of higher education in our country. This scenario may be attributed to the lack of awareness about creative questions among our faculty members. To overcome such situation, it is necessary to set creative questions for different courses of study by using Bloom's taxonomy as mention in the tables 3.2 to 3.4.3.



Average status of undergraduate questions in respect to cognitive domain of Bloom's Taxonomy in a Public University is shown in figure 4.1 where only 8% questions are in higher order learning mode. It's a paradox in our educational system that a student can make all 'A's and still not understand a principle, concept, or idea. In the 36 Academic Council meeting, IIUC agreed to set higher order learning questions in each course at least 60% in OBE system as describe in table 4.1 and figure 4.1. There may be more than 60% QS to be set in higher order mode flowing the process of Bloom's Taxonomy. It is not necessary that we follow these steps of learning process for each and every task or concept. Students should however be tested for the major concepts and theories at different Bloom's level in a complete course. An example for Calculation of Learning Order & Level of a Course is described in Table 4.1.

Table 4.1 : Calculation of Learning Order &Level as per Blooms taxonomy:

Course Code..... Course Title .....Semester..... Year.....

Prepared by: ..... Date: .....

Question Number	1. Lower Order learning			2. Higher Order Learning			Total Marks
	Remember	Understand	Apply	Analyze	Evaluate	Create	
1							10
2							10
3							10
4							10
5							10
6							10
7							10
Total Marks	X	Y	Z	x	y	z	70
% of marks in each Order of Learning	% = [(X+Y+Z)/ 70]x100 =			% =([x+y+z)/ 70]x100=			100%
% of marks in each Level	**Level 1&2(support)=** [(X+Y)/70]x100=		**Level 3&4(Explore)=** [(Z+x)/70]x100=		**Level 5&6(Design)=** [(y+z)/70]x100=		

4.1. Able to answer

Both teachers and students are now able to : 1. Differentiate the three domains (Cognitive, Affective and Psychomotor) 2. State the levels of each domain 3. Describe the differences between the levels 4. Explain the use of Bloom's Taxonomy in teaching-learning 5. Mention the use of Bloom's Taxonomy in Curriculum Development 6 State three domains of Learning 7 Tell 6 levels of Cognitive domain	Few Questions? 1. Name & differentiate the three domains of Bloom's Taxonomy 2. What levels are there altogethers in Bloom's Taxonomy? 3. Mention two action verbs for each of the cognitive level 4. What are the uses of Bloom's Taxonomy in teaching-learning? 5. How will you use Bloom's Taxonomy in your Lesson Plan? 6 Why will you study Bloom's Taxonomy? 8 How does cognitive domain differ from psychomotor domain? 9 Who was Dr. Benjamin Bloom ?
কাজের ছেলে ,যোগিন্দ্রনাথ সরকার	
দাদখানি চাল, মুসুরির ডাল, চিনি-পাতা দৈ, দু'টা পাকা বেল, সরিষার তেল, ডিমভরা কৈ। পথে হেঁটে চলি, মনে মনে বলি, পাছে হয় ভুল; ভুল যদি হয়, মা তবে নিশ্চয়, পিঁড়ে দেবে চুল। দাদখানি চাল, মুসুরির ডাল, চিনি-পাতা দৈ, দু'টা পাকা বেল, সরিষার তেল, ডিমভরা কৈ। বাহবা বাহবা – ভোলা ভুতো হাবা, খেলিছে তো বেশ! দেখিব খেলাতে, কে হারে কে জেতে, কেনা হলে শেষ।	দাদখানি চাল, মুসুরির ডাল, চিনি-পাতা দৈ, ডিম-ভরা বেল, দু'টা পাকা তেল, সরিষার কৈ। ওই তো ওখানে, ঘুরি ধরে টানে, ঘোষদের নলী; আমি যদি পাই, তা হলে উড়াই, আকাশে এখনি! দাদখানি তেল, ডিম-ভরা বেল, দুটা পাকা দৈ, সরিষার চাল, চিনি-পাতা ডাল, মুসুরির কৈ! এসেছি দোকানে-কিনি এই খানে, যত কিছু পাই; মা যাহা বলেছে, ঠিক মনে আছে, তাতে ভুল নাই! দাদখানি বেল, মুসুরির তেল, সরিষার কৈ, চিনি-পাতা চাল, দুটা পাকা ডাল, ডিম ভরা দৈ।

5.Assessment Methods: Outcome-based assessment (OBA) asks us to first identify what it that we expect students to be able to do once they have completed a course or program. It then asks us to provide evidence that they are able to do so. In other words, how will each learning outcome be assessed? What evidence of student learning is most relevant for each learning outcome and what standard or criteria will be used to evaluate that evidence? Assessment is therefore a key part of outcome-based education and is used to determine whether or not a qualification has been achieved. Authentic assessments are the assessments that fit meaningful, real-life learning experiences. It includes recording evidence of the learning process, applications in products and performances, perception of visual and audio relationships, integrations of new knowledge, reflecting profitably on one's own progress, and interpreting meaning in consideration of contextual facts. Each program must have assessment processes in place for continuous quality improvement with documented results. The program must have assessment and evaluation processes to determine the extent to which the SOs and POs are achieved.

Figure-5.1 Steps for Assessment Design

[Ref. of Figure 5.1. OBE Principle and Process, Centre for Education innovation-hkust. http://cei.ust.hk/teaching-resourses/otcome-based-education/institutional-resources/obe-principles-and-process]

5.1. Course assessment methods:

Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of course learning outcomes (CLOs), student learning outcomes (SLOs, or POs), and program educational objectives (PEOs). Effective assessment can use a combination of relevant direct, indirect, quantitative and qualitative measures as appropriate to the objective or the outcome being measured. Appropriate sampling methods may be used as a part of an assessment process Course learning outcomes should reflect essential knowledge, skills and attitudes and finally, represent

the minimum performances that must be achieved to successfully complete a course. On-going course learning outcomes assessment, with a balance of direct and indirect assessment techniques will be the responsibility of the departments and programs. It is the responsibility of the lecturer for each course to maintain a detailed course syllabus with lesson plan ,which carefully delineates both the content and PLOs addressed by the course. The syllabus should also contain course objectives, taxonomy levels, instructional techniques and evaluation methods. Major types of assessments are as follows:

i. Direct assessment method
ii. Indirect assessment method
iii. Rubrics method

5.2: Direct Assessment Method: Direct assessments provide for the direct examination or observation of actual student knowledge or skills against measurable learning outcomes. The following direct assessment techniques are used at IIUC:

i. Quizzes, Tests, and Exams , ii. Final Examination, iii. Mini Design Assignments - one to four weeks of duration Projects, iv. Home work assignments, v. Self assessment of lab skills and abilities, vi. Review of course materials (folders), vii. Lab Experiments, viii. Final Year Project. ix Project Base Lab (PBL), x. Capstone Design Projects - (design report and presentation), xi. Student Portfolios -collection of students work to demonstrate student outcome attainments, xii. Self reflection reports - describing what they can do & how they have developed the ability, xiii. Exit Interview, xiv.Thesis/Project defense and Viva voce.

5.3. Indirect assessment method : Not all learning can be measured in a direct way. Indirect measures can provide information about student perception of their learning and how this learning is valued by different constituencies. An indirect assessment is useful in that it can be used to measure certain implicit qualities of student learning, such as values, perceptions, and attitudes, from a variety of perspectives. It is important to remember that all assessment methods have their limitations and contain some bias. A meaningful assessment program would use both direct and indirect assessments from a variety of sources (students, alumni, faculty, employers, etc.). This use of multiple assessment methods provides converging evidence of student learning. Indirect methods provide a valuable supplement to direct methods and are generally a part of a robust assessment program. The following Indirect assessment techniques are used at IIUC:

i. Industrial Training, ii. Industrial Advisors, iii. External Examiner, iv. Student Exit Survey, v. Alumni Survey, vi. Employer Survey, vii, Focus Groups, viii. Rubric Matrix (Psychomotor and Affective), ix. Peer-assessment (Though peer review is indirect assessment, it is often a useful teaching and learning tool).

5.4 Rubrics: Rubric is simply a scoring tool that identifies the various criteria relevant to an assignment or learning outcome, and then explicitly states the possible levels of achievement along a continuum (poor to excellent or novice to expert). Rubrics can be used to assess almost any type of student work, be it essays, final projects, oral presentations, or theatrical performances. They can be used at the time an assignment is given to communicate expectations to students, when student work is evaluated for fair and efficient grading, and to even assess a program by determining the extent to which students are achieving departmental learning outcomes. The focus of this introduction is on rubrics for assessing student learning, however, the same principles can be used for departmental- or program-level evaluation. As an example, performance criteria and measurement rubrics of a Program Outcome is shown in table 5.1.

Performance Criteria	Rubrics for performance Measurement			
	Unsatisfactory (1)	Developing (2)	Satisfactory (3)	Exemplary (4)
1.Fulfill team duties and contribute to work in a multidisciplinary team environment	Does not perform any duties of assigned team role.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team role
2.Effective communication with other team members	Rarely performs the required communication and always depends on other directions	Performs insufficieat amount of communication and depends on other directions	Performs the required communication but depends on other directions	Always performs the required communication and takes initiatives and proactive roles
3. Perform relevant research and gathering information	Does not collect and share any information	Collect or share very little information	Collect and share very sufficient information	Collect and share a great ieal of information
4. Meet timeline and achieve project goals, Participate in report writing and team presentations.	Never meet timeline or Participate writing or presentations.	Rarely does the assigned work-often needs reminding	Usually does the assigned work-rarely needs reminding	Always does the assigned work without having to be reminded.

Figure 6.1

6. Peer Observation in teaching: According to IQAC Operation Manual of UGC, there shall be 'Peer Observation in Class Room Teaching' as a part of its quality assurance procedures. At UK higher education institutions, Peer Observation of Teaching (POT) is one of the most frequently used processes for professional development (Keig,-2000). PO is the process by which university instructors provide feedback to colleagues on their teaching efforts and practices. It is the observation of teachers by teachers. Pairings may be mentor/novice or experienced teacher/in experienced teacher. It is the process by which university instructors provide feedback to colleagues on their teaching efforts and practices. Newer staff highlighted the developmental aspect of PO in teaching. It serves a quality control purpose in education. They felt that the outcome needed to be productive and constructive, giving the observed some informative feedback about their strengths and weaknesses, on which they could build. Partly it is needed that the lecturer was delivering to required standards.

There are very clear guidelines for the observations, not to give unsubstantiated judgments on their peers. In a meeting of the planning committee of each department the meeting shall fix observers and schedule of observation. In this model, teachers (observers) are asked to assess and report formally on the performance of their colleagues according to criteria set out in the IQAC manual , UGC, bearing number IQACOM Annex 1. Such a teacher is familiar with the subject, at the time it may be able to offer both practical help to a fellow teacher. It is also for all teachers of each program of the department. Mandatory demonstrating is a good practice for the fellow teacher to observe and incorporate into his or her own teaching. PO once per semester affords an opportunity for staff to reflect on the process between observation episodes. Teaching staff are expected to have a commitment to continuing professional development and evaluation of their pedagogic practice. Some departments of IIUC use peer observation as a part of its quality assurance procedures, but it is mandatory to all teachers in each program.

7. Lesson Plan: Lesson Plan is one of the major component of OBE system. A lesson plan is a neat logical sequence of the key points of a lesson and a tool for directing the lesson towards achieving a desired destination. It tells us what, when and how to do things in the classroom. A teacher without a lesson plan in the class room is like a boatman having no oar. Use of lesson plan is a growing practice in teaching and learning internationally. Lesson Plan is a Lecture Blueprint for a particular class period. It specifies the learning objectives of the subject matter to be taught and assessment of that learning for each and every class. It helps a teacher to conduct his/ her lesson systematically and allows students to know what they are going to learn under the syllabus of a course. Students also expect lessons in a logical sequence. A good lesson plan increases confidence of the teacher. Planning detailed lessons can help teachers avoid or minimize problems in the class.

Course teachers at IIUC everyday in his lecture should include welcome, establishment of rapport, bridging, overview of the session, justification of the importance of the session, pre-assessment i.e. prior knowledge level of the students can be checked. Success or failure mostly depends on the logical arrangements of the key points of the session. Care should be given to make an effective development process. At the time of conclusion, there shall be quick recap of the main points, students feed back, assessment of students learning outcome, references/ suggested reading, and forward planning for next lecture to start. In this moment teacher can understand how far his/her objectives have been achieved and identify the weaknesses. From that viewpoint, this end is very important for future improvement. Lesson plan of each course of the program may be checked by the Accreditation Team during their visit.

8. Course file for each Course: Course files are the main source of Continuous Quality Improvement (CQI), therefore, in regard to OBE process department must maintain course file for each course. Course files of each course of the program must be kept ready for Accreditation Team during their visit. Following items shall be available in a course file:

- Lecture plan (including *Course-profile & assessment tools for each course outcome, and grading policy).
- Questions and three representative examples responses (one excellent, one average, one marginal pass) for each exam, class test and quiz (for theory courses)
- Laboratory sheet and three representative examples of laboratory reports (for laboratory courses)
- Assessment criteria or rubrics for assignment/project reports. Three representative examples for each assign ment and project report

- Final grade assigned to each student
- Assessment and analysis of outcome achievement
- The course instructor's recommendations for Continuous Quality Improvement (CQI) i.e Recommendation for closing the CQI loop.

*Course profile: Each course should contain the following components.

i. Course Code
ii. Course Title
iii. Course Pre-requisite(s)
iv. Course Content(Course Syllabus)
v. Course Rational (why student will take this course / goal / intent / objective)
vi. Course Outcomes (COs)
vii. CO-PO mapping

9. Academic Guidance and Counseling at IIUC: The students' Academic Guidance and Counseling Service is an integral part of the academic program of students of the University. International Islamic University Chittagong (IIUC) puts great value on this service as its objective is to guide students to obtain the best results, adapt with the university environment and take advantage of the opportunities available to them and solve individual problems through counseling. In view of the importance of academic guidance and counseling at the University, a special arrangement has been made in each department to provide academic career and student welfare counseling by the Student Adviser of the respective section of students under each Semester i.e. section adviser is the Student Academic Advisor for Academic Guidance and Counseling. The Academic Adviser shall specify at least two periods a week which will be displayed in their time table and ensure that they are available at their offices in specific periods to enable the students to meet their advisers.

Academic advising is an interactive process in which the advisor helps the students planning their academic careers through the creation of a partnership. This includes preparing for registration, resolving academic problems, offering academic/educational advice, assisting students with planning for project /thesis / internships and employment opportunities within their disciplines. Also, academic advisers should listen carefully when personal problems are revealed and if necessary refer to the relevant office. Advising is a process of giving students guidance, support and courage, which brings together all of the major dynamics in a student's life. The success of the guidance system depends on a close relationship between the student and his/her academic adviser, which is necessary to create the conditions conducive to the student's academic success.

Academic adviser shall provide comprehensive guidelines to the students in advance by means of a brochure/ handbook (Admission Handbook). He shall enquire about any problems encountered in any course as well as on economic, health and social problems (if any) that affect his/her academic performance. Special attention/care must be taken by the adviser to prevent weaker students from failing or discontinuing. Another serious problem, is the inadequacy of many students' study habits. Adviser shall encourage students to improve study habits. Academic adviser shall maintain a data sheet for his advising students, which may be checked by the Accreditation Team during their visit.

10. Concept of Self-Assessment

- What does the university do to provide education ?
- Whether the university is doing the right thing in the right way ?
- Has the university clearly defined goals to achieve ?
- Whether the process guiding the university is adequate to achieve the goals ?

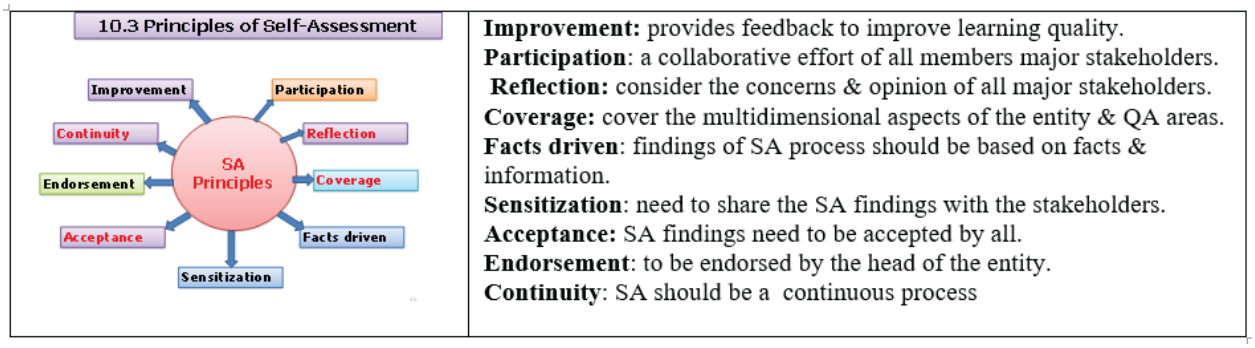
Self-assessment is the approach that helps to get the answer to above questions based on facts and evidence in a systematic manner. It is the systematic collection, processing, analysis and use of information (data) about educational programs or institution taken from multiple sources (stakeholders) for the purpose of improving program / institution capacity and processes to develop student learning. SA exercise is an effective approach to gain a clear understanding of current situation program or institution by an informative SWOT analysis. It also provides the basis of strategic planning for Continuous Quality Improvement (CQI) of education. It is a process not to prove anything but to improve. In this regard 3-members Self-Assessment Committee (SAC) has been formed for each department at IIUC.

10.1 Self-Assessment Report (SAR): Self-Assessment reporting is an integral part of the Quality Assurance (QA) mechanism and internal quality assurance system of any university or program offering entity. It helps to manage and achieve the objectives in a more organized and disciplined manner. It is a self-reflective and critical evaluation of current state of QA practices. Self-Assessment report will be used as the core document for the purpose of external peer review and strategic planning for further improvement. Once the survey and data analysis is done, a decision must be taken regarding the design of the Self-Assessment Report (SAR). SAR should reflect to what extent each quality standard is met. Self-Assessment Committee (SAC) of the program will prepare the SAR of concerned program offering entity. In this regard, for the following reasons documentations are to be collected and preserved by Self-Assessment Committee to show External Peer Reviewers Team (EPRT)/ Accreditation team during their visit..

i. Self Assessments Report (SAR) establishes linkages between IIUC and External Peer Reviewers Team (EPRT)
ii. During visit EPRT may want to see curriculum of PoE, different reports, manuals, rules and regulations of the PoE and IIUC as well.
iii. Actually every document are available in the different offices within the university, however, it is time consuming to collect the relevant documents during 3 days visit of EPRT.
iv. SAR without supporting documents may not have the same value to EPRT.
v. Documents are supporting evidence to prove the facts present in SAR .
vi. Showcasing documents is an opportunity to show the rich culture of IIUC to the local and international EPRT.
vii. Although EPRT will be looking for documents at the POE, but they always prefer that copy of all the docu ments must also be available at the central data depository place (IQAC IIUC).
viii. Quality and Excellence of the IIUC will be shown through documentation by each POE.
ix. Over the last few years Faculty of Science and Engineering, IIUC are showcasing their resources to EPRT.
x. It is always advisable to have the documents in the working station and available to EPRT.

10.2 Self Assessment Criteria: Developing Quality Assurance (QA) culture requires special attention to the QA areas. In respect of current setting (IQAC manual, UGC) following quality assurance areas shall be considered as the self-assessment criteria. There are 9 (nine) SA criteria with 54(fifty four) standards.
Necessary documents for each criteria and standards to be collected and preserved. List of Self- Assessment Criteria (09 Criteria) is shown below:

1. Governance (Standards - 11); 2. Curriculum Content Design and Review (Standards - 5)
3. Student Admission, Progress and Achievements (Standards- 5); 4. Physical Facilities (Standards- 2); 5. Teaching-Learning and Assessment (Standards - 10); 6. Student Support Services (Standards - 8); 7. Staff and Facilities (Standards - 8); 8. Research and Extension (Standards - 2) and 9. Process Management & Continuous Improvement (Standards- 3)



11. Continuous Quality Improvement (CQI): OBE should have a continuous quality improvement mechanism. It should demonstrate an established system for periodically compiling the level of attainment in terms of PEO, including a mechanism for tracking and obtaining feedback from graduates and their employers. The outcomes of these exercises should be evaluated, and the identified shortcomings and limitations should be used to refine and improve the program. POs should be assessed on a regular cycle. To achieved accreditation of any program from BAETE/UG-C/BAC, the program should have a Continuous Quality Improvement(CQI) mechanism..

11.1 . Evidence of a Continuous Quality Improvement (CQI) process: Continuous Quality Improvement (CQI) is the necessary criterion for Accreditation. For an effective CQI process the program faculty should provide evidence of the following check list (Rashid 2012)::

1. A continuous timeline of activities which may include data collection.
2. Performance indicators for each student outcome with program faculty consensus.
3. Systematic data collection on summative performance related to the indicators.
4. A single data point of summative results for each performance indicator for each student outcomes.
5. Identify the strengths and weakness of student performance.
6. List the actions on improvements of student learning related to the weaknesses that were identified.

11 .2 How to Complete the CQI Processes?: To complete the CQI processes following Data to be collected & analyze as per prescribed Forms (Forms are available in IIUC web panel as well as IQAC and SA manual of UGC):

i. Course Specifications Form [NQ-22]
ii. Class Room Teaching Observation Form [NQ-20]
iii. Teacher Evaluation Form [NQ-10]
iv. Faculty Course Review Report [NQ-22]
v. Student Course Evaluation Form [NQ-30]
vi. Annual Course report. [NQ-22]
vii. Faculty/Department Quality Assurance Report[NQ-50]
viii. Survey Questionnaire for Employer[NQ-40]
ix. Survey Questionnaire for Alumni [NQ-53]
x. Survey Questionnaire for Students [NQ-51]
xi. Survey Questionnaire for Non-Academics[NQ-20]
xii. Survey Questionnaire for Academics [NQ-77]

*NQ= Number of survey questions

Figure 11.1: Process of CQI loop

11.3. Culture of CQI Improvement: For the improvement of CQI culture, in each semester the result of the following performance to be discussed at the end of each semester and a plan should be made for better result. A diagram is shown in Figure 11.1 to close CQI Improvement loop.

- Self-assessment is periodically done.
- Improvement plans are designed according to the recommen dations of the peer reviewer and duly executed.
- Stakeholders (students, alumni and employers) feedbacks are regularly taken and considered duly.
- Whether the formal outcomes of peer observation used for improvement.
- Teaching performance evaluations by the students on a regular basis are in practice.
- Other survey results and opinions of teachers and students are to be considered for better AQW.

12. Accreditation: Accreditation Provides Assurance about Program Quality. It provides evidence of an independent and rigorous assessment by a recognized and trusted third party .Accreditation supports graduate employability by ensuring programs are responsive to Industrial needs. In this process of external quality review, they used in higher education to scrutinize colleges, universities, and higher education programs for quality assurance and quality improvement. Board of Accreditation of Engineering and Technical Education (BAETE) through Institute of Engineers Bangladesh (IEB) in Bangladesh took the lead in introducing the concept of outcome-based education (OBE) in order to meet the needs of employers in the 21st century. It was the beginning of a new paradigm for engineering education and accreditation standards. The program identifies the program educational objectives based on the needs of the stakeholders and also identifies what the graduates should be able to do at the completion of the degree program known as program outcomes or student outcomes .

There are two types of Accreditation: Institutional accreditation and Program Accreditation

12.1 Objectives of Accreditation: Following are the objectives of accreditation:

- Accreditation provide recognition for professional registration; Program being accredited is a prestige . It helps to transfer credits between accredited programs
  International mobility of academic qualifications benchmarked to meet the standards of mutual or interna tional agreements, including the Washington Accord;
  OBE is an educational process that focused at achieving certain specified outcomes in terms of individual students learning.

To ensure the graduates acquire a required set of attributes (outcomes) of national and international standards.

- To assist all stakeholders (Student, Alumni, Parent, Faculty , Industry) in identifying specific engineering programs that meet national and international standards.
- To provide a mechanism for the continuous quality improvement (CQI) of existing engineering programs through evaluation and feedback.

To gain accreditation, first and foremost the program must satisfy the full set of accreditation criteria – to cross the bar. Continuous quality improvement (CQI) is a necessary criterion. CQI is a process, not the outcomes which really matter in the long run – those outcomes students take with them at the exit point of the program. Accreditation provides recognition for professional registration.

13. Washington Accord: The Washington Accord is an international accreditation agreement for professional engineering academic degrees, between the bodies responsible for accreditation in its signatory countries. It was established in 1989 (Washington Accord-2011). The agreement recognizes that there is substantial equivalence of programs accredited by those signatories. Graduates of accredited programs in any of the signatory countries are recognized by the other signatory countries as having met the academic requirements for entry to the practice of engineering. Recognition of accredited programs is not retroactive but takes effect only from the date of admission of the country to signatory status. The Washington Accord covers undergraduate engineering degrees under Outcome Based Education, OBE approach. Only qualifications awarded after the signatory country or region became part of the Washington Accord are recognized. The accord does cover the academic requirements that are part of the licensing processes in signatory countries. The Washington Accord Agreement recognizes that: "Accreditation of engineering academic programs is a key foundation for the practice of engineering at the professional level in each of the countries or territories covered by the Accord". Bangladesh is trying to be a full signatory country (soon) of the Washington Accord.
In short, the Washington Accord is an Agreement

- that establishes equivalence of other countries' accredited professional engineering programs.
- that Accredited Engineering Graduates are recognized by other signatory countries,
- that possible employment as Engineers in those countries without further examinations or assessments.

14. Institutional Quality Assurance Cell (IQAC): Quality of education in a university usually refers to the quality of its teaching, learning and research under the programs which can be assured and achieved through the program Self-Assessment (SA) exercise. In the line of promoting effective learning, self-assessment process is such an initiative made by the Government of Bangladesh through University Grants Commission (UGC) under Institutional Quality Assurance Cell (IQAC) in each university that can entail the current status of an academic unit. Accordingly, IQAC has been established at IIUC on March 11, 2014 (Ref: 179th Syndicate meeting) to conduct the SA exercise at IIUC. Self-Assessment (SA) exercise has started at IIUC on March 03, 2017.

14.1 The Objectives of IQAC: The Objectives of IQAC are to Develop a culture of Academic Quality Work (AQW) with Continuous Quality Improvement (CQI) in Education (teaching and research) as per vision , mission and objectives of IIUC and to build image of IIUC with confidence of the stakeholders ensuring transparency, accountability, & good practices in all aspects of management. Evidences of quality culture need to be reflected in all areas including governance, program management, code of conduct, code of practice etc. Improvement on AQW is possible effectively by reforming the academic activities &well meaningeffort from the inside, not any change imposed crudely from the outside. What is needed is the faculty needs to be more self-conscious about quality and more continuously involved in its improvement by self-competition. So, teachers should develop step-by-step a culture of AQW.

14.2. The Outcomes of IQAC: The Outcomes of IQAC are to make IIUC ready to meet the requirements for (Institutional and program level) accreditation and to achieve "Excellence in higher education". Accreditation Provides Assurance about Program Quality. Continuous quality improvement (CQI) is a necessary criterion for accreditation. Outcome Based Education (OBE) system has a Continuous Quality Improvement (CQI) mechanism.

14.3 Struggling Hard To Survive

Running alone

within the boundary

ignoring global trends...

resulting no progress

15. Conclusion; One of the reasons that outcomes-based education can makes teaching purposeful and systematic, rather than haphazard, while still allowing students to discover, to follow their interests, to take responsibility for their own learning, and to develop both personally and academically. It enables teachers to provide students with appropriate and purposeful learning experiences and opportunities so that they can develop originality, self-motivation and independence at the same time as they acquire useful knowledge and skills.

Dear Students: Remember that you are here to earn a quality degree by your sincere effort. OBE helps learners to accept responsibility for learning, as they are now at the centre of the learning process. One of the benefits of OBE is that it helps students to become aware of what they should be learning, aware of what they are actually learning, and aware of the control that they have over their own learning. So, students must follow the OBE regulations properly to maintain the culture of Continuous Quality Improvement (CQI).

Today our world is faced with unprecedented challenges as well as opportunities. Understandings of human behavior and the brain, along with advances in technology, have opened the door to remarkable new possibilities for teaching and learning, both face to face and online. In this regard you have to make best use of your time in the classroom and you have to be cooperative during your novel academic journey. Success at university not only depends on gaining knowledge and memorizing facts. It depends on how well you can use the things that you have learned and able to use the skills you have developed for your future career.

The educational structure and the system around the world have been developed over the years, So far, we have assumed that all program curriculums are similar and adopt an outcome-based education. There are wide variations in the curriculum structure, curricular courses, the types and procedures of assessments. Also, neither the program objectives nor the program outcomes are identified in many cases. In some cases, the program list courses or the type of courses rather than being specific. All programs follow semester assessments and one common thing is that all programs describe the uniqueness and features of their degree program possibly as promotional and marketing tools. The national policy and culture of a country greatly influence the implementation of an OBE curriculum and its processes.

Respected Teacher: You are requested to be attentive about the Rules and Regulation of IIUC in regard to ACADEMIC QUALITY WORK, such as activity related to educational processes, curriculum, teaching, learning, assessments, quality assurance and OBE System. Teacher's efforts on strict invigilation, marking the scripts and submission of marks in due time, and result publications look to be great and encouraging. So, we should develop step-by-step a culture of CQI. Greatness is achieved only through hard work. We admire discipline, which can be achieved by developing a law-abiding attitude. Whatever approach to teaching we use, it is important to keep the following points in mind:

- Our main focus should be on Learning rather than teaching.
- Students cannot learn if they do not Think about the problem.
- Thinking is facilitated and encouraged by the Processes that we use to engage students with the content, as well as by the Content itself.

- Our subject does not exist in isolation—we have to help students make Links to other subjects.
- We have a responsibility to help students Learning How to Learn.
- Learners are responsible for their own learning and progress.

In this process both Students and Teachers know what they are expected to do, and what will be the outcome. The OBE will "work" *only if teachers are committed to it.*

There is no real way for a department to improve AQW without meeting above requirements. If teachers want to succeed with OBE, they need to adopt the position that "there is no such thing as failure, only feedback and results, success depends on how well we process the feedback we get regarding our efforts". Outcome is a culminating demonstration of learning. Demonstration- meant that learners would actually DO something visible, and observable. Regular Tech-Fest of FS&E is the example demonstration of learning. It gives the opportunity to the students of FS&E to demonstrate their skill & competence and encourage. Students should take part in Tech-Fest every year to show their knowledge and skills. Who knows, it might encourage you to boldly go where you've never gone before.

We are pleased to mention that undergraduate programs of CCE, CSE and EEE have been accredited by the Board of Accreditation for Engineering & Technical Education (BAETE) as per old system. Pharmacy program too has been accredited by Pharmacy Council, Bangladesh. However, very recently (December 2019) by integrating OBE system, Self-Assessment(SA) Reports of the undergraduate programs of CSE, EEE and ETE have been submitted to the Board of Accreditation for Engineering & Technical Education (BAETE) for accreditation. All these reports are now being processed by BAETE.As per Accreditation Board (BAETE), No OBE means No ACCREDITATION. OBE has implemented at IIUC on Autumn Semester 2017 , so above programs shall get Accreditation certificate soon (InshaAllah).

Points to be considered in regards to Accreditation are:

(i) Accreditation is more than OBE,
(ii) Top management should feel that accreditation is necessary,
(iii) Faculty members must be motivated: must believe that OBE will improve the quality of education,
(iv) A core, dedicated team is needed,
(v) Our weakest link: Documentation!
(vi) A process to be developed

This note is the compilation of lectures on outcome-based education received as the participant from the BAETE workshops at BUET along with the help of IQAC, BAETE and UGC manuals. The author hopes that this note would encourage faculty members of IIUC to recognize the benefits of an OBE and encourage them to initiate, develop and implement an OBE process. Response to OBE is: first understand it, then try it, then criticize it.

At the end, as Dean of FS&E and Director of IQAC, I am grateful to all the faculty members of IIUC, for their whole hearted support to design and develop a curriculum, also other important works to process OBE system for CQI culture to achieve Accreditation of their program.

I wish you all a sound health with the peace of mind and a successful life with a culture of CQI. May Allah (s.w.t) bestow on us all best of Tawfique.

With Regards

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পাঁচটি জিনিসকে পাঁচটি জিনিসের পূর্বে মূল্যায়ন কর:

১. বার্ধক্যের পূর্বে তোমার যৌবনকে

২. অসুস্থতার পূর্বে তোমার সুস্থতাকে

৩. দারিদ্রতা আসার পূর্বে তোমার ধনসম্পদকে

৪. ব্যস্ততা আসার পূর্বে তোমার অবসরকে

৫. মৃত্যু আসার পূর্বে তোমার জীবনকে

-আল হাদীস

A GLORIOUS JOURNEY OF IIUPC AT IIUC (2002 - 2020)

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The year 1997 was a landmark in the history of programming contests in Bangladesh. That year Dr. Abul L. Haque, former Head of the Department of Computer Science of North South University, took the initiative to make Dhaka a contest site for the Asia region of ACM ICPC, the most prestigious programming contest in the world. His timely step opened the door for our students to compete with the world's most meritorious computer science students. North South University hosted that big event to become part of history. The history began with the success of Suman Kumar Nath, Rezaul Alam Chowdhury (Saikat) and Tarique Mesbaul Islam (Susham). The three S raised the flag of Bangladesh for the first time in the World Finals of ACM ICPC in the banner of Bengal Tigers. Dr. M. Kaykobad was the coach of the team. Prof. Kaykobad is now an institution in promoting programming contests activities in Bangladesh. A new generation has now emerged, and the students of IIUC have joined with these enthusiastic boys and girls of the new age. Since then, long days have been passed, and IIUC is now playing a major role in staging, participating, and advocating Programming Contests in Bangladesh.

Programming Contests have brought a big opportunity for the students. In our regular classes, we do not go for the highest level of perfection in solving problems. Due to the limitation of time and our effort in formulating problems and testing solutions with extreme data, it is a daunting task for us to check the correctness of solutions with perfection. Interest in participating programming contests organized by ACM and in online contests organized by the University of Valladolid of Spain and contest organized by our universities helps the students achieve such perfection that a machine could judge the correctness of their solution. Such perfection is very important in developing large systems requiring the participation of many programmers, where the output of a programmer's program becomes the input to another's

program. Here no inaccuracy, even in the presentation format, is acceptable.

IIUC is one of the pioneers in the field of programming contests in Bangladesh, especially when the universities outside of the capital city Dhaka are concerned. From the very beginning, despite having very limited resources and facilities, IIUC has been trying to foster the culture of competitive programming among its students. So, it gave a sincere effort to increase its students' problem-solving skills and develop a culture of competitive programming in the port city of Chittagong. As part of this commitment, in the year 2002, IIUC started organizing inter-university programming contests for the first time outside of the capital city.

1st IIUC Inter-University Programming Contest, 2002

IIUC organized a big scale programming contest on July 29, 2002. It was called IIUC Inter-University Programming Contest (IIUPC). All the major public and private universities of Chittagong took part in this contest. There were 18 participating teams from 5 universities. The computer club of IIUC was in charge of the overall organization. Prof. Dr. Md. Nurul Islam was the Convener of the Organizing Committee and Mr. Md. Shamsul Alam was the Member Secretary. The IIUC teams got a clean sweep securing the top three positions and proved itself undisputedly as the leading university in the programming contest in Chittagong region. Solving four problems, IIUC Protector got the winning position. The proud members of the team were Md. Hijbul Alam, S. A. M. Harun and Md. Erfanul Hoque Siddqui. The female team IIUC Muhandisa got the 2nd position solving two problems. The team was comprised of Farhana Haider, Shohela Ahsan Chowdhury and Saima Akter. Prof. Dr. M. Kaykobad gave the occasion a different dimension attending the contest as the Chief Guest. The prize-giving ceremony was staged in Safa Arcade. The prizes were handed over by the State Minister of the Ministry of Forest and Environment Md. Zafrul Islam Chowdhury.

2nd IIUC Inter-University Programming Contest, 2003

From 19th to October 23, IIUC organized an IT enlightenment week that encompassed various activities to make people more interested and increase awareness about information technology. That was the first time an IT festival in such a big scale was held in Chittagong. The week was vibrant with the arrangement of events like seminars, software competition, game and quiz contests. As part of this week, a big event was the 2nd IIUC Inter-University Programming Contest (IIUPC), where all the public and private universities of Chittagong region participated. CUET Old Sailor achieved the prestigious position of the winner. The members of the team

were Md. Manjur Ul Hasan, S.M Zubair Parvez and S.M. Faizur Rahman. IIUC has got 2nd, 3rd positions and best female team award among 23 teams from 6 universities. IIUC WYSIWYG (Md. Hijbul Alam, Aftab Ahmed Mostafa, Abu Zafar Sadek) secured the 2nd position, and IIUC PROMPT (Md. Zia Uddin, Md. Abdullah Al Mamun, Md. Syedur Rahaman Khan) grasped the third position. The best female team was IIUC MUHANDISA (Farhana Haider, Rumana Sultana, Tabassum Tamanna).

3rd IIUC Inter-University Programming Contest, 2004

As a continuum of the previous two years, IIUC has organized the 3rd IIUC Inter-University Programming Contest at its main campus at Kumira on 15th and 16th September. IIUC has regained its crown, which is lost on the previous occasion to CUET. Again, it has shown its unparalleled image in IT in Chittagong by securing all the top seven positions among 24 teams. The top three teams were IIUC Pointer (Md. Mizanur Rahman, Mohammed Erfanul Hoque Siddiqi, S.A.M. Harun), IIUC Mathics (Md. Hijbul Alam, Aftab Ahmed Mostafa, Abu Zafar Sadek) and IIUC Forerunner (K.M. Iftekhar, Ismail Muhammad Noman, Feroz Ahmed Siddiky). IIUC Gold (Shahana Yasmin Chowdhury, Sadia-Al-Haque, Farzana Afroz) was adjudged as the best female team.

National Computer Programming Contest (NCPC) 2004

The national level's biggest programming contest was held on 3rd and 4th December in the permanent campus of International Islamic University Chittagong (IIUC) at Kumira, Chittagong. International Islamic University Chittagong (IIUC) organized this grand event, formally known as National Computer Programming Contest (NCPC) 2004, jointly with the Ministry of Science and Information & Communication Technology and Bangladesh Computer Council (BCC). A total of 70 teams from 39 institutes participated in this battle of the brain. Contest Director of NCPC 2004 was Mr. Mohammed Shamsul Alam. Mr. Shahriar Manzoor acted as the Chief Judge of the contest, and Prof. Dr. M. Kaykobad was the Advisor to the Judges Panel. Among the problem setters were Shahriar Manzoor, Monirul Hasan, Md. Bahlul Haider, Md. Kamruzzaman and Mohammad Sajjad Hossain from Bangladesh, Derek Kisman from Canada and Jimmy Mårdell from Sweden. The top team of IIUC, IIUC Pointer, was ranked 10th.

Rank	Team Name	Solved	Penalty
1.	BUET Explorer (Mushfiqur Rouf Nasa, Abdullah Al Mahmud Satez, Manzurur Rahman Khan Sidky)	7	1065
2.	BUET Xtreme (Gourab Kundo, Sowkat Osman and Omar Haider Chowdhury)	6	988
3.	EWU Golden Amalgam (Tahseen Mohammad, Shamim Hafiz and Shohel Hafiz)	6	1032
4.	NDC Hexadecimal (Shahriar RoufNafi, Tanvir Kaykobad, Khobaib Chowdhury)	6	1201
5.	BUET Triumph (Tanzima Zerin Islam, Farhana Ashraf, Salmin Sultana)	5	596
6.	DU Gryffindor (Quazi Sarfaraz Hussain, Ariful Islam Siddiquee, Mainul Islam)	5	735
7.	BUET Loopers (Md. Abul Hasan Samee, N. M. Mosharaf Kabir Chowdhury, S. M. Shahriar Nirjon)	5	819
8.	SUST Swapnik (Md. Ruhul Amin, Shahidul Islam, Md. Towhidul Islam)	5	888
9.	BUET Sphinx (SirajumMunir, Istiaque Ahmed, Mazharul Islam)	4	293
10.	IIUC Pointer (Mohamma d Erfanul Hoque Siddiqi, Md. Mizanur Rahman and S. A. M. Harun)	4	383

Team Ranking of NCPC 2004

4th IIUC Inter-University Programming Contest, 2005
Following the trend of promoting programming contest every year, the 4th IIUC Inter-University Programming Contest was arranged from 5th – 6th September 2005. In this regional contest, 20 teams from different private and public universities included International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, University of Science and Technology Chittagong, BGC Trust University Bangladesh, Independent University Bangladesh. IIUC Cross-Fire achieved the prestigious position of winner solving six problems. IIUC Apical and USTC Protikkha achieved the 2nd and 3rd position solving 5 and 4 problems, respectively. IIUC Elixir was adjudged as the best female team. IIUC Computer Club arranged the whole program.

5th IIUC Inter-University Programming Contest, 2006
On September 5, 2006, the 5th IIUC Inter-University Programming Contest was arranged by the Department of CSE, IIUC, with the assistance of the IIUC Computer Club. It was a successful event as different universities of Chittagong region attended the contest, which created a competitive environment for problem solvers. The universities are International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, Premier University Chittagong, University of Science and Technology Chittagong and

University of Science and Technology Chittagong and BGC Trust University Bangladesh. CUET AGRODUT (Md. Didarul Alam Chowdhury, Md. Shakil Ahmed, Kreshano Dutta), IIUC Babbage (Wahid Dilawar Al Hakim, Md. Rashedul Alam, Mahabubul Alam), IIUC ALTAIR(K.M. Iftekher, Md. Mobashwir Hasan, Kazi Mohammad Ekram) got the 1st, 2nd and 3rd position among all the 20 teams solving 5, 4 and 3 problems respectively. Among the top 10 teams, there were five teams from IIUC, which indicate great performance. IIUC Prometheus (Sadia Al Haque, Arju Manara Begum, Tabassum Tamanna) was adjudged as the best female team.

6th IIUC Inter-University Programming Contest, 2007

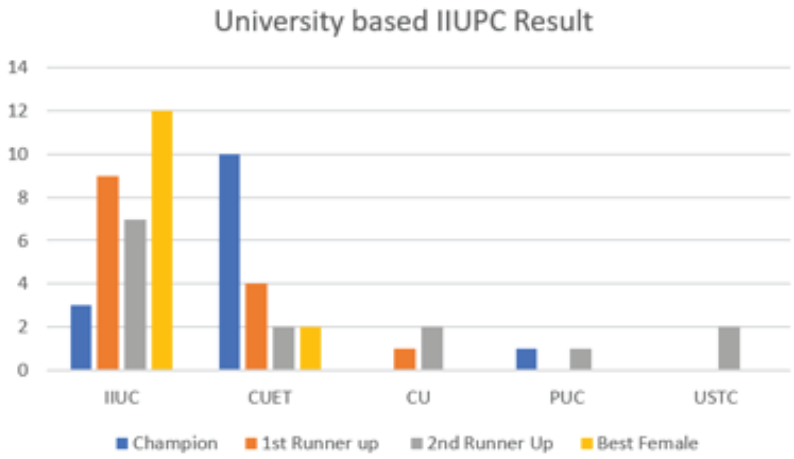
The awaited event for problem solving lover, IIUC Inter-University Programming Contest, was held on 26th - 27th December 2007 arranged by the Department of CSE, IIUC. This was the meeting place of problem solvers from several public and the private university of Chittagong. The participated universities are: International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, Premier University Chittagong, University of Science and Technology Chittagong. Nineteen teams competed in this contest, where they were given ten problems for brainstorming. There was a tough fight among all the participants. Keep their chain of victory alive CUET Agradut (Krasano Datta, Didarul Alam Chy, Md. Sakil Ahmed) again got the winning position as the previous year, solving six problems. In this tough fight, IIUC managed to secure both 2nd and 3rd positions achieved by IIUC Glint (Rashedul Islam, Azam Khan, Amirul Islam) and IIUC Random Coders (Al Amin, Rashedul Islam Sumon, Abu Saleh Muhammad Shaon) by solving four problems each. This grand event was monitored and managed by IIUC Computer Club.

7th IIUC Inter-University Programming Contest, 2009

Continuing the chain of Inter-University Programming Contest that started in 2002, the 7th IIUC Inter-University Programming Contest was arranged on October 17–18, 2009 by the Department of CSE, IIUC. IIUC Computer Club conducted the managerial aspect of this program. This call of brainstorming was received by 19 teams from many public and private universities. The universities are International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, University of Science and Technology Chittagong and BGC Trust University Bangladesh. CUET Frontiers was the winner of this contest, solving five problems among the given ten problems. IIUC Random Coders (Rashedul Islam Sumon, Al Amin, Md. Shafiqur Rahman) and USTC Catalan achieved the 2nd and 3rd position solving four problems.

List of winners from 1st to 14th IIUPC at a glance

IIUPC NO	Year	Position	Team name/University name
1	2002	Champion	IIUC Protector
		1st runner Up	IIUC Muhandisa
		2nd runner Up	IIUC
		Best Female	IIUC Muhandisa
2	2003	Champion	CUET Old Sailor
		1st runner Up	IIUC WYSIWYG
		2nd runner Up	IIUC PROMPT
		Best Female	IIUC MUHANDISA
3	2004	Champion	IIUC Pointer
		1st runner Up	IIUC Mathics
		2nd runner Up	IIUC Forerunner
		Best Female	IIUC Gold
4	2005	Champion	IIUC Cross-Fire
		1st runner Up	IIUC Apical
		2nd runner Up	USTC Protikkha
		Best Female	IIUC Elixir
5	2006	Champion	CUET AGRODOUT
		1st runner Up	IIUC Babbage
		2nd runner Up	IIUC ALTAIR
		Best Female	IIUC Prometheus
6	2007	Champion	CUET AGRODOUT
		1st runner Up	IIUC Glint
		2nd runner Up	IIUC Random Coders
		Best Female	IIUC
7	2009	Champion	CUET Frontiers
		1st runner Up	IIUC Random Coders
		2nd runner Up	USTC Catalan
		Best Female	IIUC
8	2011	Champion	CUET ICON
		1st runner Up	IIUC Subbornz
		2nd runner Up	CUET Ultraviolet
		Best Female	IIUC Fireflies
9	2012	Champion	CUET Not Found
		1st runner Up	CUET Somikoron
		2nd runner Up	CUET Last Chance
		Best Female	IIUC Youth Pearls
10	2013	Champion	CUET Ultraviolet
		1st runner Up	CUET Dynamic
		2nd runner Up	CU Super Saint
		Best Female	IIUC Youth Pearls
11	2014	Champion	CUET Stranger
		1st runner Up	CUET One_1
		2nd runner Up	IIUC AwlaJhawla
		Best Female	CEUT SS
12	2015	Champion	CUET In Stack
		1st runner Up	CUET Black Flags
		2nd runner Up	IIUC Serene Fighters
		Best Female	CUET Blessing_in_Disguise
13	2017	Champion	CUET KaloBonduk
		1st runner Up	IIUC Serene Fighters
		2nd runner Up	PUC Scretch
		Best Female	IIUC_Sawiana
14	2020	Champion	PUC Enigma
		1st runner Up	CU BadToTheBone
		2nd runner Up	CU 413
		Best Female	IIUC_Asarat



8th IIUC Inter-University Computer Programming Contest, 2011

The 8th Inter-University Computer Programming Contest with the participation of 20 groups from different universities took place on May 20, 2011, as part of the IBBL IIUC IT Fest 2011 at the Permanent Campus of IIUC. CUET ICON consisting of the members Md. Rajib Hossain, Akkas Uddin Haque and Hussain Md. Mehedul Islam became the champion team of the contest by solving four problems. The 2nd and 3rd position was secured by IIUC Stubbornz (Shayhan Ameen Chy, Tafhim Ul Islam, Rakibul Hasan) and CUET Ultraviolet (Md. Shamsuddin, Golam Majid, Md. Emdadul Hoque) respectively. IIUC Fireflies (Farhana Akhter, Nusrat Sharmin, Shamshad Akhter) became the Best Female Team.

9th IIUC Inter-University Computer Programming Contest, 2012

The 9th IIUC Inter University Programming Contest was finished successfully on November 29, 2012. A total of 27 teams participated in the contest. Five Universities of Chittagong came to join the program. It was inaugurated by honorable Vice-Chancellor of International Islamic University Chittagong, Dr. A. K. M. Azharul Islam. With tiresome participation of five hours, CUET Not Found won the Champion's Trophy. CUET Somikoron and CUET Last Chance secured the 1st and 2nd Runner Up positions, respectively. Best Female Team award went to IIUC Youth Pearls. Honorable Vice-Chancellor of International Islamic University Chittagong, Dr. A. K. M. Azharul Islam distributed trophy to the winners. The problem set of this contest was organized by Shahriar Manzoor, Judge, ACM ICPC. The contest was directed by Mr. Mohhammed Shamsul Alam, Associate Professor, Department of Computer Science and Engineering of IIUC. The judging Director was Taskeed Jabid, EWU. Judges were Farhana Haider, IIUC, Kazi Ashrafuzzaman, CU, Md. Azher Uddin, IIUC and Obaidul Kader, EAS. An online version of this contest will be held on December 5 at the UVA site.

10th IIUC Inter-University Computer Programming Contest, 2013

The acting Pro-Vice-Chancellor of International Islamic University Chittagong (IIUC) Professor Dr. R. I. Molla formally inaugurated the 10th IIUC Inter University Programming Contest organized by the Department of CSE of IIUC on November 23, 2013, Saturday. Head of the Department of CSE Md. Monirul Islam presided over the opening ceremony. Among others, Associate Professor of the department and the Contest Director Mohammed Shamsul Alam gave a speech on occasion.

While addressing the audience, Professor Molla said that knowledge should be acquired for society's welfare, and it should be dedicated to the welfare of humanity. He also said the society of these days is a knowledge-based society. To become competitive with the developed world in this age of globalization, there is no alternative but to acquire technological knowledge. He expressed his satisfaction that the contest has created an opportunity to bring promising future technologists and scientists together. The spirit of the contest is to show the courage to participate and compete, he added.

In keeping with the Department of CSE's tradition in arranging Inter University Programming Contest continuously in the past few years, this tenth instance of the contest was participated by 24 teams representing six universities from Chittagong region. CUET Ultraviolet (Golam Mazid, Sumsuddin Shojib, Sanjidul Hoque), CUET Dynamic (Rabiul Hasan Ronok, Sowmen Biswas, Osman Goni) from Chittagong University of Engineering and Technology became the Champions and the second position while CU Super Saint (Adib Ahmed, Anamul Kabir, Mahim Ul Asad) of the University of Chittagong grasped the third position. IIUC Youth Pearls (Nusrat Jahan, Jesmeen Jesmeen, Zubaida Sultana) was the best among the female teams. The judges of this contest were Tanveer Ahsan, Md. Azher Uddin and Shayhan Ameen Chowdhury. Prasenjit Barua LinKin coordinated the big task of problem setting. The prize distribution ceremony took place in the DBA hall in the afternoon. The Chief Guest of the occasion Professor Dr. R. I. Molla, distributed prizes among the winners. Assistant Professor Tanveer Ahsan presented an analysis of the problem set. Contest Director and Associate Professor Mohammed Shamsul Alam declared the final result. An online version of the contest took place in UVa Online Judge on November 26. Over one hundred programmers from around the world participated in this online event.

11th IIUC Inter-University Computer Programming Contest, 2014

In keeping with the Department of CSE's tradition in arranging Inter University Programming Contest continuously in the past years, the eleventh instance of the contest was held on 3rd & 4th December as part of the Tech Fest 2014. This grand event was participated by 25 teams representing seven universities from Chittagong region. Professor Dr. Md. Delawer Hossain, Dean of Faculty of Science and Engineering and Convener of the Organizing Committee of the Tech Fest 2014, formally inaugurated the 11th IIUC Inter University Programming Contest on Thursday, November 27, 2014. Head of the Department of CSE Md. Monirul Islam presided over the Opening Ceremony. Associate Professor of the Depart-

ment and the Contest Director Tanveer Ahsan and Monjur Ul Hasan, Assistant Professor of Chittagong University of Engineering and Technology (CUET), gave a speech on occasion. While addressing the audience, Professor Hossain said no alternative to computer programming to survive in this information age. Programming contest is a place where the students compete to exhibit their skills in programming, and being skillful in Mathematics and Algorithms is a must to become successful in programming contests, he added. It is a place where the participants learn to become self-dependent and patient. He advised the students to apply this knowledge and qualities in practical fields so that they can excel in programming contests and real life. After a long battle of the brain, which extends five hours, CUET Strangers (Jannatul Ferdows, Md. Nure Alam Nahid, Abdul Quayum) from Chittagong University of Engineering and Technology emerged as the Champions. CUET One_1 (Dipta Das, Abdul Kaium, Maruf Tuhin) from the same university secured the second position while IIUC AwlaJhawla (Mohammed Tawsif Khan, Yousha Farokey, Kazi Shoaib Muhammad) of the International Islamic University of Chittagong grasped the third position. CUET SS (SumaiaAkter, Sabera Jamila, Nusrat Jahan) was the best among the female teams. The judges of this contest were Md. Mahadi Hasan, Monjur Ul Hasan, Md. Azher Uddin, Shayhan Ameen Chowdhury, Saifur Rahman, Shamima Akter and Lutfun Nahar. Prasenjit Barua LinKin of BUET coordinated the big task of problem setting. After the contest, the analysis of the problemset was presented by Tanveer Ahsan, Associate Professor of the Department. Associate Professor and Co-Convener of the Organizing Committee of the Tech Fest 2014 Mohammed Shamsul Alam declared the final result. An online version of the contest took place in UVa Online Judge on November 30, where contestants from different countries participated.

12th IIUC Inter-University Computer Programming Contest, 2015

Following the Department of CSE's tradition in arranging Inter University Programming Contest continuously in the past years, the twelfth instance of the contest was held on 9th & 10th December as part of the Tech Fest 2015. This grand event was participated by 30 teams representing five universities from Chittagong region. Professor Dr. Md. Delawer Hossain, Dean of Faculty of Science and Engineering and Convener of the Organizing Committee of the Tech Fest 2015, formally inaugurated the contest. Head of the Department of CSE Dr. Md. Monirul Islam presided over the Opening Ceremony. Among others, Associate Professor of the Department and the Contest Director Tanveer Ahsan gave a speech on occasion. While addressing the audience, Professor

Hossain said no alternative to computer programming to survive in this information age. After a long battle of the brain, which extends for five hours, CUET_IN_STACK from Chittagong University of Engineering and Technology emerged as the Champions. Members of the team were Md. Nure Alam Nahid, Shudipta Sharma, Md. Emruz Hossain with Dr. Md. Moshiul Haque as their Coach. CUET_BLACK_FLAGS from the same university secured the second position while IIUC Serene Fighters of the International Islamic University of Chittagong grasped the third position. CUET_Blessing_in_Disguise from CUET was adjudged as the Best Female Team. Mr. Mohammed Shamsul Alam, Mr. Mohammed Mahadi Hassan, Mr. Shayhan Ameen Chowdhury, Mr. Saifur Rahman of IIUC and Mr. Obaidul Kader of Omni IT acted as the Judge of the contest. Zobayer Hasan of University of Dhaka coordinated the preparation of the Problemset of 12th IIUPC. An analysis of the problemset was presented by Mr. Tanveer Ahsan, Associate Professor of the Department. Co-Convener of the Organizing Committee of the Tech Fest 2015, Mr. Mohammed Shamsul Alam, declared the final result. An online version of the contest took place in UVa Online Judge on December 19, 2015, participated by contestants from different parts of the world.

13th IIUC Inter-University Computer Programming Contest, 2017

Following the Department of CSE's tradition in arranging Inter University Programming Contest continuously in the past years, the 13th instance of the contest was held on 21st and 22nd December as part of the Tech Fest 2017. This grand event was participated by 32 teams representing seven universities from Chittagong region. The universities are International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, Comilla University, Premier University Chittagong, Chittagong Independent University, University of Science and Technology Chittagong. In the contest, there were 11 problems to be solved by each of the participant teams in 5 hours. CUET Kalo_Bonduk (Gazi Yamin Iqbal, Md Iqbal Hafiz, Rabbi Mollah) of Chittagong University of Engineering and Technology became the Champion solving seven problems. IIUC Serene Fighters (Mohammad Sheikh Ghazanfar, Jamil As-ad, Md. Shofiuddin) of International Islamic University Chittagong and PUC Scratch (Sadman Rizwan, Minhajul Islam, Masum Billah) of Premier University Chittagong secured 1st Runner Up and 2nd Runner Up position by solving 6 and 5 problems respectively. IIUC_Sawiana (Mst. Rasheda Akther Urmi, Rithika Chowdhury, Nuren Nafisa) was adjudged as the best female team. A team named CJC_TEAM_1971 (Mamnoon Siam, Mehrajul Islam, Sohaib Bin Musa) compris-

ing of school & college students got a Special Award for their stunning performance by solving six problems. Mohammad Ashraful Islam, Lecturer of Mawlana Bhashani Science & Technology University, coordinated the preparation of the problemset. Tanveer Ahsan, Associate Professor, CSE, was the Contest Director.

14th IIUC Inter-University Computer Programming Contest, 2020

Extending the glory of previous IIUC Inter-University Computer Programming Contests, the event's 14th manifestation was organized on 21st & 22nd January in a lively manner. This event was one of the main attractions of Tech Fest 2020, where 40 teams participated from seven different universities from the Chittagong division. The participating universities are International Islamic University Chittagong, Chittagong University of Engineering and Technology, University of Chittagong, Noakhali University of Science and Technology, BGC Trust University Bangladesh, Chittagong Independent University, East Delta University, Premier University Chittagong. Two renowned college-level programming enthusiastic Institutions, International Olympiad in Informatics (IOI) and Chittagong Junior Coders (CJC), enlightened the event with their presence. The contest held on the renowned online platform "Codemarshal". The participating teams were challenged with 11 problems with a 5 hour time duration. PUC Enigma (Rakibul Hossain, Tamzid Mahmud, Sanjoy Kumar Dhar) became the Champion by solving five problems. CU BadToTheBone (Md. Rashedul Alam Anik, Muhammad Shahriar Alam, Ahasunul Kader Chy), and CU 413 (Abdullah Al Shaad, Omar Faruque, Gazi Mohaimin Iqbal) secured the 2nd & 3rd position respectively. IIUC_Asarat (Nusrat Jahan, Aifa Faruque, Afsana Aziz) was entitled Best Female Team and Team +_+ [IOI] (Mamnoon Siam) consists of a college-level solo participant became the Best Young Team for the outstanding performance of solving five problems.

Conclusion

The impact of programming contests is much more than what is evident at first sight. It has changed the approach we used to take in teaching and learning programming. Students are now true problem solvers, rather than copy-paste programmers. This has made them more competitive on a global scale in getting jobs in the world's largest industries. The Pioneer of this revolution in Bangladesh is ACM ICPC arranged at North South University. In Chittagong, this credit should go to IIUPC, arranged by International Islamic University Chittagong.

In a backdrop where everything is centered around the capital city, arranging IIUPC in 2002 in Chittagong was indeed a bold step. After eighteen years of its journey, IIUPC has set a milestone of becoming the most regularly arranged programming contest in Bangladesh, apart from ACM ICPC Dhaka Regional. It is expected that the journey of IIUPC will continue with greater zeal, and it will become one of the most impactful programming contests in Bangladesh.

Acknowledgement: The authors would like to express special thanks to Mr. Shayhan Ameen Chowdhury, Asst. Professor, CSE, IIUC & Ms. Farzana Tasnim, Asst. Lecturer, CSE, IIUC for their cooperation in preparing the article..

A BRIEF REPORT ON TECH FEST-2020

Prof. Dr. Mohammed Aktar Sayeed
Member Secretary, Tech Fest 2020

Introduction

Tech Fest is a place of sharing knowledge as well as learning about technology by creating a friendly environment at the IIUC campus. The two-day technology festival called "Tech Fest 2020" was organized by the Faculty of Science and Engineering, International Islamic University, Chittagong from January 21 to 22, 2020. All the departments under the Faculty of Science and Engineering have been jointly organizing this program since 2003. As in previous festivals, this instance of the technology festival was jointly organized by the departments under the Faculty of Science and Engineering also. In addition to the inauguration and award ceremonies, twelve events were held in which students from different departments of IIUC and students from other public and private universities in Bangladesh participated. The events were Inter University Programming Contest, Inter University Hackathon Competition, Cyber Gaming Contest, Tech Olympiad, Medicinal Plant Show Competition, Inter University Idea Generation Competition, Inter University Robo Fight Competition, Inter University Poster Presentation Competition, Inter University Project Showcase Competition, Embedded System and Circuit Design Challenge, Mobile Games and Apps Development Competition and Seminar. The number and quality of events has improved day by day. It has enhanced the name and reputation of the university.

Inaugural Ceremony

Inaugural Ceremony of Tech Fest 2020 was held on 21st January 2020 at IIUC central Auditorium. Professor Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor of IIUC graced the Ceremony as the Chief Guest. Professor Dr. Mohammad Shamsul Arefin, Department of CSE of CUET was present as the Guest of Honor. The program was presided over by Professor Dr. Md. Delawer Hossain, Dean of Faculty of Science and Engineering as well as Convener of the Festival. The program began with the recitation from the holy Quran. The welcome speech of the Tech Fest 2020 was given by the Co-convener of the Festival, Professor Mohammed Shamsul

Alam, Department of CSE of International Islamic University Chittagong.

01.Seminar on "Artificial Intelligence, Machine learning and Basic Robotics"

The title of Seminar and Workshop is "Seminar on Artificial Intelligence, Machine learning and Basic Robotics". The key note speaker of this program is Mr. Md. Hafizul Imran, Founder, Bangladesh Robotics Foundation (BRF) and Project manager (Robotics), Daffodil International University (DIU). The chief guest of this program was Professor Mohammad Shamsul Arefin, Advisor, Bangladesh Robotics Foundation (BRF) and Professor, Department of Computer Science & Engineering, CUET. Also, Professor Dr. Md. Delawer Hossain, Convener, Tech Fest 2020 and Dean, Faculty of Science and Engineering, IIUC was the Guest of Honor at the seminar. Engineer Sk. Md. Golam Mostafa, Assistant professor, Electrical and Electronic Engineering, IIUC conducted the program as a President. Around 400 students from IIUC and 26 different universities, educational institute and college were present in this program. The keynote speaker discussed details about Artificial Intelligence, Machine learning and Basic Robotics shared his experiences. Also he showed two

"Alpha E-Robot" and its performance. He advised the students to build up their career in this emerging field and serve the nation as a productive engineer. The president of this program Engineer Sk. Md. Golam Mostafa told the students to enquire knowledge in this vast field and advised to apply for final year thesis. He gave special thanks to Engineer Md. Razu Ahmed, Coordinator, Department of Computer and Communication Engineering, International Islamic University Chittagong, Bangladesh, Engineer Md. Shahidullah, Assistant Professor, Department of Electrical & Electronic Engineering (EEE), IIUC, invited guests and students to ornate the program and make it successful.

Name of University/College	Dept.	Participant
Chattogram Cantonment Public College	Science	1
Chattogram Government Model School & College	Science	1
CIET-Chittagong Institute of Engineering & Technology	CSE	13
Chittagong University	N/A	1
FENI POLYTECHNIC INSTITUTE	CSE	2
Port City International University	CSE	3
Premier University	CSE	3
Shyamoli Ideal Polytechnic Institute	CSE	1
Southern medical college and hospital	N/A	1
		Total- 26

International Islamic University Chittagong			
MALE	**No**	**FEMALE**	**No**
CSE	19	CSE	30
EEE	205	EEE	63
ETE	6	Other	5
CCE	46		
Total- 374			

02. Inter-University Computer Programming Contest

The most awaited and prestigious event of IIUC Tech Fest 2020 was 14th IIUC Inter University Programming Contest held on 21-22 January 2020 from 9.00 am to 2.00 pm. Extending the glory of previous IIUC Inter-University Computer Programming Contests the 14th manifestation of the event was organized in a joyful manner. This event was one of the main attractions of Tech Fest 2020, where 40 teams of about 120 participants from nine different universities from Chittagong region participated. Each team consisted of three members. The participating universities are International Islamic University Chittagong (IIUC), Chittagong University of Engineering and Technology (CUET), University of Chittagong (CU), Premier University Chittagong (PUC), Chittagong Independent University (CIU), University of Science and Technology Chittagong (USTC), Noakhali Science and Technology University (NSTU), East Delta University (EDU), BGC Trust University Bangladesh (BGCTUB). Two renowned college-level programming enthusiastic Institutions, International Olympiad in Informatics (IOI) and Chittagong Junior Coders (CJC) enlightened the event with their presence. For the first time in this event, the organizer introduced an online contest platform "Codemarshal" instead of the traditional LAN based Programming Contest Control (PC^2) system, which greatly smoothened the programming experiences of the participants.

IIUC Programming Contest 2020 Rank list

Rank	Team Name	University Name	Problem Solved	Total Time
Champion	PUC Enigma	Premier University Chittagong	5	436
1st Runner-up	CU BadToTheBone	University of Chittagong	5	451
2nd Runner-up	CU 413	University of Chittagong	5	452
4th	CUET_Augnee	Chittagong University of Engineering and Technology	4	189
5th	IIUC_InsideOut	International Islamic University Chittagong	4	454

The participating teams were challenged with 11 problems with a 5 hour time duration. The programming contest started with a bang as Team CU-413 solved the first problem within ten minutes. The final rank list of the 14th IIUC Inter-University Computer Programming Contests in enlisted below. PUC Enigma became the Champion by solving five problems. IIUC_Asarat was entitled Best Female Team and Team +_+ [IOI] consist of a college level solo participant became the Best Young Team for the outstanding performance of solving five problems. Prof. Mohammed Shamsul Alam, Mr. Tanveer Ahsan, Mr. Jamil As-ad were acting as judges for evaluating the competition. Mr. Tanveer Ahsan, Associate Professor, CSE was the convener of this contest. Mr. Shayhan Ameen Chowdhury declared the final result.

03.Medicinal Plant Show Competition

IIUC has been organizing "Tech Fest" in every other year to promote and encourage the ideas and innovation among the young next generation of the country. On 21-22nd January 2020, it was for the third time this science and technology fest took place in the scenic campus of the University in Kumira, Chattogram. One of the green and lucrative events of Tech Fest is Intra-university Medicinal Plant Show Competition. This year's theme was "keep close to nature's heart." The show placed on the ground of the Medicinal Garden of Department of Pharmacy on the second day of the Tech Fest. A total of 20 teams have participated in two separate sections for male and female with ten teams in each section. Each team had four members. All participating teams were from of Department of Pharmacy, IIUC. In the competition, participants showed the importance and value of the common and some rare plants around us. They emphasized on the medicinal activity of the plants and their traditional uses and available scientific reports. Dr. M. Atiar Rahman, Professor of Biochemistry and Molecular Biology, University of Chittagong, and Mr. Mohammad Abu Sayeed, Associate Professor of Pharmacy, IIUC, were acting as judges for evaluating the competition. Both the judges are renowned researchers in the field of ethno pharmacology and natural product chemistry and have published a number of research articles on the field.

The champion and runner-up teams were evaluated based on their ideas, ethno pharmacological uses, and feasibility of implementation as therapeutics, impact, and presentation by the participants. The champion teams were Apothecaries (male: Arif Hossain, F.M. Saif Al Hasan Rahid, Mohammad Sifat Foysal, Rabeul Hasan) and Blissful Basil (female: Farhana Ahmed, Farida Yesmin, Shahin Islam, Tanzina Akhter), and runner-up teams were Cryptic-26 (male: Abdullah Al Minhaz, Asadul Karim, Humayun Rashid Shakil, Riaz Uddin Riaz) Pudina's Garden (female: FarzanaAkhter, Nahid Akter, Nasrin Sultana, TabiaKadirDipti). The show gathered hundreds of visitors curious about the medic inal plants within their locality and reach. Notable visitors were honorable-Chairman of Board of Trustees Mr. A.N.M. Shamsul Islam, Pro Vice-Chancellor of IIUC Professor Dr. Mohammad Ali Azadi, Dean of FSE Professor Dr. Md. Delawer Hossain, Registrar Colonel Md. Quasem, faculty members, other employees, and students from different universities also enjoyed the show. Notable guests highly appreciated the sincere participation of the students and the show organizing committee's efforts to make the event successful within a very schedule. The show was ended with a prize-giving ceremony in the IIUC Central Auditorium.

04.Idea Generation Competition

Inter-University Idea Generation is the creative process of generating, developing and communicating new ideas, where an idea is understood as a basic element of thought that can be visual, concrete, or abstract. The process includes the process of constructing through the idea, innovating the concept, developing the process, and bringing the concept to reality. It's follows a systematic approach that is often supported by an inn ovation process or a continuous improvement process. With this aim in mind, Idea Generation Competition was arranged and held with a slogan "Ideas come from everything" in IIUC Tech Fest 2020, where 85 participants in 30 groups both male and female were participated from six departments. The final Round was held on January 21, 2020 in the IIUC Auditorium. The Projects were judged by a team of four judges comprising of Engineer Md. Yasir Arafat, Assistant Professor, Department of Electrical & Electronic Engineering, Mr. Md. Ibrahim, Department of Electronic and Telecommunication Engineering, Mr. Md. Khaliluzzaman, Assistant Professor, Dept. of Computer Science & Engineering, IIUC and Syed Mohammed Tareq, Assistant Professor, Department of Pharmacy, IIUC. Mr. Syed Md. Tareq, Assistant Professor, Department of Pharmacy was the convener of this event. The team named "Origin" (male section) from the Dept. of CCE, IIUC and the team "Green Code (female section) of the Dept. of CSE became the champion and the teams "Vangari Mama" and "Gravity" from Dept. of CSE, IIUC secured runner up position respectively. Team members of Champion from male section were Md. Mahdee Hasan, Md. Sanjid Alvi Siam, and Kazi Tanvir and from female section were Afreena Alam, Rezwana Karim, Nargis Akter respectively.

05.Inter-University Robo-Fight Competition

A total of 7 teams, consisting of 5 students per team, participated in the "Megawatt Power limited Inter-University Robo-Fight Competition-2020". Among the seven groups, one group have competed from USTC, one from AIUB and the rest of the teams were from IIUC. The event took place at the central auditorium on January 22, 2020, from 9 AM to 3 PM. Honorable Pro Vice-Chancellor of IIUC Professor Dr. Mohammad Ali Azadi, honorable chairman of BoT Mr. A.N.M. Shamsul Islam, honorable chairman of finance committee Prof. Ahsanullah Bhuiyan, honorable dean of FSE Professor Dr. Md. Delawer Hossain, faculty members, male and female students of different departments of IIUC, enjoyed the final round of Robo-Fight Competition.

Mr. Mohammad Woli Ullah (Lecturer, ETE), Mr. Md. Rasheduzzaman (Lecturer, EEE), Engr. Md. Jalal Uddin (Lecturer, EEE), Abdul Baset (Teaching Assistant, EEE),

Sultan Mahmud (Teaching Assistant, EEE), and Mainul Hossen (Outgoing Student, EEE) acted as the judges in the dashing event. Megawatt Power limited, eRevo Technologies limited, Plusnet Communication, and Shaheb Express were the proud full sponsors of the event.

The team named "REDSHAWL" from the Dept. of EEE, IIUC, became the champion. Team members were Md Arafat Bin Zafar, Patwary Rezwan Mahadi, Nazim Uddin Sakib, MdSajjad-Ul Islam, Mohammad Jobayer Hossain, and Abhishak Dhar. Team "Algos_USTC" from USTC secured 1st runner up position, and their team members were Mohammed Monirul Islam, AnimeshDhar, MdMuktadur Rahman Minar, Anjan Das, and Ehsanul Islam Khan. Mohammed Abdul Kader, Assistant Professor, Dept. of EEE, IIUC, was the convener of the event. Embedded System and Robotics Group of EEE Club has supported the organizing committee tremendously to make the event successful.

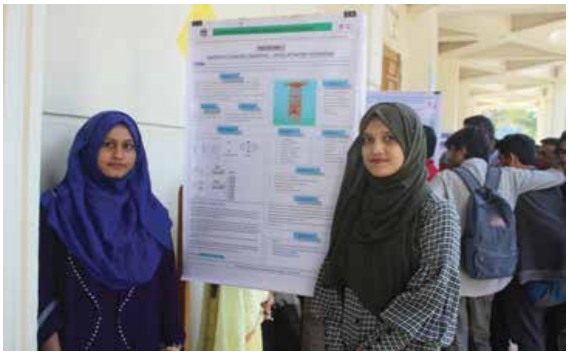
06.Inter-University Poster Presentation Competition

Tech Fest 2020 is the bi-annual Science and Technology festival of Faculty of Science and Engineering, IIUC. It hosts many events where Poster presentation on various ongoing research articles is one of the most prestigious events that have been organized as a part of the festival. About 42 groups from various universities have been registered and participated in the primary selection round of the competition. The primary selection has been accomplished by the respective panel of judges from each department. Among the participated research articles, about 20 articles have been selected for the final round presentation by blind review system. The committee has proposed a predefined format for the final presentation. A total of 20 groups with 40 members presented their engineering research by means of posters in the final competition where 16 groups were from IIUC and 4 Groups was from other universities.

The final contest was held on 22 January, 2020, 11.00 am – 01.00 pm in the lobby of the IIUC Central Auditorium at permanent Campus. A team of 4 judges named Dr. Md. Shafiul Alam, Associate Professor, Dept. of EEE; Dr. Abdul Kader Muhammad Masum, Associate Professor Department of CSE; Mr. Syed Mohammed Tareq, Assistant Professor, Department of Pharmacy and Dr. Mohammad Saifuddin, Lecturer, Department of CCE judged the presented posters.

"Bibi Sara Karim and Nazina Akter" secured the 1st position with poster title "A Waterless Chemical Free sound wave fire extinguisher" where "Afsana Aziz and Tasmin Farid Tonney" obtained the 2nd position and

their project title was Emergency Safety: An IOT based Third Eye for women. The whole event was Coordinated by Dr. Sikder Sunbeam Islam; Associate Professor, Department of EEE, IIUC. A Group of Volunteer of EEE Club Supported to haunt the event successfully. Integrated automation (IaT) was the sponsor of this event.



07. Embedded System & Circuit design Challenge

A total of 8 teams, consisting of 2 students per team, participated in Embedded System Design Challenge. And at the same time total 32 students were participated in Circuit Solution Competition. The event took place at the FSE on January 21, 2020, from 1.30 pm to 4.30 PM. Mr. Md. Abdul Kader, (Assistant Professor, EEE),Mr. Kh. Abdulla Al Mamun (Assistant Professor, EEE), Mr. Jalal Uddin (Lecturer, EEE) Mr. Eftekar Alam (Lecturer, EEE) Mr. Reazul Islam(Lecturer, EEE) acted as the judges in the dashing event. The team named "IF" from the Dept. of EEE, IIUC, became the champion in Embedded System challenges. Team members were Imon Deb Nath and Md. Fakwer Uddin Mazumder. Team "Electro Infinity " from IIUC, EEE secured runner up position in Embedded System challenges and their team members were Nurul Islam and Muhidur Rahman. In circuit solution competition Md. Maharaj Kabir and Mohammed Abu Saleh Musa secured the champion and Runner up position respectively. Md. Rasheduzzaman, Lecturer, Dept. of EEE, IIUC, was the convener of the event.

08. Mobile Games & Apps Development Competition

On January 21, for the first time, the department of CCE organized a tetchiest 2020 event called "Mobile Games & Apps Development Competition". The main objective of this event was to find out the talented students in the field of games and apps development from numerous departments within IIUC. Around sixteen male and female teams (Majority of the teams is from CSE and ETE department) participated in this event and presented their own developed mobile games and apps. The judges (Engr. Razu Ahmed, Engr. MD Jashim Uddin and Engr. MD Jiabul Hoque) assessed all the presented games and apps. According to judges, all the presented apps were creative, innovative, social impactful and awardable. However, in order to obey the rules for the competition, the Judges awarded the apps 'Vangari Mama' as winner and 'Doc Plus - Android Application for Medical Solution' as runner up.

09.Inter-University Project Showcase Competition

Inter university project showcase competition; Tech Fest 2020 is an attractive sub event of IIUC Tech Fest 2020. Fortunately it is a mandatory project carnival of all Tech Fest organized by Faculty of Science and Engineering. Students from different universities come to participate

with their valuable project. The concept of the event is to do engineering for humanity. The project should have an impact on society. In Tech Fest 2020, the event is convened by Engr. Md. Jahsim Uddin , Chairman, Dept. of ETE, IIUC with a significant support from faculty members of different department. Support from IIUC Telecom Club cannot be ignored here.

If we look at the participant list of the final round of the event, then it will justify the event title. There were a good number of participant from University of Chittagong, East Delta University and Port city International University joined in the festive event. Event place was in front of central library which charm a lot of aspirants and tourist as it the door front of the university. Honorable Dean Faculty of Science and Engineering and all university stake holders visited and inspired the event organizer and the participants then.

The colorful event ends with final judgment and prize giving ceremony. The evaluation criteria were the depth of knowledge, social impact, novelty, functional output, communication, cost effectiveness of the project. The opinion and judgments form four experts, the project entitled as ''Smartphone Controlled DC Programmable Power Supply'' led by Safayat Siddiqui, Isfakul Alam Seam and Abdul Kader Minhaz of University of Chittagong obtained 1st position and become champion of the event having behind NaimUddin, Minhajul Islam and Rayhan sadiqe from Department of ETE, IIUC with a project entitled as "Li-Fi". The event ends with colorful prize giving ceremony and special gifts to top ten teams by event organizer.

10. Inter- University Heckathon Competition

The first event of IIUC Tech Fest 2020 was Welcast IIUC Inter-University Hackathon-2020 and it held on 17th-18th January 2020. The event was for 24 hours long. The grand event was organized by the Faculty of Science and Engineering of International Islamic University Chittagong. The topic of the Hackathon was over "Developing an effective digital monitoring tool for the rural road development".

Total 58 groups from consisting of 171 students from various government and private universities attended the event. The opening speech of Hackathon-2020 was delivered by Mr. Shahidul Islam khan Nayeem (Associate Professor of Department of CSE, Senior Vice President of IIUC Computer Club and the Organizing Chair of Welcast Inter-University Hackathon 2020). The Chief Guest of the opening ceremony was the Dean of the Faculty of Science & Engineering, Prof. Dr. Md Delewar Hossain. Special guests were Engr. Abu Jafor Moham-

mad Imran (Lecturer dept of ETE and Member Secretary of Hackathon Organizing Committee) and Engr. Md Iftekhar (Lecturer dept of EEE and member of the organizing committee). The Chair of the grand opening was Mr. Tanveer Ahsan (Associate Professor and Chairman of the Dept of CSE, IIUC). After the inauguration, a title workshop was conducted by the Sales Engineer of Leads and General Secretary of IIUC Computer Club, Mr Iaamanur Rahman.

The judges of Welcast Inter-University Hackathon 2020 were the teachers from different reputed universities and also experts from the different software and tech industries. The judges from the universities were :- Dr. Md Shamshul Arefin (Prof., Dept of CSE, CUET), Dr. Md Sanaullah Chowdhury (Prof., Dept of CSE, CU), Mohammad Mahmudur Rahman (Asst. Prof., Dept of CSE, IIUC), Mohammad Khaliluzzaman (Asst. Prof., Dept of CSE, IIUC),Saihan Amin Chowdhury(Asst. Prof., Dept. of CSE, IIUC).The judges from the industries were:- Engineer Mohammad Toufiqul Islam (Country Director, HONOR Smartphone Bangladesh),Md Mahedee Hasan (MICROSOFT MVP, Leads Senior Software Architect & Manager, LEADS Corp. Ltd.), Engineer Mohammad Arif Hasnain (Chairman, Welcast group), Engineer Arafatur Rahman (Founder & CEO, Binary Image), Md Imran Hossain (Software Eng., Brainstation-23 Ltd.) and Rashid al-Shafi (Software Engineer, Samsung R&D).The judging coordinator was Mr. Shahidul Islam khan Nayeem .

The sponsors of this fascinating event were: Title sponsor- Welcast Group, Platinum sponsor- Leads Corporation Ltd, Gold sponsor- Honor Smartphone Bangladesh. Above all the Technical Supports were given by ITCAP, IIUC Data Science Research Group & IIUC computer club for whom the event was possible to arrange successfully.

11. Intra-University Cyber Gaming Contest

In the Gaming Contest there were three different games, & they were only for Male students. The games were: Need for Speed - Most Wanted, Chess & PUBG. Almost eighty students participated in different games of the Cyber Gaming Contest. In NFS - Most Wanted, the number of participants was twelve and In PUBG, the number of teams was twelve where each team consisted of four members. In Chess, twelve students participate to compete.

Students from all the departments of IIUC participated in the contest. There was no selection round like previous. The gaming competition was held at CN Lab & Room C402 of the new CSE Building right after the inaugural

ceremony of this Tech Fest. Convener of the Cyber Gaming Contest Dr. Abdul Kadar Muhammad Masum, Associate Professor, CSE were present and enjoyed all the game. The executives of IIUC Computer Club worked hard to make this Gaming Competition successful. The champion teams were Moniruddin Moni (CSE), Humayun Kabir Forhad (CSE), Iftekhar Hasan Rifat (CSE), and Emdadul Hoque Ibnul (CSE) and the runner up team were Md. Abrarul Hoque (CCE), Mohammad Abdullah Bin Mohsin (CCE), Wahid Alam (CCE), and Istiak Bin Islam Ifty (LAW) in PUBG. Tanvir Ahmed, CSE was the Champion and Mashiour Rahman Chowdhury,CSE secured runner up position in NFS competition respectively. Md. Hasanul Karim, EEE secured the Champion and Swad Mahmud Ahmed, EEE secured runner up position in Chess competition respectively.

12. Tech Olympiad

In this age of Science and Technology, the devotees of this domain of knowledge are around us without proper appreciation and acknowledgment. In order to find out these hidden talents and give them their proper recognition, motivate them in what they are doing and helping them build their confidence in the field, "Tech Olympiad" is organized as an inseparable part of every edition of "Tech Fest" organized by Faculty of Science and Engineering of International Islamic University Chittagong. Following the trend of the previous two editions, "Tech Olympiad 2020" remains the most popular event in terms of number of participants. However, this year, the number of participants was an overwhelming total of 430. Of them, 315 were male and 115were female. There was a healthy distribution of students from all the departments under Faculty of Science and Engineering (FSE).This is an Intra University event so far, as it becomes difficult to control such a huge number of participants from within the university alone. The competition had separate competition setup and prizes for male and female participants.

The competition initiated with a Preliminary Examination amongst the registered male and female participants on 19th January, 2020. It was held in the Central Auditorium of IIUC in a festive manner due to the huge number of participants in the event. The members of the organizing committee and the team of volunteers from different departments did their best to give the participants a memorable experience. All the participants were gifted with a printed beautiful pen to keep as their memory.

After hard-fought battle, only 22 Male and 21 female participants were selected for the final round. The final round was held in the seminar room of the central auditorium for males and seminar room of the central library for

females on 21st January, 2020. The final round was different from the preliminary round as it not only tested the knowledge of the students, but also tested their ability, quickness of thinking, understanding capability and nervous strength. The students were presented with questions in large screen with one question at a time that they had to answer within specified time in a answer slip following specific guidelines. The time to answer each question was from a mere 10 seconds to 55 seconds. The participants were judged at three levels and at each level; some of the participants were eliminated to finally come up with the winners. After the regular 3 levels, as the winners could not be distinguished because of tie, an exciting tie breaker was arranged. After multiple tie breakers, the winners were selected. The participants enjoyed the competition thoroughly.

After the whole journey, out of 315 male and 115 Female participants, the following Tech Enthusiasts became the winners of the event:

Table 1: Winners of Tech Olympiad 2020

Tech Olympiad 2020 Winners (Male)	
Nishan Shorif - P181022 (Pharmacy)	Champion
Abid Hossain – T181013 (ETE)	Runner-up
Tech Olympiad 2020 Winners (Female)	
KanizFatema – C161247(CSE)	Champion
AtiaBinte Aziz – C171225(CSE)	Runner-up

Muhammad Mostafa Amir Faisal, Assistant Professor, Department of ETE was the convener of the event. He thanked the Female Coordinator of the program, Mrs. Sanjida Sharmin, Lecturer, Department of CSE, the honorable judges and group of volunteers from different departments efficiently led by vibrant Hamdan Bin Jahangir (T171006), student of 6th semester of Department of ETE and presented them with token of appreciation. The event wishes to become an Inter University competition in the upcoming editions. Festival, Professor Mohammed Shamsul Alam, Department of CSE of International Islamic University Chittagong.

Table 2: Judges List

Male Segment	**Female Segment**
Md. Jashim Uddin Assistant Professor, EEE	Mr. Md. Ibrahim Assistant Professor, ETE
Muhammad Mostafa Amir Faisal Assistant Professor, ETE	Mrs. SanjidaSharmin Lecturer, CSE
Abu Zafor Md. Imran Lecturer, ETE	Dr. Md. Saifuddin Lecturer, CCE
Kazi Zeeshan Mahmood Adjunct Lecturer, ETE	Ms. Riniara Khatun Lecturer, Pharmacy

Prize Giving Ceremony

The two days festival was ended with the Prize Giving Ceremony. The Ceremony was held on 22nd January 2020 at 3.00 PM at Central Auditorium. Professor Dr. Mohammad Ali Azadi graced the occasion as the Chief Guest. Professor Ahsanullah Bhuiayan was present at the Ceremony as Special Guest. Their valuable speech and influential character has left a permanent impression on all the students of Science and Engineering. Professor Dr. Md. Delawer Hossain, Convener of the Tech Fest 2020 presided the session. The welcome speech covering the Tech Fest 2020 was given by the Member Secretary of the Festival Professor Dr. Mohammed Aktar Sayeed, Department of Pharmacy of International Islamic University Chittagong. Four clubs of FSE like Computer Club, EEE Club, ETE Club and Pharma Club were actively participated and played a vital role for the success of the Festival. Now we are emotionally waiting for the next Tech Fest 2022.

Conclusion

The students of this university came together for two days and tried to get to know each other, which greatly improved the development of mutual understanding and mutual respect. The special dimension of this festival was how to create a voluntary attitude among the students. Overall, we received a net result of a sense of hard work by our loyal students who were members of various clubs at IIUC, such as the Computer Club. EEE Club, ETE Club and Pharma Club. They were instrumental in making the festival a success.

"মানুষের রাগ আসে শয়তানের প্ররোচনার কারণে, শয়তানের স্পর্শতার কারণে। শয়তান হচ্ছে আগুনের তৈরী, রাগ হল আগুন। এজন্য আগুন নিভানোর জন্য পানি প্রয়োজন। তখন তাকে অযু করা উচিৎ।" (আবু দাউদ: ৪৭৭৯)

Departmental Activities Report (2018-2019)

Tanveer Ahsan
Associate Professor and Chairman
Department of Computer Science and Engineering (CSE)
International Islamic University Chittagong

Introduction

The glorious journey of the Department of CSE of IIUC began in 1995, and its teachers and students have kept its flag flying high with their continuing effort, dedication, and hard work. It has been maintaining its superiority continuously for nearly 25 years, and now the Department of CSE of IIUC is one of the top departments in the Chittagong region.

The year 1995 is a special one in the horizon of higher education in Chittagong. This is the year when the first private university in the Chittagong region, International Islamic University Chittagong (IIUC), was established. The department of Computer Science and Engineering (CSE) was one of the first three departments opened at IIUC in the very beginning. At the time of establishment, the department's name was Computer Science and Technology (CST), which was soon changed to CSE. This department has played a pioneering role as it is the first department offering degrees in CSE in the entire Chittagong region. The challenging journey began under the leadership of Professor Dr. Md. Nurul Islam (CU) as the Coordinator and Dr. Mijanur Rahman as the founding Chairman of the Department. In the first batch, there were only 16 students. In a very short time, the name and fame of this department has spread across the country, and, in no time, it began attracting very bright students from all over the country. IIUC is the first university in Chittagong to have an engineering degree program accredited by the Board of Accreditation for Engineering and Technical Education (BAETE) of the Institute of Engineers Bangladesh (IEB). And this prestigious program is the Bachelor of Science program of the Department of CSE.

A total of 1919 students, of whom 1281 are male and 638 are female, have obtained the B. Sc. in CSE degree from International Islamic University Chittagong so far both from Dhaka and Chittagong campus. Also, 12 students have acquired the M. Sc. in CSE degree. Graduates from CSE, IIUC can be found worldwide in many prestigious positions where they contribute to society

A view of the crowded auditorium of Fresher's Reception of CSE 48th Batch

A view of Farewell Felicitation of CSE 38th batch

Prof. K M Golam Muhiuddin Honorable Vice-Chancellor of IIUC handing over the crest as a token of honor to Md. FATTAHUL ALAM, CTO of NASCENIA LTD.

MoU(memorandum of understanding) signing moment between IIUC and LEADS Corporation LTD

Prof. Dr. Md Delawer Hossain,Dean,FSE and Prof. Shamsul Alam hand overing crest as a piece of honor to Shaikh A. Wahid MD and CEO of LAED's corporation

MoU(memorandum of understanding) signing moment between IIUC and DEVNET LTD.

and humanity with their utmost dedication. At the beginning of 2020, the 50th batch of students enrolled in this much sought after department by a very competitive admission test.

Strength of the CSE Department at present

1. Number of Students currently enrolled = 1,332 (Undergraduate)&28 (Masters)
2. Number of Graduates to date =1919 (B. Sc.) & 12 (M. Sc.)
3. B. Sc. in CSE of IIUC is the first IEB accredited Engineering program in Chittagong and in IIUC as well.
4. B. Sc. in CSE is the most sought after undergraduate program in IIUC as per Admission Test data.
5. Department of CSE runs the only Masters program (M. Sc. in CSE) of Science &Engineering faculty of IIUC.
6. Faculty members of CSE consistently contribute to the publication of high-quality research articles to a great extent in numerous indexed journals and conferences.
7. We have some outstanding achievements in Programming Contests and other competitive programming contests like the App Development contest. We have got the experience of beating top universities in Bangladesh in the past and recent years.

Current Number of Teachers and Students (Autumn 2019 Session)

Number of Students		Number of Teachers		Teacher-Student Ratio
Male	Female	Regular	Guest	
765	567	41	54	1:14

Co-Curricular Activities:
The Department of CSE is one of the most vibrant departments of IIUC, full of curricular and extracurricular activities aimed at developing the students and making them competitive for facing the challenges of the ever-changing world scenario where technology is one of the major driving forces.

Activities that are beyond subject knowledge help students to develop moral values and practical skills. In the long run, it helps them to cherish their life. The Department of CSE, IIUC, always arranges many co-curricular activities for boosting the students.

Computer Club: Computer club is such an essential part of the Department of CSE, IIUC that acts as the source of most co-curricular activities. The active participation of the students in each activity helps to build up leadership among the club members. A working body of computer club consists of different semester's students supervised by selected faculty members. Programming Contest, Hackathon competition, Programming workshop, Seminars, Fundraising for different social work, Cultural events etc. are done by this club.

Research-Based Activities: Research area of CSE is growing very effectively as this sector has gotten much priority by this department's working head. Students are encouraged to do research work to enlarge their thinking power. ICISET 2018- International Conference on Innovations in Science, Engineering and Technology helped the students know about many new research topics by attending the seminars of speakers worldwide. Many students from IIUC and across the globe participated in this conference. Besides this, many papers, articles, and journals are published by the CSE department students.

CSE Day & CSE Fest: Each year CSE Day is celebrated with the opening of many kinds of competitions like Programming Contest, IT Quiz, Poster Presentation, Photography Competition, Art Competition etc. In 2019 CSE Day was extended as CSE FEST, where a two-day long program was arranged for CSE students to showcase their talents in many competitions like Programming Contest, Web Development Contest, Idea Generation Competition etc.

Industrial Training Arranged by ITCAP: Industrial Training, Collaboration, Placement, and Accreditation Committee-ITCAP is dynamically heading towards success by ensuring industrial training and job placement of the upcoming graduates of CSE. Guidelines from the industry experts are giving the students to set their planning to land in their dream job by making a chain of connection with the seniors. Many students got

A view of CSE Fest2019 Programming Contest

A view of CSE Fest 2019 Rally

A view of the celebration of CSE'2018 Day

A view of Industrial Workshop on Web Application Development with Ruby on Rails (Nascenia)

A view of LEADS Tech Summit & Career Bootcamp Workshop

A view of the IIUC Intra University Programming Contest Workshop Spring-2019

The winner from CSE-IIUC receiving crest of 10th National Undergraduate Math Olympiad 2018

The winner from CSE-IIUC receiving crest of 10th National Undergraduate Math Olympiad 2018

the job from on-campus job recruitment, and many of them got opportunities for both paid and unpaid internships in various industries. Industrial workshop on UI/UX development, Industrial workshop on web development, Industrial seminar on software Quality assurance and web security, Industrial Workshop on web development with ruby on rail, SCITP Industrial Workshop, and Seminar, LEADS Tech Summit & Career Bootcamp Workshop, Two-Day long Industrial Workshop & Collocated Seminar (DevNet), Two-Day long Industrial Workshop & Career Seminar about Web Application Development with Ruby on Rails (Nascenia) -this is some example of the effort of ITCAP.

Seminars & Workshops: Seminar and workshop on various topics are arranged regularly to skill up the students. Research-based workshops by research experts are specially organized for senior semester students. Technical workshop on enterprise application development with ASP.net MVC—Leads corporation, Microsoft Experts, Debate Workshop – 2018, Seminar on Sustainable development on big data analysis and safe Internet, Robi-BDapps workshop was arranged for making the students expert in these fields.

Programming Contest & Training: Competitive programming is cherished to a large extent in IIUC. Many workshops and training programs are arranged for making the students ready for the national level contest. BDOSN Scratch Boot Camp was organized for children from different schools of Chittagong to make them introduce scratch programming.

Math Olympiad

Math Olympiad is a platform for students to showcase their skills and talent. Math Olympiad helps students to improve logical reasoning, analytical thinking and their aptitude. It improves the students' problem solving ability and challenges them to think analytically. This Olympiad tests students' skills and knowledge of specific subjects to prepare them for future competitive exams. We still can't show our students the happy world of math! Those who take part in the Math Olympiad have at least been able to peek into this mysterious, enjoyable world. With this goal in mind, the Math Olympiad is held every year in the CSE Department. IUC CSE Students continue their success in the divisional and national Mathematics Olympiad. Intra Department Math Olympiad was held on December 12, 2018; where about 100 students participated in the program. Mr. Sa-ad Mahmud CSE, IIUC (C161022) achieved 6th position out of 132 participants in 11th national undergraduate math Olympiad 2019 (Chittagong region) held on November 08, 2019. He was selected for the final round to be held in

Dhaka. In addition, CSE, IIUC achieved 4th (Mr. Sa-ad Mahmud, C161022) and 6th (Sadia Alam, C163204) position out of 145 participants in 10th national under-graduate math Olympiad 2018 held on November 30, 2018 in Chittagong University. They were selected for the final round to be held in Dhaka.

Cultural Activities: Cultural activities refresh the mind of the students every year. Falgun Utshob – 2018 is an excellent example of cultural activities. Every year many other cultural functions are arranged in events like Fresher's Reception & Orientation, Farewell Program.

Social Work: Winter cloth distribution, Blood donation, Food distribution among Casualties, Fundraising for ill people, helping poor people in Ramadan are some good examples of social work of the students of CSE.

Islamization committee

The department has a unit that organizes various programs for moral development based on Islamic values among students, teachers, staff and the environment. The program includes Iftar mahfil, discussion program, seminar, eid reunion, workshop etc. Where eminent Islamic scholars give lectures and exchange views with the audience.

Dr. Md. Mostafa Kamil delivering his speech about the importance and teachings of holy Ramadan in building self-purification on 21st May, 2018

Dr. Md. Lutfur Rahman Al-Azhari delivering his speech about the historical significance of Holy Ramadan among different communities held on 3rd June, 2018

Serial No	Date of the Program	Name of the program	The chief guest of the program	Objectives of the Program
1.	12-01-2018	Science Olympiad 2018	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To collaborate with Bangladesh Science Academy through Science Olympiad.
2.	01-02-2018	Farewell of 36th Batch	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To give farewell to CSE 36th batch
3.	13-02-2018	Falgun Utshob – 2018	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To arrange a funfair on the first day of Bengali last month
4.	04-04-2018	The orientation of CSE 46th batch	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To provide a guideline for the new journey of freshers.
5.	07-04-2018	Fresher's Reception of 46th Batch	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To welcome the 46th batch
6.	18-04-2018	Discussion Program entitled *" Isra and Miraz":* the perspective of Science and Islam	Prof. Dr. BM. Mofizur Rahman	A small effort to enrich the field of knowledge acquisition
7.	21-05-2018	Discussion Program entitled *"The role of Ramadan in building a crime and corruption free society" [For students]*	Dr. Mostofa Kamil Dr. Ali Hussain	To learn about the role of self-control in building a prosperous society

8.	24-05-2018	Discussion Program entitled "*The importance and teachings of Holy Ramadan"[Female section]*	Dr. Lutfar Rahman	To know about the importance and teachings of holy Ramadan in building self-purification
9.	03-06-2018	Discussion Program entitled "*The historical significance of Holy Ramadan among different communities" [Male section]*	Dr. Lutfar Rahman	Knowing the historical significance of Holy Ramadan among different communities
10.	4-6-2018 & 5-6-2018	Industrial workshop on UI/UX development	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
11.	05-06-2018 & 06-06-2018	Industrial workshop on web development	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
12.	11-06-2018 & 12-06-2018	Technical workshop on enterprise application development with ASP.net MVC—Leads corporation, Microsoft Experts	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, which can be their future workplace.
13.	13-06-2018	Debate Workshop – 2018	Prof. Dr. Md. Delawer Hossain Dean, Faculty of Science and Engineering, IIUC	To train up participants for debate and to build a team for Inter Dept. debate workshop.
14.	14-07-2018	4th Convocation	Mr. Nurul Islam Nahid, Honorable the then Minister, Ministry of Education, Government of the People's Republic of Bangladesh	To certify the CSE graduate students.
15.	23-07-2018	Seminar on Sustainable development on big data analysis and safe Internet	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
16.	25-07-2018	CSE Day	Prof. Dr. Md. Delawer Hossain Dean, Faculty of Science and Engineering, IIUC	To celebrate the 16th anniversary of the computer club.
17.	27-10-2018 & 28-10-2018	ICISET 2018	Prof. Dr. M. Kaykobad, BUET	To organize an international conference on innovations in science, engineering and technology
18.	4-12-2018	Farewell of 37th Batch	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To give farewell to CSE 37th batch
19.	08-12-2018	Industrial seminar on software Quality assurance and web security	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
20.	8-12-2018 & 9-12-2018	Industrial Workshop on web development with ruby on rail	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.

21.	12-12-2018	Intra-Department Math Olympiad	Dr. A.N.M. Rezaul Karim Convener Math Olympiad Committee, CSE, IIUC	Math Olympiad help students to enhance their arithmetic and logical skills and at the same time it give them a sense of competition. It helps them prepare for the upcoming competitions.
22.	20-02-2019	Programming Workshop		To enrich programming knowledge.
23.	16-03-2019	Programming Contest	Professor Dr. Mohammad Ali Azadi Pro Vice-Chancellor, IIUC	To prove students with the problem-solving skill
24.	24-04-2019	Fresher's Reception of CSE 48th Batch	Professor Dr. Mohammad Ali Azadi Pro Vice-Chancellor, IIUC	To receive the fresher's cordially and discuss the journey of Engineering.
25.	27-04-2019	Farewell Felicitation and Career Counseling-CSE 38th Batch	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	Giving final greetings and positively hoping for their upcoming future.
26.	08-05-2019	IIUC Intra-University Programming Contest		To check out the problem-solving skill, build a national level contestant and cherish their achievement.
27.	14-06-2019 & 15-06-2019	SCITP Industrial Workshop and Seminar		To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
28.	03-07-2019	Robi-BDapps workshop		To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
29.	24-07-2019	Grace Hopper Girls Programming Camp		To build up potential problem-solving contestants as a beginner.
30.	24-07-2019	Hands-on IoT workshop		To introduce the upcoming graduates to the essence of the industry, which can be their future workplace.
31.	08-08-2019	Alumni Reunion 2019	Professor Dr. Mohammad Ali Azadi Pro Vice-Chancellor, IIUC	To build communication among alumni and current students.
32.	27-08-2019 & 28-08-2019	CSE FEST 2019	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To encourage innovative technologies.
33.	21-09-2019	Farewell 39th Batch (Male)	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	Giving final greetings and positively hoping for their upcoming future.
34.	28-10-2019	Fresher's reception of CSE 49th Batch(Male)		To receive the fresher's cordially and discussing about the journey of Engineering
35.	30-10-2019	Fresher's reception of CSE 49th Batch and Farewell Felicitation of CSE 39th batch(Female)	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To receive the fresher's cordially by discussing the Engineer's journey and giving a final greeting to the outgoing and positively hoping for their upcoming future.
36.	08-11-2019 & 09-11-2019	LEADS Tech Summit & Career Bootcamp Workshop	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, this can be their future workplace.
37.	15-11-2019 & 16-11-2019	Two-Day long Industrial Workshop & Collocated Seminar (DevNet)	Professor Dr. Mohammad Ali Azadi Pro Vice-Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, which can be their future workplace.

38.	14-12-2019 & 15-12-2019	Two-Day long Industrial Workshop & Career Seminar about Web Application Development with Ruby on Rails (Nascenia)	Professor K. M Golam Muhiuddin Vice Chancellor, IIUC	To introduce the upcoming graduates to the essence of the industry, which can be their future workplace.
39.	27-12-2019 & 28-12-2019	Scratch Boot Camp	Professor Dr. Mohammad Ali Azadi Pro Vice-Chancellor, IIUC	To build up a problem solver from a very early age.
40.	31-12-2019	Seminar on Global Engineering and Career Roadmap to Japan		To enrich engineering globally.

Fragment images of different Programs

Prof. K M Golam Muhiuddin the Honorable VC of IIUC delivering speech in the prize-giving ceremony of CSE FEST 2019

Prof. Dr. Mohammad Ali Azadi, the honorable Pro Vice Chancellor giving speech in Inaugural Ceremony of CSE FEST 2019

A view of Inaugural Ceremony of CSE FEST 2019

Champion of Idea Generation receiving prize from Prof. K M Golam Muhiuddin Hon'ble Vice-Chancellor of IIUC

"রাসূলুল্লাহ (সা:) বলেছেন, কেউ যদি চায় তার রুযি প্রশস্ত হোক, আয়ু বৃদ্ধি হোক তাহলে সে যেন তার আত্মীয়তার সম্পর্ক অক্ষুন্ন রাখে।" (বুখারী ২০৬৭, মুসলিম ২৫৫৭)

A view of Hands-on IoT workshop conducted by BDOSN

The female winners of CSE Fest 2019

The male winners of the CSE Fest 2019

The winners of CSE FEST 2019 football tournament receiving prize from Prof. K M Golam Muhiuddin, Honorable VC of IIUC

A view of indoor Game Chess Competition in CSE FEST 2019

A crest as a piece of honor is given to Md. Emran Hasan, CTO of DEVNET LTD.

A view of the Software Development Bootcamp BY Devnet

The winners of Intra -University Programming Contest Autumn-2018

The champion of Chess Competition of CSE FEST 2019 receiving prize from the Prof. K M Golam Muhiuddin, Honorable VC of IIUC

The Honorable VC of IIUC Prof. K M Golam Muhiuddin giving prize to the champion of NFS(Indore Game) in CSE FEST 2019

The Honorable VC of IIUC Prof. K M Golam Muhiuddin giving prize to the champion of Web in CSE FEST 2019

The Honorable VC of IIUC Prof. K M Golam Muhiuddin giving prize to BestGoal keeper of the CSE Fest Football Tournament

Prof. Dr. Mohammad Ali Azadi the Honorable Pro Vice-Chancellor is giving prize to Nahian Fariha winner of Logo Competition

Prof. Dr. Mohammad Ali Azadi the Honorable Pro Vice-Chancellor is giving prize to the winner of Programming Contest Senior level

Team “IIUC_Golden-trio” receiving the prize of best female of “USTC Inter-University Programming Contest”

Mohammad Raihan Uddin receiving prize of 2ndrunner of “AUW Individual Debugging Competition”

Team "IIUC Brotherhood" receiving the prize of 1strunner Up of "BDApps Innovation Hackathon 2018"

The winners of the CSE Fest Football Tournament

A view of Farewell Felicitation of CSE 39th batch

A view of the 16thyears Celebration Rally of CSE on CSE'2018 Day

The winner Mr. Sa-ad Mahmud CSE, IIUC (C161022) receiving crest of 11th National Undergraduate Math Olympiad held on November 08, 2019

A view of opening the ceremony of"Falgun UThshov-2018"

A view of the participants of the Scratch Boot Camp

Scratch Boot Camp Participant receiving Certificate from the Honorable Pro Vice-Chancellor Prof. Dr. Mohammad Ali Azadi of IIUC

A partial view of the achievement and status of IIUC CSE alumni

A very good number of alumni of IIUC CSE have a reputation in both academia and industry. Below is a short list of them

1. Prof. Dr. Md. Sanaullah Chowdhury, Professor, Dept. of Computer Science & Engineering, University of Chittagong
2. Mustagis Billah - Professor and Head, Department of Computer Science and Mathematics, Bangladesh Agricultural University
3. Dr. Arafat Rahman, Associate Professor, Faculty of Computer Systems & Software Engineering, University Malaysia Pahang
4. Md. Ariful Hasan Shadhon, Senior System Analyst, Biman Bangladesh Airlines
5. S M Tanver Hassan, Senior Vice President, Management Information System, IBBL
6. Dr. Zia Uddin - Ex Assistant Professor, Sungkyunkwan University, South Korea, (currently a research scien tist in Software and Service Innovation Group, SINTEF Digital, Oslo, Norway)
7. Dr. Md ZakirulAlam Bhuiyan, SMIEEE, Assistant Professor, Department of Computer and Information Sciences, Fordham University, New York, USA
8. Dr. Md Liakat Ali, Assistant Professor of Computer Science (Tenure-track), Rider University, New Jersey, USA
9. Dr. Shayla Islam, Assistant Professor at UCSI University, Malaysia
10. Dr. Mohammad Shan-A-Khuda, Lecturer, School of Built Environment, Engineering and Computing, Leeds Beckett University, UK
11. Dr. HijbulAlam – Former Faculty of Natural Sciences, University of Tampere, currently Software Engineer, Tecnotree, Tampere, Finland
12. Dr. Kamanashis Biswas, Lecturer in Information Technology, Australian Catholic University, Fitzroy, Australia.
13. Dr. Md Moinul Hossain, Lecturer in Electronic Engineering, University of Kent, England
14. Mohammad Mahadi Hassan, Associate Professor & Former Chairman, Department of Computer Science and Engineering, IIUC
15. Dr. Md. Shakowat Zaman Sarker, Associate Professor and Chairman, Department of Electrical and Electron ic Engineering in the Uttara University, Bangladesh
16. Md. Ashraful Islam, Associate Professor, Dean, School of Engineering, University of South Asia
17. Dr. Md. Abdul Kadar Muhammad Masum, Associate Professor, Department of Computer Science and Engineering, IIUC
18. Md. Shahnur Azad Chowdhury, Associate Professor, Department of Business Administration, IIUC
19. Dr. Shahera Hossain, Assistant Professor, CSE, University of Asia Pacific
20. Dr. Mohammad Azam Khan, Ex- Postdoctoral Researcher, KAIST, Daejeon, South Korea. Current- Execu tive Engineer, Dhaka Power Distribution Company Limited (DPDC), Bangladesh
21. Dr. Mohammad Amanul Islam, Ph.D. from Xidian University, Xi'an, Shaanxi, China
22. Dr. Muhammad Towfiqur Rahman, PhD from Monash University, Australia
23. Feroz Ahmed Siddiky – Developer of the first humanoid robot in Bangladesh, Former Faculty of United International University
24. Yeasin Arafat, Senior Software Developer, United Nations, New York, USA
25. Mohammed Humayun Kabir, Senior System Analyst, AGM, ICT Department, Rajshahi Krishi Unnayan Bank
26. Md. Mahabubul Hasan Masud, Full Stack Engineer at Apple Inc., Cupertino, California, USA
27. Farhana Haider, Advisory Software Developer at IBM, Markham, Ontario, Canada
28. Aftab Ahmed Mostofa, Chief Technical Consultant, Offshore R&D, and Innovation Labo, BJIT Japan & BJIT U.S.A.
29. Mahmud Hasan, Founder of iThinkdiff.net. Lead iOS Software Engineer at Mefluence, Malaysia
30. Rajib Hasan, Software Engineer, Tech Loge, London, United Kingdom. Former Head of News at NTV Europe
31. Md Taher, Managing director, Ryo international Japan
32. Md. Shofiqul Islam, Business Development Manager at Dream Prospects Ltd London, England, United Kingdom. Business Development Consultant, Dream Tourism S.r.l.s Freelance, Rome Area, Italy

33. Mazadul Hoque, Co-Founder & Managing Partner Vine Technologies, Dhaka, Bangladesh. Former Technical Solutions Manager, E Zone Technologies, Dubai, United Arab Emirates, Former MIS Manager, Twin MOS, Dubai, UAE
34. Md. Erfanul Hoque, Vice President of Artificial Intelligence, Research, and Development at TigerIT Bangladesh Ltd.
35. Atiquzzaman Setu, KAZ Software Ltd. and KAZ Software
36. Muhammad Toufiqul Islam, Managing Director at Aisidi.Com.BD Limited, Country Director at Honor Bangladesh, and Managing Director at Creative Mango
37. Mahedee Hasan, Microsoft MVP, Head of Software Development, ASAI Management Services Ltd
38. Liakat Ali Bhuiyan, Deputy Director & Head of IT Department at Walton Hi-Tech Industries Limited
39. RashedulMazid, Managing Director, Raise IT Solutions Ltd., Founder & CEO at RITS Browser, Founder & CEO at A2z Comparison and Co-Chairman at BASIS
40. Faisal Ahmad, PMP, CSM, CSPO Global ICT & Digital Transformation Professional, General Manager - Digital Ventures | Digital Services at Robi Axiata Limited
41. K M Iftekhar, Chief Executive Officer at Crony Trade International, Chief Executive Officer at Payment BD
42. Md. Ismail, AVP & Sr. Manager at BRAC IT Services
43. Tanvir Shahriar Rimon - CEO at RANKS FC Properties Ltd.
44. Md. Nurul Huda, Managing Director, Icon Group
45. Major Masud Rahman, Bangladesh Army
46. Mohammed Maher, Managing Director, shodesh fish &Agro, Managing Director at Mahruz International
47. Arafater Rahman - CEO, Binary Image
48. Fuad Bin Mostafiz, Sub Editor at Pages 360, Sub-Editor at The Pages, and Chief executive officer at Forever Technology
49. Engr.Jabed Iqbal, Chief Instructor, Dept. of Computer Technology, Cox's Bazar Polytechnic Institute
50. Engr. Abul Kalam Azad, Chief Instructor, Dept. of Computer Technology, Chittagong Mohila Polytechnic Institute
51. Engr Salam Chowdhury, Chief Instructor, Chittagong Polytechnic Institute, Nasirabad, Chittagong.
52. Enrg. A.F.M. Mizanur Rahman, Chief Instructor, Dept. of Computer Technology, Shariatpur Polytechnic Institute
53. Engr. Md Shafiqur Rahman, First Assistant Vice President, Head office, Trust Bank Limited, Dhaka
54. Engr. Md. Mushfiqur Rahman, Head of IT Security, Dutch-Bangla Bank Limited 43, Motijheel, 18th Floor, Head office, Dhaka
55. Engr. Mohammed Sayed Noor, Assistant Vice President, Head Office, UCBL, Dhaka.
56. Engr. Md. Habibur Rahman Monju, Programmer, Jashore Education Board, Bangladesh
57. Engr. Md. Mozammel Huque, Programmer, Jashore Education Board, Bangladesh
58. Md. Mashiur Rahman Mazumder (Tipu), Senior Program Manager at Palli Karma-Sahayak Foundation – PKSF, Finance Ministry, Dhaka, Bangladesh
59. Mr. Mohammad Aman Ullah, Assistant Professor, CSE, IIUC
60. Mrs. Zinia Sultana, Assistant Professor, CSE, IIUC
61. Mr. Md. Mahmudur Rahman, Assistant Professor, CSE, IIUC
62. Mr. Shayhan Ameen Chowdhury, Assistant Professor, CSE, IIUC
63. Engr. Md. Sazedul Islam, Software Test Engineer, Department of Homeland Security, Wasington DC, USA.
64. Engr. Md. Kamruzzaman (Titu), Assistant Manager (Merchandising), New Age Group of Companies, Ashulia, Dhaka
65. Dr. Francis Palma, Assistant Professor, Department of Computer Science and Media Technology, Linnaeus University, Kalmar, Sweden

"বলুন, যারা জানে আর যারা জানেনা তারা কি সমান ?" (সূরা আয যুমার : ৯)

Departmental Activities Report (2018-2019)

Dr. Mohammad Shamimul Hoque Choudhury
Associate Professor and Chairman
Department of Electrical & Electronic Engineering (EEE),
International Islamic University Chittagong

Warm welcome to the department of Electrical and Electronic Engineering (EEE) at International Islamic University Chittagong. In respect of Bangladesh, Electrical and Electronic Engineering is one of the major engineering subjects that includes many exciting technologies such as electronics, microelectronics, semiconductor devices, nano technology, power system, electrical machineries, computer systems, communications system, biomedical system etc. which have been among the fastest growing and most challenging technologies that enable the development of the modern technology-based society.

The Department currently runs an IEB accredited undergraduate programme, namely Electrical and Electronic Engineering (EEE) with highly qualified faculty members and other staff with sufficient logistic support. We are providing a separate arrangement for the female students at female academic zone. At present, we have 41 academic staff, 18 administrative staff, and about 650 undergraduate students. There are 01 Professor, 04 Associate Professors, 17 Assistant Professors, 16 Lecturers, 03 Assistant Lecturers. Six of the faculty members have PhD degree. We have 12 laboratories with advanced equipment and facilities for supporting our teaching and research.
The EEE department is Wi-Fi connected. The Syllabus and the Curriculum of EEE department is International standard. The department has a well-structured EEE Club run by the students with active supervision of the teachers. The mission of the Department is to produce graduates with the highest quality and with strong morality to lead the Ummah, serve the society, and to conduct leading-edge research.
The Department's web site (http://www.iiuc.ac.bd/eee) provides a range of information about the Department. We think you find the information useful. Wish you all the best.

History of Dept. of EEE

The EEE Dept. of IIUC started journey in Dhaka campus, Dhaka from Spring-2006. In the city campus of IIUC, Chittagong the EEE dept. started journey from Spring-2007 with 65 students & few teachers and staffs. Enrollment is twice a year for the Bachelor Programs. It follows the open credit hour system. In EEE, students need 4 years to complete graduation. Each year includes 2 semesters. The EEE dept. has been shifted to permanent campus, Kumira in Spring-2009. EEE Female section started journey in Spring-2017 semester with 22 students.

The Mission and Objective of the Department of EEE

The mission of the EEE department is as follows:
The principal mission of the Electrical and Electronic Engineering program is to offer a strong academic program needed to produce well-educated students who can become productive members of the Electrical and Electronic Engineering profession. This mission is consistent with the academic component of the University's mission, which is in part to provide a strong academic program in engineering.

The objective of the EEE department is as follows:
The Objective of the undergraduate Electrical and Electronic Engineering program is to instill in IIUC graduates the knowledge, skills, attitude, and ethical values necessary to be successful practitioners who are able to impart positive social impacts at the state, regional, national, and international levels. Additionally, IIUC seeks to provide the necessary academic background for Electrical and Electronic Engineering graduates pursuing advanced degrees.

Departmental Student Club (EEE Club)

The department has active student club named "EEE Club" in both male and female academic zone. The EEE Club is a well-organized club run by students under the active supervision of teachers. The Club arranges seminars and workshops. Moreover, it organizes numerous technical and competitive events including Circuit Solution Competition, Math Olympiad, Idea Generation Competition, Project Showcasing Competition, Embedded Design Challenge, Soccer Bot Challenge, etc. The Club also arranges Study tour, rally, Fresher's reception and farewell ceremony, and hosts indoor and outdoor games like carom, chess, cricket tournament, football tournament, cultural program, etc.
In addition, the EEE Club also participates in a variety of social and humanitarian activities, such as distribution of winter cloth among the unprivileged people, blood donation, and distribution of food among casualty, etc. Each year, this club participates in the Tech Fest / IT Festival, where all departments of the Faculty of Science & Engineering, IIUC and participants from other universities also participate.

The activities of EEE club (male) are listed in Table 1

Table 1: List of Co & Extra Curricular Activities organized by EEE Club (Male).

SL	Session	Event Name	Keynote Speaker/ Chief Guest	Date	Approximate no. of participants
1	**Autumn 2019**	Career Meet up Program	Keynote Speakers: Engr. Palash Sakal (CEO, Powerplay Communication) Engr. Hasan Mahmud (AGM(IT), BREB)	March 14, 2020	1000 students of Engineering field (from IIUC and also from other
			(AGM(IT), BREB) Engr. Mohammed Mian Talukder Engr. Enamul Hasan Abdun Naqib Jimmy Engr. Nazim Sarkar (Founder, School of Engineers) Tanvir Shahriar Rimon Special Guests: Engr. Manzarey Khorshed Alam, Ex-Chairman, IEB Prof. Dr. Mohammad Ali Azadi, Pro-VC, IIUC Chied guest: Prof. K M Golam Muhiuddin, VC, IIUC		also from other Universities /Institutes)
1	**Spring 2019**	Inter semester Football Tournament		Aug.-26 to Sept-5	1 team/ semester 88
2		EEE FEST i) Math Olympiad ii) Circuit Solution Contest iii) Chess Contest iv) Cube Contest v) Idea Generation	Professor Dr. Ali Azadi, Pro Vice-Chancellor, IIUC	Sept.7 to Sept.8	160

3		Debate Workshop	Engr. Russel Mohammad-Former Member IIUC debate committee	Sept.-8	40
4		Workshop On AutoCAD & Solid Works	Jobayer Khan Nowshad-Asst. Manager(eiect.& Electronics),Confidence cement Limited	Sept. 15, 2019	70
5		Farewell Felicitation and Prize giving Ceremony	Professor Dr. Ali Azadi, Pro Vice-Chancellor, IIUC and Dr. Md. Delawer Hossain"Dean, Faculty of Science and Engineering, IIUC.	10th Sept., 2019	90
6		Fresher's Reception	Dr. Md. Delawer Hossain"Dean, Faculty of Science and Engineering, IIUC.	26th October, 2019	85
1		Inter Dept. Football Tournament.		January 2019	88
2	**Autumn 2018**	EEE FEST-Autumn'2018 : (i) Circuit Solution Contest (ii) Idea Generation Competition (iii) Seminar on funding opportunity in USA & GRE (iv) Inter Semester BBQ Competition	Professor Dr. Ali Azadi, Pro Vice-Chancellor, IIUC and Dr. Md. Delawer Hossain"Dean, Faculty of Science and Engineering, IIUC.	**6th February & 2nd march 2019**	200
3		Fresher's Reception Program of EEE 25th Batch	. "Prof. Dr. Md. Delawer Hossain" Dean, Faculty of Science and Engineering, IIUC .	**24th May 2019**	--
4		Farewell Felicitation of EEE 16th Batch	The Honorable Pro Vice-Chancellor "Prof.Dr. Mohammad Ali Azadi"	**19th February 2019**	70
5		Dept. Chairman reception	--	18th February 2019	--
6		Study Tour-2018 at Sajek Valley	--	**30th April** to **2nd May 2019**	85
1		Eid Gift Distribution Program	"Prof. Dr. Md. Delawer Hossain" Pro Vice-chancellor (In-charge)	**04 June, 2018**	--
2		Niaz Memorial Inter-Semester Football Tournament-2018	"Engr. Sk. Md. Golam Mostafa" Assistant Professor, Dept. of EEE	**1st September, 2018**	88

3	**Spring 2018**	EEE FEST-Spring'2018 (i) Embedded Design Challenge (ii) Circuit Solution Contest (iii) Idea Generation Competition (iv) Project Showcasing	--	**25th July, 2018**	200
4		Fresher's Reception Program of EEE 24th Batch	"Prof. Dr. Md. Delawer Hossain" Dean, Faculty of Science and Engineering, IIUC	**5th November, 2018**	--
5		Farewell Felicitation of EEE 15th Batch	"Prof. Dr. Mohammad Ali Azadi" Pro Vice-Chancellor, IIUC	**1st August, 2018**	50
6		Prize Giving Ceremony	"Prof. Dr. Mohammad Ali Azadi" Honorable Pro Vice-chancellor IIUC	**1st August, 2018**	250
7		Study Tour-2018 at Saint Martin Island	--	**26th November** to **28th November, 2018**	92
8		Celebration of IEB Accreditation in EEE	, "Prof. Dr. K. M. Golam Mohiuddin" Vice-chancellor of IIUC	**4th March, 2018**	120
1	**Spring 17 and Autumn 17**	Seminar on " Solar Photovoltaic Energy in 100% Cleaner Energy World Vision By 2050.	Professor Dr Nawshat Amin, Professor of Renewable Energy and Solar Photovoltaics, Dept. of Electrical, Electronic and Syst.	**6th January 2018**	150
2		Workshop on 'Microcontroller based Project Development'	Engr. Md. Abdul Kader, Assistant Professor, Dept. of EEE,IIUC	**2nd July, 2017**	40
3		Seminar on 'Engineering Design'	Engr. Md. Shahid Ullah, Assistant Professor Dept. of EEE, IIUC.	**August 2, 2017**	26
4		EEE Fest – Spring 2017 i) Quiz Competition ii) Circuit Solution iii) Idea Generation Competition iv) Project Showcasing v) Career Adda		**9th August 2017**	100
5		Workshop on "Designing a wireless Controlled Battlebot and its transmitter via bluetooth using joystick"	Engr. Md. Abdul Kader, Assistant Professor, Dept. of EEE,IIUC	**December 13, 2017**	30

6		Intra- Department Indoor Games 2017 i) Table tennis ii) Carom and iii) Chess		**9th December, 2017**	32 16 32
7		Short Pitch Cricket Tournament		**27th December, 2017**	56
8		Grand Bar-b-q.		**6th January, 2018**	200
9		Farewell Felicitation of Batch-14, EEE & Prize Giving Ceremony.	Prof. Dr. Md. Delware Hossain, Hon'ble Pro Vice-chancellor, IIUC And Professor Dr. Md. Monirul Islam, Dean of faculty of science and engineering.	**16th august 2017**	150
10		Study Tour (IIUC To Sylhet)		**August 2, 2017**	42
11		Study Tour – Exploring Sundarban.		**14th January to 17th January.**	70
12		Fresher's Reception Program	Prof. Dr. Md. Delware Hossain, Hon'ble Pro Vice-chancellor, IIUC	**10th October, 2017**	90

The activities of EEE Club (female) are listed in Table 2

Table 2: List of Co & Extra Curricular Activities organized by EEE Club (Female).

SL	Session	Event Name	Date	Approximate no. of participants
1	Spring'19	Indoor games: a. Dart b. Spoon Race c. What is in the Box?	4th September, 2019	60
2		EEE Technovision Spring'19: a. Math Olympiad b. Circuit solution Contest c. Innovative Unique Idea d. Crafting Contest e. Photography Contest f. Drama	4th September, 2019 & 11th September, 2019	85
3		Fresher's Reception Program of Autumn'19 session	12th November, 2109	20
1	Autumn'18	**Indoor games** ➢ Ludo ➢ Carom ➢ Ball Throwing	19th December'18	60
2		**EEE TECHNOVISION** ➢ Circuit Solution Contest ➢ Innovative Unique Idea ➢ Quiz Contest	3rd ,4th,6th and 11th February'19	75

		➢ Typing Contest ➢ Open Speech Contest ➢ Memory Test Contest ➢ Photography Contest		
3		Fresher's Reception Program of **Spring'19** session	24th April'19	35
1	Spring 2018	Making of **Dewalikha**	22nd July'18	15
2		Seminar on CAREER DEVELOPMENT	4th August'18	40
3		Fresher's Reception Program of **Autumn'18** session	24th November'18	40

Summary of some events organized EEE CLUB

Career Meet up Program

EEE Club organized a day long Career Counseling program for engineering students in collaboration with School of Engineers. School of Engineers is a career oriented voluntary organization which is working to make the engineering students and professionals skilled to achieve the Sustainable Development Goal (SDG) of Bangladesh Government. The program was named as CAREER MEET UP which was held on 14th March 2020 at Auditorium in International Islamic University Chittagong. Around 1000 engineering students from different universities and polytechnic institutes of Chittagong participated in the program.

Career Meet up program, 14th March, 2020.

EEE FEST

EEE FEST is one of the mega events of IIUC where students from various departments of Faculty of Science and Engineering, IIUC participate to compete with one another to glorify their own department.

Events organized in EEE FEST, 2019

- ✓ ***Circuit Solution Competition***
- ✓ ***Math Olympiad***
- ✓ ***Idea Generation Competition***
- ✓ ***Project Showcasing Competition***
- ✓ ***Embedded Design Challenge***
- ✓ ***Soccer Bot Challenge***

Inaugural Ceremony of EEE Fest, Autumn 2018

Robo Soccer Competition in EEE Fest

Inaugural Ceremony of EEE Fest, Spring 2018

Competitors of Circuit Solution Competition

Idea Generation Competition in EEE Fest

Project Showcase Competition in EEE Fest

Embedded Design Competition in EEE Fest

Seminar and Workshop

A workshop is a great way for students to learn about a particular subject, learn new projects, and methods in order to make the students' understanding better. Seminars and Workshops can help students achieve success in their academic environment by putting these skills into practice.

Seminar committee of the EEE department organizes a number of seminars and workshops in each semester in association with EEE CLUB where the speakers from home and abroad talk about selected topics such as Seminar on Higher Study, Seminar on Meta materials Design, etc.

Math Olympiad

Math Olympiad is a great way to increase and put to test our analytical and mathematical prowess and skills to the highest competitive bar. Math Olympiad has various stages and each stage acts as a catalyst to compete and bring mathematics knowledge to a closure.

EEE Club organizes Math Olympiad under the supervision of the Math Olympiad Committee every year. Those who achieve first, second and third positions are awarded by the Club, and later on they take part in the regional and national math Olympiad.

Industrial Training

Industrial Training is the important strategy to expose students to real work life situations and to equip them with the necessary skills that intensify their job acumen. A key element in an engineering curriculum is an exposure to the Professional engineering practice sought through industrial training. Industrial training has traditionally been weighed as a potent grooming of the professional career of a fresh engineering graduate and it is the common method of the harvesting skilled engineers. It helps them to update and master their skills. It not only builds confidence but also helps in taking up complicated projects easily. The learners can obtain hands on experience and know the real job scenario.

Seminar on Higher Study

Seminar on Metamaterial Design

Workshop on AutoCAD & Solid Works

Math Olympiad Exam

Study Tour

The education sector observed a paradigm shift from theoretical learning to practical learning. In today's increasingly competitive environment, it becomes important for students to have an extra edge to succeed. Diversified service learning experiences during educational trips benefit both the students and the community. With structured preparation and student reflection, these educational trips present an opportunity for students to develop civic engagement skills, organizational skills, and interpersonal skills. With this intention, EEE Club always organizes Study tour in different spots such as Saint Martin, Bandarban etc. EEE club also performs an environment awareness campaign in this tour for encouraging people to take care of environment.

Eid Gift Distribution Program

For all Muslims, especially the children, the occasion of Eid brings with it a sense of excitement and anticipation. Naturally on such a grand occasion and in the spirit of Islamic tradition all Muslims wear new clothes and give gifts to each other. But there are always some children who cannot have the luxury of new clothes on Eid. In this spirit, the EEE Club, IIUC started the project for 'Eid Gift Distribution Program' so that these children do not feel isolated on such a blessed occasion. Club members raises funds from teachers, general students of the EEE Department and other wealthy people. The Eid gifts are then distributed among the needy families around the IIUC campus.

Industrial Trainings for the students of EEE Department

Performed an environment awareness campaign during study tour

Eid gift distribution program

Sport's Week

EEE CLUB organizes sports week in every semester. Sports develop a sense of friendliness among the students and develop their team spirit. It helps students to develop mental and physical toughness. Sport shapes their body and make it strong and active. This is because sports improve their blood circulation and their physical well-being.

Typical events of sports week

- Outdoor Activities
  - ✓ Football Tournament
  - ✓ Cricket Tournament
- Indoor Activities
  - ✓ Chess Competition
  - ✓ Carom Competition
  - ✓ Table Tanis Competition
  - ✓ Rubik's Cube Competition

Fresher's reception and Farewell Felicitation Program

Every year EEE Club organizes Fresher's reception for newly enrolled students. Likewise, a Farewell Felicitation program is also organized for the outgoing students of the department.

Fresher's reception and Farewell Felicitation Program

Sport events organized by EEE club

BBQ Competition arranged by EEE Club:

EEE Club at TECH FEST 2020:

*"Science without religion is lame, religion without science is blind." -**Albert Einstein***

A partial view of the achievement and status of IIUC EEE alumni

Engr. Khandakar Abdulla Al Mamun
Assistant Professor
Dept. of EEE, IIUC
E-mail: k.a.a.mamun@gmail.com
1st batch

Engr. Mohammad Aminul Karim
Assistant Manager
Sales, Clark Energy Bangladesh
1st batch(ctg)

Md. Siraj Uddoula (Sohel)
In-Charge, Instrumentation Maintenance
BSRM Group of Companies
1st batch(ctg)

Engr. Minhazur Rahman
Mejor, Bangladesh Army.
1st Batch(ctg)

Engr. Mosiur Rahman
Sr. Engineer,GE Waukesha Engines
Dana Engineers International Ltd.
1st batch(Dhaka

Engr. Jamal Uddin
Assistant Manager
Linde Bangladesh Ltd.
2nd batch

Muhammad Imranur Rashid
Manager(Electeical),
Diamond Cement Ltd
3rd Batch

Engr. Shaiful Islam
Project Manager
Pran- RFL Group
5th Batch

Engr. Abu Hanif Mohammad Ripon
MCC Engineer
Heidelberg Cement Bangladesh Ltd.
3rd Batch

Departmental Activities Report (2018-2019)

Engr. Mohammed Jashim Uddin
Assistant Professor and Chairman
Department of Electronic & Telecommunication Engineering (ETE),
International Islamic University Chittagong

Introduction

Department of Electronic & Telecommunication Engineering (ETE) is one of the departments of Faculty of Science & Engineering (FSE) which was established on December 15, 2010. In this department, there are 11 permanent faculty members, around 350 students, 8 classrooms & 5 Labs named Telecommunications Lab, Computer Lab, Internet and Simulation Lab, Electronics Lab and Electrical and Measurements Lab. IIUC Telecom Club is a students' club of ETE Department to create an opportunity to share ideas & knowledge among students through co & extra-curricular activities while developing lifelong skills. Telecom Club was established in 2010 named Telecommunication Forum. The pioneer to establish the club at the very beginning of ETE Department was Late Abdullah Al Masud. At present, Engr. Syed Zahidur Rashid (Asst. Professor, Dept. of ETE), Md Ibrahim (Asst. Professor, Dept. of ETE) and Abu Zafar Md. Imran (Lecturer, Dept. of ETE) have been serving as the President, Vice President & Treasurer respectively. Mahmudul Islam Oly is serving as the General Secretary from the students & Mohammad Ishtiaque Khan and Salsabil Ebna Mostaque are Assistant General Secretaries of the club for Spring 2019.

Achievement Highlights

Students from ETE Department are regularly participating in different events & competitions hosted by IIUC as well as other universities all over the country. In most cases, they succeeded by showing their potentials by the direct supervision and support of IIUC Telecom Club.

Some of the highlighted achievements are:

Year	Competition/Program	Host	Event/Category	Position
2020	Tech Fest 2020	IIUC	Tech Olympiad	Runner Up
2018	Digital Innovation Fair	District Administration, Chittagong	Innov-A-Thon	Best Young innovator
2018	National Physics Olympiad 2018	Bangladesh Physics Olympiad Committee	Inter University Project Show	Champion
2017	Tech Fest 2017	IIUC	Inter University Robo-Fight	Champion
			Inter University Project Show	Champion
			Inter University	Runner Up

			Idea Generation	
			Poster presentation	1st Runner Up & 2ndRunner Up
			Tech Olympiad	Runner Up
2017	IEEE Spectra	IIUC	Project Show Competition	Champion & Runner Up
2017	EEE Day 2017	BUET	Inter University Project Show (Senior Category)	Honorable Mention
2017	Inter Dept. Football Tournament	IIUC	Football Tournament	Champion
2016	CUET CSE Fest	CUET	Inter University Project Show	Champion
2016	BAIUST EEE Day	BAIUST	Inter University Project Show	Champion
2016	ICISET 2016	IIUC	Inter University Project Show	Runner Up
2015	Tech Fest 2015	IIUC	Project Show Competition	Champion, 2nd Runner Up & Best Emerging Young Engineer
			Robo-Fight Competition	Champion & 2nd Runner Up
2014	Tech Fest 2014	IIUC	Project Show Competition	2nd Runner Up & Best Emerging Young Engineer
			Tech Quiz Competition	Champion, 3rd Place & 4th Place

Best Young Innovator in Digital Innovation Fair 2018 by District Administration, Chittagong

Champion in Project Show, CUET CSE FEST 2016

Glimpses from the Recent Activities of Telecom Club

Seminars

In every session, some technical & non-technical seminars are organized by IIUC Telecom Club as students can be updated with recent engineering & technological trends. Recently a seminar titled by Seminar on Career Planning on IT and Networking held on December 08, 2019 where the resource persons were from New Horizon Vision Limited and International Islamic University Chittagong. Besides, seminars were arranged on different topics like Cisco Certified Network Associate (CCNA), Higher Study Abroad etc. Nationally & internationally recognized resource persons are invited to conduct the seminars.

Workshops & Skill Development Trainings

IIUC Telecom Club organizes workshop & skill development training on different topics regularly so that students can be skilled in some specific areas. In 2017, there were two workshops on robotics organized. First one is about Basic Robot Design & Microcontroller Programming held on May 14, 2017 & another one is about Line Following Robots held on August 16, 2017. After these workshops, students became capable of making robots & participating in various robotics competitions. Beside robotics, some workshops were arranged on Latex, C Programming etc.

Competitions

Intra ETE Robo-Fight Competition 2017, which was the only Robo-Fight competition organized by any individual department in IIUC held on November 06, 2017. Around 8 teams participated in the competition.

Foundation Day Celebration

For the second time in IIUC, foundation day of an individual department was observed on December 15, 2018. The "ETE Day Celebration 2018" was organized on the occasion of 8th anniversary of ETE Department, IIUC which was observed with Rally, Friendly cricket match, memory sharing, Cultural night etc.

ETE Day Celebration 2018; December 15, 2018

Seminar on Road to Higher Study, 12th February 2019

Seminar on Career Planning on IT and Networking, 08th December, 2019

Intra ETE Robo-Fight Competition 2017; November 06, 2017

Seminar on Evolution of Cellular Communication: 2G, 3G, 4G & Beyond; November 11, 2017

Cultural & Theater

To spread the sound culture among the students, Telecom Club works with cultural team who are dedicated to entertain and train the students in enthusiastic manner. To create these kind of individuals, a "Cultural Contest" is arranged every year in different categories like Quran Recitation, Patriotic & Islamic song, Free hand acting, Instantaneous speech, Poem recitation etc. The last Cultural Contest was held on July 25, 2017.

Telecom Club also has a theater team who stages drama in every year especially for Inter Club Drama Competition. In 2017, the team staged a drama titled "Dorpone Ghunpoka" at IIUC Auditorium.

Sports Competition

In every semester, IIUC Telecom Club organizes different types of sports tournament such as Football, Cricket, Badminton etc. Last year, two tournaments were organized titled "Inter Semester Football Tournament 2017" & "ETE Badminton Tournament 2017" Besides, Indoor Games Competitions are also organized. Last year, "Intra Departmental Indoor Games Competition 2017" was organized on September 14, 2017. There were three indoor events (Chess, Carom & Snake LUDU).

Fresher's Reception & Farewell Felicitation

Fresher's Reception program is organized for newly enrolled students of the department to interact with the department in every semester. Likewise, a Farewell Felicitation program is also organized for the outgoing students of the department.

Industrial Tour

Industrial Tour is organized for enrolled students of the department to interact theoretical knowledge with practical knowledge the department in every semester. Last year January 31, 2019 the student visited

Cultural Contest; July 25, 2017

Dorpone Ghunpokaat Inter Club Drama Festival 2017

Fresher's Reception of Spring 2019 Batch

Farewell Felicitation, Autumn 2018; January 21, 2018

250KW power production solar plant, Blue Marine Energy Limited in Saint Martin.

Iftar Mahfil

Every year, for all the members of ETE family, an Iftar Mahfil is organized where a discussion program is included by a well known Islamic scholar. Last year, the Iftar Mahfil & Discussion on Takwa was held on June 06, 2018 in Department of ETE, IIUC.

Social Activity

As a part of social responsibilities, Telecom Club organizes Blood Grouping Camp, Winter Cloth Distribution, Fund for Flood Relief etc in a regular manner.

Alongside, Debate workshop & competition, different festivals (BBQ Fest, Food Fest etc.), Industrial Tour & Training, Study Tour, Faculty Member's Reception & Farewell& different types of events are organized regularly.

Iftar Mahfil & Discussion on Takwa washeld on June 06, 2018

A partial view of the achievement and status of IIUC ETE alumni

Foysal Bin Wadud
Assistant Engineer (IT)
Investment Corporation of Bangladesh (ICB)
(ETE 1st Batch)

Mohammad Salah Uddin Kader Shaha
Sr. System Admin
Innovative Online Ltd
(ETE 1st Batch)

Mohammad Masbha Uddin
Technical Support Engineer
Link3 Technologies Limited.
(ETE 2nd Batch)

Md. Iftakhar Jahan
System Engineer
Summit Communications Limited
(ETE 2nd Batch)

Kazi Md. Sahed Hossain
Senior Automation and System Engineer, KDS Steel
Managing Director, ERVO Technologies Ltd.
(ETE 2nd Batch)

Abu Zafar Mohammad Imran
Lecturer , Dept. of ETE
International Islamic University Chittagong
(ETE 4th Batch)

MD.NAZMUL ISLAM
Network operation Engineer
Banglalink Digital communication ltd.
(ETE 4th Batch)

Zia Uddin
Ground Service Assistant;
Biman Bangladesh Airlines LTD
(ETE 6th Batch)

MD. Shahadat Hossain
Officer (General)
Bangladesh Krishi Bank
Bahadurabad Branch Jamalpur
(ETE 6th Batch)

Engr. Abdifatah Samale
Deputy Minister of Education,
South West State of Somalia
Core Network Engineer,
Hormuud Telecom
(ETE 1st Batch)

"হে বনী-আদম, আমি তোমাদের জন্য পোশাক অবতীর্ণ করেছি যা তোমাদের লজ্জাস্থান আবৃত করে এবং অবতীর্ণ করেছি সাজ সজ্জার বস্ত্র এবং পরহেযগারীর (তাকওয়ার) পোশাক, এটি সর্বোত্তম। এটি আল্লাহর কুদরতের অন্যতম নিদর্শন, যাতে তারা চিন্তা-ভাবনা করে।"

Departmental Activities Report (2018-2019)

Engr. Md. Razu Ahmed
Associate Professor and Coordinator
Dept. of Computer & Communication Engineering (CCE),
International Islamic University Chittagong

Computer & Communication Engineering (CCE) department at IIUC has restarted it's journey again due to the tremendous demand of the CCE graduates in the country as well as in abroad. As the world now a days is moving towards complete digitization that enhances comfort and security in all aspects. The cutting-edge communication techniques with the use of computers are the enablers of achieving this feat. The program offers state of the art Lab and other facilities. Moreover, highly qualified teachers and staffs trained in home and abroad are serving here from the very beginning. And we hope, in near future it will be one of the best CCE programs in the region. The CCE Department first started it's journey at spring 1998/99 session and continued until spring 2009 session. During these periods this departments produced about one thousand of graduates who are successfully serving the nation and contributing to build peaceful world. The CCE department adopted Outcome-based education (OBE) system which is application based education system and practiced in all world renowned universities around the globe.

The CCE at IIUC covers subjects in computer science, communication networks, computing, and big data analytics. The program also includes the latest tools and technologies with certification for real-life application development. The Department of CCE offers four-year bachelor program in Computer and Communication Engineering. In accordance with the demands of advanced industrial manpower for research and development in information and communications engineering, the CCE Department offers multiple courses from first-year to graduate level, encompassing all areas of computer and communication engineering. Under this department, different vibrant research courses and methodology also available for it's project students for which final year students can achieve effective and true problem solving skills.

Educational Mission

The Mission of the department is to produce, through the pursuit of education, properly trained up and ethically sound manpower in the field of Computer and Communication Engineering to contribute to the socio-economic development and moral upliftment of the society and to cultivate in our student's an ability to think independently beyond their areas of study, so that they can sustain justice in all walks of life. The educational objectives include:

1: Properly Trained up Manpower.
2: Contribute to Socio-economic Development.
3: Ethically Sound.
4: Ability to Think Independently.
5: Cultivate Capabilities of Teamwork and Collaboration.
6: Sustain Justice in all Walks of Life.

Vision

To produce globally competitive and socially sensitized Engineering graduates and to establish the department as a center of excellence by bringing out the professional competence in the core areas of Computer and Communication Engineering also becoming one of the best departments in the South East Asia.

Co-Curricular and Extra-curricular activities

As we know that Co-Curricular and Extra-curricular activities as an integral component of its commitment to student life and success. These programs mainly include leadership training, cultural, environmental, recreational and social activities, debating & public speaking programs, intellectual discussions, games & sports, excursion and study tours

home & abroad to complement academic pursuits. By these programs' students earn capacity to express out themselves properly, maintain personality and learn to respect people of other faiths through mutual understandings among various regions, religions, beliefs and cultures. All Co and Extra-curricular activities are run by the clubs named after the Departments such as Computer club, Business club etc. under the close supervision and monitoring of Students Affairs Division (STAD).

Picture of some departmental activity

Orientation for fresher's :

Club Activity :

IIUC TECH FEST 2020 participation :

A Partial view of the achievement and status of IIUC-CCE Alumni

S.N.	
1	Mr. Meraz Ahmed Zahed 1st Batch Superintended Engineer, SR Shipping Ltd.
2	Md. Jan E Alam 3rd Batch Banglalink
3	Mr. Mohammad Nasir Uddin 4th Batch President, Rotary Club of Chittagong Ocean Club CEO, Micro Bangla Chairman, Alhaz shamsul Hoque Foundation
4	Mr. Jia Uddin 4th Batch Associate Professor, Dept. of CSE Brac University Assistant Professor, Dept. of Technology studies, Woosong University
5	Mr. Sharup Barua 4th Batch HUWAI, Sweden
6	Mr. Rasheq Zinnur Rahman 4th Batch Grameen Phone
7	Mr. Abdul Gafur 5th Batch Associate Professor Dept. of ETE, IIUC
8	Mr. Md Anowar Hossain 5th Batch King Squad university, KSA
9	Mr. Palash Roy Chowdhury 4th Batch SAMSUNG
10	Mr. Mohammad Abdul Muiez 7th Batch Deputy General Manager, GETCO

Departmental Activities Report (2018-2019)

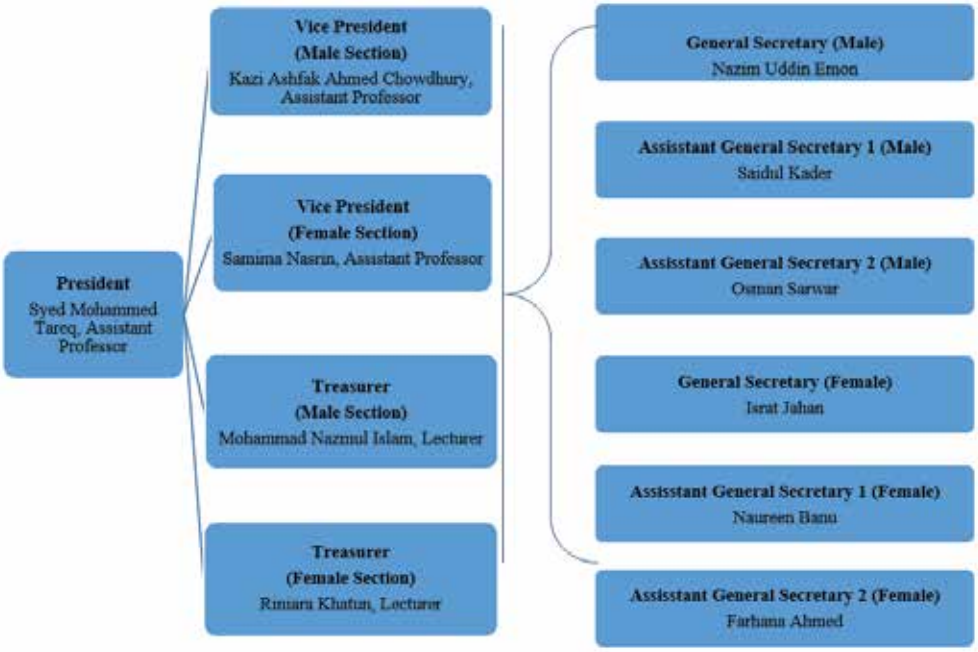
A.T.M. Mostafa Kamal
Assistant Professor and Chairman
Department of Pharmacy,
International Islamic University Chittagong

Introduction

The Department of Pharmacy began its journey since 2007 under the Faculty of Science & Engineering, International Islamic University Chittagong, with a mission "to produce future pharmacists who will be professionally as well as socially and ethically responsible." It is also the largest Department in the International Islamic University Chittagong. Its breadth and scale bring a unique advantage. The undergraduates gain a strong foundation in all pharmaceutical disciplines together with in-depth knowledge of their chosen specialist field. Across research, teaching, and graduate study, the Department of Pharmacy offers its entire staff, students, and industry partners a highly networked community for sharing and developing pharmaceutical knowledge. To meet the goals, a group of 21 permanent faculty members is working coherently in the Department of pharmacy. There are approx. 300 male students & 250 female students, 15 classrooms, and 12 Labs exist in male & female sections of the Department.

More than 400 students graduated from the department successfully. Our graduates are working in different reputed pharmaceutical industries, healthcare institutions, community pharmacy, and government and other private sectors. Besides, many outstanding students are pursuing higher studies in abroad.

IIUC Pharma Club is developed to create a common platform for co-curricular activities where students participate in various cultural & social programs, which help them in socialization, self-identification, and self-assessment. The President, Vice Presidents & Treasurers are selected from faculty members, and General Secretary & Assistant General Secretaries are elected from the students of the department. The basic organogram and the members of the club for Autumn 2018 semester is given below:



Achievement Highlights

Students of the Department of Pharmacy are regularly participating in different events & competitions hosted by IIUC as well as other universities and nationally.

Some of the highlighted achievements are:

Year	Competition/Program	Host	Event/Category	Position
2020	Tech Fest 2020	IIUC	Tech Olympiad	Champion
2020	Tech Fest 2020	IIUC	Intra University Medicinal Plant Show	Champion, Male & Female Runner Up, Male & Female
2017	Tech Fest 2017	IIUC	Intra University Medicinal Plant Show	Champion, Male & Female Runner Up, Male & Female
			Inter University Idea Generation	Runner Up, Female
2015	Tech Fest 2015	IIUC	Inter University Idea Generation	Runner Up, Female

Medicinal Plant Show, Tech Fest 2020

Tech Olympiad, Tech Fest 2020

Recent Activities of the Department of Pharmacy at a glance

Seminars& Workshops

In each semester, IIUC Pharma Club organizes different seminars & workshops. Recently a seminar on "EndNote X8 Training on Referencing, Citing, and Structuring Bibliographies", "How Can We Get A Job? Recruitment-Selection of potential employees", and "Awareness on Cardiovascular Disease & Medical Context in Bangladesh" held on May 21, 2019,December 15, 2018 and November 14, 2018. Besides, a workshop on "PHARMA ADDA" arranged on March 08, 2019, by the Department of Pharmacy.

Pharma Fest & Reunion

The Department of Pharmacy of International Islamic University Chittagong (IIUC) organized their "Pharma Fest 2018" in the Kumiracampus with vast participants. The event offered a platform for exchanging creative ideas among faculty members, pharmaceutical industry associates, healthcare professionals and students.

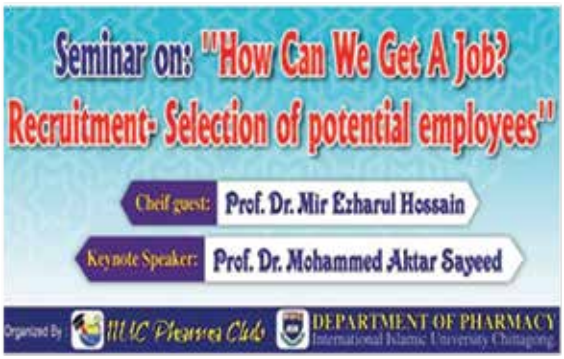
IIUC PharmaFest, 2018

IIUC Pharmacy Alumni Reunion, 2019

Sports Competition

IIUC Pharma Club organizes different types of sports tournaments, such as Football, Cricket, Badminton, etc. The Department of Pharmacy were held by two tournaments titled "Intra Semester Football Tournament 2019"&"Intra Semester Cricket Tournament 2019" from previous semester. Besides "Intra Departmental Indoor Games Competition 2019" was organized for the students of the department. There were different events present like Chess, Carom, Ludu, Sudoku, Dartboards, etc. The Department of Pharmacy was champion in "IIUCInter–Department Football Tournament-2018"and celebrating championship trophy with full of joy in International Islamic University Chittagong.

Seminar on EndNote X8 Training on Referencing, Citing, and Structuring Bibliographies



Seminar onHow Can We Get A Job? Recruitment-Selection of potential employees

Seminar onAwareness on Cardiovascular Disease & Medical Context in Bangladesh

Workshop onPHARMA ADDA

Fresher's Reception & Farewell Felicitation

Fresher's Reception program is organized for newly enrolled students of the department to interact with the department. Likewise, the Farewell Felicitation program is also arranged for the outgoing students of the department.

Fresher's Reception of Autumn, 2019 Semester (Female)

Fresher's Reception of Spring, 2019 Semester (Male)

Farewell Felicitation Program

Champion Trophy received from Hon'ble Pro-Vice-Chancellor at IIUC Inter–department football tournament, 2018

Celebration program of IIUC Inter–department football tournament, 2018

Industrial Visit

To familiar with the practical insight of the pharmaceutical industry, the Department of Pharmacy arranges an industrial visit for the students. In the last session, the students visited two pharmaceutical industries: IbnSina Pharmaceutical Industry Ltd. and Sanofi Bangladesh Ltd. on September 21, 2019 and December20, 2018, respectively.

Industrial tour at IbnSina Pharmaceutical Industry Ltd.

Industrial tour at Sanofi Bangladesh Ltd.

World Pharmacists Day, 2019

World Pharmacist Day Celebration

"World Pharmacist Day 2019" was observed on September 25, 2019. The theme of the day was "Safe and effective medicines for all".

Study Tour

The Department of Pharmacy had organized study tours each year to welcome break in the routine for both students and teachers. Students gain knowledge and upgrade their skills by using the new concepts they learn from the educational tours.

Social Activity

As a part of social responsibilities, the Department of Pharmacy along with IIUC Pharma Club organizes Free Blood Grouping Camp, BMI Checking, Awareness Program, Winter Cloth Distribution, and Fund for Flood Relief etc.

Study tour at St. Martin's Island, 2019

A partial view of the achievement and status of IIUC PHARMACY alumni

S M ANISUL ISLAM
Cellular Therapeutics Fellow (ORISE)
Food and Drug Administration, US
United States of America

DR. MD. AREEFUL HAQUE
Assistant Professor
Department of Pharmacy
International Islamic University Chittagong
Bangladesh

MOHAMMAD NAZMUL ISLAM
Lecturer
Department of Pharmacy
International Islamic University Chittagong, Bangladesh

A partial view of the achievement and status of IIUC PHARMACY alumni

ASHRAF UDDIN CHOUDHURY
Lecturer
Department of Pharmacy
International Islamic University Chittagong
Bangladesh

HASAN AL BANNA
Asst. Manager
Medical Services Department
OpsoninPharma Ltd. Bangladesh

MD ARIFUL ISLAM
Hospital Pharmacist
Guy's and St Thomas' NHS Foundation Trust
London- Westminister, London.

ZAHIR UDDIN BABOR
Regional Sales Manager
(Oncology Division)
Beacon pharmaceutical Ltd. Bangladesh

KAISER PARVEZ BIPLOB
Asst. Manager
SBMD, Marketing Division
The ACME Laboratories Ltd. Bangladesh

FUAD MOHAMMAD FARHAD
Assistant Manager
Scientific Business
ViolaVitalis AB
Bangladesh

MOHAMMED ATIKUR RAHAMAN
Senior Product Manager
Product Management Dept. (PMD)
Popular Pharmaceuticals Ltd. Bangladesh

"বহু যুবককে দেখিয়াছি যাহাদের যৌবনের উর্দির নিচে বার্ধক্যের কঙ্কাল মূর্তি"- কাজী নজরুল ইসলাম

Office of the Dean

Prof. Dr. Md. Delawer Hossain
Dean, Faculty of Science & Engineering, IIUC

Mohammad Abdullah Al Mamun
Senior Assistant Director

Md. Hasan

Departments Under the Faculty

01 Dept. of Computer Science & Engineering (CSE)

02 Dept. of Computer & Communication Engineering (CCE)

03 Dept. of Electrical & Electronic Engineering (EEE)

04 Dept. of Electronic & Telecommunication Engineering (ETE)

05 Department of Pharmacy

06 Dept. of Civil Engineering

FACULTY OF SCIENCE & ENGINEERING
INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG

Faculty Members

Tanveer Ahsan
Chairman & Associate Professor

Dr. Md. Monirul Islam
Professor

Mohammed Shamsul Alam
Professor

Dr. A.N.M. Rezaul Karim
Associate Professor

Mohammad Mahadi Hassan
Associate Professor

Dr. Abdul Kadar Muhammad Masum
Associate Professor

Dr. Shahidul Islam Khan
Associate Professor

Mohammed Shafiullah
Assistant Professor

Abdullahil Kafi
Assistant Professor

Shaikh Shariful Habib
Assistant Professor

Dr. Siddique Ahmed
Assistant Professor

Md. Mahiuddin
Assistant Professor

Mohammad Aman Ullah
Assistant Professor

Zinia Sultana
Assistant Professor

Muhammad Moazzam Hossen
Assistant Professor

Md. Borhan Uddin
Assistant Professor

Md. Mahmudur Rahman
Assistant Professor

Faisal Bin Al Abid
Assistant Professor

Dr. Touhidul Alam
Assistant Professor

Mohammad Manjur Alam
Assistant Professor

Faculty Members

Subrina Akter
Assistant Professor

Md. Khaliluzzman
Assistant Professor

Lutfun Nahar
Assistant Professor

Md. Rashedul Islam
Assistant Professor

Shayhan Ameen Chowdhury
Assistant Professor

Ahmed Shan-A-Alahi
Lecturer

A.B.M Yasir Arafat
Lecturer

Sanjida Sharmin
Lecturer

Md. Ziaur Rahman
Lecturer

Rahima Afrose
Lecturer

Sumaiya Deen Muhammad
Lecturer

Israt Binteh Habib
Lecturer

Mahedi Hasan
Lecturer

Saiful Islam
Lecturer

Md. Sazid Zaman Khan
Lecturer

Jamil-as-ad
Assistant Lecturer

Md. NazmulArefin
Assistant Lecturer

Farzana Tasnim
Assistant Lecturer

Mohammad Hasin Abrar
Assistant Lecturer

Faculty Members
(Study Leave)

Fouzia Ferdous
Associate Professor

Muhammad Jamshed Alam Patwary
Assistant Professor

Mohammed Arif Hasnayeen
Assistant Professor

Saifur Rahman
Assistant Professor

Md. Azher Uddin
Lecturer

Gulam Sarwar Chuwdhury
Lecturer

Md. Adil Mahmud Roman
Lecturer

Ahmed Imteaj
Lecturer

Staff, Dept. of CSE

Md. Jamal Uddin
Senior Assistant Director

Md. Sahidul Anwar
Senior Lab Technician

Md. Shahin Miah
Senior Lab Technician

Md. Nezam Uddin
Senior Lab Technician

Adil Mahmood Chowdhury
Senior Lab Technician

Mohammed Kamal Uddin
Senior Lab Technician

Farhana Yeasmin
Senior Lab Technician

Md. Mahmudur Rahman
Administrative Assistant

Nargis Jahan
Administrative Assistant

Md. Shafique Uddin Haider
Lab Technician

Imam Uddin Iqbal
Lab Technician

Md. Jahirul Islam
Lab Technician

Sakila Rahman
Lab Attendant

Rojina Begum
Lab Attendant

Asma Arjuma Begum
Lab Attendant

Selina Akter
Lab Attendant

Rubayed Afroza
Lab Attendant

Isratul Jannat
Lab Attendant

Abul Kalam
Peon

Solaiman Hossain

Shamsuddin
Bearer

Farjan Akter
Bearer

Nur Nahar Begum Runu
Bearer

"অন্যায় যে করে ও অন্যায় যে সহে, তবে ঘৃণা যেন দোহে তৃণসম দহে।"-- রবীন্দ্রনাথ ঠাকুর

Faculty Members

Dr. Md. Shamimul Haque Choudhury
Chairman & Associate Professor

Dr. A.K.M. Azharul Islam
Professor Emeritus

Dr. Md. Delawer Hossain
Professor

Muhammad Athar Uddin
Associate Professor

Dr. Sikder Sunbeam Islam
Associate Professor

Dr. Md. Shafiul Alam
Associate Professor

Dr. Yasir Arafat
Assistant Professor

Mr. Md. Nazmul Hasan (SL)
Assistant Professor

Engr. Md. Ataur Rahman (SL)
Assistant Professor

Engr. Md. Ismail Hossain (SL)
Assistant Professor

Engr. Sk. Md. Golam Mostafa
Assistant Professor

Mrs. Nargis Akter
Assistant Professor

Mr. Md. Jaynul Abden (SL)
Assistant Professor

Engr. Md. Rashidul Islam
Assistant Professor

Engr. Mohammad Faisal
Assistant Professor

Engr. Md. Abdul Kader
Assistant Professor

Engr. Md. Ahsanul Hoque (SL)
Assistant Professor

Mr. Sayed Allamah Iqbal
Assistant Professor

Engr. Md. Shahid Ullah
Assistant Professor

Engr. Ikbal Hossain (SL)
Assistant Professor

Faculty Members

Engr. Khandakar Abdullah Al Mamun
Assistant Professor

Mr. Md. Jashim Uddin
Assistant Professor

Engr. Shafait Ahmed
Assistant Professor

Engr. Md. Atiqul Islam (SL)
Assistant Professor

Engr. Md. Ismail Haque (SL)
Assistant Professor

Mr. Emranul Kabir
Assistant Professor

Mr. Md. Shafiullah (SL)
Lecturer

Engr. Meah Imtiaz Zulkarnain (SL)
Lecturer

Dr. Md. Aasim Ullah
Lecturer

Engr. Md. Abdur Rahman Munna (SL)
Lecturer

Mr. Md. Rasheduzzaman
Lecturer

Mr. Md. Zahid Hasan (SL)
Lecturer

Engr. Md. Nazmus Sakib (SL)
Lecturer

Engr. Md. Jalal Uddin
Lecturer

Engr. Md. Khurshedul Islam (SL)
Lecturer

Engr. Md. Lokman Hossain
Lecturer

Engr. Md. Eftekhar Alam
Lecturer

Engr. Khaled Syfullah Fuad (SL)
Lecturer

Engr. M. Tanvirul Hoque
Lecturer

Mr. Muhammad Raihan
Lecturer

Engr. Md. Al Emran
Lecturer

Engr. Riazul Islam
Lecturer

Tanzim Mushtary
Assistant Lecturer

Engr. Md. Abu Bakkar Sikder
Assistant Lecturer

Sazin Mohammed Aftab Ullah
Assistant Lecturer

Staff, Dept. of EEE

Md. Mostafa Helal
Assistant Director

Md. Ali Murtuza

Md. Shafiqul Islam

Md. Shafiul Alam

Shafiul Azam

Abdullah Al Noman

Md. Ibrahim Khalil

Kazi Mahfuzur Rahman

Md. Abdur Rahman

Md. Harunur Rashid

Selina Akter

Khadija Akter

Jasmin Akther Mitu

Kaniz Fatema Chowdhury

Md. Shahidul Islam

Mohammad Salim Ullah

Mohammad Kawsar Uddin

Shamima Akter Sammi

Faculty Members

Engr. Mohammed Jashim Uddin
Chairman & Assistant Professor

Engr. Md. Razu Ahmed
Associate Professor

Engr. Abdul Gafur
Associate Professor

Engr. Abu Ridwan Md. Foisal(SL)
Assistant Professor

Engr. Mojaharul Islam(SL)
Assistant Professor

Engr. Md. Abdus Samad(SL)
Assistant Professor

Engr. Md. Tahidul Islam(SL)
Assistant Professor

Engr. Syed Zahidur Rashid
Assistant Professor

Mohammad Ibrahim
Assistant Professor

Mr. Muhammad Mostafa Amir Faisal
Assistant Professor

Mr. Saif Hannan
Assistant Professor (PHY)

Mr. Abu Zafar Md. Imran
Lecturer

Mr. Mohammad Woli Ullah
Lecturer (EEE)

Engr. MD Jiabul Hoque
Lecturer (CSE)

Mr. Ariful Islam
Lecturer (PHY)

"যে জিনিসই তিনি সৃষ্টি করেছেন উত্তমরুপেই সৃষ্টি করেছেন। তিনি মানুষ সৃষ্টির সূচনা করেছেন কাদামাটি থেকে, তারপর তার বংশ উৎপাদন করেছেন এমন সূত্র থেকে যা তুচ্ছ পানির মত, তারপর তাকে সর্বাঙ্গ সুন্দর করেছেন এবং তার মধ্যে নিজের রুহ্ ফুঁকে দিয়েছেন আর তোমাদের কান, চোঁখ ও হৃদয় দিয়েছেন, তোমরা খুব কমই কৃতজ্ঞতা প্রকাশ করো।" (৩২:৭-৯)

Staff, Dept. of ETE

Mohamad Shahab Uddin
Assistant Director

Mr. Md. Zahid Hossain
Senior Lab Technician

Mr. Md. Ebrahim Khalil
Senior Lab Technician

Mr. Abdul Alim
Lab Technician

Mr. Md. Alauddin
Lab Attendant

AKM. Abdullahil Mamun
Lab Attendant

Mohammad Kamal Hossain
Peon

Engr. Md. Razu Ahmed
Associate Professor & Coordinator

Dr. Mohammad Saifuddin
Lecturer in Chemistry

Staff, Dept. of CCE

Muhammed Zahid Hossain
Admin (in charge)

Faculty Members

A. T. M. Mostafa Kamal
Chairman & Assistant Professor

Dr. Mohammed Aktar Sayeed
Professor

Mohammed Abu Sayeed
Associate Professor

Md. Masudur Rahaman
Assistant Professor

Md. Mominur Rahaman (SL)
Assistant Professor

Md. Sekendar Ali (SL)
Assistant Professor

Md. Rafikul Islam (SL)
Assistant Professor

Md. Rabiul Islam (SL)
Assistant Professor

Kazi Ashfak Ahmed Chy
Assistant Professor

Md. Josim Uddin (SL)
Assistant Professor

Syed Mohammed Tareq
Assistant Professor

Md. Hazrat Ali (SL)
Assistant Professor

A.S.M. Ali Reza
Assistant Professor

Mst. Shamima Nasrin
Assistant Professor

Dr. Md. Areeful Haque
Assistant Professor

Sanjida Sharmin
Lecturer

Afrina Azad
Lecturer

Md. Ashraf Uddin Chowdhury
Lecturer

Riniara Khatun
Lecturer

Sanjida Islam
Lecturer

Mohammad Nazmul Islam
Lecturer

Md. Saiful Islam Arman
Lecturer

Staff, Dept. of Pharmacy

Md. Nurul Azim Hamedi
Assistant Director

A.H. Kazi Md. Illiasur Rashid
Library Officer

Md. Zahir Uddin Babor
Senior Lab Technician

Md. Abdul Karim
Lab Attendant

Md. Abdur Rahman
Lab Attendant

Md. Shariful Islam
Lab Attendant

Md. Anisul Islam
Lab Attendant

A.K.M Azizul Islam
Peon

Md. Ahsan Ullah
Peon

Md. Mohiuddin
Cleaner

Nasrin Sultana
Admin. Assistant

Kusum Akter
Lab Attendant

Rahima Jannat
Lab Attendant

Manu Akter
Lab Attendant

Jannatul Ferdous Asma
Bearer

"তোমরা যে বীজ বপন করো সে সম্পর্কে ভেবে দেখেছো কি ? তোমরা কি তা থেকে ফসল উৎপন্ন করো, নাকি আমি উৎপন্ন করি? আমি চাইলে এসব ফসলকে দানাবিহীন ভুষি বানিয়ে দিতে পারি। তখন তোমরা হতবুদ্ধি হয়ে নানা রকমের কথা বলতে থাকবে।"
(৫৬:৬৩-৬৫)

Executive Committee

Computer Club (Male Section), Dept. of CSE, IIUC

Iaamanur Rahman
General Secretary

Ahasanul Kalam Akib
Assistant General Secretary-1

A.K.M. Yasar
Assistant General Secretary-2

Shahril Ahmed Siddiquee
Programming Contest Secretary

Md. Irfan Chy
Assistant Programming Contest Secretary

Md. Jonayed Tanjim
Assistant Programming Contest Secretary

Md. S. M. Ajmain
Office Secretary

Ekramul Haque Tusher
Asst. Office Secretary

Hisbullah Hasnat
Sports Secretary

SBM Reazul Karim
Asst. Sports Secretary

Md. Sabbir Hossen
Asst. Sports Secretary

Mohammad Anisul Islam
Debate Secretary

Sazzadul Islam
Asst. Debate Secretary

Sahidul Islam Hridoy
Asst. Debate Secretary

Yeasin Tanim
Finance Secretary

Md. Riadul Islam
Asst. Finance Secretary

Rajan Dey
Seminar & Workshop Secretary

Abdur Rahman Robin
Asst. Seminar & Workshop Secretary

Rubayet Md. Imrul Hasan
Asst. Seminar & Workshop Secretary

Mohammad Imran Hossain
Social Welfare Secretary

Executive Committee

Computer Club (Male Section), Dept. of CSE, IIUC

Afif Ibn Belal
Asst. Social Welfare Secretary

Md. Eftekar Uddin
Asst. Social Welfare Secretary

Abdullah Al Hossain
Cultural Secretary

Md. Abid-Ud-Takey Emou
Asst. Cultural Secretary

Mohammad Shahjalal
Asst. Cultural Secretary

Ahmed Mostafa Tanim
Press & Publicity Secretary

Md. Fahim Shahriar
Asst Press & Publicity Secretary

S.B Joy Kumar Shill
Industry Collaboration Secretary

Md. Labib Hossen
Asst. Industry Collaboration Secretary

Hafizul Morshed
Media Secratery

Nazmus Sakib
Online Content Secretary

Abdul Aziz Khan
Animation/Visual Editor

Md. Zubair Ahmed
Photographer

Shahin Sha Hossain
Creative Designer

Md. Sadek Sultan
Senior Executive

Mohammed Jahid Hassan
Senior Executive

Lutful Kader Misbah
Senior Executive

Anowarul Islam Raihan
Executive Member – 1

Hasan Shorif
Executive Member – 2

Md. Erfanul Taher
Executive Member – 3

Anas Alam Ansary
Executive Member – 4

Executive Committee

Computer Club (Female Section), Dept. of CSE, IIUC

Sumayea Benta Hasan
General Secretary

Fahima Sultana
Assistant General Secretary-1

Nanziba Basnin
Assistant General Secretary-2

Afsana Dilawar
Assistant General Secretary-3

Nuren Nafisa
Programming Contest Secretary

Ayesha Julekha
Assistant Programming Contest Secretary

Johora Jebin
Assistant Programming Contest Secretary

Yamina Islam
Assistant Programming Contest Secretary

Fozia Sultana
Assistant Programming Contest Secretary

Iren Sultana
Finance Secretary

Nusrat Mehjebeen
Assistant Finance Secretary

Sraboni Saha
Sports Secretary

Asfia Tabassum Borna
Assistant Sports Secretary

Nazrana Mehjabin
Assistant Sports Secretary

Jannatul Ferdous Neela
Assistant Sports Secretary

Tasneem Sami
Debate Secretary

Sameera Abedin
Assistant Debate Secretary

Atia Binti Aziz
Assistant Debate Secretary

Farzana Yesmin Polashi
Assistant Debate Secretary

Shaima Mahmud Khanam
Office Secretary

Tazneya Safawth
Assistant Office Secretary

Tasrin Hossain
Assistant Office Secretary

Jubida Bahar Saba
Assistant Office Secretary

Tajnim Jahan Fariha
Publicity Secretary

Razia Sultana Mukta
Assistant Publicity Secretary

Faria Tabassum Nabila
Assistant Publicity Secretary

Tazrian Jahan
Cultural Secretary

Nabila Kader
Assistant Cultural Secretary

Afrida Zaima Nelanty
Assistant Cultural Secretary

Samia Ruksad Islam
Assistant Cultural Secretary

Jarin Tasnim
Assistant Cultural Secretary

Murshida Akter
Photography Secretary

Afra Binth Osman
Assistant Photography Secretary

Prapty Das Oaishe
Assistant Photography Secretary

Nahian Fariha
Press Secretary

Nazneen Sultana Bristy
Assistant Press Secretary

Nusrat Jahan Mitu
Assistant Press Secretary

Farjana Jahan
Assistant Press Secretary

Asfia Kawnine
Seminar Secretary

Nurin Azmir
Assistant Seminar Secretary

Taniya Sultana Jabin
Social Welfare Secretary

Shahinoor Razia
Assistant Social Welfare Secretary

Anika Tahsin
Assistant Social Welfare Secretary

Nishat Salsabil
Executive Member

Executive Committee

EEE Club (Male Section), Dept. of EEE, IIUC

Shafayat Hossain
General Secretary

Md. Shamsuzzaman Kabir
Assistant General Secretary-1

Md. Mehrabul Amin Molla
Assistant General Secretary-2

Nurul Mostafa Tarek
Public Relation Secretary

Khaled Arju
Finance Secretary

Md. Al Saeid Chowdhury
Sport's Secretary

Amran Hossain
Debate Secretary

Shake Mujubur Rahman
Cultural Secretary

M an Shuvo

Md. Abdur Rahman
Assistant Finance Secretary

Mahatab Uddin Khan
Assistant Sports Secretary

Md Mahbubur Rahman
Assistant Cultural Secretary

Misbahul Abedin Abid
Assistant Debate Secretary

Md Abidur Rahman Shuvo
Executive Member

Mahmudur Rahman
Executive Member

Md Raihan Mahmud
Executive Member

Chowdhury Md. Afnan
Executive Member

Md. Tarekuzzaman
Executive Member

Executive Committee

EEE Club (Female Section), Dept. of EEE, IIUC

Brishty Shil
General Secretary

Farhana Alam
Assistant General Secretary-1

Zarin Tasnim
Assistant General Secretary-2

Musrin Sultana
Public Relation Secretary

Jannatul Huria
Finance Secretary

Jannatul Nayem
Sports secretary

Sumera Rahman
Cultural Secretary

Kazi Sumaiya Hasan
Debate Secretary

Thakeya Mojtari Fahim
Food Secretary

Fairuz Safra
Decoration Secretary

Tasfia Ekra
Photography Secretary

"তারা কি মাথার উপর উড়ন্ত পাখীগুলিকে ডানা মেলতে ও গুটিয়ে নিতে দেখেনা ? রহমান আল্লাহ্ ছাড়া কেউ নেই যিনি তাদেরকে ধরে রাখেন। তিনিই সবকিছু দেখেন" (সূরা মূলক:১৯)

Executive Committee
Telecom Club, Dept. of ETE, IIUC

Mahmudul Islam Oly
General Secretary

Mahfuz Ur Rahman
Assistant General Secretary-1

Mohammad Ishtiaque Khan
Assistant General Secretary-2

Anwarul Azim Shovon
Office & Public Relation Secretary

Aminul Islam Asfi
Finance Secretary

Md. Zikrul Bari Chy
Seminar & Workshop Secretary

Salsabil E M
Sports Secretary

Samiullah Sagar
Cultural Secretary

Faiyad Bintu
Debate Secretary

Abu Hanif
Asst. Seminar & Workshop Secretary

Aiyub Ali
Assistant Sports Secretary

Mehedi Hasan
Assistant Finance Secretary

Mahtab Uddin Tushar
Assistant Debate Secretary

Kutub Uddin
Assistant Cultural Secretary

Asif Rahman
Class Representative, 3rd Semester

Tafhimul Islam Sajib
Class Representative, 2nd Semester(A)

Md. Yusuf Pathan
Class Representative, 2nd Semester(B)

Shipon Khuranna
Class Representative,1st Semester

Executive Committee

Pharma Club(Male Section), Dept. of Pharmacy, IIUC

Nazim Uddin Emon
General Secretary

Osman Sarwar
Assistant general secretary

Shawon Ahmed
Sports secretary

Neshar Uddin Emon
Cultural Secretary

Md. Kaiser
Public Relation Secretary

Gazi Mohammad Al Raisal
Debate Secretary

Md. Arman
Asst. Public Relations secretary

Rabiul Islam
Assistant Sports Secretary

Imtiaz Mahmud
Assistant Cultural Secretary

"যিনি আকাশ থেকে পরিমিত পানি বর্ষন করেছেন এবং তার সাহায্যে মৃত ভূমিকে জীবিত করে তুলেছেন। তোমাদের এভাবেই একদিন মাটির ভেতর থেকে বের করে আনা হবে।" (সূরা আয যুখরুফ: ১১)

Executive Committee

Pharma Club(Female Section), Dept. of Pharmacy, IIUC

Israt Jahan
General Secretary

Naureen Banu
Assistant General Secretary-1

Farhana Ahmed
Assistant General Secretary-2

Nujhat Binte Hanif
Sports secretary

Umme Hamima Farhin Emu
Cultural Secretary

Kashpia Noor
Public Relation Secretary

Aysha Akter
Debate Secretary

Sharmin Akter
Assistant Sports Secretary

Zinnat Ara Nahid
Assistant Cultural Secretary

Fahmida Islam
Assistant Debate Secretary

Maria Rahman Mim
Asst. Public Relations Secretary

"আর তিনিই পানির দু'টি দরিয়া প্রবাহিত করেছেন। একটি মিষ্ট, তৃষ্টা নিবারক এবং অন্যটি লোনা ও খর । আর এ দু'য়ের মাঝে রয়েছে একটি অদৃশ্য অন্তরাল, প্রতিবন্ধক যা তাদেরকে একাকার হতে বাধা দিচ্ছে।" (সূরা আল ফুরকান: ৫৩)

LIST OF THE WINNERS
TECH FEST 2020

Inter-University Programming Contest 01

CHAMPION (Premier University, enigma)


Rakibul Hossain


Tamzid Mahmud


Sanjoy Kumar Dhar

1ST RUNNER UP (CU, Bad To The Bone)


Md. Rashedul Alam Anik


Md. Shahriar Alam


Ahasunul Kader Chy

2ND RUNNER UP (CU, 413)


Abdullah Al Shaad


Omar Faruque


Gazi Mohaimin Iqbal

BEST FEMALE TEAM (IIUC_Asarat)


Aifa Faruque


Nusrat Jahan


Afsana Aziz Mimi

"তোমরা যে পানি পান কর, সে সম্পর্কে ভেবে দেখেছ কি? তোমরা তা মেঘ থেকে নামিয়ে আন, না আমি বর্ষণ করি? আমি ইচ্ছা করলে তাকে লোনা করে দিতে পারি, তবুও কেন তোমরা কৃতজ্ঞতা প্রকাশ করনা?" (৫৬:৬৮-৭০)

LIST OF THE WINNERS
TECH FEST 2020

Tech Olympiad Competition 02

MALE

CHAMPION

Nishan Shorif, Pharmacy

RUNNER UP

Abid Hossain, ETE

FEMALE

CHAMPION

Kaniz Fatema, CSE

RUNNER UP

Atia Binte Aziz, CSE

Mobile Games & Apps Development Competition 03

CHAMPION Team Brogrammers (IIUC)

Abdullah Al Hossain Arman, CSE

Md. Ishmam Abir, CSE

RUNNER UP Team HackSlash(IIUC)

Salah Uddin Sakib, CSE

Shakil Ahmed, CSE

Md. Tazwar Islam, CSE

Narrated Abu Huraira: I heard Allah's messenger (ধর্মীয় নেতা) saying, "There is healing (আরোগ্যকারী) in black cumin (কালিজিরা) for all diseases except death." (Sahih Bukhari, Muslim)

LIST OF THE WINNERS
TECH FEST 2020

Inter-University Project Show Competition 04

CHAMPION Astro Piranhas(CU)


Safayat Siddiqui


Isfakul Alam Seam


Abdul KaderMinhaz

RUNNER UP Team Snake (IIUC)


Naim Uddin, ETE


Rayhan Siddiqui, ETE


Minhajul Islam, ETE

Inter-University Hackathon Competition 05

CHAMPION


Md. Tazwar Islam, CSE


Salah Uddin Sakib, CSE


Shakil Ahmed Reja, CSE

RUNNER UP


Afsana Dilwar, CSE


Arafa Ferdous, CSE


Nanziba Basnin, CSE

"আর সন্তানবতী নারীরা তাদের সন্তানদেরকে পূর্ণ দু'বছর দুধ খাওয়াবে, যদি দুধ খাওয়ার পূর্ণ মেয়াদ শেষ করতে চায়।"
(২:২৩৩)

Intra-University Cyber Gaming Competition 06

PUBG

CHAMPION


Moniruddin Moni CSE


Humayun Kabir Forhad CSE


Iftekhar Hasan Rifat CSE


Emdadul Hoque Ibnul CSE

RUNNER UP


Md.Abrarul Hoque CCE


Md. Abdullah Bin Mohsin CCE


Wahid Alam CCE


Istiak Bin Islam Ifty LAW

NEED FOR SPEED

CHAMPION


Tanvir Ahmed CSE

RUNNER UP


Mashiour Rahman Chy. CSE

CHESS

CHAMPION


Md. Hasanul Karim EEE

RUNNER UP


Swad Mahmud Ahmed EEE

"অবশ্যই গবাদীপশুর মধ্যে তোমাদের জন্য শিক্ষা রয়েছে। আমি তোমাদেরকে পান করাই তাদের উদরস্থিত গোবর ও রক্তের মধ্যে হতে বিশুদ্ধ দুগ্ধ, যা পানকারীদের জন্য উপাদেয়।" (১৬:৬৬)

Embedded System & Circuit design Competition 07

Circuit Design

CHAMPION

Md. Maharaj Kabir EEE

RUNNER UP

Md. Abu Saleh Musa EEE

Embedded System Design

CHAMPION

Imon Deb Nath EEE

Md. Fakwer Uddin Mazumder EEE

RUNNER UP

Nurul Islam EEE

Muhidur Rahman EEE

"তিনি খুঁটি ব্যতীত আকাশমন্ডলী সৃষ্টি করেছেন, তোমরা তা দেখ্ছ। তিনিই পৃথিবীতে স্থাপন করেছেন পর্বতমালা, যাতে পৃথিবী তোমাদেরকে নিয়ে ঢলে না পড়ে এবং এতে ছড়িয়ে দিয়েছেন সর্বপ্রকার জন্তু। আমিই আকাশ থেকে পানি বর্ষন করি, অত:পর তাতে উদ্গত করি সর্বপ্রকার কল্যানকর উদ্ভিদরাজি।" (৩১:১০)

Medicinal Plant Show Competition 08

MALE

CHAMPION


Arif Hossain


F.M. Saif Al Hasan Rahid


Mohammad Sifat Foysal


Rabeul Hasan

RUNNER UP


Abdullah Al Minhaz


Asadul Karim


Humayun Rashid Shakil


Riaz Uddin Riaz

FEMALE

CHAMPION


Farhana Ahmed


Farida Yesmin


Shahin Islam


Tanzina Akhter

RUNNER UP


Farzana akhter


Nahid Akter


Nasrin Sultana


Tabia Kadir Dipti

LIST OF THE WINNERS
TECH FEST 2020

Idea Generation Competition 09

MALE

CHAMPION (Team Origin)


Md. Mahdee Hasan, CCE


Md. Sanjid Alvi Siam, CCE


Kazi Tanvir, CCE

FEMALE

CHAMPION (Team Green Code)


Afreena Alam, CSE


Rezwana Kareem, CSE

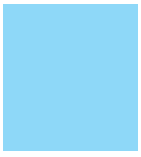

Nargis Akter, CSE

RUNNER UP (Vangari Mama)


Ishmam Abir, CSE


Abdullah Al Hossain, CSE

RUNNER UP (Team Gravity)


Jarin Tasnim, CSE


Anika Tahsin, CSE

Inter-University Poster Presentation Competition 10

CHAMPION


Nazina Akter, CSE


Sara Karim, CSE

RUNNER UP


Tasmin Farid Tonney, CSE


Afsana Aziz, CSE

LIST OF THE WINNERS
TECH FEST 2020

Inter-University Robo-Fight Competition 11

CHAMPION Redshawl (EEE, IIUC)


Md. Arafat Bin Zafar


Patwary Rezwan Al Mahadi


Nazim Uddin Sakib


Md. Jobayer Hossain


Md. Sajjad-Ul Islam


Abhishak Dhar

RUNNER UP algos_USTC


Md. Monirul Islam


Arindom Chakroborty


Animesh Dhar


Anjan Kumar Das

Math Olympiad Competition 12

MALE

CHAMPION


Arnab Barua, CSE

1ST RUNNER UP


Sa-ad Mahmud, CSE

2ND RUNNER UP


Mir Reaz Uddin, CSE

FEMALE

CHAMPION


Sadia Alam, CSE

1ST RUNNER UP


Faria Tabassum Nabila, CSE

2ND RUNNER UP


Tania Akter, CSE

Honorable guests showing their utmost respect during national anthem.

Respected teachers and fellow stood to pay their respects at the recitation of the national anthem.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC , delivering his speech in prize giving ceremony.

Honorable Chairman of the Finance Committee Prof. Ahsanullah is speaking at the award ceremony.

Prof. Dr. Abdul Hamid Chowdhury, Honorable Treasurer,IIUC sharing his thoughts in the inaugural ceremony.

Prof. Dr. Md. Delawer Hossain, Dean, FSE conveying his message to the audience in the inaugural ceremony.

Prof. Dr. Mohammad Shamsul Arefin, CSE, CUET delivering his thoughtful message in prize giving ceremony.

Mr. Rana Sohel, the Chief Operating Officer (COO),LEADS Corporation Ltd giving his heartfelt message at the award ceremony.

Prof. Mohammed Shamsul Alam delivering his speech to the audience and participants.

Prof. Dr. Mohammad Akter Saeed expressed his views on the occasion of The Tech Fest-2020.

Mr. Tanvir Ahsan, Chairman, CSE, IIUC representing his speech during the inaugural ceremony.

Engr. Mohammed Jashim Uddin, Chairman, ETE, IIUC shares his views at the award ceremony.

Mr. ATM Mostafa Kamal, Chairman, Pharmacy, IIUC is speaking at the inaugural function.

A view of prominent teachers and guests taking part in Tech Fest 2020.

Students representing their exhibition to the Guests in the Medicinal Plant Show Competition.

Faculty members are watching a part of the competition.

Students and teachers are actively playing their respective roles in the competition.

Participants showcasing their talents to the teachers.

Participants of the Inter University Project Show Competition.

Participants showing their projects with great enthusiasm.

Participants in unity exploring and utilizing their talents.

Students are outstanding for contributing to the competition.

Female students are actively participating in the competition.

Students admiring the beauty of the project.

A view of the participants and teachers in the competition.

A wonderful picture of the eye conic project model.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC distributing the crest and medal to the winner.

Prof. Dr. Delawer Hossain distributing the crest and cash prize to the runner up of the IDEA GENERATION.

The winner receiving the crest for Math Olympiad Competition from the respected guest.

Prof. Dr. Md. Delawer Hossain distributing the gift to the winner.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC distributing the prize to the winner.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the gift to the winner of the competition.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winners of the competition.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC distributing the prize to the winners.

Winners of IDEA GENERATION receiving the crest and cash prize from Prof. Dr. Md. Delawer Hossain, Dean, FSE, IIUC.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC handing over the prize to the winners.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winner of the Math Olympiad competition.

A view of the huge crowded auditorium with spectators and participants.

Prof.Dr. Md. Delawer Hossain giving the crest to the winner of the competition.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winners.

Prof.Dr. Md. Delawer Hossain distributing the crest to the winner.

Prof. Dr. Md. Delawer Hossain distributing the crest and congratulating the winner.

A moment to receive awards from distinguished guests.

Prof.Dr. Md. Delwar Hossain presented the award and congratulated the winning candidate.

A moment to receive a cash prize from an honorable professor Prof.Dr. Md. Delawer Hossain.

Participants received their crests by honored guests.

Distinguished guests are distributing crests to the winning teams.

Respected guests distributing the crest and cash prize and congratulating the boys.

Prof.Dr. Md. Delwar Hossain is distributing prize money and crest to the winning team of the competition.

Prof.Dr. Md. Delawer Hossain handing over the medal and crest to the winning teams.

Prof. Dr. Mohammad Ali Azadi, Honorable Pro Vice Chancellor, IIUC handing over the prize to the winners.

The winners are walking to get medals and prizes from the guests.

Winners cherish their great winning time while receiving cash prizes from guests.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winner.

Respected Professor Md. Delwar Hossain is handing over the crest to the winning candidate.

Respected Professor Md. Delwar Hossain is handing over the crest to the winning candidate.

A moment of joy at receiving the trophy from the guests.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winners.

Honorable Chairman of the Finance Committee Prof. Ahsanullah giving the prize to the winner.

Receiving the crest and prize money from Prof. Dr. Md. Delawer Hossain.

List of Subcommittees
Tech Fest 2020, IIUC

Inter- University Programming Contest

Mr. Tanveer Ahsan, CSE	Convener
Mr.. Khaliluzzaman, CSE	Member
Mr. Shayhan Ameen Chowdhury, CSE	Member
Mr. A.B.M. Yasir Arafat, CSE	Member
Mrs. Sumaiya Deen Muhammad, CSE	Member
Engr. Md. Eftekhar Alam,, EEE	Member
Engr. Syed zahidur Rashid, ETE	Member

Inter- University Heckathon Competition

Mr. Shahidul Islam Khan, CSE	Convener
Mr. Mohammed Mahmudur Rahman, , CSE	Member
Mr. Saiful Islam, CSE	Member
Mr. Muhammed Nazmul Arefin, CSE	Member
Ms Israt Binteh Habib, CSE	Member
Ms. Farzana Tasnim, CSE	Member
Engr. Md. Eftekhar Alam, EEE	Member
Dr. Mohammad Saif Uddin, CCE	Member
Mr. Abu Zafar Md. Imran, ETE	Member Secretary

Intra-University Cyber Gaming Contest

Dr. Abdul Kadar Muhammad Masum, CSE	Convener
Mr. Shayhan Ameen Chy, CSE	Member
Ms. Sanjida Sharmin,CSE	Member
Mr. Md. Nazmul Arifeen, CSE	Member
Mr. Md. Ziaur Rahman, CSE	Member
Engr.Md. Al Emran, EEE	Member
Engr. Abdul Gafur., ETE	Member

Poster Presentation Competition

Dr. Sikder Sunbeam Islam	Convener
Engr. Khandakar Abdulla Al Mamun ,EEE	Member
Dr. Md. Aasim Ullah, EEE	Member
Engr. M. Tanvirul Hoque, EEE,	Member
Mr. Md Mostafa Amir Faisal, ETE	Member
Dr. Md. AreefulHaque, Pharmacy	Member

Inter- University Robo Fight Competition

Mr. Md. Abdul Kader, EEE	Convener
Engr. Md. Lokman Hossain, EEE	Member
Engr. Md. Jalal Uddin, EEE	Member
Mr. Md. Rasheduzzaman,EEE	Member
Mr. Mohammad WoliUllah, ETE	Member

Inter- University Project Show Competition

Mohammed JashimUddin, ETE	Convener
Engr. Md. Rashidul Islam, EEE	Member
Mr. Abu Zafar Md. Imran, ETE	Member
Mr. Mohammad WoliUllah, ETE	Member
Mr. Abdullahil Kafi, CSE	Member
Ms Subrina Akter, CSE	Member
Mr. KaziAshfak Ahmed Chy, Pharmacy	Member

Tech Olympiad

Mr. Md Mostafa Amir Faisal, ETE	Convener
Mr. Md. Ibrahim, ETE	Member
Mr. Md. JashimUddin, EEE	Member
Dr. Mohammad Saif Uddin,, CCE	Member
Mr. Ariful Islam, ETE	Member
Ms Snajida Sharmin, CSE	Member
Mr. Nazmul Hasa, Pharmacy	Member
Mr. Md. Saiful Islam,CSE	Member

Medicinal Plant Show Competition

Mr. Md. Masudur Rahman,	Convener
Mr. A.S. M. Ali Reza, Pharmacy	Member
Mr. Ashraf Uddin Chowdhury, Pharmacy	Member
Mrs. RiniaraKhatun, Pharmacy	Member
Mrs. Sanjida Islam Bristi, Pharmacy	Member

Idea Generation Competition

Mr. Syed Md. Tareq	Convener
Mr. Md. Nazmul Islam, Pharmacy	Member
Dr. Md. Areeful Haque, Pharmacy	Member
Ms. Shamima Nasrin, Pharmacy	Member
Mr. Md. Borhan Uddin, CSE	Member
MS. IsratBinteh Habib, CSE	Member
Dr. Yasir Arafat, EEE	Member
Mr. Md. Ibrahim ,ETE	Member

Mobile Games and Apps Development Competition

Engr. Md. Razu Ahmed	Convener
Dr. Mohammad Saif Uddin,CCE	Member
Mr. Md Mostafa Amir Faisal, ETE	Member
Mr. Md. Jaibul Hoque, ETE	Member
Mr. Mohammad Raihan, EEE	Member
Mr. Faisal Bin Al Abid, CSE	Member

List of Subcommittees
Tech Fest 2020, IIUC

Embedded System & Circuit design Challenge

Mr. Md. Rasheduzzaman,EEE	Convener
Mr. Md. Abdul Kader, EEE	Member
Mr. Kh. Abdulla Al Mamun EEE	Member
Mr. Jalal Uddin-EEE	Member
Mr. Eftekar Alam	Member
Mr. Reazul Islam	Member
Dr. Touhidul Alam ,CSE	Member
Mr. Ariful Islam, ETE	Member

Seminar & Workshop Committee

Mr. Sk. Md. GolamMostafa, EEE	Convener
Mr. Md. Rashidul Islam, EEE	Member
Mr. Md. Lokman Hossain EEE	Member
Mr. Md. Rasheduzzaman, EEE	Member
Mr. Mohammad Manjuralam, CSE	Member
Mr. Md. Mostafa Amir Faisal, ETE	Member
Dr. Md. Areeful Haque, Pharmacy	Member

Finance & Sponsor Committee

Prof. Dr. Md. DelawerHossain	Convener
Prof. Md. Shamsul Alam, CSE	Member
Prof. Dr,. Mohammed Aktar Sayeed, Pharmacy	Member
Mr. Md. RazuAhmed,ETE	Member
Mr. Md. Tawfiqur Rahman, ACFD	Member

Invitation Committee

Mr. M Abu Sayeed, Pharmacy	Convener
Dr. Md. Areeful Haque, Pharmacy	Member
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Mr. Md. Eftekhar Alam, EEE	Member
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Mr. Syed Allamah Iqbal, EEE	Member
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Mr. Md. Moazzem Hossain, CSE	Member
Mrs. Zinia Sultana, CSE	Member
Dr. Md. Kaosar Ahmed, Proctor	Member
Dr. Md. Kausarur Rashid, MBBS,MO	Member

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Tech Fest 2020, IIUC

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Mr. Md. Mahmudur Rahman,CSE	Member
Mr. Mohammad WoliUllah, ETE	Member
Mr. AktherHossain, TD	Member

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Mr. Kazi Ashfak Ahmed Chowdhury, Pharmacy	Member
Mr. Md. Jashim Uddin, EEE	Member
Mr. Abu Zafar Md. Imran, ETE	Member

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Mr. Mohammad Aman Ullah, CSE	Member
Mr. Md. Khaliluzzaman, CSE	Member
Mr. ABM Yasir Arafat, CSE	Member
Mr. Shayhan Amin Chy, CSE	Member
Mr. M. Tanvirul Hoque, EEE	Member
Mr. Syed Zahidur Rashid, ETE	Member
Mr. Saiful Islam Arman , Pharmacy	Member

Inaugural Ceremony

Dr. Mohd Shamimul Hoque Chowdhury, EEE	Convener
Prof. Dr. Md. Monirul Islam,CSE	Member
Mr. A. T. M. Mostafa Kamal , Pharmacy	Member
Mr. M Abu Sayeed, Pharmacy	Member
Prof. Dr. Mohammed Aktar Sayeed	Member
Prof. . Md. Shamsul Alam, CSE	Member
Mr. Md. Athar Uddin EEE	Member

Prize Giving Ceremony

Engr. Abdul Gafur, ETE	Convener
Mr. A. T. M. Mostafa Kamal	Member
Dr. A.N.M. Rezaul Karim, CSE	Member
Mr. Sayed Allamah Iqbal, EEE	Member
Mr. M Abu Sayeed, Pharmacy	Member
Mr. Md. Shamsul Alam, CSE	Member
Mr. Md. Athar Uddin EEE	Member
Mr. Md. Mahiuddin, CSE	Member

"আবদুল্লাহ ইবনে উমার (রা:) থেকে বর্ণিত। রাসুলুল্লাহ (সা:) বলেছেন, তোমাদের কেউ যেন কখনো বাঁ হাত দিয়ে না খায় এবং বাঁ হাত দিয়ে পান না করে । কেননা শয়তান বাঁ হাত দিয়ে খায় এবং পান করে।" (মুসলিম)

Divisional Science Olympiad
January 10, 2020

Organized By:
Bangladesh Academy of Sciences
Center:
International Islamic University Chittagong

Like the previous year, this year also a Divisional Science Olympiad named "Divisional Science Olympiad-2020" was held at International Islamic University Chittagong organized by Bangladesh Academy of Science on 10 January 2020. In this inter-scholastic competition, a total of 587 students participated, out of which 365 were from different schools. Among the schools' students, 184 were male, and 181 were female. Of the rest, 222 students, 134 male and 84 female students were from various colleges. In the inaugural and closing ceremony, Prof. K M Golam Mohiuddin, the Vice-Chancellor of IIUC and Prof. Dr A K M Azharul Islam, the former Vice-Chancellor of IIUC & fellow of Bangladesh Academy of Science (BAS) graced the program with their kind presence. All participants were provided with morning snacks, lunch, and a T-shirt or a Hijab. Certificates were distributed amongst the winners of the Olympiad. Prof. Dr Delwar Hossain, the Dean of the Faculty of Science & Engineering, IIUC and the coordinator of the Divisional Science Olympiad-2020, IIUC centrally presided the whole program. The participants of the Olympiad also conducted a cultural function.

Divisional Science Olympiad
January 10, 2020

Organizing Committee

Prof. Dr. Delawer Hossain ,Dean FSE (Centre -Coordinator)	Convener
Dr. Md. Monirul Islam, Professor ,CSE	Member
Dr. Aktar Sayeed, Professor Pharmacy	Member
Mr. Tanveer Ahsan, Chairman, Dept. of CSE	Member
Dr. M. Shamimul Hoque Chowdhury, Chairman, Dept. of EEE	Member
Engr. JasimUddin, Chairman Dept. of ETE	Member
A.T.M Mostafa Kamal, Chairman Dept. of Pharmacy	Member
Engr. Razu Ahmed, Coordinator Dept. of CCE	Member
Dr. A.N.M. Rezaul Karim, Associate Prof., CSE	Member
Mr. Mohammad Mahadi Hassan, Associate Prof., CSE	Member
Engr. Md. Athar Uddin, Associate Prof., EEE	Member
Dr. Abdul Kader Mohammed Masum, Associate Prof. , CSE	Member
Mr.Shahidul Islam Khan, Associate Prof., CSE	Member
Dr. Sikder Sunbeam Islam, Associate Prof., EEE	Member
Dr Md Shafiul Alam, Associate Prof., EEE	Member
Engr. Abdul Gafur , Associate Prof., ETE	Member
Mr. Mohammed Abu Sayeed, Associate Prof., ETE	Member
Dr. Yasir Arafat, Asst. Prof., EEE	Member
Mr. Sayed Allamah Iqbal, Asst. Prof. EEE.	Member
Mr. Abdullahil Kafi, Asst. Prof., CSE	Member
Dr. Siddique Ahmed, Asst. Prof., CSE	Member
Mr. Shayhan Amin Chy, Asst. Prof., CSE	Member
Dr.Touhidul Alam, Asst. Prof. CSE	Member
Mr. Md. Masudur Rahman, Asst. Prof. Pharmacy	Member
Dr. Md. Ariful Hoque, Asst. Prof. Pharmacy	Member
Dr. Engr. Md. Aasim Ullah, Lecturer EEE	Member
Dr. Md Saif Uddin, Lecturer CCE	Member
Prof. Mohammed Shamsul Alam, CSE	Member Secretary

Divisional Science Olympiad 2020

List of Winners (Top 10%)
College Level

Jannatul Mawa Tajkia
Cambrian College, Chattogram

Mohammed Shahriar Hossain
Hatey khari School & College

Partho Nath
Chittagong Government College

A.K.M. Hasanul Banna
Bangladesh Navy College

Sakibul Hasan
Bangladesh Navy College

Arpita Ghosh
Chittagong Government College

Mohammad Iffatul Islam
Government City College

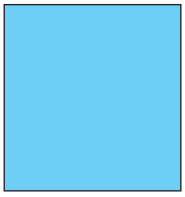
Morshedur Rigan Sagar
Prof. Kamal Uddin Chowdhury College

List of Winners (Top 10%)
School Level

Abdullah Al Mayeen
BAF Shaheen College

Md. Taskinur Rahman
BAF Shaheen College

S M Tahmid Rafi
BAF Shaheen College



Istiaq Ahmed
Sitakunda Govt. Model High School

Md. Abdullah Bin Sorwar Chy.
Chattogram Cantonment Public College

Abdullah Al Masum
Bangladesh Military Academy High School

Asique Hassan Lohani
Chattogram Cantonment Public College

Jeba Humaira
Silver Bells Girls High School

Mohammad Nafis Tanim
Chittagong Collegiate School

Naslun Nazim.
Bangladesh Mohila Samity Girls high School

Divisional Science Olympiad 2020

List of Winners (Top 10%)
School Level

Ummay Sumaiya Hoque
Silver Bells Girls High School

Saba Arjum
Silver Bells Girls High School

Md. Maruf Hossen Bhuiyan
Agrabad Government Colony High School

Warisa Raihan
BN School & College

Lubaba Mehreen
Dr. Khastagir Govt. High School, Ctg.

Nafisa Tasnim
CDA Public School & College

Puja Dey
Mirsarai Govt. Model High School

Divisional Science Olympiad 2019

February15, 2019

List of Winners (Top 10%)
College Level

Jannatul Naima
Ctg. Govt. Women College

Md. Mueed Hossan Ovi
Chittagong College

Ajwad Abrar Mostufa
Ctg. Cantonment Public College

Sadia Sharmin
Ctg. Cantonment Public College

Sanjida Nourin Nipa
Ctg. Cantonment Public College.

Emon Mutsuddin
Chottogram Bandar College

Rifat Ahmed
Halishahar Cant. Public School & College

Fahim Ehsas
BAF Shaheen College Ctg.

Taasminur Rahman Fayad
Chittagong College

Jabir-Al-Malik Nauman
Cambrian College

Md. Mahamudur Rahman
Chittagong College

List of Winners (Top 10%)
School Level

Pushpita Paul
Dr.Khastagir Govt. Girls High School

Ahmed Saad Sabit
BAF Shaheen College Ctg.

S.M. Tahmid Rafi
BAF Shaheen College Ctg.

Abdullah Al Mayeen
BAF Shaheen College Ctg.

Abrar Hasin
Halishahar Cant. Public School & College

Mohammad Ashrafullah
Shah Waliullah Institute

Rahinur Bin Naushad
Ispahani Public School & College

Samia Nawaz Asha
Kapashgola City Corporation Girls High School

Talha Zubair
Ctg. Cantonment Public College

Abu Sayed Mohammad Sayem
Darul Ulum Alia Madrasa

Divisional Science Olympiad 2019

February15, 2019

List of Winners (Top 10%)

School Level

Tasmia Tabassum
Bangladesh Mohila Samity Girls High School & College

Tanny Dhar
Dr.Khastagir Govt. Girls High School

Md. Jonaid Ahmed
Shah Waliullah Institute

Md. Abdullah Al Masum
B.M. High School

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