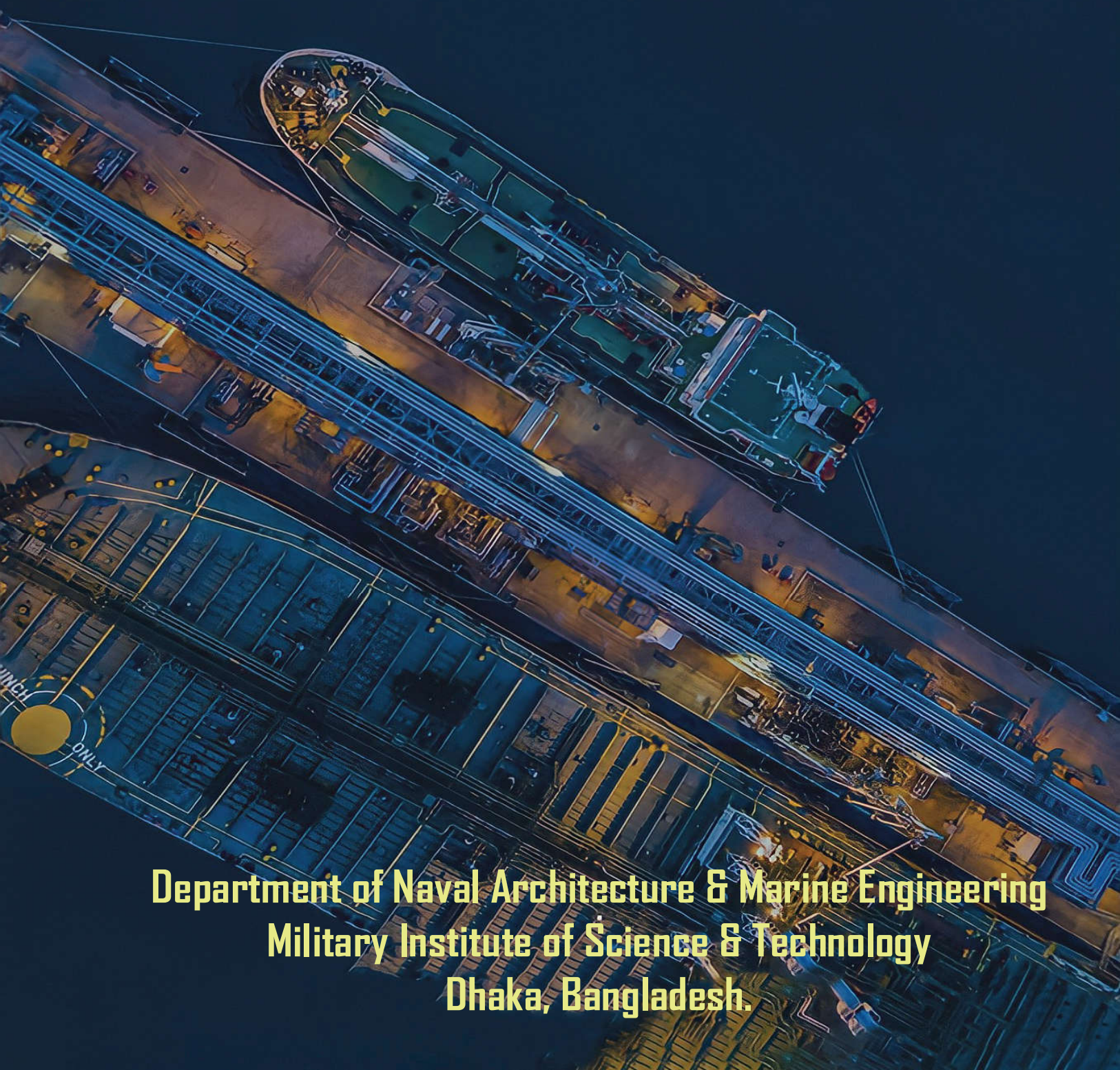
THE SAIL 2020



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THE SAIL 2020

5TH EDITION

A PUBLICATION OF

NAVAL ARCHITECTURE & MARINE ENGINEERING DEPARTMENT

MILITARY INSTITUTE OF SCIENCE & TECHNOLOGY

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APHORISM

Military Institute of Science and Technology (MIST) generates world class engineers and technologist who are capable of managing any challenges. Through the practice of using the educational text book along with other literary contents we can build an human being with strong moral values who can devote themselves for serving the country. We do this by providing a well-rounded educational experience that teaches people how to think creatively, solve complex problem, communicate effectively and work collaboratively with people from diverse backgrounds.

MIST also emphasize on learning and activities that happens outside of the classroom. Introduction of campus hour and many different student activities are few of them. MIST always encourage creativity and innovations for the students. Magazine can become a wonderful medium for the youth to express their talents and get the worthy exposure. I am sure this magazine is a symbol of literary creativity as well as co-curricular activities among the students of NAME department.

I hope that all these cultural practices alongside the practice of knowledge and those related to Naval Architecture and Marine Engineering to "The Sail" will turn this into a renowned platform in the country. Lastly, I congratulate and thank all those who work relentlessly behind this magazine.

Maj Gen Md Wahid-Uz-Zaman, ndc, aowc, psc, te
Commandant, MIST

Patron

APHORISM

Amongst the vast field of creativity, magazine is a notable one that helps to enhance the openness of human minds and hearts by presentations of scholarly figures to the entertaining content. Here, the authors enjoy the liberty to write as per their desire which brings wonderful outcome to the readers and extract the juice out of it. By this way, a bond between the writer and the reader is created. It is such a bond that is not confined among the students only, rather it has a large array of relation in the society. In that consequences, by the grace of Almighty Allah we are publishing the 5th edition of 'The Sail' magazine of Naval Architecture and Marine Engineering (NAME) department, MIST.

I strongly believe that 'The Sail' Magazine will keep on building the knowledgeable engineers by the influential professional writings. Insha Allah, it will make a brand image for the students of NAME Department as well as uphold the academic standing of MIST. The innovative writings in this magazine can also help to strengthen Naval Architects and Mariners communities across Bangladesh as well as the abroad. Last but not the least, I would like to thank all who have contributed in publishing the magazine through write up, physical effort, morale encouragement and financial supports. May Allah bless us all.

Cdre M Muzibur Rahman, (E), psc, PhD, BN
Head, NAME Dept

EDITORIAL

Editing is one of the hardest things I have done before and the task of writing Editorials is even more harder and new experience for me. Some people's tireless work is behind for the successful publication of any publication. Alhamdulillah, I would like to express my sincere gratitude and congratulations to everyone involved in the successful publication of the magazine "**The SAIL-5th Edition (2020)**" for their tireless work during Pandemic situation. At the same time, I would like to express my gratitude and sincere thanks to our faculty members and engineers who have contributed to the completion of this magazine with their valuable speeches and writings in the midst of hundreds of engagements. The SAIL Magazine is a place of passion for every person in our department so The SAIL TEAM has always strived to make every page informative and interesting. If this magazine works as a connection among the faculties, current and future naval architects, then The SAIL-5th Edition (2020) will be considered as a successful one. The SAIL TEAM have tried to avoid mistakes as well as made it error free and due to some limitations, it has not been possible to publish everyone's writings. Hopefully, you will see these things in a beautiful way.

In the end, I wish The SAIL Magazines' overall success and I believe that the magazine will one day become one of the best Publications for the University Students.

Md. Mahmudul Hasan Akib
NAME 06

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Cdre M Muzibur Rahman, (E), psc,PhD BN
Head of the Department

Cdre M Munir Hassan, (E), BN, (Rtd)

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Asst Prof Md Touhidul Islam

Asst Prof Md Mezbah Uddin

Major S M Kamruzzaman, EME

Lec Md Daluar Hussain

Lec Kazi Rafi Rahman

Lec Tasmia Hoque

Lec Kaniza Islam

Lec A S M Araf Raihan

"We can't direct the wind but We can adjust the Sails"

NAME GRADUATES ABROAD IN HIGHER STUDIES

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TU Bergakademie Freiberg, Germany

Abu Afree Andalib
Emship Erasmus Mundus Scholarship
MSc in Mechanical Engineering
University of Liège, Belgium

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Joint Masters Program
Western Norway University of Applied Science
& University of Applied Sciences Emden/Leer

Nusrat Jahan Raka
Joint Masters Program
Western Norway University of Applied Science
& University of Applied Sciences Emden/Leer

Activities of NAME Department

Webinar on World Maritime Day

A webinar was held at Military Institute of Science and Technology (MIST) by the Naval Architecture and Marine Engineering department on 24th September, 2020 titled as "Professionalism of NAME graduates" to celebrate the World Maritime Day. The objective of the webinar was to draw attention to the significance and future scopes of shipbuilding & shipping industry also possible chances after graduation. The keynote speaker of that webinar was Dr. M Rafiqul Islam, Vice Chancellor, IUT and Engr. Subrata Das, Consulting Marine Engr, Spl Ship Inspection.

Ship Design Competition

In the middle of the Corona Pandemic, NAME department organized a 3D Ship Design competition. A good number of students participated in that competition from different public and private universities like BUET, MIST, BSMRMU, SU etc. The objective of that competition was to design a 3D ship along with its general arrangement plan and other possible designs. Among them, "Team Bijoy" from MIST won 1st Position consisting member of Hasan Ruhan Rabbi and Mahmudul Hasan Akib.

Short Course

Alike every year, a short course was carried out on "MAXSURF and RHINO" two ship design software in March 2021 for Level 02 students. The course was conducted by the faculty members and alumni of NAME department. This short course is designed to impart basic knowledge regarding the specific software which would facilitate their project/thesis work.

Industrial Training

Each year the students of Level 03 participate in the long four weeks of industrial training. This course is designed to create greater understanding about the professional field and the environment. Because, a good engineer is aware of both theoretical and practical knowledge. But during the unexpected pandemic, industrial training is shifted to online rather than physical visit. 4 shipyards have taken the webinar session. Dockyard and Engineering Workshop (DEW), Khulna Shipyard Limited (KSY), Chittagong Dry Dock Limited (CDDL) and Western Marine Shipyard Limited (WMS).

Games & Sports

Like every year in the athletics competition, the students of NAME department participated in various track and field activities. In the Interdepartmental Cricket Competition our students became runner-up with their fantastic participation. Also in football competition they achieved the place as runner-up. There was active participation of the students in Basketball and other competition.

Cultural Activities

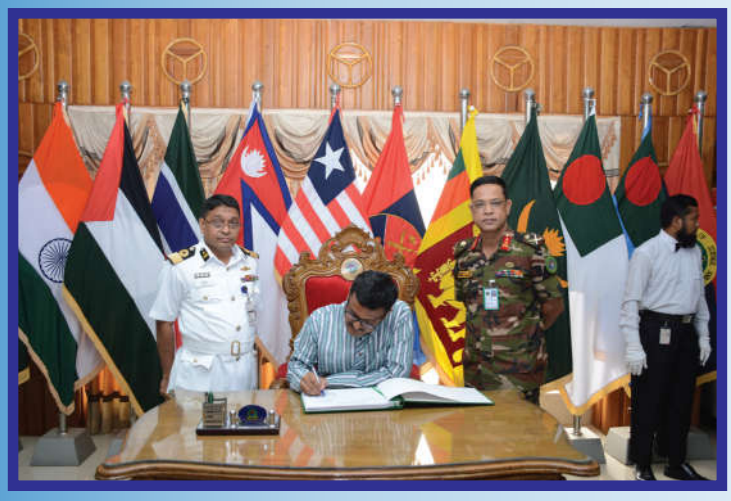
Every year interdepartmental cultural competition is arranged in MIST and like always the students took part in the competition. There was a good number of participation from NAME department as well. Araf Bin Islam Swapnil a third year student, won 3 prizes in different segment. Also, a newcomer Ishmot Jahan Itu from Level 01 won three prizes in different segment. Alongside them other students of different level tried their level best in securing prizes.
There was good participation from the department during the debate competition of MIST.

Faculty members opted for Higher Studies

Each year, talented professionals from the department of NAME receive prestigious scholarship from different foreign universities. In 2019 two lectures of NAME department went for Higher studies in abroad. Lecturer Abu Afree Andalib went to MSc program in University of Li ge, Belgium securing a prestigious scholarship "Erasmus Mundus". Just a few days later, Lecturer Mohammed Jubair Dipto received a PhD scholarship in University of Illinois, USA.

Presenting NAME Dept.

Seminar on World Maritime Day 2019



Seminar on World Maritime Day 2019

Annual Picnic (Students with Faculty Members)

Celebrating NAME Day

Short Course on Ship Design Software (MAXSURF & Rhinoceros)

For the Loving Pupils of Naval Architecture & Marine Engineering

Commodore M Muzibur Rahman, (E), psc, PhD, BN

Our Lord, Almighty Allah, has created human being in a state of weakness, but blessed with extra ordinary divine intelligence. Since the age of Adam and Eve, we have been using that intelligence in undertaking numerous engineering obligations in order to prove ourselves as His qualified khalipha (representative) on the earth. As a result, we are capable to rule over all creations and creatures, and it is an engineer who could perceive the need of time and take the contemporary steps to an evolved one. In this regard, maritime related engineering is one of the important aspects in the history of civilization. Basically the whole civilization of the world has evolved taking the availability of water front at the center. No civilization could be developed in this world without the presence of a river beside it. Be it Nile, Huang Ho, Indus or Amazon. So, river has been taken as the basic requirement of civilization and at the same time ships are one of the oldest forms of transport used by men. Over the time, their structure, functions and technology have been subjected to constant evolution. Here, technology has been a vital factor in providing opportunities to build larger, faster and safer ships.

Naval architecture has been an inherent part of that evolution of ships and crafts, which has been appealing and equally demanding for long time. Professionals in naval architecture and marine engineering (NAME) are specialized in design, construction, conversion, repair, surveying and decommissioning of marine vehicles and structures are to remain in the frontline in civilization. As of today buoyant world trade, a thriving leisure industry and the need for defense of nations' waters and overseas interests, all mean that marine vehicles will continue to be as dominating factor. With such a scenario new challenges, for instance the need of environmental protection and security aspect, will have significant impact on marine technology. At this challenging era we remember the Prophet Noah (A) as the pioneer naval architect, whose designed and constructed safina (vessel) was absolutely sea worthy at the greatest flood occurred ever in the history of mankind.

Undoubtedly, NAME is a very interesting branch of study. Graduates in this field of study have actually duel degrees. In one way these graduates are naval architects, and another way they are marine engineers. Study in NAME provides insight to design, to build, to operate and to maintain vessels which move just above, on or under the sea. These include tankers, container ships, passenger ferries, battleships, aircraft carriers, submarines, drilling platforms, hovercraft, yachts, and many other kinds of vessels. It can be said that naval architects connect nation to nation and civilization to civilization through seas and oceans. Basically, a good naval architect is he who can acquire required knowledge of designing marine vehicles and structure satisfactorily, and utilize such

knowledge for the benefit of mankind. A good naval architect has to build ships which must possess good S3 i.e., strength, stability and speed and good C3 i.e., comfort, communication and control that meet national and international rules and regulations. Marine design remains always as especial one in terms of quality, reliability and appearance. It is well known that any item or product of marine grade is of higher quality than the normally available commercial grades. Be it a plastic strip or a high tech electronic item; be it at static offshore platform or an unmanned underwater vehicle. NAME professionals have to ensure that all items are of such standards. Moreover, a ship contains huge items, may be, equal to the requirement of a cosmopolitan city, which needs everything from big electric power houses to sewerage systems. Work volume and item requirements onboard ships necessitate the naval architects to devote on each and every equipment and system to make it absolutely worthy at marine environment.

Naval architects, marine engineers and nautical surveyors are to work together carrying out tests, surveys and procedures at the yard as well as onboard every now and then. Naval architects may also carry out many works with the friends of related engineering fields in collaboration, and involve in many researches with related fields. There are opportunities for a naval architect to be involved in rig fabrication and siting for the oil and gas industries as offshore tasks with civil and mining engineers, in fiber optics submarine cable lay out with shoulder to shoulder of IT professionals and in exploration of under-sea resources with ocean engineering professionals. Even naval architects may involve themselves in building underwater parks jointly with URP personnel to open a new horizon of tourism. All these are involved with bringing in new technological innovations, advanced design and production methods, and ensuring that existing technology does work as efficiently as possible.

To be prepared for the professional tasks, students of naval architecture are primarily studying hydrodynamic theories and concerned computational methods to develop efficient hull form to be operated at desired movability with minimum energy consumption. Secondly, they have to go through material science in depth to build better quality ships to be sustainable in unfriendly weather conditions at sea. As the field of naval architecture is the part and parcel of mechanical engineering, it is impossible to be a good naval architect without being a good mechanical engineer. Therefore, adequate knowledge is absolutely essential on mechanics, theory of machine, heat transfer, diesel engine, gas turbine, nuclear power, fuel cells, pumps, compressor, refrigeration, air-conditioning etc. In addition, they have to be quite confident on electrical and electronic machines, devices and systems as the electrical power generation and distribution in ships remain under the purview of marine engineers. Moreover, machinery controls, whether it is mechanical, pneumatic or electronic, need to be looked after by marine engineers on board. It indicates the earnest requirement of control engineering expertise to a considerable extend for the marine engineers. Above all, today's technology is computer based and no ship is designed without the use of software. It is now the demand of the day to have upper hand on computer programming language and numerical simula-

tions to bring forward what the graduating students are principally learning in the field of naval architecture and marine engineering. The last but not the least is the economics and management which include efficient cost estimating and financial sensitivity, human resource management and enhancement of leadership traits, strategic and operational aspects etc. Therefore, graduates in naval architecture and marine engineering are quite capable to take up any relevant engineering and administrative duties assigned to them and contribute to the society, the nation and the world.

Due to versatility of the field of study, the graduates of naval architecture and marine engineering have a wide range of employment and research opportunities worldwide. Moreover, naval architects have stake relations with certain organizations like shipyards, classification societies, fleet owners, flag states, port authorities, shipping authorities, petroleum companies operating at offshore, defense forces, and so on. Depending on their qualifications, capabilities and personal interests, they may become specialized in one field or develop broad experience in several areas. By personal experience I do feel that it is no way less effective to working as a marine engineer than that of a naval architect. Once experience is gathered, it is possible for naval architects and marine engineers to gain promotion to senior technical and management positions in the industry, commerce and government. It is also possible to move into another related area of engineering or management on completion if they feel so.

Moreover, historically and by heritage, Bangladesh is a country having good name and fame for well-designed shipbuilding. In 14th century, famous traveler Ibne Batuta came to visit this land and found better quality ships here. So, he went back to his home in Morocco by a ship built in Bengal. European traveler Caesar Frederick documented that Chittagong was a shipbuilding hub in 15th century. Volume of shipbuilding in Bengal increased extensively during Mughal period. In 17th century, shipyards of Chittagong used to build ships for Sultan of Turkey. Royal Navy had many warships built in Chittagong, some of them were also used in the Battle of Trafalgar in 1805.

With such a glorious history, Dockyard & Engineering Works (DEW), Narayanganj was established in 1926. Thereafter, Khulna Shipyard (KSY) was established in 1957 and Chittagong Dry Dock (CDD) in 1981. In addition, Bangladesh has 200 private dockyards. Few of them have become renowned in shipbuilding and repair. As a whole, Bangladesh is quite capable of building ships of international standard, in naval language, which is called the class standard. So, the government of Bangladesh has very correctly declared the shipbuilding as the 'thrust sector' in national economy. Now, it is the responsibility of all of us to develop that thrust by taking enough load and making us prepared.

In conclusion I would like to whisper the students that technology is changing very fast. It is so fast that many people are facing difficulty to maintain the pace at par. Therefore, my request will remain to develop individual skills and expertise to combat with every odd or adverse situation that may be required to encounter. For that there is no alternative to whole hearted study and utmost hard work keeping the Almighty in consistent remembrance.

Tropical Cyclones over the Bay of Bengal and Their Predictions

Professor Dr. Nasreen Akter

Introduction

Tropical cyclone (TC), one of the most devastating weather phenomena in the globe which causes torrential rain, strong wind, and severe storm surges during landfall. Though 7% of the global TCs have only occurred in the Bay of Bengal (BoB), however, they are usually strong in nature and causing massive destructions to the coastal countries like India, Bangladesh and Myanmar due to their geographical location, low-lying topography, high population density, socio-¬economic condition, lack of resources. Death tolls from the cyclone Bhola (May 1970), BoB_02 (April 1991) and Nargis (April 2008) exceeded 224,000, 138,000 and 130,000, respectively.

What is TC?

TC, a low-pressure system, is the warm-cored vertical rotating cylinder embedded within a large atmospheric flow. By definition, a TC is developed when it spins with maximum surface wind speeds of 34 knots (63 km/h). At this stage, TC becomes active or intensify by a self-sustaining mechanism like a heat engine that is fueled by the temperature gradient between the warm tropical ocean surface and the cold upper atmosphere.

A mature TC comprises of three main components i.e. eye, eyewall and rainbands (Fig. 1).

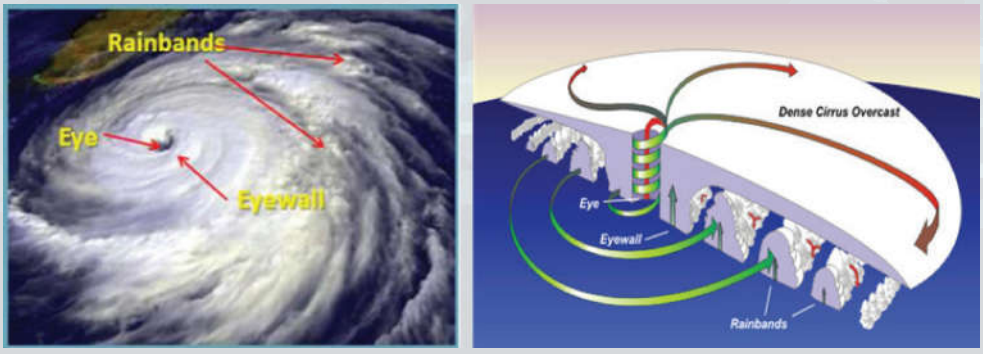


Fig. 1: Tropical cyclone structure (https://www.weather.gov/jetstream/tc_structure)

How TC is formed?

The genesis of a cyclone is a complex hierarchy process that must satisfy the environments in three different scales. They include:

a. Climatology (global scale): region, season, sea surface temperature (SST), etc.

TCs are favorable for the tropical regions include the North Atlantic Ocean, the eastern and west-

ern parts of the northern Pacific Ocean, the southwestern Pacific, the southwestern and southeastern Indian Oceans, and the northern Indian Ocean (Arabian Sea and Bay of Bengal). The activities of TCs are frequent in the warm season when ocean surface temperature reaches its threshold value of 27°C.

b. Synoptic scale (order of 1000 km) environment: monsoon trough, high positive vorticity, small vertical wind shear, etc.

When the previous climatology is satisfied then tropical disturbance (or cloud cluster) in the trough or easterly wave is the precondition for the formation of TC. The disturbances are characterized by cyclonic relative vorticities in the lower troposphere, high relative humidity in the mid-troposphere and small vertical wind shear (change of winds with height) between lower and upper-level winds.

c. Mesoscale (order of 100 km) dynamics: cloud and convective systems

Within the disturbances, a large-scale wind surge helps to develop convective cloud systems (~250 km) and associated convective vortex.

Is the BoB different from other ocean basins?

The BoB is completely different from the other ocean basins in terms of seasonal activities and frequencies of TCs which are described below:

a. The TCs in the BoB occur in two seasons instead of the summer season like other basins. Because of monsoon trough (a large belt of the low-pressure area) location TCs are active in the premonsoon (March-April) and postmonsoon (November-December) seasons. During the monsoon season (June-September), TCs are suppressed by the strong wind shear. According to Joint Typhoon Warning Center (JTWC) data, in the last 31 years from 1990 to 2020 the total frequency of TCs was 99 which included 30 premonsoon TCs, 63 postmonsoon TCs and 06 TCs in other seasons (Fig. 2).

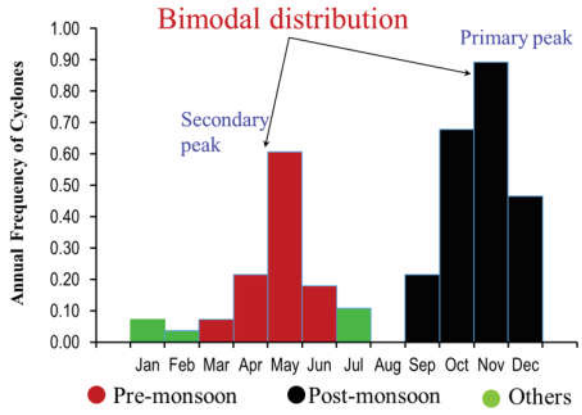


Fig. 2: Frequency of tropical cyclone over the BoB

b. The occurrence of TCs during postmonsoon is nearly twice that in the premonsoon season (Fig. 2). TCs are found less in number even though ocean temperature is higher in the premonsoon season (~30°C). During premonsoon a deep hot, dry air coming from northwesterly are flowing over the

north and northwestern BoB and make a stable environment aloft the BoB (Fig. 3). This stable environmental deep column suppresses the formation of convection which is one of the essential precursors for the TC formation mentioned in 3c.

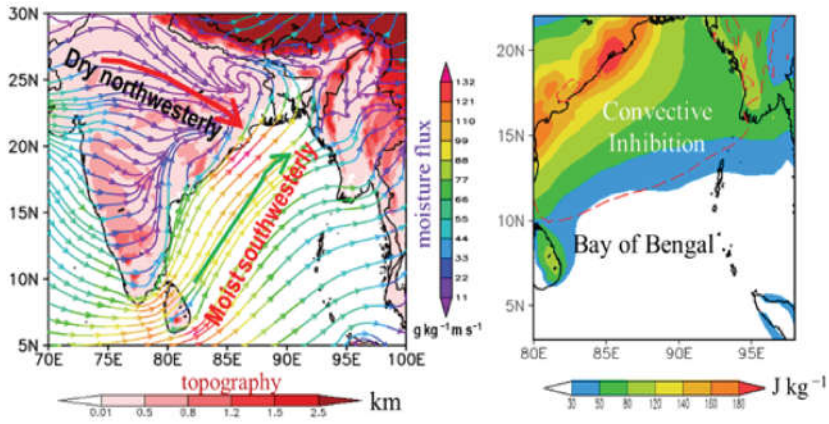


Fig. 3: Premonsoon environment over the BoB

Predictions of tropical cyclones:

The forecast of TCs is essential for early warning management, assessment of risk and vulnerability, disaster preparedness, policy-making, etc. during the advancement of TCs. Recently, the vast improvement of numerical weather model allows predicting TCs with more accuracy in terms of their tracks, intensity and genesis. The scarcity of observed data like satellite, radar, radiosonde data is our main shortcoming to observe or analyze the movement and intensity of TCs. Thus, selecting a good weather model and proper use of its parameterization are only vital options for examining the TCs in the BoB. As BoB comprises a different environment, sensitivity tests of the model parameters are crucial for predicting a TC in better ways.

Simulation of Cyclone Amphan (May 2020):

Recent pre-monsoon cyclone Amphan (2020) developed in the BoB was a category-5 (maximum wind speed of 240 km/h) cyclone. The TC made landfall over the Indian coast, weakened after several hours, and passed through Bangladesh as a deep depression. Even after the highest human evacuations, dead tolls were 128 and property loss of 13.6 billion US dollars after landfall of Amphan to India and Bangladesh.

Cyclone Amphan was simulated for 96 hours using a high-resolution weather model named WRF. The simulated track (black) is almost similar to the observed track (white) with a minimum track error (Fig. 4). Simulated Amphan made landfall exactly the same position as observed. The vertical cross-section along the center of Amphan (Fig. 4) and the rainfall structure (Fig. 5) provides some important characteristics about Cyclone Amphan. These are:

- The horizontal diameter is 1500 km for matured Amphan.
- The height of the TC is ~15 km.
- Wind speed is about 238 km/h near the center and the right side wind is more intense than the left side.

- A clear and calm eye is visible.
- Multiple rainbands are developed and more prominent on the northwestern of Amphan.
- Rainbands containing deep convections are strong even after landfall which has resulted in severe flash flooding and huge damages.

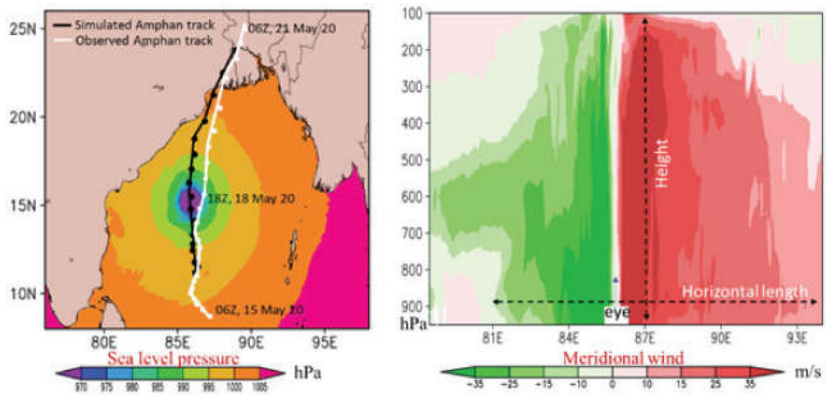


Fig. 4: Horizontal and vertical structures of Cyclone Amphan

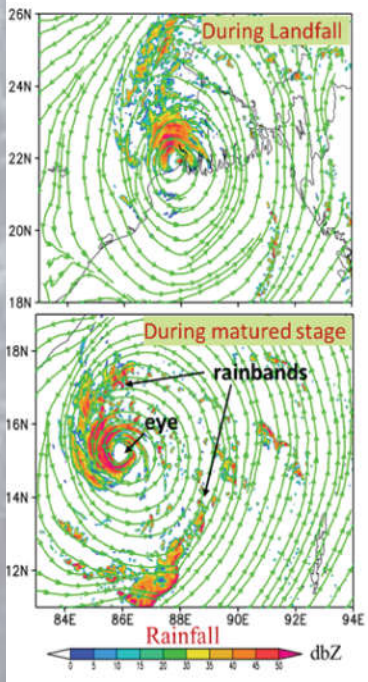


Fig. 5: Cyclone Amphan during matured and landfall period

Conclusion:

The proper knowledge for the TCs and their surrounding environments, especially TCs that formed in the BoB is important to comprehend. The wrong selection of the model and inappropriate prediction of movement and intensity of the TCs will affect the human life and property for coastal areas around the BoB. The adequate information about the characteristics of a TC, environmental conditions and severity during landfall will save or reduce the casualties and other property damages not only near the coast but also in the mainland through which TC and its rainbands will pass.

Life : Different way of Thinking

Commodore Khandakar Akhter Hossain, (E), PhD, NUP, psc, BN

Our success and failure are in the hands of Allah, not anybody else. If Allah is with us, no one can harm us. Allah's name is Ar-Rahman in the Quran; to make it clear to us that, just because Allah is the most Merciful, It doesn't mean He's not going to carry out justice. It was not Muslim who has made Islam great. Whereas it is Islam, that has made the Muslim great in the world. Allah still loves and shows mercy to those who disobey Him. So we must imagine how much he loves those who obey him. A doctor can treat us, but only Allah can heal us. We should have fear of Allah; wherever we are (Hadees Tirmidhi: 1987). Every test is a blessing every blessing is a test. Allah's timing is perfect in every matter. We don't always understand the wisdom behind it. But we have to learn to trust it. We cannot delete our internet history from Allah.

Happiness, peace and success will never come to those who fail to appreciate the blessings they already have. We must say Alhamdulillah in every moment of our life. We must keep faith on trust in Allah or God even when we don't understand his plan. There is no moving creature on earth but its sustenance depends on Allah; and he knows where it lives and where it rests. Everything is in a clear book of almighty. We must be uncomfortable to sin in public. We should not be shy to show our faith to Allah. Islam makes everything clearer. Islam is the bridge between us and Jannah. If we worry, we suffer twice. We should leave it to Allah. Allah says, you prefer the life of this world; while the hereafter is better and more lasting (Al Quran 87:16). Prophet Mohammad (pbuh) says, you will die the way you lived (Hadees).

Prophet Mohammad (pbuh) says, "When you see a person who has been given more than you in money and beauty, then look to those who have been given less." Prophet Mohammad (pbuh) also says, "The strongest man is the one who, when he gets angry and his face reddens and his hackles rise, is able to defeat his anger. (Hadees Imaam Ahmad: 5/367 and Saheeh al-Jaami: 3859). Shaikh Ibn Taymiyah said: "The heart was only created for the remembrance of Allah." (Majmu al fatawa 9/233). When we don't understand what's happening in our life, we need to close our eyes, and take a deep breath and say, "O Allah, I know this is your plan just help me through it." If we are in doubt, we need to ask Allah. We need to perform two rakath salat in confined places.

If we believe Allah, we must trust Allah when things don't work out the way we wanted. Allah has something better planned for us. Allah says: O you who believe! Seek help through patience and prayers indeed; Allah is with the patient (Quran 2:153). When Allah pushes us to the edge, we must trust him fully because only two things can happen. Either He will catch us or He will make us learn how to fly. Allah says: If Allah knows (any) good in our hearts, He will give us (something) better than what was taken from us (Quran 8:70). Omar Suleiman says, when we treat people well, those same people might not treat us the same way. But if we pay attention, we'll notice that Allah has sent other people who treat us even better. Ibn Qayyim Al jawziyyah says, a person's tongue can give you the taste of his heart.

Mufti Ismail Menk says, insulting others is never a way of correcting them. Instead, it causes some damage and proves that we need help ourselves. We need to control our anger or it will

control us. The bigger desire we have for a sin the bigger is our Imaan or belief, if we leave it. Nouman Ali khan says, we should not force the religion on our family. We must show them those beauties of the religion through our own practice. Kindness is a mark of faith and whoever is not kind has no faith. Islam teaches a Muslim that, "If you don't intend to marry her" Keep your hands off another man's future wife. If you do intend to marry her, keep your hands off until she is your wife." The solution to every problem is in sabr or patience and istigfaar or seeking forgiveness.

Serving our parents in their old age is as good as opening the doors of Jannah or paradise. So we don't miss out. When we feel low or sad, we should look around us. Who are our true friends? Surround ourselves with those who remind us of Allah and become happy. We must fear Allah because of his punishment. We must love Allah because he is full of mercy. Indeed, Allah does not wrong the people at all. But it is the people who are wronging themselves. The Prophet Muhammad (pbuh) says "Do not wish to be like anyone except in two cases; 1. A person, whom Allah has given wealth and he spends it righteously, 2. The one whom Allah has given wisdom and he acts according to it and teaches it to others." (Hadees Bukhari). If one has good manners, one may attain the same level of merit as those who spend their nights in prayers (Hadees Bukhari). Prophet Mohammad (pbuh) also says, there is the reward for kindness to every living thing (Hadees).

The world or Dunya is not the resting place, it is the testing place. When we're close to Allah, He softens our heart. This world is we pleased with the life of this world, rather than the hereafter (Aakhira)? But little is the enjoyment of the life of this world as compared with the hereafter. Happy is the soul that found Allah before finding world. Halal is a must; not just about what we eat but also what we wear and what we love. O Allah, give us the strength to distance ourselves from that which distances us from You. We should avoid the spotlights of stardom and seek the noor or light of Allah. "Before going to sleep in every night, we should forgive everyone and sleep with a clean heart" we need to balance our world or dunya around our deen. It's all a matter of priorities. We should not worry; we should to leave everything to Allah.

We should fill our heart with Imaan and it will become the most peaceful place on earth. The Prophet Mohammad (pbuh) says, there will come a time when holding on to your religion will be like holding burning coal. (Hadees Tirmidhi: 3056). When someone is behaving unjustly to us, find peace in the truth of the situation, knowing that Allah is enough as a witness. The Prophet Mohammad (pbuh) says, "beware! whosoever oppresses a Mujahid (Non-Muslim living Muslim land with agreement) or snatches (any of) his rights or cause him pain which he cannot bear, or takes anything from him without his permission, then I will fight against such a (muslim) on the day of judgement." (Hadees Abu Dawud: 3052). We usually worry about tomorrow as if it's guaranteed. If Jannah is our dream, we should hold tight to our deen!

When there is no way, Inshaallah Allah will make a way. Someone, somewhere, right now is fighting for his or her life. We still have ours, so we should be thankful and spend it in the obedience of Allah. Being a Muslim is more than just going to the Mosque or Masjid. Allah

wants our attention, not our attendance. Who can help us get through our problems? Nobody, but Allah. We should not waste our tears on a broken relationship with someone we once loved. We should invest our tears to strengthen our relationship with Allah. Being Muslim is for all day. Worries end when Salat begins. The shortest distance between a problem and its solution is the distance between our knees and the floor. Only in Islam, do the king and peasant bow down together side by side proclaiming Allah's greatness. We should feed our soul with remembrances of Allah, Dhikr, read Quran and perform Tahajjud. Not just 5 times a day. Practicing Islam beautifies once character. If it's making us intolerable, impatient and grumpy then we're doing it wrong.

Islam is a mercy and complete deen. If we see its opposite, unkindness, then it's sure that is not Islam. What is Jihad? Smiling in the tough moment is Jihad. Keeping patience in hard times is Jihad. Struggling for the good deed is jihad. Taking care of old parents in a loving way is jihad. Forgiving to others is jihad. Jihad is not what the media shows; but what the Quran Says to strive and to Struggle! Suicide bombing is not Jihad; that is crime and great sin. Messenger of Allah Mohammad (pbuh) says, indeed whoever (intentionally) kills himself, then certainly he will be punished in the fire of hell, wherein he shall dwell forever. (Hadees Bukharee: 5778, Muslim: 109–110). Prophet Mohammad (pbuh) also says, "The greatest jihad is to battle your own soul to fight the evil within yourself."

Imam Al-Ghazzali said, we need declare our jihad on unseen enemies, like: egoism, arrogance, conceit, selfishness, greed, lust, intolerance, anger, lying, cheating, gossiping and slandering. If we can master and destroy them, then we will be read to fight the enemy we can see." Leo Tolstoy said, Muhammad has always been standing higher than the Christianity. Muslims worship nothing except God and Muhammad is his Messenger. There is no any mystery and secret in it. I challenge anyone to understand Islam, its spirit, and not to love it. Yann Martel said, it is a beautiful religion of brotherhood and devotion. Muhammad Asad said, Islam appears to me like a perfect work of architecture. All its parts are harmoniously conceived to complement and support each other; nothing is superfluous and nothing lacking; and the result is a structure of absolute balance and solid composure.

The Quran is a spiritual, complete, detail, straight, easy and useful book of knowledge, intelligent and wisdom. The Quran is for ourselves, not for our shelves. The Quran is the final holly book from Allah for our guidance, needs and deeds. Subhana Allah. We human usually say: I'm a failure. But Allah says in the holly Quran, the Believers are successful (Surah Al-Mu'minoon: 1). We people say: It's too difficult. Whereas Allah says in the holly Quran, with every difficulty there is ease (Surah Inshiraah: 6). We say: No one can help me. But Allah says in the holly Quran, It's upon Me to help the believers (Surah Ar-Rum: 47). We say: No one is with me. Whereas Allah says in the holly Quran, no doubt I'm with you (Surah Taha: 46). We say: I'm too ugly. But Allah says in the holly Quran, I have certainly created man in the best make and appearance (Surah At-Teen: 4).

Again we people say, I'm too sinful. But Allah says in the holly Quran, He loves those who repent (Surah Al-Baqarah: 222). We say: The religion is too hard. But Allah says in the holly Quran, He wants ease for you (Surah Al-Baqarah: 185). We say: I don't have much. Whereas Allah says in the holly Quran, for those who believe and do righteous deeds is a generous

provision (Surah Al-Hajj: 50). We say: I'm always sick. But Allah says in the holly Quran, I have sent down the Quran as a healing (Surah Al-Israa: 82). We say: I'm overburdened. Whereas Allah says in the holly Quran, Allah will not burden a soul more than it can bear (Surah Al-Baqarah: 286). We say: I feel lost. Whereas Allah says in the holly Quran, and He found you lost so He guided you (Surah Ad-Duhaa: 7).
Again we people say: I'm unrewarded and feel unappreciated. Whereas Allah says in the holly Quran, your efforts and striving will be rewarded and appreciated (Surah Insaan: 22). We say: I feel dishonored. Whereas Allah says in the holly Quran, I have indeed honored the children of Adam (Surah Al-Israa: 70). We say: Shaytaan's plot is too strong. But Allah says in the holly Quran, Shaytaan's plot is indeed weak (Surah An-Nisaa: 76). We say: victory is far away. Whereas Allah says in the holly Quran, the victory of Allah is indeed very close (Surah Al-Baqarah: 214).

Thomas A. Edison said. "Many of life's failures are people who did not realize how close they were to success when they gave up." Albert Einstein said, "If you want to live a happy life, tie it to a goal, not to people or things." The Missile Man of India, Dr APJ Abdul Kalam contributed not only to science but also served as the 11th President of India and was widely regarded as the 'People's President'. As an aerospace scientist, Kalam worked with India's two major space research organizations; Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO). He often spoke to children and the country's youth; inspiring them to think big in life; he also penned a number of books. All of us do not have equal talent. But all of us have an equal opportunity to develop our talents. Dream, dream, dream! Dreams transform into thoughts and thoughts result in action. He also said, to succeed in your mission, you must have single-minded devotion to your goal.

Aristotle said, "You never do anything in this world without courage, it's the greatest quality of the mind next to honor." Roy T. Bennett said, "Focus on your strengths, not your weaknesses. Focus on your character, not your reputation. Focus on your blessings, not your misfortunes." Barack Obama says, "Change will not come if we wait for some other person or some other time. We are the ones we've been waiting for. We are the change that we seek" Oprah Winfrey says, "When you undervalue what you do, the world will undervalue who you are." Dalai Lama says, "The purpose of our lives is to be happy. Steve Jobs said, "Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma; which is living with the results of other people's thinking."

If we found, things are too hard to handle, retreat and count our blessings instead. We must look and think, over a 151000 people die in this world every day. We must thank Allah for still giving us some more time to fix our Akhirah or hereafter. We should be like those who forgot Allah; so Allah caused them to forget their own souls. When we repair our relationship with Allah, He repairs everything else for us. No matter what our physical appearance, when we have kindness in our heart, we are the most beautiful person in the world. Actually, we must take every day as a chance to become a better Muslim. Ali Ibn Abi Talib (RA) says, the worst of our faults is our interest in other people's faults. The overly jealous seek to harm and hurt others, but in the end, only harm them. Salahuddin Ayyubi said, if you want to destroy any

nation without war, make adultery and nudity common in the next generation.

If we do good and good will come to us. Great leader of Muslim Umar Ibn al Khattab (RA) said, we should to invite people to Islam, even without words. People asked, how? He replied "With your manners". Every new breath that Allah allows us to take is not just a blessing, but also a responsibility. We should pray to Allah daily for our safety of soul from all negativity, hurt, anger, greed, austerity, self-pride, worries and depression. Sometimes the blessings are not in what He gives, but in what He takes away! How can we feel worthless, when Allah blessed us with Islam? Allah chose us Muslim because He wants to see us in Janaah or heaven hereafter. We all have to do is prove that we're worthy of it. Allah knows what the best is for us and when it's best for us to have it. We should take account of ourselves before we are taken to account. Umar ibn Al-Khattab (RA) said, evaluates our deeds before they are weighed. He also said, "There is no Islam without unity, no unity without leadership, and no leadership without obedience."

Tawakkul or 100% faith to Allah will take care of us even when things look impossible. Allah can make the impossible to possible anytime and anywhere here and hereafter. Allah says, "so I revealed to Musa. "Strike the sea with your staff and it split in two each part like a towering cliff." (Al Quran) If we don't want our kids to hurt others, we don't show them how to do it. We don't know what tomorrow holds but we know who holds tomorrow. O Allah! Don't put us back into what You once took us out from. O Allah! If we lose hope today, please remind us that Your plans are better than our dreams. O Allah! fix our heart and mind to You.

If we see that Allah comforts us with his remembrance, then we can trust that He indeed loves us. When our heart becomes hardened, then our eyes become dry. Rather than stressing about things we cannot control, we need to pray to the one in control and find relief. Bad things in life open our eyes to those things we weren't paying much attention to before. That's a blessing from Allah too! Allah understands our prayers even when we can't find the words to say them. We only complain of our sorrow and our sadness to Allah. Beware of being found where Allah prohibited us from and beware of being absent from where Allah commanded us to be. A Knife didn't kill Ismail (Alaihi Salam), the fire didn't Burn Ibrahim (Alaihi Salaam), a whale didn't eat Younus (Alaihi Salam), and The Sea didn't drown Musa (Alayhi Salam). We should be with Allah, and Allah will protect us.

We must believe everything in our life is pre-written; but with dua or pray to almighty, it can be re-written. Easy Dhikr La ilaha ilallah illallah! Doesn't require too much movement of our lips. So we can repeat it all day without anyone noticing. He calls us so He can forgive us for our sins. The greatest test of faith is when we do not get what we want, but still we are able to say "Alhamdulillah". We don't pray to exist. Actually we exist to pray. We should not think that any request we have is too much for Allah. Allah says: Kun Faya Kun or "Be" and it become. Allah knows what is in every heart. (Surah Mulk 67:13). Every secret in our mind and heart Allah knows it all and nothing we can hide from Allah.

মুজিব চিরন্তন

ক্যাপ্টেন কাওসার রশিদ , (ই), পিএসসি , বিএন
প্রভাষক মোঃ দেলোয়ার হোসেন সুমন
এনএএমই বিভাগ , এমআইএসটি

১৯২০ সালের ১৭ ই মার্চ। দিনটি ছিল বুধবার। গোপালগঞ্জ জেলার টুঙ্গিপাড়া। সেই গ্রামের শেখ পবিবারে জন্ম হলো একটি শিশুর। তাঁর পিতার নাম শেখ লুৎফর রহমান ও মাতা সাহেরা খাতুন। বাবা আদর করে শিশুর নাম রাখলেন খোকা। এই খোকা আর কেউ নয় আমাদের প্রাণপ্রিয়, জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান। বঙ্গবন্ধু স্থানীয় গীমাডাঙ্গা স্কুলে প্রাথমিক শিক্ষা লাভ করেন। চোখের সমস্যার কারণে তার প্রাথমিক শিক্ষা চার বছর ব্যাহত হয়। ১৯৪২ সালে তিনি গোপালগঞ্জ মিশনারী স্কুল থেকে ম্যাট্রিক, ১৯৪৪ সালে কলকাতার ইসলামিয়া কলেজ থেকে আইএ এবং একই কলেজ থেকে ১৯৪৭ সালে বিএ পাশ করেন।

তাঁর রাজনৈতিক জীবনের শুরুটা হয়েছিল স্কুল জীবন থেকেই । সালটা ১৯৩৮; বঙ্গবন্ধু শেখ মুজিবুর রহমান তখন গোপালগঞ্জ মিশনারি স্কুলের ছাত্র । তৎকালীন বাংলার প্রাধানমন্ত্রী শের ই বাংলা ফজলুল হক এবং শ্রম মন্ত্রী হোসেন শহীদ সোহরাওয়ার্দী গোপালগঞ্জের সেই স্কুলে আসেন একটি এক্সিবিশন অনুষ্ঠানে । সেই দিনেই সোহরাওয়ার্দীর সাথে কথা হয় বঙ্গবন্ধুর এবং তখন থেকেই তাদের মধ্যে চিঠি ও টেলিগ্রামের মাধ্যমে যোগাযোগ শুরু হয়। একই বছর তিনি কলকাতায় গিয়ে দেখা করেন হোসেন শহীদ সোহরাওয়ার্দীর সাথে । তিনি শহীদ সোহরাওয়ার্দীকে প্রস্তাব করেন গোপালগঞ্জে মুসলিমলীগ ও ছাত্রলীগ গঠন করার । শেখ মুজিবুর রহমানের প্রস্তাবের ভিত্তিতে গোপালগঞ্জে মুসলিমলীগ ও ছাত্রলীগ গঠিত হয় এবং তিনি হন ছাত্রলীগের সাধারণ সম্পাদক। এভাবেই শুরু হয় শেখ মুজিবুর রহমানের রাজনৈতিক জীবনের।

গোপালগঞ্জ মিশন স্কুল থেকে মেট্রিকুলেশন পরীক্ষায় উত্তীর্ণ হয়ে শেখ মুজিবুর রহমান কলকাতা ইসলামিয়া কলেজে ভর্তি হন। এই সময়েই তিনি মূলধারার রাজনীতির সাথে সরাসরি যুক্ত হোন । ১৯৪৩ সালের দুর্ভিক্ষে এবং ১৯৪৬ সালের কলকাতায় সাম্প্রদায়িক দাঙ্গায় শেখ নিজের জীবন বাজি রেখে উপদ্রুত এলাকায় আর্তমানবতার সেবায় আত্মনিয়োগ করে নিরীহ মানুষদের জীবন রক্ষা করেন । ১৯৪৮ সালে দেশ ভাগের পর শেখ মুজিবুর রহমান ঢাকা বিশ্ববিদ্যালয়ের আইন বিভাগে ভর্তি হন এবং ৪ জানুয়ারী পাকিস্তানের প্রথম বিরোধীদলীয় ছাত্র সংগঠন পূর্ব পাকিস্তান মুসলিম ছাত্রলীগ প্রতিষ্ঠা করেন । উর্দুকে পাকিস্তানের একমাত্র রাষ্ট্রভাষা

করার জন্য পাকিস্তানের শাসকগোষ্ঠীর চক্রান্তের বিরুদ্ধে শেখ মুজিবুর রহমান আন্দোলনের প্রস্তুতি গ্রহণের জন্য কর্মতৎপরতা শুরু করেন । ১৯৪৯ সালে শেখ মুজিবুর রহমান ঢাকা বিশ্ববিদ্যালয়ের চতুর্থ শ্রেণীর কর্মচারীদের চাকরির নিরাপত্তা বিধান এবং অধিকার আদায় আন্দোলনে সমর্থন জানান । ১৯৫২ সালের ভাষা আন্দোলন, ১৯৫৪ সালের যুক্তফ্রন্টের নির্বাচন, ১৯৫৮ সালের সামরিক শাসনবিরোধী আন্দোলন , ১৯৬২ সালের শিক্ষা কমিশন বিরোধী আন্দোলন , ১৯৬৬ সালের ছয় দফা , ১৯৬৮ সালের আগরতলা ষড়যন্ত্র মামলা , ১৯৬৯ সালের গণঅভ্যুত্থান , ১৯৭০ সালের নির্বাচন এবং ১৯৭১ এর মহান মুক্তিযুদ্ধ জাতির পিতা বঙ্গবন্ধু শেখ মুজিবুর রহমানের অবিসংবাদিত নেতৃত্বে পরিচালিত হয় ।

১৯৭১ সালের ৭ ই মার্চ রেসকোর্স ময়দানে জনসমুদ্রে শেখ মুজিবুর রহমান স্বাধীনতা সংগ্রামের জন্য সর্বাত্মক প্রস্তুতি গ্রহণের আহবান জানিয়ে বজ্রকণ্ঠে ঘোষণা করেন " এবারের সংগ্রাম আমাদের মুক্তির সংগ্রাম এবারের সংগ্রাম আমাদের স্বাধীনতার সংগ্রাম" । মাত্র ২০ মিনিটের বক্তৃতায় বাঙালি জাতির হাজার বছরের প্রতীক্ষার পালা শেষ হয়ে যায় । ইতিহাসের বাস্তব ঘটনাবলীই প্রমান করেছে বঙ্গবন্ধু ওই ২০ মিনিটের এক ভাষণের মাধ্যমেই বাঙালি জাতিতে আসন্ন মুক্তিযুদ্ধের জন্য প্রস্তুত করেছেন । ৭ ই মার্চের ভাষণটি যেমন ছিল স্বাধীনতার সুস্পষ্ট রূপরেখা, ঠিক তেমনি ৯ মাস পর স্বাধীন দেশে প্রত্যাবর্তনের পর তার ভাষণটি ছিল বাংলাদেশের সমৃদ্ধি ও উন্নয়নের রূপকল্প । দেশ শত্রুমুক্ত হওয়ার পর মূলত তিনটি কাঠামো নিয়ে যাত্রা শুরু করে বাংলাদেশ। প্রথমত, স্বাধীন গণপ্রজাতন্ত্রী বাংলাদেশ সরকার গঠন। দ্বিতীয়ত, প্রাদেশিক সরকার কাঠামো। তৃতীয়ত, সাবেক কেন্দ্রীয় সরকারের ছোট কাঠামো সমন্বয় করে একটি জাতীয় ও পূর্ণাঙ্গ সরকার গঠন, নতুন কর্মকর্তা নিয়োগ ত্বরান্বিত করেন তিনি। সংবিধান প্রণয়ন ও ভারতীয় মিত্রবাহিনীকে ফেরত পাঠানোও ছিল কার্যত উল্লেখযোগ্য। পরবর্তীতে মাত্র একবছরের ব্যবধানে একটি সুলিখিত ও বিশ্বব্যাপী প্রশংসিত সংবিধান উপহার দিয়ে পুরো বিশ্বে এক নবযুগের ইতিহাস সৃষ্টি করেন।

জাতির জনক বঙ্গবন্ধু শেখ মুজিব বাংলাদেশের রাষ্ট্রক্ষমতায় ছিলেন মাত্র ৪৪ মাস। রাষ্ট্রীয় ক্ষমতা গ্রহণের পর মুহূর্ত থেকে বঙ্গবন্ধু গণপ্রজাতন্ত্রী বাংলাদেশ সরকারের প্রতিটি কাজে মনোযোগী হয়ে ওঠেন। প্রত্যক্ষভাবে জাতির জনক বাংলাদেশের জন্য প্রথমেই যে সদ্ধিান্ত নিয়েছিলেন তাতে তার প্রশাসনিক প্রজ্ঞা এবং সংসদীয় গণতন্ত্রের প্রতি শ্রদ্ধার পরিচয় ফুটে ওঠে। তিনি রাষ্ট্রপ্রতির পদ ছেড়ে দিয়ে জনগণের নিকট এবং সংসদে অধিকতর জবাবদিহিতামূলক প্রধানমন্ত্রীত্বের পদ গ্রহণ করেন। “রাষ্ট্রপ্রতির সাময়িক সংবিধান আদেশ-১৯৭২” শীর্ষক আদেশে রাষ্ট্রপতি পরিবর্তন, মন্ত্রীসভা নিয়োগ, শপথ, সুপ্রীমকোর্ট প্রতিষ্ঠা ইত্যাদি বিষয় স্থান পেয়েছি-ল ।বঙ্গবন্ধু স্বদেশে প্রত্যাবর্তন করেই যুদ্ধ বদ্ধিস্ত বাংলাদেশ পুর্নগঠন এবং ভিটামাটি ছাড়া মানুষের পূনর্বাসনের জন্য তাঁর প্রশাসনকে সক্রিয় করা ছাড়াও মুক্তিযোদ্ধাদের এ দুটি কাজে আত্মনিয়োগ করার আহবান জানিয়েছিলেন। বঙ্গবন্ধু প্রধানত যে সব বিষয়ে অগ্রাধিকার প্রদান করেছিলেন তার মধ্যে সংবিধান প্রনয়ন, সদ্য স্বাধীন দেশের প্রতি পৃথিবীর দেশসমূহের স্বীকৃতি আদায়, দরিদ্র জনগোষ্ঠির ভাগ্য পরিবর্তন, আধুনিক শিক্ষা ব্যবস্থা চালুকরণ, আইন শৃঙ্খলা প্রতিষ্ঠা, বিভিন্ন প্রশাসনিক কর্মকর্তা কর্মচারী ক্যাডারকে পুর্নবিন্যাস করা,আধুনিক কৃষি উৎপাদন ব্যবস্থাসহ ভূমি সংস্কার ইত্যাদি অন্যতম। দেশের দ্রুত অর্থনৈতিক প্রবৃদ্ধি এবং এর সুষম বন্টন প্রধান বিষয় ছিল বঙ্গবন্ধুর প্রশাসনের নিকট। তাই বঙ্গবন্ধু ১৯৭২-১৯৭৩ অর্থবছরের উন্নয়ন বাজেটের শতকরা ৬০ভাগ

পলী এলাকায় ব্যয় করার ঘোষণা করেন। বাংলাদেশের প্রথম পঞ্চবার্ষিকী পরিকল্পনা ১৯৭৩-১৯৭৮ বঙ্গবন্ধু সরকার অনুমোদন করেন।দূরদর্শী বঙ্গবন্ধু এই কথা ঠিকই অনুধাবন করতে পেরেছিলেন যে, অর্থনৈতিক উন্নয়নের ক্ষেত্রে সঠিক আর্থিক নীতিমালা এবং ব্যাংকিং খাতের সুষ্ঠু বিকাশ নিয়ামক হিসেবে কাজ করে। তাই ব্যাংকিং সেক্টরে বঙ্গবন্ধুর গৃহীত পরিকল্পনা ও ব্যবস্থাপনা ছিল সুদূরপ্রসারী। বদ্ধিস্ত অর্থনীতি, মুদ্রাব্যবস্থার অভাব ও ভগ্ন ব্যাংকিং ব্যবস্থার চ্যালেঞ্জ মোকাবিলায় তিনি তৎক্ষণাৎ কেন্দ্রীয় ব্যাংক পুণর্গঠন করেন। তিনি তার প্রধানমন্ত্রীত্বের মাত্র ০৬ মাসের মাথায় ১৯৭২ সালের ১৪ জুলাই ১০ সদস্য বিশিষ্ট একটি জাতীয় বেতনস্কেল কমিশন গঠন করেছিলেন। এই কমিটি বাংলাদেশে বিদ্যমান পাকিস্তান আমলের অনেকগুলো বেতনস্কেল সমন্বিত ও একীভুত করে মাত্র ১০টি স্কেলে আনার সুপারিশ করেছিলেন। ব্রিট্রিশ আমলের শিক্ষাব্যবস্থায় যুগোপযোগী পরিবর্তন আনয়নের জন্য তিনি প্রশাসনকে পরামর্শ দেন। তাঁর ঐকান্তিক আগ্রহে কুদরাত-এ-খুদা শিক্ষাকমিশন গঠিত হয়েছিলো। এছাড়াও তিনি শিশুদের ভবিষৎ উজ্জ্বল করার নিমিত্তে ১৯৭৪ সালের ২২ জুন জাতীয় শিশু আইন (চিলড্রেন আইন) প্রণয়ন করেন।

বঙ্গবন্ধুর গৃহীত আরও কয়েকটি প্রশাসনিক পদক্ষেপ ছিল যুগান্তকারী। এগুলোর মধ্যে ঢাকা বিশ্ববিদ্যালয় এ্যাক্ট ১৯৭৩ প্রচলন, বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন গঠন, কৃষি বিপব ও ভূমিব্যবস্থাপনায় ব্যতিক্রমধর্মী সংস্কার ইত্যাদি প্রধানতম ছিল। তিনি বিশ্বাস করতেন কঠোর ও সুস্থ শান্তিময় পররাষ্ট্রনীতিকে। সাধারণ পাকিস্তানিদের প্রতি বিদ্বেষহীনতা এবং একই সাথে পাকিস্তান দখলদার বাহিনী সংঘটিত অপরাধ তদন্ত সম্পন্ন হওয়ার পর ১৯৫ জনকে বিচারের আওতায় আনা তারই পরিচায়ক । শুধু আভ্যন্তরীন নয় আন্তর্জাতিক সম্পর্ক উন্নয়নে বঙ্গবন্ধু তার বলিষ্ঠ নেতৃত্বে দিয়েছেন। যার ফলশ্রুতিতে প্রতিবেশী দেশগুলোর সাথে বাণিজ্যিক সম্পর্ক বৃদ্ধি এবং দ্বিপাক্ষিক সমস্যা সমাধানের মাধ্যমে বাংলাদেশ অভ্যন্তরীন উন্নয়ন ও অগ্রযাত্রা নতুনভাবে করার সুযোগ পায়। তিনি জাপানের সাথে চুক্তি করেন বঙ্গবন্ধু সেতু নির্মানের। তাঁর প্রশাসনিক প্রচেষ্ঠায় ১৯৭২ সালে ০৮ আগষ্ট বাংলাদেশ কমনওয়েলথের সদস্যপদ অর্জনে সক্ষম হন। এছাড়াও জাতিসংঘে বাংলা ভাষায় ভাষণ দিয়ে বাংলা ভাষাকে বিশ্বের দরবারে পরিচয় করিয়ে দেন। স্বাধীনতা রক্ষাকল্পে শেখ মুজিবুর রহমানের প্রত্যক্ষ তত্ত্বাবধানে বাংলাদেশ সেনাবাহিনী, নৌবাহিনী ও বিমানবাহিনী গড়ে ওঠে। এর মধ্যে যুগোশোভিয়া সামরিক প্রতিনিধিদল পাঠিয়ে পদাতিক বাহিনীর জন্য অস্ত্রসস্ত্র, অফিসারদের ব্রিটেন, সোভিয়েত ইউনিয়ন, ভারতসহ বিভিন্ন দেশে প্রশিক্ষণ ব্যবস্থা, পাকিস্তান থেকে প্রত্যাবর্তনকারী সামরিক কর্মকর্তা ও জওয়ানদের পুর্ণবাসন প্রভৃতি উলেখযোগ্য ।

পৃথিবীর বিভিন্ন জাতিসত্তা বিকাশে যুগে যুগে অনেক মহান ব্যক্তিত্ব অবদান রেখে গেছেন। আমাদের জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান বিশ্ব ইতিহাসের সেই মহান ব্যক্তিদের অন্যতম। তিনি আর্বিভূত হয়েছিলেন বাঙ্গালি জাতির এক মহাদুর্যোগ লগ্নে। এ মহান ব্যক্তির নেতৃত্বে বাঙ্গালি জাতি অংশ নেয় গৌরবময় মুক্তিযুদ্ধে-অর্জন করে বহু প্রত্যাশিত স্বাধীনতা। শুধু দেশ স্বাধীনই নয়, সদ্য স্বধীন কিন্তু যুদ্ধ বদ্ধিস্ত রাষ্ট্র পুনর্গঠনে তিনি অসাধারণ নেতৃত্বের পরিচয় দেন। সদ্য স্বাধীন যুদ্ধ বিধস্ত বাংলাদেশের সমস্যার সীমা পরিসীমা নিরুপণ করা ছিল দুঃসাধ্য। স্বাধীন গণপ্রজাতন্ত্রী বংলাদেশ সরকারকে সুদৃঢ় ভিত্তির উপর প্রতিষ্ঠিত করেছিলেন জাতির জনক বঙ্গবন্ধু শেখ মুজিবুর রহমান। স্বাধীন বাংলাদেশ পুর্ণগঠন ও উন্নয়নের বঙ্গবন্ধুর অসম অবদান ।

তাই মুজিব চিরন্তন, আমাদের অবিচলিত চেতনা।

Consultancy Services Provided by NAME Dept. under Centre for Advisory and Testing Services (CATS) of MIST

Lt Col Osman Md Amin,PhD, Engrs

Military Institute of Science & Technology (MIST) was established on 19 April,1998 with a view to provide quality engineering and higher technical education to Bangladesh Armed forces` personnel as well as civil students and professionals of the country. Along with 12 departments, highly professional faculty members, modern infrastructure and adequate testing and lab facilities, MIST by now has emerged as one of the leading engineering universities in Bangladesh.

Six departments of MIST namely CE, EWCE, EECE, NAME, CSE operate Centre for Advisory and Testing Service (CATS-MIST) to provide real-life related practical engineering knowledge to the students. Other objectives of CATS includes making provisions for advisory, research and consultancy services including supervision, material testing, making suitable agreement with any person/organization, carry out research, investigation, innovative & development based intellectual studies to meet the demand of the fast changing technological needs of the society and the nation. CATS-MIST is equipped with sophisticated, latest technology based state of the art lab equipment.
Department of Naval Architecture & Marine Engineering (NAME) started its journey in the year of 2013 consisting of 32 students. Within last seven years the department has provided graduation to four academic batches. Currently, NAME department has also started MSc and PhD in Naval Architecture and Marine Engineering courses along with a vision to develop the state-of-the-art facilities and expert manpower for leading the field. On this premise the outfit, CATS-MIST (NAME) started its journey in 2016 with a view to provide knowledge-based world class technical services to satisfy the needs of individuals, industry and society. The vision of the outfit is to excel in providing research and development based technical services to meet the demand of the fast changing technological needs.
A group of highly professional faculties consisting of six professors, eight associate professors, eight assistant professors and four lecturers deliver their expertise to the students of MIST as well as the industrial fields of the nation through CATS-MIST (NAME). These faculties are drawn in from military, industry and reputed academic fields having diverse educational qualification and background.
So far CATS-MIST (NAME) has been involved with three of the government projects of which two had already been completed and the other one is about to be completed by the middle of this year. Our strengths lie on providing consultancy services as per requirements with the highest level of technical confidence, honesty and sincerity.
Recently CATS-MIST (NAME) has completed several consultancy projects of maritime industry in Bangladesh. The main responsibility was to prepare a feasibility report for the patrol and pilot vessels. Besides this, the NAME department conducted a 20-inch

dredger and a 26-inch dredger consultancy project. There were some other responsibilities i.e. preparing the technical specification and cost estimation report of these special type of watercrafts. Currently, department of NAME is doing the inspection and consultancy work for the construction of 112 watercrafts of BIWTA including 20 dredgers and special type of excavation equipment. The summarized format of the consultancy works of NAME dept are given below:

Serial No	Service	Organization (Client)	Position of NAME Dept of MIST	Duration
1.	Consultancy Services for the procurement of Cutter Suction Dredgers of different sizes, various ancillary vessels and other accessories along with design of infrastructure for dredger base like office building, ware house, dormitory etc. in 6 (six) areas.	BIWTA (Bangladesh Inland Water Transport Authority)	Consultant	Dec 2016 - Ongoing
2.	Feasibility study for Procurement of 01 no. High Speed Pilot Boat and 01 no. High Speed Patrol Boat	CPA (Chittagong Port Authority)	Consultant	Feb 2017 – May 2018
3.	Consulting Service for Procurement of 01 no. 26 inches and 01 no. 20 inches Cutter Suction Dredger with other ancillary Crafts (02 no. Crane Boat + 02 no. House Boat) and Accessories.	CPA (Chittagong Port Authority)	Consultant	Feb 2017 – Sept 2018

The first Project is concerned about the procurement of 20 nos. of dredgers, 92 nos. of ancillary vessels, 14 types of ancillary items & other accessories along with construction of infrastructure for dredger base like office building, warehouse, dormitory etc. in 6 (six) areas, which was adopted by BIWTA through the approval of Ministry of Shipping under Annual Development Programs of Bangladesh.

The construction of 89 watercrafts have already been completed under the supervision of the NAME department, MIST so far at Karnafuly Shipyard in Narayanganj and Karnafuly Dockyard in Chattogram. It can be expected that these types of collaborative work with the maritime industry would help the faculty members to be updated with the most recent maritime developments in Bangladesh. Nevertheless, the students of the NAME Department of MIST will also be benefited as well. The project is expected to be completed by June of 2021.

Fig 1 – Inspection of the cutter ladder and gantry crane of dredger 450 mm in Karnafuly Dockyard, Chittagong

Fig 2 – Self propelled pipe carrying barge in Karnafuly Dockyard, Chittagong

Fig 3 - Final inspection of MIST consulting body before launching of BIWTA MADHUMATI (CSD 450 mm)

Fig 4 – Aluminium Survey Vessel under construction in Karnafuly Dockyard, Chattogram

Fig 5 – 12 Ton Bollard Pull Tug under construction in Karnafuly Dockyard, Chattogram

The second project dealt with the consultancy services to Chittagong Port, the largest sea port of Bangladesh, which handles about 92 percent of country's maritime trade. The growth rate of the volume of imports and exports through Chittagong port is about 10-14 percent per year. With the remarkable change in cargo handling in international maritime trade and introduction of open market economy with trade computerizing during nineties, cargo handling at Chittagong port has increased over time. Being consistent with the improvement of modern ports around the world, efforts are continuing to develop this port as a modernized one. With this end in view, a range of development programs have been undertaken by the CPA. Among those, one of the projects is this one i.e. procurement of a high speed boat and a high speed pilot boat which will be operated in the CPA area comprising the river Karnaphuli and outer anchorage of the port in the Bay of Bengal.

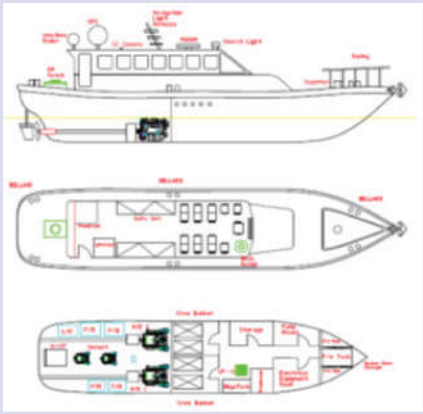


Fig 6: General Arrangement Plan of Pilot Boat for CPA

NAME Department of MIST was offered to play the role as a consultant to carry out the feasibility study for the procurement of those vessels. After several visits to Chittagong Port, CATS- MIST (NAME) had submitted the feasibility study report, cost estimation report and tender document for the procurement of high speed boat and pilot boat for CPA by June of 2017. The project was declared to be finished by CPA at around May of 2018.

The third project is concerned about the procurement of one 500 mm (20 inches) Cutter Suction Dredger and one 650 mm (26 inches) Cutter Suction Dredger for Chittagong Port Authority. These are being procured with a view to facilitate deep channel to accommodate large incoming as well as outgoing vessels in the existing terminal at Karnaphuli River and

also in the newly proposed Bay Terminal, Mirsarai Terminal, etc.

Scope of services to be provided by CATS- MIST (NAME) included feasibility study, design and drawing of the proposed dredger and ancillary crafts, Environmental Impact Assessment (EIA), estimation of total procurement cost, bill of quantities, preparation of technical specifications, preparation of tender documents for the procurement of above mentioned dredgers and ancillary vessels and defining the requirements of manpower with specific qualifications for the operation of those vessels.

Finally, the operating environment of the dredgers has been reviewed and the selection of optimum size for the selected dredgers with necessary facilities have been accomplished considering the available dredger models of different manufacturers and the existing types of dredgers as operated by different organizations within the country. The procurement cost of the proposed dredgers have been assessed with respect to the international market price of each individual items, material of construction, different necessary systems, machinery and equipment to be facilitated in the dredgers and the financial feasibility of the proposed dredgers has been studied based on the consideration of the procurement cost and annual operation and maintenance costs.

Besides, CATS- MIST (NAME) is constantly providing consultancy services to the Army and Navy as and when required. Following are some of the projects where MIST provides their expert opinions on:

Ser No.	Project Title	Organization
1	Procurement of Vessel Type "A" (LCT) (sea-worthy).	14 Independent Engineer Brigade, Dhaka Cantonment
2	Procurement of Vessel Type "B" (TCV) (sea-worthy).	Engineer Directorate, Engineer-in-Chief's Branch, Army Headquarters
3	Procurement of Out Board Motor (OBM) 300 HP (150x2) boat with accessories.	Engineer Directorate, Engineer-in-Chief's Branch, Army Headquarters
4	Procurement of Broad Keel (BK) Barge.	14 Independent Engineer Brigade, Dhaka Cantonment
5	Procurement of Vessel Type "A" (LCT) (river-worthy).	14 Independent Engineer Brigade, Dhaka Cantonment
6	Procurement of Vessel Type "C" Landing Craft Vehicle & Personnel (SCVP).	14 Independent Engineer Brigade, Dhaka Cantonment
7	Procurement of Reconnaissance & Survey Craft.	14 Independent Engineer Brigade, Dhaka Cantonment
8	Procurement of Salvage & Recovery Craft.	14 Independent Engineer Brigade, Dhaka Cantonment
9	Procurement of Vessel Type "C" (Commander Vessel)	14 Independent Engineer Brigade, Dhaka Cantonment
10	Procurement of VesseL Type "D" (river- worthy).	Engineer Directorate, Engineer-in-Chief's Branch, Army Headquarters
11	Procurement of Motor Tug (MT).	Padma Multipurpose Bridge Project, Engineer Directorate, Engineer- in Chief's Branch, Army Headquarters
12	Procurement of 02xMetal Shark Aluminum Boat (Sea Horse).	Padma Multipurpose Bridge Project, Army Headquarters, Engineer-in-Chief's Branch, Engineer Directorate
13	Preparation of technical specification and design for the procurement of Hilsha Fish Research Vessel.	Bangladesh Fisheries Research Institute, Riverine Station, Moishadi, Chadpur

SLEEPSLESS HOURS in Winter in Europe
(FROM voyage : Antwerpen-Bremaerhaven-kiel transit- St. Petersburg)

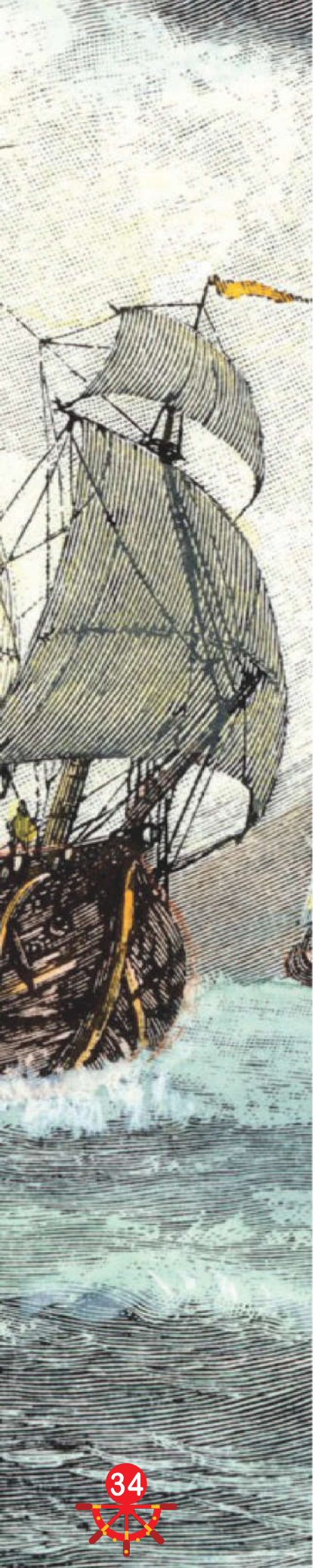
Capt.Md.Taufiqul Islam
Sr.Nautical Instructor BMA ,ctg &Commandant incharge
Bangladesh Marine Academy, Pabna.

Mobile rings - a call received from the water clerk department at Bremerhaven (port in Germany), Captain you will be finishing the cargo work in about two hours time and please keep your vessel ready in all respect to sail for the next voyage. End on conversation I have instructed my crew members for the preparation for the sea.

As we were already aware of the fact that weather condition which was going bad due some low pressure system has been developed over the English channel and North sea and we felt & witnessed its impact while calling the port itself. I have checked the weather condition and get the latest weather bulletin for the present weather and the sea . It sounds not very nice .Hmm.

The sea is very rough, wind speed keeps on increasing as the low pressure system intensifying further, sometime gusting to 150 nm, shipping seas and water spray makes the condition further worse ,visibility reduced and my initial instinct tells me to delay the departure for few hours would be better.

So called my shipping Line manager and discussed the issue and consulted the fact . Ship was to go the St. Petersburg (Russia) through Kiel canal (Germany) and next Kiel canal pilot station about 2 hours sailing only and due some commercial pressure vessel was instructed to proceed to the sea as planned. Vessel was under full preparation for the heavy seas and stormy weather ahead. Cargo operation completed in time and vessel was ready to depart with 24 crew members, port clearance obtained through water clerk department of agency .My family wife and my 2 daughters was on board due sign off at Bremerhaven and left the vessel about 1400 hrs to fly for Dhaka .Enquired and checked about all the preparation from chief officer and chief engineer , we announces our departure and call the dock pilot .After 15 min pilot was boarded the vessel and we exchanged information as a part of the safety procedure and work plan. Pilot did informed me that due to stormy weather outside the channel there will be no river pilot as such and you will be guided by the radar pilot system to the sea and Captain you will be at your own. We unmooring the vessel and cast off from the jetty within next 5 min and off from the jetty pilot disembarked .While departing from the ship Mr.Pilot did not forget to wish me Luck too.



"Good Luck Captain"". How courtesies Europeans are! routine communication procedure !

Replied in turn Okay-dokey pilot , take care . Heart beats fast in the beginning as she starts proceeding through buoyed channel with other traffics in it guided by VTS . As she was navigating out we were beginning to feel the impact of the stormy weather .On crossing the port limit we are in to the open waters and witnessed the roars of wind and seas and the inevitable impact as expected. She starts rolling badly ,pitching in while ,pounding at times shipping seas and seven horses (whitish bubble surf in the wave crest) splashing on the deck and bridge windows , water sprays makes the visibility poor and high windage area causing the vessel inclined on starboard side by a quite a few degree and it seems like we were sailing on a sailing boat. Needless to say the chilling effect of low temperature along with wind makes our life difficult as well .Proceeding against the wind drastically reduced the ships speed so low that we have a feeling that 2 hours passage of normal time becomes never ending . By the time we were approaching towards pilot station for the Kiel canal transit it was late in the evening .Bad Weather continue its blow, meantime Kiel transit pilot was booked and arranged. When pilot was approaching to us vessel was running at full sea speed so we were planning to change over to maneuvering full speed but guess what another twist in the scene due to the current ,sea and swell as soon as we changed over to maneuvering full speed found vessel not responding to the required steering , unable to keep the course she must be following .

Challenges are coming in a series as one after another and we are negotiating it with the utmost professionalism .Finally we see the Pilot coming with the catamaran high seed craft (Europeans developed and adopted weather specific watercraft ,aircraft for the pilot and all possible measures as suitable as it could be). Pilot boarded the vessel and we are proceeding in to the river scillde .We are monitoring weather, checked the barometric pressure found increases a bit which is sign of improving weather. Feels may be it is over for this time but alas! terrible news comes when ship was informed that Kiel canal lock gate was not in operational state due stormy weather and high strong surge of water and strong tidal current and vessel had to wait ,for how long nobody knows ! .Any way reaching on the designated anchorage area before the Kiel canal dropped anchor for a while but seems nothing is working in our favor ! found anchor is dragging and unable to hold the ground and maintain the ships position . So heaved up anchor and start steaming slowly ups and down the river as because channel was very narrow and difficult to avoid drifting of the vessel due strong tidal flow and for information we are not alone. Anyway

Back and forth 3 times along the river. by then night is over and good news comes in the morning as lock gate started functioning. Finally our turn comes to get in to the lock gate for the Kiel transit. One more time I realize why sea profession is considered one of the toughest profession of all. Transiting Kiel canal was another wonderful experience for the marine professionals as it is challenging, thrilling, interesting and an area of application of professional skill and excellence. Navigating through Kiel canal is not ordinary one, it is being controlled by dedicated vessel traffic system and required to fulfill some special criteria makes it very interesting and challenging too. Ship is navigating in the canal in a convoy that means when she moves maintaining safe distance between forward and aft ship is a major challenge , controlling speed is a challenge ,having draft and air draft restriction as she has to pass number of overhead bridge, electric cable across the Kiel canal and interestingly only one ship can pass at a time only in most of the length of the canal. There is always east bound traffic and west bound traffic and one point both the east and west bound traffic must pass each other. As there is only one ship can pass at a time so one of the east or west bound traffic had to wait in some siding area . Deliberately this siding area being developed so that passing and crossing can be done smoothly,safely and saves time. Bank effect, squat, interaction, dredging anchor, passing overtaking, crossing ,maintaining safe distance about a cable (185.2 m) ! Another tricky maneuvering when waiting at the siding without any mooring mostly using anchor and engine ,little bit of wind can cause the maneuvering more interesting ! long hour of maneuvering and stand by at the stations is a need .That tells me sea profession require trained, skilled, intelligent, physically fit and healthy energetic people .

Besides many odds things will keep you driving is beauty of the nature ,panoramic beauty of the bank of the Kiel , small small village with beautiful well planned decorated houses with modern facility,huge farming lands with cattle .horses variety of plants ,lined up trees ,windmill farms and rotating windmill fans blade will sooth your eyes and mind ,keep you fresh and provide you energy from the inner soul and on my subconscious mind I do express my sincere gratitude to the almighty Allah for the opportunities to know the unknowns,to see the unseen and haven on earths !

-From My Diary

3-D Ship Design Competition

Dr. S M Ikhtiar Mahmud

The Naval Architecture and Marine Engineering **(NAME)** Department at Military Institute of Science and Technology (MIST) organized a 3-D Ship Design competition on the occasion of World Maritime Day 2020 for students all over the country to promote field of Naval Architecture and the Shipbuilding Industry in Bangladesh. The competition engaged students' creativity and introduced them to engineering, design, drawing and project planning. Participating students had the option to work independently or in small groups to design a ship. The designs were evaluated by the panel of judges for thorough documentation, decisions, proper drawing and calculation accuracy. This competition mainly emphasized and promoted the significance of design in marine sector by bringing together young dynamic designers interested in this sector and contributing to education via creative learning.

The advent of modern analysis tools, software and powerful computers gave students the opportunity for innovation. Ships are complex and their design must be approached in a methodical manner. The absence of basis ship or prototype allowed the students to be innovative and showcase their creativity. This innovative thinking leads to the capability of a ship to float, move and trade.

The title of this competition was "3-D Ship Design Competition". The Ship Design Competition was arranged to develop ship design skills in students from various universities and institutions over the country. The design criteria were set as follows:

- Length of the ship shall be between 20m to 200m.
- Any hull shape shall be acceptable as long as it does not violate the design parameters.
- Ships shall be able to adequately and reliably accommodate and secure the steering assembly and propulsion equipment.
- Ships shall be able to carry the arranged payload and remain within these design parameters.
- Ships shall be unique and must not be copies of past submittals.
- Calculations shall be made as per maritime rules, regulations and guidelines.
- Final design package shall be submitted before end-of-day on date specified.

Assessments of the ship's characteristics such as stability, structural integrity, powering, maneuverability and motions were the main targets of the competition. The design must also be cost-effective, environment friendly and require minimum manning. The safety of the ship, the people on board and the environment in which it sails are all important.

The overall design, feasibility and efficiency served as the three main factors for evaluation of designs. According to the judges the competition was extremely challenging and all the designs were of the highest quality submitted for a student competition. The awardees were invited to present their designs on the occasion of World Maritime Day on September 26th,

2020 at MIST.

Winners were selected by a panel of judges evaluating the following criteria:

- Principal characteristics
- Concept selection/initial definition and sizing/Parameters ratio
- Hull form development
- General arrangements
- Forward and Aft part of the vessel (Tank, BHD)
- Capacity (Cargo, passenger etc.)
- Outfitting items
- Completeness
- Text and graphics (figures)
- Overall Quality and Originality

A total of 118 designs were submitted by the students for the competition. All the participants displayed good design skills and professionalism. Amongst them 7 (Seven) were selected as finalists and received remuneration and prizes for their excellent submissions. The winners were from Military Institute of Science and Technology (MIST), Bangladesh University of Engineering and Technology (BUET), Bangabandhu Sheikh Mujibur Rahman Maritime University (BSMRMU) and Sonargaon University (SU).

Rabbi's team was distinguished for performing an excellent study in response to the fulfillment of inland requirement criteria of container arrangement and design.

The following participants have been declared as winners by the panel of judges.

Position	Name of the Participant	University/ Institute	Type of Ship	Prizes
1st	Ruhan Rabbi & Akib	MIST	Container	Crest,Certificate
2nd	Mijanur Rahman	SU	Passenger	Crest,Certificate
3rd	Maher Niger & Yasin	MIST	Cargo	Crest,Certificate
4th	Hossain Shanjeeb Habib Dipto	BUET	Ferry	Crest,Certificate
5th	Fatema Akter & Tasnim Sarah	MIST	Cargo	Crest,Certificate
6th	Yasin &Ruhan Rabbi	MIST	Passenger	Crest,Certificate
7th	Shariful Islam	BSMRMU	Cargo	Crest,Certificate

Ships design is an amalgamation of art, technology, innovation and environment. It is a process that brings together a wide range of disciplines and analysis procedures. The objectives of this 3-D Ship Design Competition for the students was to create awareness about the significance of ship design on the eve of World Maritime Day 2020, to incorporate all the latest technologies concerning navigation, propulsion, and cargo handling equipment and to optimize ship speed with maximum bearable cargo weight. The competition was successfully completed with tremendous support from all the stakeholders and fulfilled the requirements set up by the Department.

Conclusion:

The Department of Naval Architecture and Marine Engineering at Military Institute of Science and Technology has continually strived to promote ship design in Bangladesh since its inception. The 3D Ship Design Competition organized for students all across the country on the occasion of World Maritime Day 2020 is an endeavor for insinuating enthusiasm for ship design and maritime technologies amongst future leaders of the field. The Department will continue to host such activities in the future to bring harmony and unity amongst the maritime industry members of Bangladesh.

Webinar on the World Maritime Day 2020

Asst Prof Md. Touhidul Islam

World Maritime Day was created by the United Nations (UN) via the International Maritime Organization (IMO) in order to celebrate the contributions from the international maritime industry towards the world's economy with emphasis in shipping. The event's date varies by year and country but it is always in the last week of September.

In 2020, amid of COVID-19 pandemic, the NAME department of MIST celebrated World Maritime Day on 24th of September by organizing an online webinar titled "Professionalism of NAME Graduates". The chief guest was the honorable commandant of MIST, Maj Gen Md Wahid-Uz-Zaman, ndc, aowc, psc, te. The keynote speakers were Prof. Dr. M. Rafiqul Islam, honorable VC of Islamic University of Technology (IUT), Bangladesh and Engr. Mr. Subrata Das, consulting marine engineer and former manager (technical support) at RINA SE Asia. He joined from Singapore.

The aim of the webinar was to discuss higher education and research areas for NAME graduates at home and abroad, job scopes in the maritime and other industrial sectors and sharing of relevant knowledge as well. Over 100 maritime and industry professionals from all over the world and NAME students joined in the webinar. The webinar ended with a successful question and answer session, where students asked questions to our speakers to know more about maritime profession.

PHOTO GALLERY

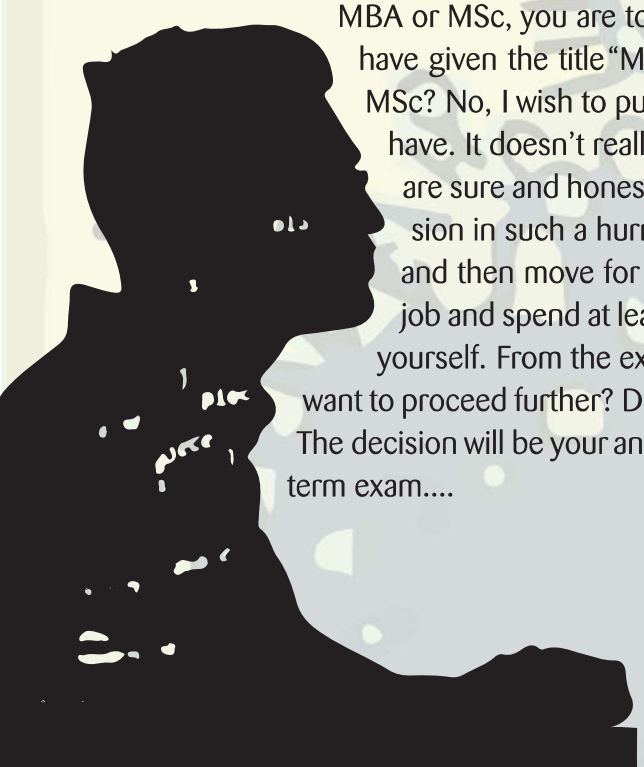
MBA vs MSc

Hasan Ruhan Rabbi
Surveyor, RINA
Name – 02
(201424018)

Exams are over and you have time to spend in your hand. What do you want to do with this time? Do you want to sit on your couch, take a break, watch some movies or series, sleep or anything that comes to your mind? Or do you want to look for opportunities, keep eye on the future? It is up to you to decide what you really want. You can either choose to be a friend of your bed or you can invest this time to build up your career for the future.

Most of us have gone through this right after the end of our engineering degree and it has become a maze to some of us. If you get lost, then you are destined to be the sore loser in this competitive world. But, then again it is hard to get lost as there are lots of opportunities to grand and attain success. To stay on the track it is wise to keep yourself prepared to face any unwanted situation. For the students, education is considered as an added advantage if you have a higher degree associated with your name. At present, majority of the students peruse Masters of Business Administration (MBA) degree as they think it would help them in their career. But, does doing MBA really help one in achieving your goals? A MBA degree is an added advantage to you and it provides a different opportunity for you to take from your conventional engineering degree. On the other hand doing Masters of Science is helpful in building your career as well. If you aim for higher studies then MSc is the right choice for you. Subsequently, MSc helps in your professional life as well. While conducting your MSc you will learn the basic parts and it may even provide you a different path to achieve and chose as your professional career.

In recent years, it has almost become a tradition to get admitted to a Post-Graduation course right after completing the Under-Graduate course. You are not forced to take the post-graduation (whether it is MBA or MSc, you are to observe and take the right decision). You may be wandering, why I have given the title "MBA vs MSc"? Do I want to show the difference between MBA and MSc? No, I wish to put light on both MBA and MSc and show the different formation they have. It doesn't really matter what you are selecting is it MBA or is it MSc, as long as you are sure and honest to yourself you can chose whatever path you want. To take any decision in such a hurry may not result in a good way. For this, it is wise to take some time and then move for the path that you want. If you ask me, then I would advise to take a job and spend at least one year with the job. During this time, you will be able to evaluate yourself. From the experience, you will be capable to choose what you want and how you want to proceed further? Do you want to take MBA for your career or MSc will be fruitful for you? The decision will be your and your only. Always remember, this is just the beginning of your long term exam....



Dream as if you'll live forever, live as if you'll die today

Flying officer Mahrab Alam, ADWC, BAF
Batch: NAME 04

According to dream interpreters, a dream about flying in the air has meanings. If you see yourself flying in the air with a sense of fear and anxiety, then it could mean that you are craving for stability. In real life, you could be in a situation that could make you feel as if things are slipping off your hand. Man's dream of flying must have first begun by our ancestor's close observation of birds in flight. This led to centuries of very slow development in an attempt to directly emulate birds. Generations of inventors spent many years developing ornithopters, or machines that attempt to generate lift and propulsion with flapping wings. This dead-end would contribute very little to the development of aircraft and ultimately held back our understanding of aerodynamics for centuries.

A breakthrough in thinking would begin in the 16th Century and come of age in the late 19th and early 20th centuries that allowed mankind to unlock the secret behind true heavier-than-air flight eventually. An air force, in the broadest sense is the national military branch that primarily conducts aerial warfare. More specifically, it is the branch of a nation's armed services that is responsible for aerial warfare as distinct from an army or navy. The Bangladesh Air Force is the aerial warfare branch of the Bangladesh Armed Forces, primarily tasked with the air defence of Bangladesh's sovereign territory, and providing air support to the Bangladesh Army and Bangladesh Navy. Additionally, the service has a territorial role of providing tactical and strategic air transport and logistics capability for the country.

Since its establishment on 28 September 1971, the Air Force has been involved in various combat and humanitarian operations, from the Bangladesh Liberation War in which it was born, to supporting international efforts including the Coalition of the Gulf War and United Nations peacekeeping missions.

As I got graduated from **NAVAL ARCHITECTURE AND MARINE ENGINEERING (NAME)** department from MIST. Some thought there is lack of opportunity in this department while some has many misconceptions about the job opportunities. Being NAME graduate; I was the first from MIST to join in BANGLADESH AIR FORCE. So, opportunity is everywhere; we need to be determined and focused. There is a saying:

"Do not follow where the path may lead. Go instead where there is no path and leave a trail."

-Ralph Waldo Emerson


Meaning of Life
Cruise ship sets sail with historic all-Women crew
Swan-Shaped Megayacht Concept with Detachable Head
120° Heel
STUDENT SECTION
NAME 08
06
NAME 01
16 Fun Facts
"Graphene" – a Wonder Material for the Future !
THE Cursed SISTERS
COVID-19: Corona Virus Outbreak Impact in Shipbuilding Industry
Underway Replenishment (UNREP)
05 Profile

NAME 08

আমাদের ব্যাচের '৮' (ব্যাচ-৮) সংখ্যাটার উপর হয়তো বা কারো নজর লেগেছে ! তাই করোনার জন্য বেশিদিন একসাথে ক্লাস করা হলো না, কিন্তু তবুও ক্লাসের দিন গুলোকেই জীবনের অন্যতম শিক্ষনীয় দিন বলে মনে হয় ।তবে এই অনলাইন এর সময় তাতে অনেক অপূর্ণতার মাঝেও কিছু পূর্ণতা ছিলো । যেমন আমাদের অনেকের বিভিন্ন প্রতিযোগিতায় ভালো অর্জন আছে । যেটা দেখে আমরা ও অনুপ্রাণিত হয়েছি এবং আমাদের ও কিছু করার সাহস হয়েছে ।

তাই বলা যায় এই অনলাইনের সময়ে এই জিনিস গুলো ই ছিলো আমাদের ভালো লাগার কিছু সময় । আশা করি সব আবার আগের মতো হয়ে যাক এবং আমরাও আবার সবাই যেন এক হতে পারি ।

শুভ হোক আমাদের পথচলা...

NAME 07

"As usual, it all started with high hopes and a lot of desire. From good to survival periods, we grew up and still long to go. In this process, **"NAME 07"** turned to "নোঙ্গর ০৭" the way we call us! This community is like a ship; everyone ought to be prepared to take the helm. Heads are up, hope to see us upright till the end!"

The first time we met, we didn't know each other properly, but still, we connected like a family. Now we have truly become a family. Our simultaneous effort throughout these years has made the **NAME 06** one of the best batches. We grew up under the guidance of our seniors in these three years. But just now, when we see that new faces are replacing the old ones, a realization comes that it was not about the destination but about the journey we traveled together. Time flies so fast & already we have only one year remaining. After all the pressure, exams, assignments, surviving the pandemic, and online semester, we have finally become the set of best friends one could ask. We missed our talks during break time, playing games together, stealing each other's lunch, and the fight to set up a semester final exam routine every time, which we'll make sure to fulfill in this one last year. All we need now is to pull through the last year of struggle altogether.

Tanjina Farhana Fatema Akter Hasan Ruhan Rabbi Antor Ahmed Ishraque Ahmed Umme Tasnim Sarah Kaushik Datta Mostafa Galib Syed Aurong-zeb Sham-suzzaman Chowdhury Shahriar Hasan Fahim Tanjil Ahmed Hridoy Ashikuz-zaman Emon Nahid Hasan Samiu Haque Barnil Yasin Arafat Hasnain Shahriar Nafim Yasar Bin Sale-hin Simul Haque Siam Faraz Ahmed Anup Kumar Das Maher Niger Provazarin TahsinMin-hazul Islam Khan Saiful Islam Dishan Majumder Mehedi Anwar Mumit Jawadul Sarah Chow-dhury Fariha Tabassum Toufiq Hasan Sohan Mah-mudul Hasan Akib Araf Bin Islam Swapnil Shaid-ur Rahman Ajmain Faieq Abdul Halim Amanna Howlader

06

a dedicated batch of affection & Bonding

Graduating Batch (2017-2020)

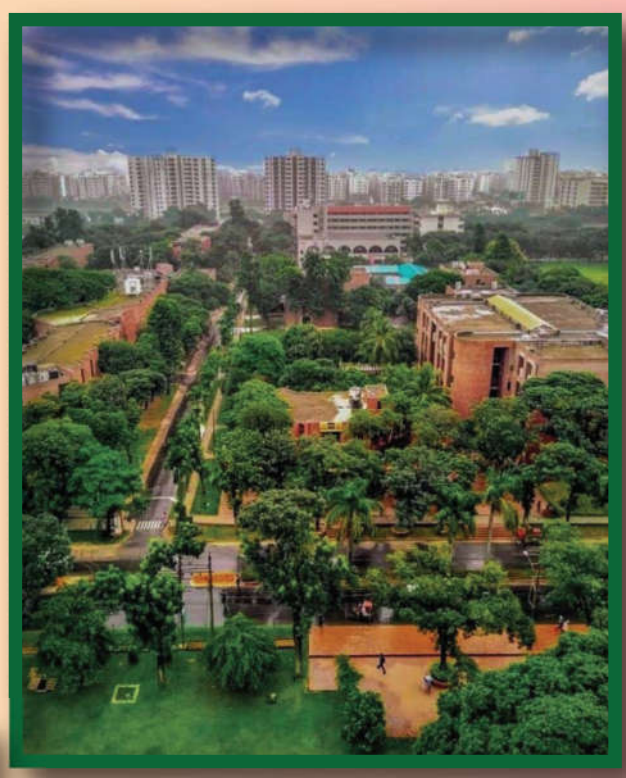
Maj Iftekhar Abedin Lt Nomaear Rono Lt M Ibrahim Hossain Emon Lt Kazi Sadiquzzaman Pias Akta-ruzzaman Sharif Ahmed Rahat Al Fahad Ahmed Attia Sul-tana Fida Mashfiha Imtiaz Ahmed Kazi Md. Rezwan Nabil Khandak-er Abdul-lah Mahadi Hassan Sajib

Md. Ashraful Iaslam Fahim Dewan Hasan Raihan Mahfuzur Rahman Shahriar Islam Shariful Islam Shaon Soaib-Al-Has an Sani

05

Taz-bee-Ul-Alam Rajin Muttashik Jahid Hasan Mishoura Rahman Moktadik Hos-sain Monjeya Khanda-ker Satu Raisha Hasan Chow-dhury Raisul Abrar ShahanMalek Usham Tahian Ahmed Rafi Tasnim Muntaha Rifat Ahmed Salman Sakib Jishan

Tanzima Akter Jui Yafi Ullah Khan Fahadur Rahman Fahad Shimanto-Nandi Akash Anamika Ashraf Ananya Maria Afreen Israt Jah-an Prova



Snaps of MIST

Cruise ship sets sail with historic all-Women crew

A groundbreaking cruise ship with an entirely female crew has sailed from Port Everglades, Florida on a seven-day cruise to the Caribbean to mark International Women's Day on March 8, 2020.

The Celebrity Edge ship is the first in maritime history to feature an entirely female bridge and hotel officer team, led by the first American female cruise ship captain, Kate McCue. The team also includes three British female crew members; first officer Rachel Arnold, guest relations director Julie Sherrington and cruise director Sue Denning. Women from 16 countries are represented in the team including from Greece, New Zealand, South Africa and the Philippines.

"I firmly believe that you have to see it to be it," said Kate McCue. "My hope is that today we inspire a new generation of young girls and women to chart their own course of pushing boundaries and breaking barriers to be whatever it is they want to be."

Currently, just 2 per cent of the world's mariners are female, but women make up 22 per cent of the bridge teams on Celebrity Cruises. It takes a lot of skilled people to run a large cruise ship, and with only about 2% of mariners being women, just a few years ago it would have been nearly impossible to put together a ship commanded by women in this way.

"Over the last few years, we have worked hard to diversify the crew on board and bring more women than ever into our industry. To 'man the bridge' with 100% women and to fill every leadership role on board with women is truly significant. I am so proud of these accomplished women,

who worked tirelessly to be the best person for the job in a traditionally male-dominated industry," said Lisa Lutoff-Perlo, president and CEO, Celebrity Cruises. Now a days women are all passionate about closing the gender gap. Advancing gender equality in our industry takes a purposeful and focused commitment because it is not easy. This is such meaningful progress, and we're just getting started.

The cruise will also feature female-centric events including panel discussions, gallery exhibitions featuring female artists, excursions to women-led businesses in the ports the ship visits and a cinema series featuring female directors, actors and narratives.

Celebrity Edge is a modern luxury ship with unmatchable experiences and amazing service that only Celebrity Cruises can provide. It is one of six cruise brands operated by Royal Caribbean Cruises Ltd. The ship is 300 meters long, 38 meters wide and has the capability to carry 2,900 guests in 1,450 staterooms. The 117,000 gross ton Celebrity Edge ship was launched in December 2018 by the Nobel Peace Prize winner Malala Yousafzai, who campaigns for the right of all girls to receive education.

This sailing and all the activities were all focused on the goal of inspiring a new generation of girls and women to pursue careers in the maritime field. Now, we hope this all-time industry-high will continue to grow; we just need more women to raise their hands for careers at sea, especially in engineering.

Iren Naher Jemi
201924011,NAME 07

12° Heel

"We are tied to the ocean. And when we go back to the sea, whether it is to sail or to watch - we are going back from whence we came." -John F. Kennedy

You realize the importance of sleep when it's your duty watch closed up in a ship making way through deep waters. The horizon seems to be closing in, you channel your inner Galileo Galilei and start discovering stars on your own. You feel the roar of the ocean even though it seems like a serene lullaby, gently taking you to the soft comfy bed you have left at home almost a month ago...

I feel a shake in my body and immediately stand upright. Probably some mild turbulence, I tell myself as I look around. It's nearly dawn, my watch isn't over until a couple more hours. I could surely use some sleep, as that thought crosses my mind I suddenly feel another shake. My eyes were wide open, what could it possibly be this time? As I gaze my eyes onto the vast nothingness of the deep blue sea, I realize we are heading into a fierce storm, a storm that would remain significant in my life.

Except the two of us in the Quarterdeck, most of the crew were already inside the main deck. You realize how small and helpless you really are when you are in a 100+ meter Frigate of Bangladesh Navy, filled with armaments to patrol and protect the EEZ of our beloved motherland, yet you feel like a needle inside a barn full of hay! We had entered the storm; the waves were crushing onto the hull of the ship. The deep blue sea had already turned into a fierce spray of white foam when the ship began to roll and pitch.

We were a few hundred miles off the coast of Colombo, Sri Lanka, on our way back to Chittagong, Bangladesh. We were moving North-East. The merciless waves of the storm were crashing in from the west. Soon enough, I could feel the ship wasn't upright, something felt different. I looked outside and realized the ship was rolling onto the starboard side. We were now in the Eye of the storm. Unfortunately, the storm was moving faster than us, as if it was a competition on who gets to go home from a tiring day at work! It was already past dawn, transitioned into

the morning but outside it looked like it was the middle of the night, a very dark night.

The ship started rolling again and this time it was continuously staying on the starboard side, the staggering mixture of sea and rainwater moving on the surface of the Quarterdeck made me realize how much we were already heeled onto one side. The Bridge could provide us the required information on the degree of heel. We could learn that we were moving at an astonishing 12 degree heel on the starboard side, courtesy of the persistent waves crashing onto the port side of the ship at an unmeasurable magnitude of force.

Almighty was merciful, and the storm slowly moved away. But a Midshipman is always curious about the sea-life and his humble abode, the ship he's onboard! A weary Midshipman myself, I thought about the storm and the consequences it had on the ship. I was enthralled thinking how amazing the architecture can be that within a moving storm, being a moving body itself, a ship can survive and go through towering waves without capsizing.

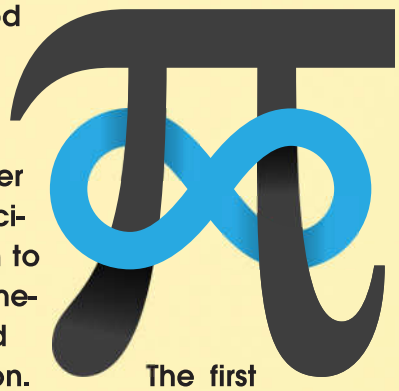
That very moment I realized how sophisticated can Naval Architecture be, and how significant a role it plays in our sea faring lives! People dream to be things while growing up or looking up to the wiser bunch. As for me, it was the 12 ° heel in an unforgiving storm in the middle of the ocean that made me realize I wanted to be an architect. Not your everyday architect, a Naval one!

There is a saying, "To me, the sea is a continual miracle; the fishes that swim, the rocks, the motion of the waves, the ships with men in them." The miracle within has another miracle, the ships that sail through. What better way is there to feel the ocean, than to build something that can make you feel the ocean itself?

Why of course! Become a Naval Architect!

S/Lt Syed Mostafa Amnoon
201924001, NAME-07

Pi, can any of you tell me what it means? What is any of this good for? And when would we ever use it? Let me show you.



Pi, the ratio of the circumference of a circle to its diameter and this is just the beginning. It keeps on going. Forever, without ever repeating. Which means that contained within this string of decimal is every single other number. Your birthdate, combination to your locker, your Social Security number. It's all in there somewhere. And if you convert these decimals into letters, you would have every word that ever existed, in every possible combination. The first syllable you spoke as a baby. The name of your latest crush. Your entire life story from beginning to end. Everything we ever say or do. All of the world's infinite possibilities rest within this one simple circle.

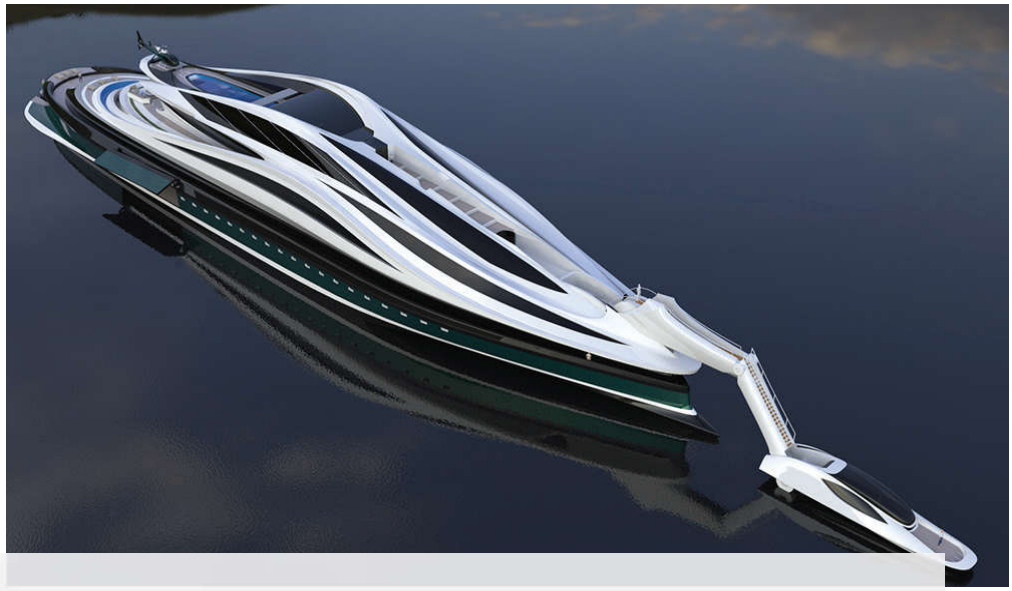
Now, what you do with that information? What it's good for? Well, that would be up to you.

Tashdid Ahmed Shitab
202024033, NAME-08

Meaning of Life

Never give up, because great things take time
Never give up, because of one bad chapter in life
The day you stop looking back
Is the day you start moving on
I have battle demons that won't let me sleep
Called to the see but she abandoned me
It's hard and you might see me struggle
But you'll never see me fail
So don't give up, don't lose hope
Cause you've got a reason to live
Keep your head up, Never surrender
You're the hope of oars
Look inside your heart, find the hope
And shout above, I'm a soldier
There is none to stop, I'll not give up
Cause I've got a reason to live.

S/lt Shamit Sharif
201924003,NAME 07



Swan-Shaped Megayacht Concept with Detachable Head

This bold new **Megayacht** concept is sure to ruffle a few feathers. The 450-footer is shaped just like a swan and even comes with a detachable head that can be used as a separate boat.

The gigantic sized bird goes by the name of Avanguardia, which means "vanguard" in English. Fitting since the mega yacht is clearly at the forefront of marine design. The concept was penned by plucky Italian designer Pierpaolo Lazzarini of Lazzarini Design Studio. The Rome-based outfit has churned out a number of disruptive designs, from flying cars to a bullet-shaped hyperyacht, but this waterbird may make the biggest splash yet.

Avanguardia is replete with flowing lines and subtle curves that give her the elegant silhouette of a real-life swan. The gargantuan vessel is split into five separate decks and can fit up to 60 seafarers. Just like the animal, the "head" (a.k.a. the control tower) acts as a brain to maneuver the vessel. But it also doubles as a separate 50-foot cruiser that can carry out requisite day-time jaunts.

The control center is supported by a flexible "neck" that employs a fulcrum to give it a full range of movement. When swanning about, it drops to the middle of the megayacht to help steer it in the right direction. Conversely, when the vessel is at anchor, the neck lowers the head to the water where it detaches for independent cruising.

Toys come in the form of a helicopter on the top level, a pair of Lazzarini' s jet capsules that are located aft, and a haul of supercars which sit amidships, because why not? The jet capsules can also be added to the rear of the vessel for added propulsion.

Speaking of propulsion, the swan' s power would come in the form of twin electric side engines and a central MTU Rolls-Royce engine. Together, this setup could push the megayacht to a maximum cruising speed of about 18 knots.

While Avanguardia it just a concept at this stage, the design studio said that it could become a reality in the future if a client is able to invest.

Sara Tasnim
202024028, NAME-08

16 Fun Facts

1. “Four” is the only number in the English language, that is spelled with the same number of letters as the number itself.

2.Think of a number, double it, add six, divide it by half, then subtract the number you originally started with – Your answer is 3.

3.Eating chocolate before studying and or taking tests, increases your chances of understanding info and passing with a high grade.

4.School desks have 300 times more bacteria than a toilet seat.

5.People who often use and understand sarcasm are more likely to have a high I.Q.

6.If you were to spell out numbers from one; you will not find Letter ‘A’ until you reach ‘One Thousand’.

7.60 is the smallest number which is exactly divisible by all the numbers from 1 to 5.

8.According to researchers, Monday mornings are so depressing that on average, human don’t crack a smile until 11:24 a.m.
9.According to some old myths, birth marks show where you got killed in your last life.

10.Reading and dreaming are functions of two different sides of the brain. This is why you can’t read in a dream.

11.If you type “do a barrel roll” into your Google search, the whole page will spin.

12.People that laugh more generally are able to lose more weight quicker.

13. Not only does $12 + 1 = 11 + 2$;
But the letters “twelve plus one” rearrange to give you “eleven plus two”.

14. ”How I wish I could calculate pi.” – Count the number of letters in each word of this sentence, and it will give you the first seven digits of pi.
[π=3.141592]

15.It can take a photon 40,000 years to travel from the core of the sun to the surface, but only 8 minutes to travel the rest of the way to earth.

16. There are 19 different types of smiles existing.

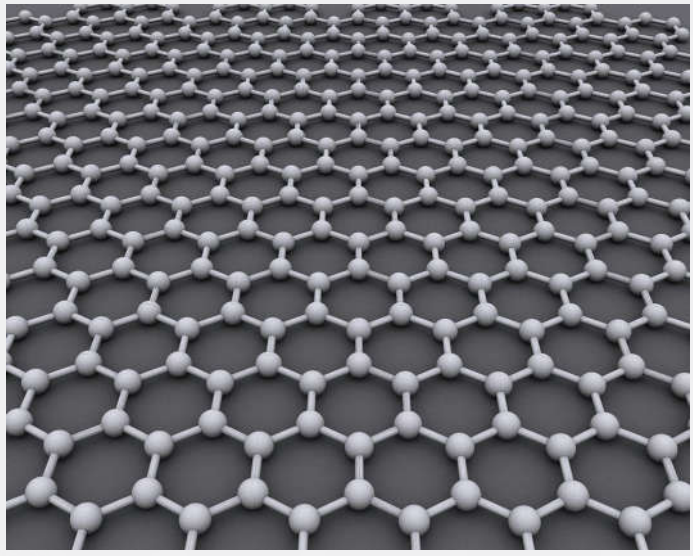
Tashdid Ahmed Shitab
Roll 202024033,NAME-08

"Graphene" – a Wonder Material for the Future !

MD. HASAN RUHAN RABBI
201824004, NAME-06

"**Graphene**" a revolutionized material that has been hailed for its potential of creating an important breakthrough in material science. It is properly isolated by Andre Geim & Konstantin Novoselov in 2004, at the University of Manchester, UK. The researchers won noble prize in physics for isolating this Graphene, back in 2010. According to the researchers of MIT, a 3D printed porous medium of graphene is 10 times stronger than steel at one twentieth of the mass.

What is Graphene ?



Graphene is that of a pure-carbon mono-layer material, one atom thick (0.34 nm in thickness), with a planar sp^2-bonded carbon structure that are densely packed in a honeycomb-shaped crystal, as shown in the figure. In simple term, graphene is a single layer of graphite (material used for making pencil) but in 2D crystalline structure of one atom thickness. Atom arranged in hexagonal lattice. A carbon atom covalently bonded with three atoms. This bond is so strong that makes the honeycomb crystal shape incredibly strong. The honeycomb arrangement of the atoms allows graphene to be very flexible as well as porous and lightweight.

Discovery of graphene

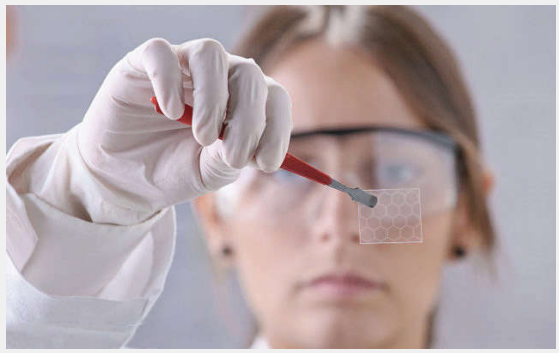
Before discovering this Noble prize winning material, scientists knew that it is one atom thick, two-dimensional crystal graphene existed, no-one had worked out how to extract it from graphite. But later in 2004, two scientists Andre Geim & Konstantin Novoselov came out with a way of discovering graphene physically.

Andre and Kostya frequently held 'Friday night experiments' - sessions where they would try out experimental science that wasn't necessarily linked to their day jobs.

One Friday, the two scientists removed some flakes from a lump of bulk graphite with sticky tape. They noticed some flakes were thinner than others. By separating the graphite fragments repeatedly, they managed to create flakes that were just one atom thick. Their experiment had led to graphene being isolated for the very first time.

Properties

This handmade substance has some extraordinary properties:

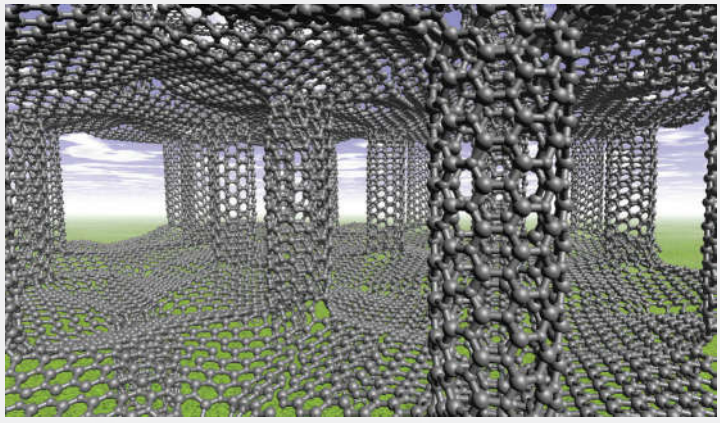


• Impossibly light yet incredibly strong.
• Extremely flexible.
• Atoms delocalized electrons for which electrons moves freely that makes the graphene highly efficient conductor of electricity and heat.
• Transparency (97.4%) that is almost invisible yet high strength. Tensile strength~1100 GPa.

Graphene based products

Graphene is the substance that gives the product properties like lightweight, stiffness, efficient heat dissipation, improved elasticity-strength-durability. For that, various of products are made of graphene. Some of them are :

• Graphene + Rubber mixture: Gives the rubber capability of withstand high strength and high temperature. Basic rubber will melt in high temperature.
• Graphene based ink: The printed pages can be heated, washed, ironed, wrinkled even twisted without damaging the paint.
• Unbreakable screen glass for extreme high tensile strength.
• Protective material for high strength and heat conduction.
• Physicists in China & USA created desalination membrane for desalination purpose that can even kill bacteria. Traditional desalination technique consumes energy.
• Health care purpose.
• Lithium battery electrode.
• Biosensors and sports equipment for higher durability and lightweight.
• Solar cell, light emitting diodes (LED), touch panels.



Other than these, various products are also being made considering the great properties of graphene.

The Hidden Truth

As soon as discovering scientists were confirmed that this material will create revolution in material science. But in real, when a material overthrow something, it need to offer significant benefits over its competitors have been making for a long period of time. Sad thing is, more than a decade is over but the technology that the invention is supposed to offer hasn't happened. Not even close. Some says graphene is a massive disappointment. The reasons behind that, a pretty wide gap is hidden from lab to mass produced product. Production of the material costs far greater money that the conventional material costs. For which the significant development is absent. Still, if the graphene works well on its own merits, a lot of reasons to be excited about the future of this incredible wonder material.

THE Cursed SISTERS

Most of us already knows the tragic history of R.M.S. Titanic. But did you know that R.M.S. Titanic had two other sister ships? Well, responding to competition from Cunard, whose ships Lusitania and Mauretania were setting new records for speed and new standards of luxury, the White Star Line decided to build three new liners, Olympic, Titanic and Britannic. Rather than compete on speed, this new breed of Olympic class ocean liner would be the largest at sea

•**R.M.S. Olympic:** The R.M.S. Olympic was first launched in October of 1910, and she was declared ready for duty in May of 1911. Her maiden voyage, for the most part, went very well, and the people of New York were met with a ship the likes of which they had never seen. No one had ever built a ship that large before. Unfortunately, that is the main cause of Olympic' s many problems.

The first incident took place on her maiden voyage, right after she arrived in New York City. The other ships in the harbor were not prepared for the sheer size of Olympic, and a tugboat, the OL Hallenbach was pulled in by her massive propeller. The Olympic was unharmed (other than some scratches), but the Hallenbachwas severely damaged by the encounter.

A second and more well-known incident occurred on September 20, 1911. The Olympic and the Royal Navy cruiser, HMS Hawke, were sailing too close to each other when the captain of the Olympic ordered that the ship be turned. The two ships collided, causing massive damage to both vessels, but, fortunately, they both managed to stay afloat. The Hawke' s bow was crushed, and Olympic suffered two large gashes ripped into her starboard side—one above the waterline and one below.

Ironically, the Olympic' s captain during both of these incidents was none other than Edward J. Smith – the man who would later go on to captain the Titanic on her maiden voyage.

The Olympic suffered many more unfortunate incidents (including cutting a lightship in half) in its long career. Despite this, the R.M.S. Olympic was the only one of White Star Line' s Olympic-class ships to survive to be decommissioned – even after serving as a troop transport ship in World War I. In 1937, Olympic was stripped, and her fixtures and fittings were auctioned off.

•**R.M.S. Titanic:** The Titanic was the product of intense competition among rival ship**ping lines in the first half of the 20th century. In particular, the White Star Line found** itself in a battle for steamship primacy with Cunard, a venerable British firm with two standout ships that ranked among the most sophisticated and luxurious of their time.

The Fate of Cursed Sisters

R.M.S. Titanic was first launched in May of 1911.The ship' s much-publicized maiden voyage lured British nobility, members of American society and industrialists, as well as many poor emigrants hoping to begin a new life in America. The journey began at Southampton, England, at noon on April 10, 1912. By nightfall, Titanic had stopped in Cherbourg, France, to pick up additional passengers. That evening it sailed for Queenstown, Ireland, and at 1:30 PM on April 11, the ship headed into the Atlantic Ocean toward New York City.

On Sunday, April 14, the fifth day at sea, Titanic received five different ice-warnings, but Captain Edward Smith was not overly concerned. The ship steamed ahead at 22 knots, and the White Star's Managing Director J. Bruce Ismay hoped to arrive in New York a day ahead of schedule.

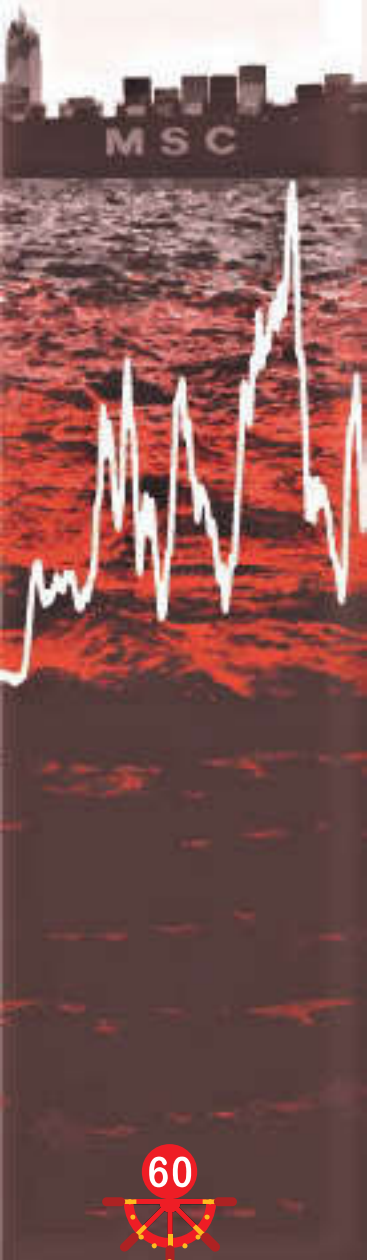
On the night of April 14, 1912, wireless operator Jack Phillips was busy sending passenger's messages to Cape Race, Newfoundland, to be relayed inland to friends and relatives. He received a sixth ice-warning that night, but didn't realize how close Titanic was to the position of the warning, and the message never reached Captain Smith or the officer on the bridge.

At 11:40 p.m. lookout Fred Fleet in the crow's nest spotted an iceberg dead ahead. He notified the bridge, and First Officer William Murdoch ordered the ship turned hard to port. He signaled the engine room to reverse direction, full astern. The ship turned slightly, but it was too large, was moving too fast, and the iceberg was too close. Just seconds later, one of the greatest maritime disasters in history began unfolding. Within hours, over 1500 lives were lost.

•**R.M.S. Britannic:** After the Titanic disaster, construction on R.M.S. Britannic was halted until a full investigation could be completed. Eventually, construction began again, but several new safety features were added to the design.Britannic ultimately never became a passenger liner. By the time her sea trials had ended, WWI had broken out, and she was converted into a hospital ship and renamed H.M.H.S. (His Majesty' s Hospital Ship) Britannic. She was charged by the International Red Cross with the evacuation of wounded soldiers – most notably from the Isle of Lemnos and the Gallipoli campaign.

On November 21, 1916, Britannic ran into an underwater mine in the Aegean Sea' s Kea Channel—though, at the time, it was unclear whether it was a mine or a torpedo from an enemy submarine. There was a huge explosion, and the ship sank in less than an hour. This was partially due to a failure in the emergency bulkheads and partially due to the portholes in the lower decks being left open.

Emam Hossain Emon
202024012,NAME 08



COVID-19: Corona Virus Outbreak Impact in Shipbuilding Industry

It is known that the **COVID-19** outbreak has negatively affected global shipping and many others sectors. Following the situation, European Maritime Safety Agency issued a report to analyses the impact of the pandemic on certain shipping activities by analyzing vessel traffic data.

According to EMSA, the report is based on solid vessel movement's statistics showing the port call trends without interpreting the statistical data. In fact, EMSA focuses mainly on EU ports and EU flagged ships, but there are also statistics about the shipping routes from Europe to China and from Europe to the US have been affected.

As explained, during January 2019, there were 53,035 ship calls at EU ports, and in January 2021 there were 49,908 ship calls. The number of calls decreased by 6% in comparison with 2019.

Month	2019	2020	2021	Trend 2019 to 2020	Trend 2019 to 2021
January	53035	57654	49908	9%	-6%
February	50823	50969	-	0%	-
March	57952	51806	-	-11%	-
April	62041	43331	-	-30%	-
May	70013	49535	-	-29%	-
June	73395	58043	-	-21%	-
July	79456	70142	-	-12%	-
August	78524	72558	-	-8%	-
September	71457	65841	-	-8%	-
October	67203	62708	-	-7%	-
November	59626	57562	-	-3%	-
December	52898	57523	-	9%	-
Total Year to Date	**53035**	**57654**	**49908**	**9%**	**-6%**

Table 1: Number of ship calls reported to SSN in 2019, 2020 and 2021 per month

The table below shows the number of ship calls per month in 2019, 2020 and 2021 and the trends between 2020 and 2019 and between 2021 and 2019. It has been decided to use year 2019 as a reference since it was the last year without COVID-19 in Europe.

As explained, the significant decrease in the number of ship calls began in week 12 (16-22 March 2020). This was the week after the WHO declared the COVID-19 outbreak a pandemic on 12 March 2020.

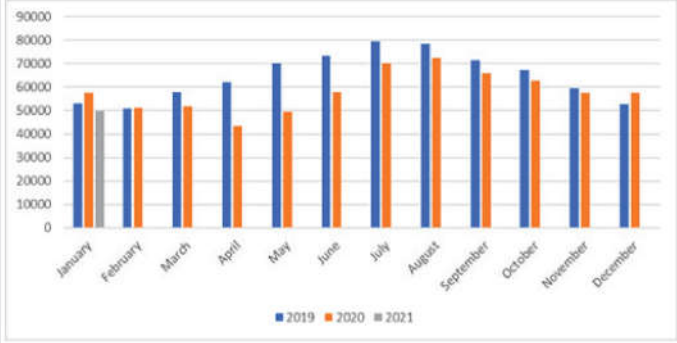


Figure 1: Ship calls reported to SSN in 2019, 2020 and 2021 per month

The graph above shows the comparison of the number of ship calls per month in 2019, 2020 and 2021.

The COVID-19 outbreak is affecting the lives and work of people in the EU and all across the globe. Since the start of the pandemic, the Commission, the Member States and the shipping industry have been taking measures to ensure the continuity of operations and thus the security of supply.

Global shipbuilding giants were not immunized from the dire impact of COVID-19 as well. Chinese yards and South Korean yards have seen plunging orders, 50 percent and 81 percent of falls respectively. The number of orders is predicted to decline by 26 percent throughout the year. In tune with the global scenario, FMC Dockyard, a shipbuilding company encountered postponement of 52 sale orders with 12 for exports.

Meanwhile, the ship-breaker companies employing 0.2 million people could not supply scraps, the vital raw materials for steel, to the steel mills. In April 2020, the industry insiders had demanded BDT 3000 crore cash incentive with 2 percent interest for keeping the shipyards functional. However, given the economy gradually reopening, both the shipbuilding and shipbreaking industry are expected to resume their operations and recover from the crisis in the near future.

The COVID-19 outbreak has been causing a huge impact on people's lives, families and communities. As the international response continues to develop, organizations are operating in uncharted waters. Critical information on the characteristics of this new virus and its impacts on the global business activity are difficult to assess and are changing overnight. In these unprecedented times, the ability of shipping services to continue undisrupted to transport food, energy and medical supplies across the continents will play a critical role in overcoming this pandemic. Shipping companies will need to become agile and adaptable to this changing situation, and focus on building effective response strategies and plans.

Md. Nahid Hossain Rony
Roll 201924023,NAME-07

Underway Replenishment (UNREP)

Ridoy Karmokar
NAME 07

Underway replenishment (UNREP) is a broad term applied to all methods of transferring fuel, munitions, supplies, and personnel from one ship to another while the vessels are underway. Two general methods of UNREP are used - connected (CONREP) and vertical (VERTREP). They may be used singly or at the same time. In connected replenishment, two or more ships steam side-by-side and the hoses and lines used to transfer fuel, ammunition, supplies, and personnel connect the ships.

Vertical replenishment is carried out by helicopters with the ships in close proximity, or miles apart depending on the tactical situation and the amount of cargo to be transferred
Connected replenishment involves two processes - refueling and re-supply.
There are several factors in favor of replenishment with the ships alongside each other instead of astern. First, by replenishing alongside, the oiler or other auxiliary ship, can service two ships at once, with multiple replenishment stations to each ship. Second, by replenishing alongside rather than astern, the whole formation of ships can maintain greater speed (up to 16 knots instead of the 7-8 knot maximum for astern refueling). Third, by replenishing alongside, both fuel and dry cargo can be transferred, instead of being limited to fuel only.

The first step in conducting a replenishment at sea, from the operations and shiphandling standpoint, is to coordinate a rendezvous time and position. While this is being done, additional information such as fuel quantities required and fueling stations and fittings available will also be exchanged and coordinated. Selecting a good rendezvous position, with plenty of clear water and acceptable to all ships' operational requirements, often requires some compromise of less urgent requirements in favor of more important considerations. If either ship has other pressing commitments, the replenishment course and speed (Romeo Corpen) may also be a subject for discussion during the planning and coordination stages.
Replenishment at sea involves an extended period of time where two ships are in close proximity while at relatively high speeds. Any problem at all, either external to the ships or internal to one or more of the ships, can require an immediate and timely disengagement. The Captain of either ship can initiate an emergency breakaway procedures if there is a maneuvering problem or an unsafe situation is developing. An emergency breakaway follows the same procedures as a normal breakaway, but all steps are expedited as much as possible.

05 Profile

Maj Abedin
Lt Rono
Lt M Hossain
Emon Sadiquzzaman
Sharif Ahmed ruzzaman
Rahat Al Fahad
Ahmed Attia Sultana
Fida Mashfiha Imtiaz
Ahmed Kazi Md. Rezwan
Nabil Khandakler Abdul-
Mahadi Shaon Hassan
Sajib Al-Has

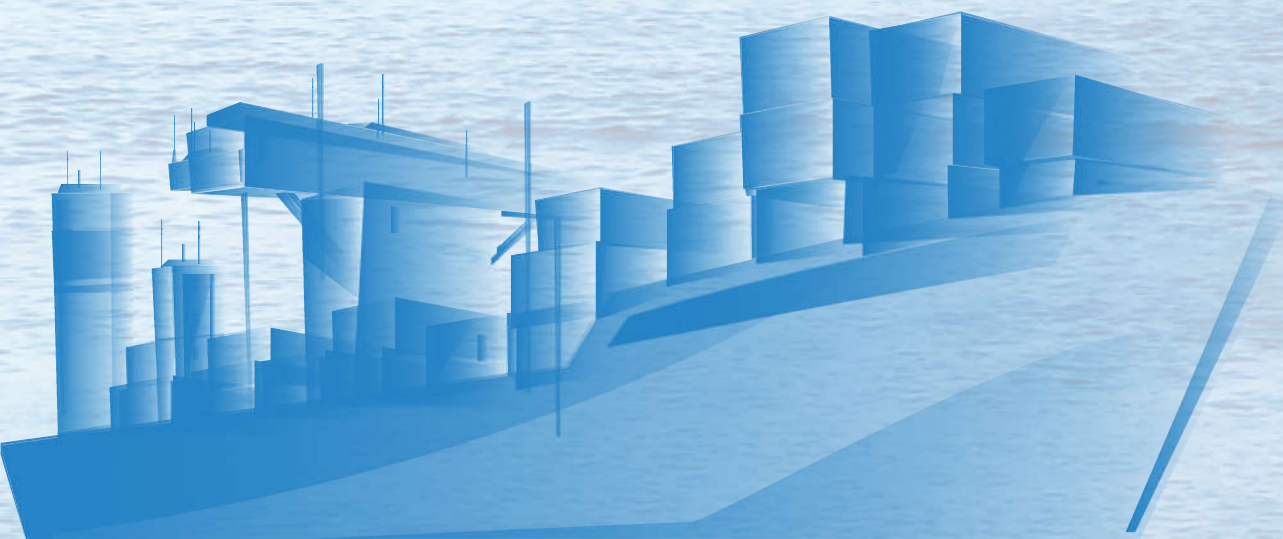
Iftekhar Nomaear
Ibrahim Lt Kazi
Pias Akta-

Md. Ashraful Islam
Fahim Dewan
Hasan Raihan
Mahfuzur Rahman
Shahriar Islam
Shariful Islam
Soaib-an Sani

Taz-Rajin Muttashik Mishoura
Moktadik Hossain Khandaker
Satu Raisha Hasan
Chowdhury Raisul Abrar
Shahan Malek Usham
Ahmed Rafi Tasnim
Rifat Ahmed
Sakib Jishan

bee-Ul-Alam Jahid
Hasan Rahman
Monjeya Fahad
Shimanto-Nandi Akash
Anamika Ashraf
Ananya Maria Afreen
Israt Jahan Prova

Tanzima Akter Jui
Yafi Ullah Khan
Fahadur Rahman



MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –বৃহস্পতিবার দুপুর টু রবিবার সকাল
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – চারতলার ওয়াশরুম
MIST তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –অনলাইন বর্ষ

Major Iftekhar Abedin
(201724001)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ছোট ভাইগুলোকে
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –আমার রুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –Level 4

Lt Hossain Md. Nomaear Rono
(201724002)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –সিনিয়র জুনিয়র আর ক্লাসমেটদের সাথে আড্ডা দেয়াটাকে
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –চারতলার ওয়াশরুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Lt Ibrahim Hossain
(201724003)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – Student officer's cafe
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –চারতলার ওয়াশরুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ– ---

Lt Kazi Sadiquzzaman
(201724004)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ওসমানী হল
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –কিচ্ছু না
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 01(2017)

A.M. Aktaruzzaman Sharif
(201724005)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Nothing Special
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –লাইব্রেরি
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level03

Ahmed Rahat
(201724006)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –তিনজনকে মিস করবো
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria 1st floor
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ– Level 02

Al Fahad Ahmed
(201724007)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Osmany hall
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ– Level 01

Attia Sultana
(201724010)

MISTএর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –যাদের সাথে মায়েস্টি লাইফ শুরু, একসাথে পথচলা!
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –অ্যাডমিন বিল্ডিংয়ের চার তালা, প্রতিটা কোণা একেকটা ঘটনার সাক্ষী।
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –ইন্ডাস্ট্রিয়াল ট্রেনিং বর্ষ,২০১৯

Fida Mashfiha
(201724011)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Cafeteria
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria 1st Floor
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Imtiaz Ahmed
(201724012)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –কিছু কথা থাক না গোপনে
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –লাইব্রেরি
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Kazi Md. Rezwan Nabil
(201724013)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –একদম সকালের শান্ত পরিবেশটা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – ক্যাফেটেরিয়া
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Khandaker Abdullah
(201724014)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Osmany Hall and MIST Playground
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Playground
MIST তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –Level 03

Mahadi Hassan Sajib
(201724015)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Central Field,Cafeteria
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 01

Ashraful Islam
(201724017)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Friends and Hall Life
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria 1st floor
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 02

Fahim Dewan
(201724018)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Extension E days
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Plaza
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –Level 02

Hasan Raihan
(201724019)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ক্যাফের সকালের নাস্তা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –চারতলার ওয়াশরুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Md. Mahfuzur Rahman
(201724020)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –মহিউদ্দিন স্যার কে
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –চারতলার ওয়াশরুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level03

Md. Shahriar Islam
(201724022)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Osmany hall
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ– Level 02

Md. Shariful Islam Shaon
(201724023)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –MIST central field and osmany hall
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 01

Soaib Al hasan Sani
(201724024)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – বন্ধুদের
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –চারতলার ওয়াশরুম
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –Level 01

Tazbee-Ul-Alam
(201724025)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ওসমানী হলের ৩ আর ৭ তলা।
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –ক্যাফেটেরিয়ার দুই তলা আর র‍্যাগ কর্নার
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 02

Rajin Muttashik
(201724026)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ওসমানী হল ও রাত জেগে ক্রিকেট খেলা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Central Field
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 01

Md. Jahid Hasan
(201724027)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Game of NAME (Season-5)
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Plaza,Library
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 04

Mishoura Rahman
(201724028)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – কিচ্ছু না
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Cafeteria 1st floor
MIST তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 01

Moktadir Hossain
(201724029)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Cafeteria, Osmany Hall
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ –Level 03

Monjeya Khandaker Satu
201724030

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ওসমানী হল,এডমিন বক পর্যন্ত রাস্তাটা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

Raisha Hasan Chowdhury
(201724031)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –বন্ধুদের সাথে আড্ডা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 02

Raisul Abrar
(201724032)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Hall Days & Boisakhi Preparation
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria 1st floor
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 02

Shahan Malek Usham
(201724034)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Cafeteria &ওসমানী হলে জন্মদিন পালন
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 02

Tahian Ahmed Rafi
(201724036)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – নাটক
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –Behind Plaza
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ– Level 04

Tasnim Muntaha
(201724038)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –ক্যাফের সকালের নাস্ড়
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Cafeteria
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Industrial Training

Md. Rifat Ahmed
(201724040)

MISTএর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – ওসমানী হলের মশা
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –ক্যাম্পাস থেকে বের হবার রাস্তা
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – নাই

Salman Sakib Jishan
(201724041)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Flavour of Varsity life
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –The stage where i used to debate
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 04

Ag Lt Tanzima Akter Jui
(201724042)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –পুরো সময় টাই
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Football Ground
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – ---

Ag Lt Yafi Ullah Khan
(201724043)

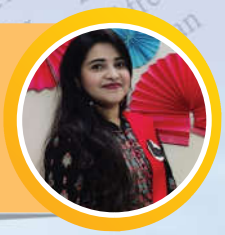
MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Footbal
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – Football Ground
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – ---

Ag Lt Fahadur Rahman Fahad
(201724044)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – Abundant personal time & freedom
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – My Room in 14 no. builiding
MIST তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03(2019)

Ag Lt Shimanto Nandi Akash
(201724045)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? –Free Time
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –My Room
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – ---



Ag Lt Anamika Ashraf Ananya
(201724046)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – All along with Programs
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? – মনে পড়ছে না
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 03

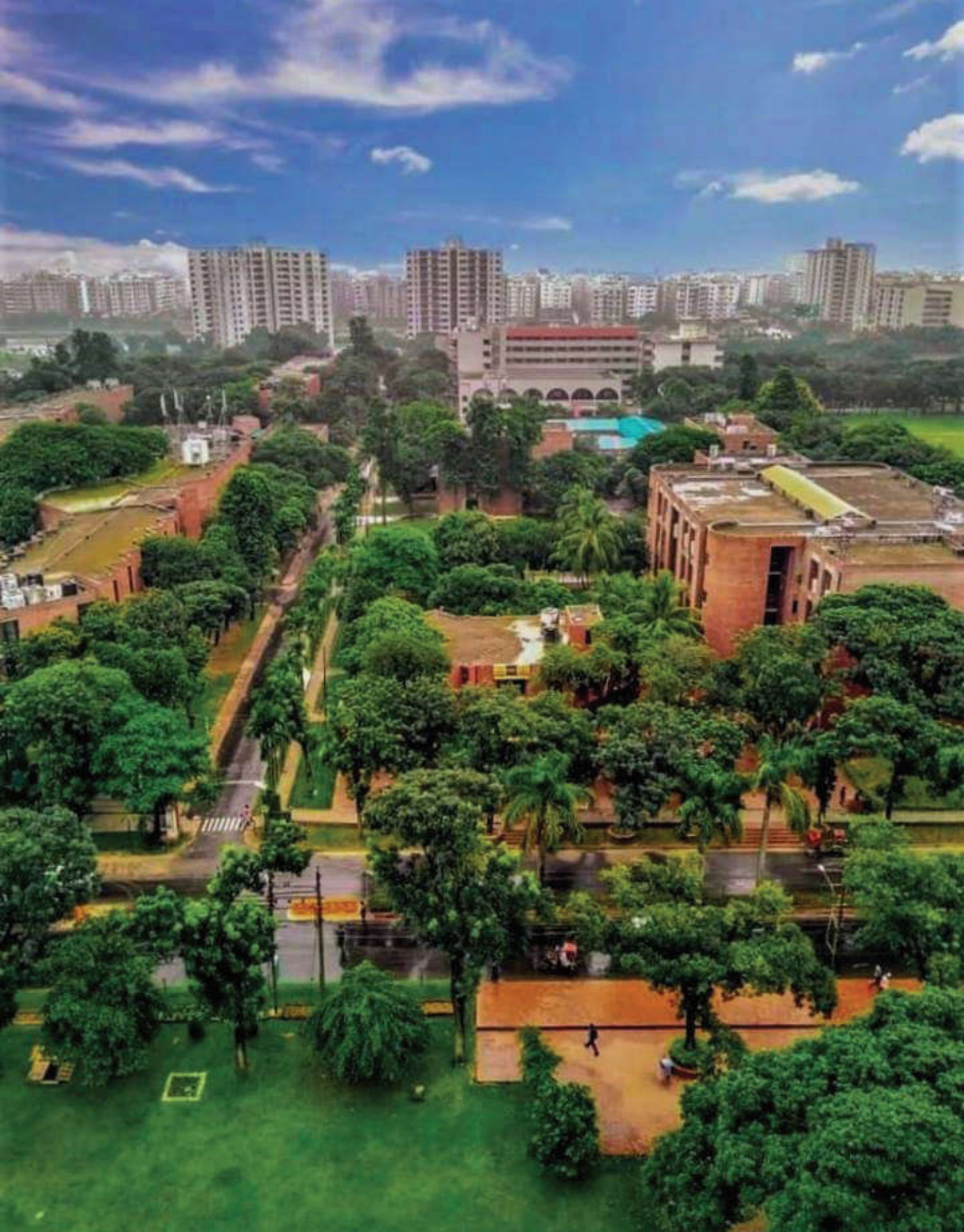
Ag Lt Maria Afreen
(201724047)

MIST এর কোন জিনিসটা সবচেয়ে বেশি মিস করবেন? – এমআইএসটির প্রোগ্রাম গুলো
ক্যাম্পাসের সবচেয়ে প্রিয় জায়গা? –My room
MIST-তে ৪ বর্ষের মধ্যে সবচেয়ে স্মরণীয় বর্ষ – Level 04

Ag Lt Israt Jahan Prova
(201724049)

All of you are cordially invited to M.Sc Program in Naval Architecture & Marine Engineering Department at MIST

"If my ship sails from sight, it doesn't mean my journey ends,
It simply means the river bends."
-Enoch Powell

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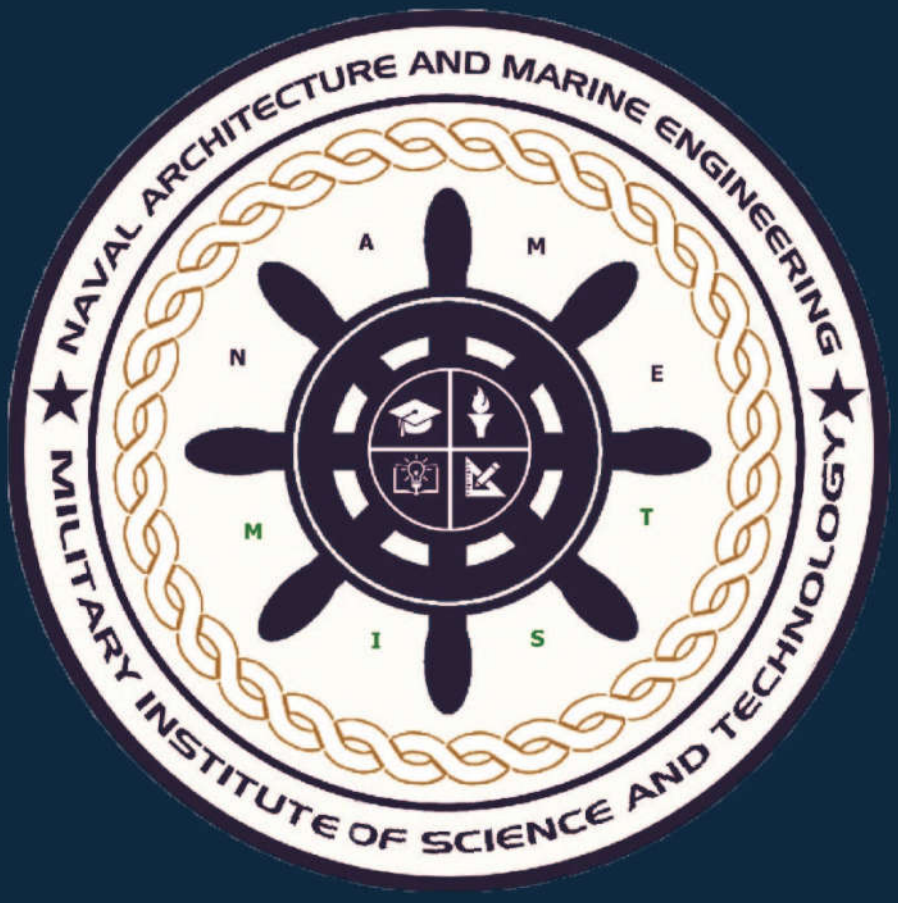

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