

Academic and campus e-magazine that contains dozens of very interesting stuff for you to know about us and our achievements



VOL-1 ISSUE NO.-2

AUGUST, 2023

FOREWORD FROM VC

It is a very good effort by the community of our School of Maritime Studies for publishing the second issue of the e-magazine 'ABHIJAN' in the eve of our 76th Independence Day.

The students enter in our university with high hopes and expectations and Marine Engineering (MRE) and Nautical Science (BNS) students expects more as they are trained here to explore the world expect through water transportation systems to become successful seafarers. The MRE is the heritage academic vertical of our university and many students developed from here to become successful seafarers.



Life on voyages is tough as the seafarer stay away from their family and often dangerous as they have to face extreme vulnerable weather conditions, particularly during the cold winter season. The Indian Ocean Experiment (INDOEX) extended lots of experimentation on the impact of 'Marine Air' in investigating the development of Asian Haze (AH). As a results for sustainable development, it is proposed to have non proacting emission from marine vessels (MVs) in further enhancement of AH. Instead of conventional hydrocarbon-based fossil fuel explorations are initiated in introducing carbon free fuel to run the MVs. The upcoming fuels proposed are to be hydrogen based and may be ammonia or hydrogen, burning of which will emit only water vapor and nitrogen. The condensation of water vapor may be used the MVs in meeting the domestic need. With the advancement of artificial intelligence (AI) and machine learning (ML) the MVs will be more cleaner and safer transportation and this will encourage our future seafarers in developing the means and ways for sustainable development.

The second issue of our e-magazine 'ABHIJAN' will not only contain the essence of exploration in sea but also some other articles to enlighten above aspects those are the integrated parts in our life. In this introductory note or foreword, I like to congratulate the entire community of our School of Maritime Studies for their great initiatives in publishing this second volume and it is expected that this will encourage our students, teachers in enhancing their thought process to build our future seafarers.

I wish every success of our School of Maritime Studies.

Dr. Biswajit Ghosh
The Neotia University
Vice Chancellor



Director's Desk

It is my immense pleasure to sit again for writing a column “ Director’s Desk” for the second issue of E-magazine “ Abhijan “ Vol-I , a creation of our students under the able guidance of the Faculties.

The essential purpose of “ School of Maritime Studies “ E-Magazine “ ABHIJAN “ is to inform, engage, inspire and entertain a diverse readership—including alumni, faculty, staff, students, parents and other friends of SOMS —by presenting an intimate, timely and honest portrait of the Institute: its people, its programs, its history, its challenges, its resources, its achievements and its mission. In the originality of its conception, in the excellence of its writing and visual presentation and in its commitment to accuracy, healthy discourse and editorial balance, the magazine endeavors to reflect the values and the quality of the institution itself.



In the first issue , the theme of the Magazine was “ Greener Shipping “ which drew loads of appreciation from different sections of its readers and this time the editorial board has chosen the theme “ MARPOL AT 50 “ which is very appropriate and relevant at this point of time. I sincerely hope like the first issue , this second issue will also generate a lot of interest , curiosity and enthusiasm among the maritime students as well as its readers inside and outside of the maritime industry.

MARPOL convention was adopted on 2 November 1973 which finally came into force in October 1983 . A lot has changed in shipping in these 50 years since then, and IMO’s commitment to protecting and preserving the marine environment has remained unwavering. The contents of this edition of Abhijan will allow us to celebrate the Golden Jubilee anniversary of MARPOL , while also underscoring dedication of Shipping industry to build cleaner environment on the existing foundations as we move towards a brighter future together.

I wish to utilize this opportunity to share the information that SOMS – The Neotia University has an optimistic expansion plan for coming years; the aim is to add on a few more branches like “ Post Graduation Diploma in Marine Engineering “ , Diploma in Nautical Science “ and ‘ Orientation Course for Catering Personnel” to meet increasing demand of Indian Seafarers in the International Shipping and to give a boost to Maritime education in Eastern India.

My sincere thanks to Management for providing support in all ups & downs throughout its journey since 2002.

And my best wishes to all my students who have displayed a tremendous enthusiasm and hard work to publish this issue in time .

Partha Pratim Saha
Director of SOMS



Editor's Note

I am happy and relieved to be finally sitting to write this note. This year summer vacation for the cadets having been extended, getting the second issue of ABHIJAN ready in time needed an all round extra effort from our cadets.



Our theme this time is MARPOL at 50. We all know The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) is the most dominant international marine convention created by the International Maritime Organization (IMO) in order to prevent pollution from ships, which may manifest as a result of both accidental and operational causes.

This Convention, is an instrument which entered into force on the 2nd of October 1983 and originated from 1973 International Convention for the Prevention of Pollution from Ships and the 1978 Conference on Tanker Safety and Pollution Prevention. MARPOL 73/78 is not only the key convention protecting the marine environment but it also protects the atmosphere from pollution by ships.

Now we are in the 50th year of MARPOL and throughout these fifty years, numerous accidents and technological advancement, triggered amendments to pollution requirements, with IMO providing a forum for its member states to work together in order to ensure a proper global response to issues as they arose.

Recently the 80th session of Marine Environment Protection Committee, (MEPC 80) was held from 3rd to 7th of July 2023 at the IMO. The MEPC 80 session mainly adopted the latest 2023 IMO Strategy on Reduction of Green House Gas Emissions from Ships, with enhanced targets to tackle harmful emissions.

It need not be stressed why MARPOL is so critical now in its 50th year as we all know the effects of polluting our oceans and our skies.

Recently China recorded its highest temperature ever of 52.2 deg C in the western provinces and many parts of Europe particularly in southern parts braced for temperatures in excess of 48 deg C as the world recorded its hottest week ever. All this happened very recently.

Climate emergencies are enveloping large parts of the planet and closer to us we have recently witnessed many rivers overflowing and numerous floods causing destruction and damages.

It has become clear that the catastrophe we were warned about is upon us. No longer is news of the weather a footnote on front pages, or the last segment of news broadcasts, it is grabbing headlines with a fury that is frightening.

Let us mariners and everyone connected with the industry take up in earnest environment pollution prevention across the globe without neglecting our coastal and inland waters closer home.

In this issue we have interesting contributions on overview of MARPOL from one of our ex-cadets who passed out in 2014 with flying colours. We have also interesting contributions from our cadets on different Annexes of the MARPOL.

Our cadets visited the Port of Haldia on the 12th of June this year and had an exposure to the working of one of the busiest ports in the area. A good description has been prepared by one of our third year marine engineering cadets.

In the literary pages the cadets have passionately penned poems and short stories both in English and Bengali. Two of our faculty members have also contributed and our thanks to them. From the works of art included here I must say that the young artists amongst the cadets are simply amazing.

While celebrating 50 years of MARPOL and all the regulations and rules regarding Marine Pollution Prevention let us all remind ourselves to honestly do what is right regarding pollution prevention even when no one is looking and no inspectors or regulators are there to catch us. We all owe this to our planet our only home.

Thank you all. Happy reading!



Tamal Mukherjee
Editor-in-Chief



NOTE FROM THE COORDINATOR



Anirban Maity
Coordinator

As we embark on an exciting journey to publish the Vol. I, Issue 2 of our school's e-magazine Abhijan, I am thrilled to announce that this edition will be dedicated to the theme "MARPOL AT 50."

For those unfamiliar, MARPOL (Marine Pollution) Convention is one of the most significant international treaties concerning the prevention of pollution from ships and maritime activities. As it celebrates its 50th anniversary, we have a unique opportunity to delve into the historical context, milestones, and the impact this convention has had on our oceans and marine ecosystems. This is a chance for us to raise awareness about the pressing issues related to marine pollution, sustainable practices, and the role of youth in preserving our oceans for future generations.

As a coordinator, I am eager to witness the cadets' creativity, passion, and commitment in bringing forth insightful technical articles, poems, essays, artwork, and inspiring stories.

The e-magazine Abhijan has always been a platform that showcases the incredible talents of our students and fosters a sense of community within our Marine school. Let us uphold this tradition with pride and dedication as we work together to create an edition that stands as a testament to our commitment to protecting our planet's oceans.

Remember, every article carries the potential to make a difference in how we perceive and protect our marine ecosystems.

Are

Special thanks to the exceptional editorial team, led by the dynamic Chief Editor, Mr. Tamal Mukherjee, whose unwavering enthusiasm and unwavering dedication have brought this second issue of our e-magazine, Abhijan, to life. Together, let's embark on a transformative journey towards sustainability and environmental consciousness, making Abhijan a shining milestone in our school's history!

Expressing gratitude to everyone. Wishing you all a delightful reading experience!

EDITORIAL TEAM

ANKUSH PAL
4TH YR MRE



THE WORLD WITH SEAFARS
BELONGS TO THOSE WHO WILL
READ OUR "ABHIJAN"

BINET KUMAR MISHRA
4TH YR MRE



READING "ABHIJAN" IS A
PASSPORT TO COUNTLESS
ADVENTURES

DEBAJYOTI DUTTA
4TH YR MRE



A SEAFARER LIVES A THOUSAND
LIVES BEFORE HE DIES READING
OUR "ABHIJAN"

NASIR HUSSAIN ANSARI
3RD YR BNS



BE GRACIOUS TO YOURSELF WHILE
YOU STILL CURE FROM ALL THE
ENDURE UNSTATED

SUDIP ADGIRI
2ND YR BNS



STRIVE NOT TO BE A SUCCESS,
BUT TO BE OF VALUE JUST
LIKE OUR "ABHIJAN"

PRATAY SARKAR
2ND YR MRE



ABHIJAAN-" WHERE CREATIVITY
MEETS PERFECTION "

TABLE OF CONTENTS



NOTES & ACKNOWLEDGEMENT

FROM OUR VICE CHANCELLOR

DIRECTOR'S DESK

EDITOR'S NOTE

NOTE FROM COORDINATOR

EDITORIAL TEAM

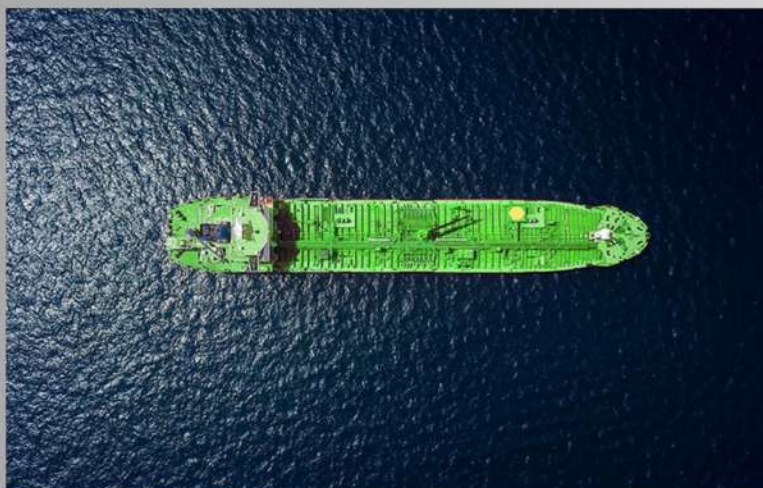
TECHNICAL PAPERS

Protecting the Marine Enviroment	By Rudra Mukherjee TNUSOMS Alumni	09
MARPOL ANNEX I	By Sudip Adgiri & Aditya Sharma	12
MARPOL ANNEX II	By Ankush Pal & Najeeb Ahmad	14
MARPOL ANNEX III	By Nasir Hussain	17
MARPOL ANNEX IV	By Harsh Singh	19
MARPOL ANNEX VI	By Ankush Pal & Binet Kumar Mishra	21
Reducing GHG Emission from Ships	By Binet Kumar Mishra	23



Campus Reports

25



LITERARY CORNER

Poem	30
Short story	34
DRAWINGS	37
Photography	38



50 Years Of MARPOL

Protecting The Marine Environment

By
Rudra Mukherjee
TNUSOMS Alumni
(2010-2014)

The earliest international treaty addressing pollution from ships was the International convention on prevention of pollution by oil (OILPOL) 1954, which was further amended in 1962, 1969 and 1971. That time, the knowledge regarding pollution from ships was limited and the focus was on oily wastes generated during regular operation of the ship, mainly from hold washing water of tankers. With the subsequent advent of chemical carriers and other fleets as well as identification of other pollutants, the need for a comprehensive regulatory regime to prevent pollution by both operational wastes generated in regular course and accidental discharge of pollutants from ships was felt.

The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships. The MARPOL Convention was adopted on 2nd November 1973. The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976-1977, at the Tanker safety and pollution prevention (TSPP) conference. As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument entered into force on 2nd October 1983. The MARPOL convention is one of the most widely ratified conventions (ratified by over 170 countries) and is considered to be one of the 'pillar' convention of IMO (others being SOLAS, STCW and MLC). Any amendment to the convention enters into force through 'tacit acceptance' in order to avoid unnecessary delay where if no member country objects to the amendment within a stipulated time, the said amendment is deemed to be accepted.

With the passage of time, the need for addressing several issues in relation to pollution preparedness, response, liability and compensation due to pollution incident etc. was felt time to time which led to the adoption of several other conventions. Today it would be prudent to say that the regulatory regime for pollution prevention and control (in case of an actual incident occurring) which has evolved over several decades is, indeed compressive and effective, although the liability and compensation regime is still to

deliver it's best. The compensation regime in force covers pollution by oil as cargo and bunker fuel (also covers passengers and wreck removal), but does not cover any incident resulting from hazardous and noxious substances due to lack of global consensus on the issue. IMO had adopted the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010 (2010 HNS Convention) superseded by the earlier 1996 HNS convention, which has still not entered into force due to insufficient number of ratifications.

It is important to note that there are multiple conventions in force other than the MARPOL 73/78 that deals directly with pollution prevention and control. These include (other than the liability and compensation related conventions): International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention) 1969, Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) 1972 (and the 1996 London Protocol), International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC Convention) 1990, Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances 2000 (OPRC-HNS Protocol), International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS Convention) 2001, International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004, and, The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.

Coming back to MARPOL, the convention as it can be seen today, has been drafted over period of several decades to reach a stage of maturity. The convention along with it's associated codes comprehensively addresses pollution from various pollutants carried as cargo on board, as well as, pollutants generated in course of ship operation either by prohibiting or controlling their discharge into the sea. Moreover, the convention also addresses accidental discharge of pollutants and contingency measures. Following paragraphs briefly outlines the six annexes to the convention.

Annex I Regulations for the Prevention of Pollution by Oil (entered into force 2 October 1983)

Covers prevention of pollution by oil from operational measures as well as from accidental discharges; the 1992 amendments to Annex I made it mandatory for new oil tankers to have double hulls and brought in a phase-in schedule for existing tankers to fit double hulls, which was subsequently revised in 2001 and 2003.

Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983)

Details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk; some 250 substances were evaluated and included in the list appended to the Convention; the discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with. In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land.

Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992)

Contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications. For the purpose of this Annex, "harmful substances" are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the criteria in the Appendix of Annex III.

Annex IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003)

Contains requirements to control pollution of the sea by sewage; the discharge of sewage into the sea is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; sewage which is not comminuted or disinfected has to be discharged at a distance of more than 12 nautical miles from the nearest land.

Annex V Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988)

Deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of; the most important feature of the Annex is the complete ban imposed on the disposal into the sea of all forms of plastics.

Annex VI Prevention of Air Pollution from Ships (entered into force 19 May 2005)

Sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of set more stringent standards for SO_x, NO_x and particulate matter. A chapter adopted in 2011 covers mandatory

technical and operational energy efficiency measures aimed at reducing greenhouse gas emissions from ships and requirement of ship energy efficiency management plan (SEEMP). New amendments to the annex in 2021 (MEPC 76) incorporated the Energy Efficiency Existing ship index (EEXI) and Carbon Intensity Indicators (CII) with the aim to mitigate and eliminate carbon footprint from ships in the long run.

In conclusion, it is important to note that enforcing the provisions of any marine convention is done by incorporating them into national law and implementing them through national authority. Hence the success lies into how effectively the administration carries out survey, certification or inspection and takes necessary steps to ensure compliance. In other words, both the flag state and the port state is crucial for the enforcement of regulations and acts as the first and second line of defence respectively to identify and eliminate substandard ships which fail to comply to international rules.

References:

1. www.imo.org
2. Marpol consolidated edition, 1st January 2019 by DNV GL



Source pic: Internet



MARPOL ANNEX I

PREVENTION OF POLLUTION BY OIL



**By Sudip Adgiri
(2nd year BNS)
&
Aditya Sharma
(2nd year BNS)**

Oil Tankers transport approximately 2.9 billion tons of oil and gas by sea each year around the world. Oil transport is quiet and safe most of the time...

IMO has taken steps to ensure that most oil tankers are built and operated safely and to reduce oil spills in the event of an accident. Polluting activities such as daily tank cleaning operations are also reduced. The work and development of

MARPOL, enacted in 1983, has been successful, and analysis by a reputable business and independent body shows that these regulations, along with other safety regulations such as the introduction of separation control and international standards for seafarer training, have been important in causing the appreciable decline in oil pollution over the past 30 years.

MARPOL of 1983 introduced many new ideas, such as requiring new cargo vessels to have separate ballast tanks to avoid carrying ballast water in cargo.

In terms of oil pollution in operation, MARPOL has introduced several innovations to allow oily water discharge from water through oily water separator (using the well-known 15 ppm standard) or oily water from the cargo tanks, through the oil discharge and monitoring systems; These innovations have contributed to reducing the pollution of the world's oceans, but need further improvement.

Defining Oil Spills At Sea-

The term "petroleum" can be defined as a viscous liquid containing petroleum, which may

be in refined products such as crude oil, petroleum, oil and lubricants, heavy oil, sludge, waste oil and MGO (excluding crude oil derivatives, petrochemical products controlled by annex 2 of present convention).

All ships:

1. Oil filtering equipment.
2. 15 PPM alarm arrangements.
3. Standard discharge connection.

Tanker specific:

1. Oil/Water Interface Detector.
2. Crude Oil Washing System (if installed).
3. Oil discharge monitoring and control.
4. Cargo and ballast pumps, piping and unloading.
5. Pumping and piping arrangements from the engine room big tanks/tank for slops.

Special regions listed in MARPOL Annex 1:

1. The Mediterranean Sea.
2. Baltic Sea.
3. The Black Sea.
4. The Red Sea.
5. "Gulf" area.
6. The Gulf of Aden.
7. Antarctic Ocean.
8. Northwest European waters.
9. Oman area of the Arabian Sea.
10. Southern South African water.

SOPEP – Shipboard Oil Pollution Contingency Plan

What is SOPEP?

Sopep means Ship Oil Pollution Contingency Plan, according to the provisions of MARPOL 73/78 in Annex I, all ships of 400 GT and above must have an oil pollution prevention plan based on guidelines established by IMO under the MEPC(Marine Environmental Protection Committee) Act.

Crew's members duties under SOPEP:

- **Master:**

Has full responsibility for all oil spill related incidents and must report accordingly to the authorities. It is necessary to ensure that all workers comply with the plan and keep the case file records.

- **Chief Engineer:**

Will be responsible for the bunkering operation and will instruct the workers to prepare the SOPEP equipment before the oil is started (sludge transfer, lubrication bunker, refueling, etc.).

- **Chief Officer:**

Will be responsible for the entire deck to prevent an oil spill, or when an oil spill occurs, the Chief Officer must always inform the Captain and update the situation and the actions to be taken to stop or mitigate the spill.

- **Deck Duty Officer:**

Assists the Chief Engineer in deck watch inspections and issuing alarms and notifies the Chief Engineer/Duty Engineer of a potential oil spill.

- **Duty Engineer:**

Assist the Chief Engineer with oil changes, including preparing SOPEP equipment and preparing fire fighting equipment.

- **Duty Rating(s):**

Assist and alert officers and engineers to detect oil spills and promptly assist in any means necessary to contain and clean up spills.

Equipment subject to MARPOL Annex 1 regulation:

Oil-water separator:

It is a special equipment used in the marine industry to separate oil from water. It only allows less than 15ppm of oily water to be released into the sea.

Oil Discharge Monitoring and Control System(ODMCS):

This system is used to discharge oily water from cargo and ballast tanks of tankers. This is not a filter, it just monitors the level and only lets it through if the total oil content level is satisfactory as per the regulations.

Other anti-pollution equipment and tools:

Ship SOPEP cabinets have anti-pollution equipment, chemicals and different equipment, which can be used for the pollution control from the ship, stopping the oil from flowing into the sea, and also preventing the oil spill, preventing pollution.

Crew's duty on the ship about MARPOL Annex:

Seafarers play the most important role in the implementation of

MARPOL Annex 1 on ships. Responsibilities of personnel who will check this Annex are:



Source pic: Internet

- Keep OWS, ODMCS and other MARPOL Annex 1 equipment in good working order.

- Handle all oil transfer (internal and external) carefully to prevent any oil spill.

- Bunkering operation to be carried out after complete preparation.

- All the records of the oil transfer, sludge, bilge, tank washing, etc. to be maintained in the appropriate logbooks and oil record books.

- Master should carry out regular pollution prevention training and drills onboard.

- Every crew must be familiarized with the SOPEP locker and other pollution prevention equipment onboard ships.

- The Ship's officer must know how to fill the Appropriate oil record books.

- The master and chief engineer must check the entries for their accuracy and countersign the ORBs

The changes will take effect on January 1, 2024 and July 1, 2024, respectively.

Amendment to MARPOL Annex I (adding new regulation 43A) to prohibit ships from using and carrying heavy fuel oil (HFO) in Arctic waters on or after 1 July 2024. With the exception of vessels engaged in securing the safety of ships or in a search and rescue operation, the carriage in bulk as cargo, use as ballast, or carriage and use as fuel of the following:

1 crude oils having a density at 15°C higher than 900 kg/m³;

2 oils, other than crude oils, having a density at 15°C higher than 900 kg/m³ or a kinematic viscosity at 50°C higher than 180 mm²/s; or

3 bitumen, tar and their emulsions,

Above shall be prohibited in the Antarctic area .

Ships involved in ship security or search and rescue, as well as personnel involved in oil spill preparedness and response will be exempted. Ships complying with construction standards for fuel tank protection must comply after 1 July 2029.

MARPOL parties whose shores border Arctic waters may temporarily waive the requirement for ships flying their flag to operate under a panel of jurisdiction until 1st July 2029.

MARPOL ANNEX II

Managing the Noxious Liquids

Source pic: Internet



By Ankush Pal (MRE 4th year)
Najeeb Ahmad (MRE 3rd year)

Introduction

This Annex was enacted on October 2, 1983, and it deals with managing and avoiding pollution caused by fluid substances in bulk, whether purposefully or unintentionally. It is divided into ten chapters, each of which has 22 Regulations.

The MARPOL Annex II Order applies to all merchant ships transporting NLS commodities in bulk when in the territorial seas of the Island. The Regulations also apply to vessels registered with the Department of Infrastructure's Ports Division, albeit it is exceedingly improbable that any such vessel would transport NLS in bulk. These Regulations do not apply to merchant ships or foreign ships in the Island's territorial waters that are warships, naval auxiliaries, or other ships owned or maintained by a State and utilised only for government non-commercial service for the time being. When a cargo subject to Annex I rules is transported in the cargo compartment of a NLS tanker, the applicable Annex I criteria must also be met. In any event, no hazardous substance-containing residues may be discharged within 12 kilometres of the nearest land.

Background

The transportation by sea of liquid chemicals in bulk developed in accordance to the increasing number of by-products being produced by the petroleum refineries. Since World War II, chemical tankers have developed alongside the growth in the chemicals industry.

Initially, oil tankers were fitted to transport liquid chemicals, by installing special tanks, double bottoms and structural and piping arrangements. However, as the range of products from the chemicals trade increased, chemical tankers became more complex.

The first purpose-built chemical tankers made their debut in the early 1960s and were designed to offer maximum protection to the cargo and to the crew,

due to the nature of the chemicals concerned. Chemical tankers are predominantly smaller in size than oil tankers, ranging from 500 gross tonnage to 40,000 gross tonnage, and are often of extremely complex constructions, designed to transport various different substances simultaneously, each with different properties and requiring different handling. The main chemicals carried in bulk include heavy chemicals; molasses, alcohols, vegetable oils, animal fats, petrochemical products and coal tar products.

Chemical tanker safety

During the 1960s the matter of chemical tanker safety was first brought up in the IMO forum resulting in the formation of a new Sub-Committee on Ship Design and Equipment. Its initial task was to consider



the construction and equipment of ships carrying chemicals in bulk.

The sub-committee's first session was held in January 1968 and it was agreed that the preparation of a code was needed to cover the equipment, design criteria and construction of chemical tankers. As an inaugural measure, it drew up a short-term recommendation for existing chemical tankers which was issued as an MSC notice in 1970.

The IMO Assembly, in October 1971 adopted the Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (BCH Code). The code specified the agreed international standards for the carriage and equipment prerequisites for such cargoes. The Code applied to ships built on or after the 12th of April 1972, although at the time it was not mandatory. Despite that, several countries with a significant number of chemical tankers in their fleet implemented the Code into their national legislation.

The Code set out requirements on ship capability for enduring damage and cargo tank

location, according to the type of products carried:

- Type I ships would be designed to carry products requiring maximum

preventive measures to preclude escape of cargo

- Type II for products necessitating significant precautions
- Type III covered products needing a moderate degree of confinement.

The code listed more than 100 chemicals with the corresponding ship type, based on the evaluation of those chemicals according to a list of specified hazards which included the flashpoint of the chemical and health hazards.

The Code did not address the pollution aspects of transporting chemicals in bulk. IMO's Sub-Committee on Marine Pollution had already begun to prepare regulations on the control of discharges from chemical tankers, to be incorporated into the planned convention on marine pollution.

Amendments

On November 2, 1973, the IMO adopted the MARPOL Convention. The 1978 Protocol was enacted in reaction to a series of tanker incidents in 1976-1977. The 1978 MARPOL Protocol absorbed the parent Convention since the 1973 MARPOL Convention had not yet come into effect. The combined instrument went into effect on October 2, 1983.

1985 (Annex II) amendments (MEPC.16(22)) (substantial amendments to Annex II to prepare for implementation-pumping, piping, control, and so on (IBC and BCH Codes)). It went into effect on April 6, 1987. It describes comprehensive Annex II revisions, such as regulations relating to pumping, piping, and unloading systems; the supply of receiving facilities; operations in specific regions; the Cargo Record Book, and survey and certification procedures.

Categorization of products for Annex II

- Category X - That Noxious Liquid Substances, if discharged into the sea during tank cleaning or deballasting operations, are regarded to pose a serious risk to either marine resources or human health, and so warrant the ban of discharge into the marine environment.
- Category Y - That Noxious Liquid Substances, if discharged into the sea during tank cleaning or deballasting operations, are proposed to endanger marine resources or human health, or

to harm amenities or other legitimate uses of the sea, and thus justify a limit on the quality and quantity of released into the marine environment.

- Category Z – That Noxious Liquid Substances, if released into the sea during tank cleaning or deballasting operations, are assessed to represent only a minimum amount of risk to sea or human health, justifying less limitations on the quality and amount of discharge into the marine environment.
- Other Substances – Substances examined and judged to fall outside of Category X, Y, or Z because they are proposed to pose no damage to marine resources, human health, amenities, or other lawful uses of the sea when discharged into the sea during tank cleaning or deballasting operations. MARPOL Annex II does not apply to the discharge of bilge or ballast water, or any residues or combinations comprising these chemicals.



2012 (Annex II) amendments – (MEPC.225(64)) (Amendments to International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) chapters 17, 18, and 19). It went into effect on June 1, 2014. It communicates about changes to the IBC Code's Chapter 17 (Summary of Minimum Requirements), Chapter 18 (List of items to which the Code does not apply), and Chapter 19 (Index of items Carried in Bulk).

2016 (Annex II) amendments (MEPC.270(69)) (GESAMP (Group of Experts on the Scientific Aspects of Marine Environmental Protection) Hazard Evaluation Procedure Revised). It went into effect on January 1, 2017. It refers to consequential adjustments to MARPOL Annex II appendix I (Guidelines for the classification of noxious liquid chemicals) as a result of the new GESAMP Hazard Evaluation Procedure for Chemical chemicals Carried by Ships.

2019 (Annex II) (Cargo residues and tank washings of continuous floating products) effective from January 1, 2021. These additional changes, which were accepted by IMO Resolution MEPC.315(74), redefine persistent floating goods ("persistent floater(s)") and impose stronger prewash requirements. Furthermore, the proposed revisions affect the standard structure of the MARPOL Annex II Procedures and Arrangements (P&A) Manual (Appendix IV). As a result, P&A Manuals on all ships must be changed, as specified in MEPC.315(74), by January 1, 2021.

Conclusion

MARPOL Annex II is critical for reducing pollution concerns related with the transfer of hazardous liquid chemicals. Its policies and standards improve maritime safety, conserve marine habitats, and support long-term maritime activities. The maritime sector contributes to the preservation of our seas and the well-being of future generations by complying to the regulations outlined in MARPOL Annex II.

References-

www.imo.org.in

MARPOL ANNEX III

Source pic: Internet



Pioneering Safe and Sustainable Control of Harmful Substances carried by Sea in packaged form

**BY NASIR HUSSAIN
(3RD YREAR BNS)**

Introduction:

The International Convention for the Prevention of Pollution from Ships (MARPOL) has been a pillar of international maritime regulations for decades, striving to minimize marine pollution caused by ships. Among its vital annexes, MARPOL Annex 3 stands out as a crucial framework for controlling and managing hazardous and noxious substances (HNS) transported in packaged form. The Annex is in line with the procedures detailed in the International Maritime Dangerous Goods (IMDG) Code, which has been expanded to include marine pollutants. This article provides a comprehensive overview of MARPOL Annex 3, tracing its evolution, current status, and future developments.

A Historical Perspective:

MARPOL Annex 3 was initially adopted by the International Maritime Organization (IMO) in 1983, recognizing the potential environmental and health risks associated with the shipment of HNS at sea. The annex laid down regulations for classifying, packaging, labeling, and documenting HNS, as well as emergency response procedures in case of incidents or spills. Since its inception, Annex 3 has played a vital role in safeguarding the marine environment and protecting human health.

Current Implementation and Challenges:

Over the years, MARPOL Annex 3 has been embraced globally, with numerous countries adopting and implementing its guidelines. Ship operators and authorities have worked hand in hand to ensure the safe and efficient transportation of HNS, adhering to rigorous standards of packaging, labeling, and documentation. However, challenges persist, including inconsistent implementation across jurisdictions and varying interpretations of the annex's requirements. These challenges highlight the need for continued cooperation and harmonization to achieve a unified approach.

Upcoming Amendments:

To keep pace with evolving challenges and advancements in technology, MARPOL Annex 3 continues to undergo periodic reviews and amendments. These updates seek to address emerging risks, improve effectiveness, and align with other international frameworks. Proposed amendments include enhanced requirements for documentation, improved labeling standards, and streamlined emergency response procedures. These amendments will reinforce the existing provisions and promote even greater safety, environmental protection, and harmonization within the shipping industry.

Crew members and officers' duties under MARPOL Annex 3:

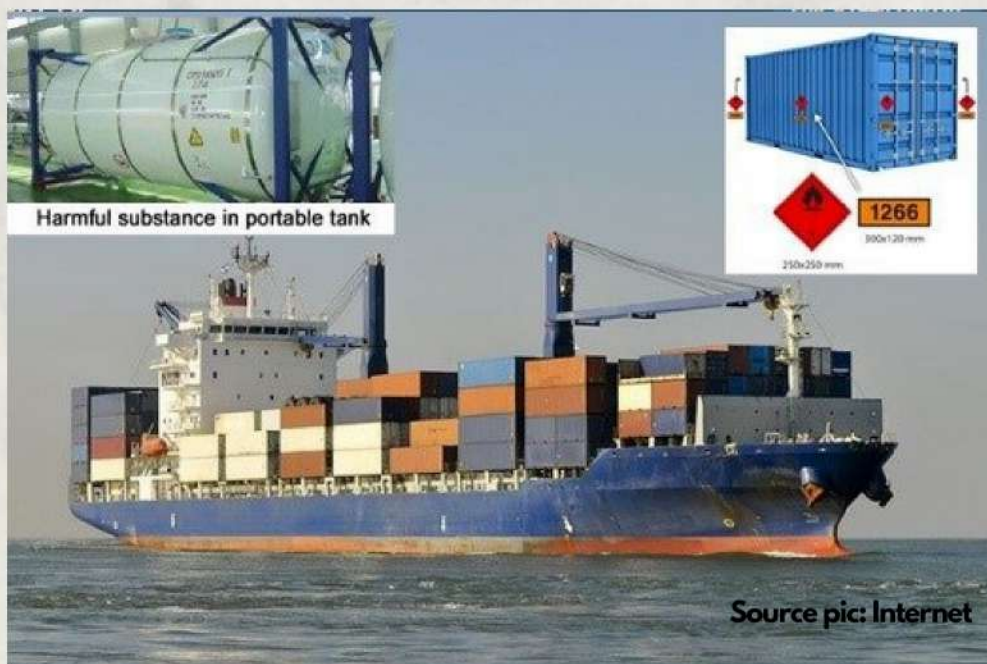
- Familiarisation: Understand the regulations and requirements of MARPOL Annex 3.
- Compliance: Ensure strict adherence to the regulations for handling and transportation of hazardous substances.
- Proper Handling: Safely handle and store hazardous substances, wearing appropriate personal protective equipment (PPE).
- Documentation: Maintain accurate records of the substances carried on board and their safety

information.

- Emergency Response: Be prepared to respond swiftly and effectively to incidents or spills involving hazardous substances.
- Reporting: Promptly report any deviations, incidents, or spills to the relevant authorities.
- Communication: Maintain effective communication channels with shore-based personnel and emergency response teams.
- Continuous Improvement: Stay updated with amendments and best practices through ongoing training and professional development.
- Each member onboard, including deck and engine officers, crew members, and dedicated safety officers, plays a crucial role in fulfilling these duties to ensure compliance, safety, and environmental protection in accordance with MARPOL Annex 3.
- To follow the guidelines of The International Maritime Dangerous Goods (IMDG) Code.

If pollution occurs due to a violation of MARPOL Annex 3, immediate action should be taken to mitigate and prevent further harm to the marine environment. Here are some steps that can be taken:

- Prompt Response: Take immediate action to contain and mitigate the pollution incident.
- Report: Notify the relevant authorities about the incident, providing accurate information.
- Clean-up: Implement measures to clean up and remove the pollutants from the affected area.
- Investigation: Determine the cause of the pollution and take legal actions against those responsible.
- Strengthen Procedures: Review and enhance procedures, training, and equipment to prevent future incidents.
- Compliance Monitoring: Establish robust systems to ensure strict compliance with MARPOL Annex 3.
- Public Awareness: Educate the public and maritime industry about the importance of responsible handling of hazardous substances and compliance with regulations.



Conclusion:

MARPOL Annex 3 has been a vital instrument in controlling the shipment of hazardous and noxious substances, contributing significantly to the prevention of marine pollution. With the recommended adoption of the Convention and forthcoming amendments, Annex 3 is set to become even more robust and effective. It is crucial for all stakeholders, including ship operators, regulatory bodies, and governments, to collaborate and ensure the proper implementation and enforcement of these regulations. By doing so, we can secure a sustainable future for our oceans, protecting them from the harmful effects of HNS and preserving marine ecosystems for generations to come.

MARPOL ANNEX IV

Source pic: Internet



By: Harsh Singh
(2nd year BNS)

CELEBRATING 50 YEAR OF MARPOL

The International Maritime Organization(IMO) has blazoned that the World Maritime Theme for 2023 will be 'MARPOL at 50- Our commitment goes on'.

MARPOL EMBRACES SIX SPECIALIZED ADDITIONS :

- Annex I Regulations for the prevention of pollution by OIL
- Annex II Regulations for the control of pollution by noxious liquid substances in bulk.
- Annex III Regulations for the prevention of pollution by dangerous substances carried by ocean in packaged form.
- Annex IV Regulations for the prevention of pollution by sewage from vessels.
- Annex V Regulations for the prevention of pollution by scrap from vessels.
- Annex VI Regulations for the prevent of air pollution from vessels.

So then in this composition we will have a detailed discussion on" Annex IV of MARPOL Convention"

Annex IV is a set of regulations regarding the discharge of sewage into the ocean from vessels, including regulations regarding the outfit and systems present in vessels for the control of sewage discharge, the provision for harborage event installations for sewage, and conditions for check and instrument.

Annex IV of MARPOL has regulations that prohibits the discharge of sewage into the ocean water within a given or specified distance from nearest land.

Governments are required to ensure the provision of adequate reception facilities at ports and terminals for the reception of sewage, without causing delay to ships.

The Annex was first introduced on 27th September, 2003. But, revised Annex IV was espoused on 1st April, 2004 and executed from 1st August, 2005.

The revised interpretation of Annex IV allowed to certify the vessels engaged in transnational passages and vessels of 400 gross tonnage and above to carry more than 15 persons.

But, the vessels are needed to be equipped with either an approved sewage comminuting and disinfecting system or a sewage holding tank or an approved sewage treatment plant.

Only the vessels equipped with an approved sewage treatment plant are allowed to discharge sewage into the ocean or when the vessels are discharging clean and disinfected sewage using an approved system can discharge the sewage at a distance of at least three nautical miles from the nearest land. still, non-comminuted or undressed sewage may be discharged at a distance of at least twelve nautical miles from nearest land when the vessel is moving forward at a speed of minimal 4 knots, and rate of discharge should be approved by administration.



Source pic: Internet

SPECIAL AREAS:

The sewage discharge in Special Areas should also meet the Nitrogen and Phosphorus junking standard when tested for its Certificate by administration. presently, Baltic Sea area is the only Special Area under Annex IV, in agreement with resolution MEPC.275(69).

AMENDMENTS TO MARPOL ANNEX IV:

Establishment of Special Area under MARPOL Annex IV Sewage in the Baltic Sea
 AAs the water volume exchange rate in the Baltic Sea is very low - around 3% a year. Resulting, an increase in the concerns about the increase in concentration of nutrients caused by larger passenger ships in concentrated areas during concentrated periods.

- Shipbuilders and Manufacturers -They should consider optimizing black & slate water discharge agreements and reviewing the performance standard.
- Make it Shipowners and Ship managers -They should also consider the constraints of dry dockings and available space on board for befitting adaptable system for sewage treatment plants.
- Flag Administrations and their honoured Associations - They need to consider additional sewage type approval work for large capacity sewage treatment plants.

AMENDMENTS APPLICABLE TO THE FOLLOWING VESSELS ON TRANSNATIONAL VOYAGES:

- New and being passenger vessels of 400 GT and above
- New and being passenger vessels of lower than 400 GT certified to carry further than 15 persons
- 200(62), the most recent correction to MARPOL Annex IV, which entered into force on 1 January 2013. The correction introduced, inter alia, a description for Special Area as well as applicable conditions for the discharge of sewage from passenger vessels in Special Areas and for harborage event installations.

CONCLUSION:

The MARPOL Convention has been an effective tool to encounter the marine pollution over the past 50 years. The regulations for preventing oil and chemical spills, managing sewage and garbage, controlling air emissions have helped to reduce the marine pollution and promote sustainable shipping practices. However, climate change and arise of emerging pollutants will be the new challenges encountered by this convention. So, it must continue to adapt and evolve to address them effectively. The co-operation of each sectors like industry, government and civilians will be very essential to ensure the sustainable future of the maritime industry.

MARPOL ANNEX VI

Shaping the Future of Environmental Sustainability In Maritime Operations



Source pic: Internet

By

Ankush Pal (4th year MRE)

Binet Kr Mishra (4th year MRE)

MARPOL (1973) is the **INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS** modified by the protocol of 1978, also known as MARPOL 73/78. MARPOL has faced many challenges in being a booming mechanism for protecting the environment and preventing pollution from ships. MARPOL is developing over decades and decades in a systematic manner facing all of the technological and political challenges and focusing on its purpose with the changing scenarios.

In an era where environmental Consciousness is at the forefront, the International Maritime Organization (IMO) has taken significant strides to Ensure the reduction of harmful Emissions from ships. The MARPOL Annex VI, an international regulatory Framework, stands as a beacon of Hope for the maritime industry's Pursuit of sustainability. This article aims to shed light on the importance Of MARPOL Annex VI, its key Provisions, and its impact on shaping a greener future for maritime operations. Annex VI of MARPOL is the convention for the prevention of air pollution from ships. Annex VI conveys to regulate SO_x and NO_x emissions from ship's exhaust and prohibits subsequent emission of ODS (Ozone Depleting Substances). By IMO,

designated emission control areas (Baltic Sea, North Sea, and North America) set stricter standards for SO_x, NO_x and PM (Particulate Matter). A chapter was adopted in 2011 which addresses that required technical and operational energy efficiency measures targeted at lowering ship-generated GHG (Green House Gases) emissions.

Annex- VI Enforcement Date: 19 May 2005.

Certificate Name: - International Air Pollution Prevention Certificate (IAPP Certificate)

Certificate Validity: - The IAPP (International Air Pollution Prevention) Certificate shall be valid for the duration which shall not exceed five years, and must be designated by the administration.

The Significance of MARPOL Annex VI

MARPOL Annex VI, formally known as The International Convention for the Prevention of Pollution from Ships, Focuses on curbing air pollution from vessels. It plays a pivotal role in Safeguarding the marine environment and human health from harmful Emissions such as sulfur oxide (SO_x), Nitrogen oxide (NO_x), and particulate Matter.

Key Provisions

->Sulfur Emission Control Areas (SECAS): MARPOL Annex VI designates certain Areas as SECAs, where stringent Regulations govern sulfur emissions. These areas mandate using low-Sulfur fuels or installing Exhaust gas cleaning systems (scrubbers) to reduce SO_x emissions. The implementation of SECAs has Notably improved air quality in Sensitive coastal regions.

►Global Sulfur Cap: From January 1, 2020, a global sulfur Cap of 0.50% mass by mass (m/m) Came into effect, significantly Reducing sulfur emissions worldwide Within specific designated emission control areas the limits were already stricter (0.10%). Vessels must either utilize low-sulfur Fuels or alternative compliant fuels Such as liquefied natural gas (LNG) or Marine gas oil (MGO) to adhere to this Regulation.

->Nitrogen Oxide (NOx) Control: MARPOL Annex VI sets limits on NOx Emissions from marine engines based on their power output. These limits Encourage the use of innovative technologies, including selective catalytic reduction (SCR) systems and Exhaust gas recirculation (EGR), to Minimize NOx emissions. The NOx control requirements of Annex VI apply to installed marine diesel engine of over 130 kW output power other than those used solely for emergency purposes irrespective of the tonnage of the ship onto which such engines are installed. Different levels (3 Tiers) of control apply based on the ship construction date and within any particular Tier the actual limit value is determined from the engine's rated speed.

->Energy Efficiency Measures: The convention promotes energy-Efficient ship design, operation, and Management. Ship Energy Efficiency Management Plans (SEEMP) are Required for vessels to optimize fuel consumption and reduce greenhouse Gas (GHG) emissions. Additionally, the IMO's Ship Energy Efficiency Certificate incentivizes the Implementation of energy-saving Technologies.

Achievements and Challenges

MARPOL Annex VI has contributed significantly to reducing air pollution And enhancing environmental Sustainability in the maritime industry. By imposing stricter regulations, it Has driven the adoption of cleaner Fuels, catalytic converters, and Advanced emission control Technologies. However, challenges persist. The industry must navigate the transition Towards alternative fuels, such as Hydrogen or ammonia, to achieve the IMO's ambitious target of reducing GHG emissions by at least 50% by 2050 compared to 2008 levels. Infrastructure development, fuel Availability, and affordability remain Key obstacles that require Collaborative efforts from Stakeholders.

Future Perspectives

MARPOL Annex VI Will continue to play a central role in Shaping the maritime industry's Sustainable Future. Further Amendments and advancements are Expected to strengthen emission control measures, promote



Source pic: Internet

Technological innovation, and foster Research and development in greener Propulsion systems.

Latest Amendments

MEPC RESOLUTION MEPC. 361 (79) (Adopted - 16 December 2022)

Amendments to the Annex to the 1997 Protocol to amend the 1973 International Convention for the Prevention of Pollution from Ships, as modified by the 1978 Protocol pertaining to the Mediterranean Sea Emission Control Area for SOx (Sulphur Oxides) and PM (Particulate Matters).

MEPC RESOLUTION MEPC. 362 (79) (Adopted- 16 December 2022)

Amendments to Annex VI of the Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as replaced by the Protocol of 1978 suggested by MARPOL Annex VI Amendments (Regional receiving facilities in Arctic waters, information to be included in the BDN (Bunker Delivery Note), and information must be provided to the IMO Ship Fuel Oil Consumption Database)

Conclusion:

MARPOL Annex VI represents a Collective commitment to reduce Maritime pollution, safeguard human Health, and protect the marine Environment. Through its stringent Provisions, it has revolutionized the industry's approach to sustainability. As the maritime sector embraces cleaner technologies and fuels, MARPOL Annex VI paves the way for a greener environment where vessels Navigate the seas with minimal Ecological impact, and maritime Operations harmoniously coexist with Environmental preservation.

Charting a Greener Course:

Reducing GHG Emissions from Ships

Source pic: Internet

By :
Binet Kr Mishra
(4th year MRE)

MARPOL (International Convention for the Prevention of Pollution from Ships) is a set of regulations established by the International Maritime Organization (IMO) to prevent various forms of marine pollution, including air pollution from ships. In 2018, the IMO adopted an initial strategy to address greenhouse gas (GHG) emissions from international shipping. This strategy aims to reduce total GHG emissions from the shipping industry by at least 50% by 2050 compared to 2008 levels.

Reducing greenhouse gas (GHG) emissions from ships has been a significant focus of the international maritime industry and environmental initiatives. The shipping industry is responsible for a notable share of global emissions, so addressing this sector's emissions is crucial in the fight against climate change.

There are several ways to reduce GHG emissions from ships:

Adoption of Alternative Fuels: To achieve significant GHG reductions, the shipping industry is exploring and adopting alternative fuels, such as liquefied natural gas (LNG), biofuels, and hydrogen. These fuels have the potential to substantially lower

carbon dioxide (CO₂) emissions compared to traditional fossil fuels like heavy fuel oil. However, challenges related to infrastructure, availability, and cost remain, hindering large-scale implementation.

Energy Efficiency Measures: Improving the energy efficiency of ships is crucial in reducing their overall emissions. Optimizing ship designs, using advanced propulsion systems, and employing energy-saving technologies onboard can help minimize fuel consumption and emissions. The IMO guidelines regarding Attained Energy Efficiency Existing Ship Index (EEXI) and operational carbon intensity indicators (CII) are to be followed. While EEXI generally applies to each ship of 400 gross tonnage and above, CII applies to ships 5,000 gross tonnage and above. Ships at or above 400 gross tonnage will need to be surveyed and issued with the appropriate certificates.

Slow Steaming: Slowing down ship speeds, also known as slow steaming, is a technique used to save fuel and reduce emissions. By reducing speed, ships can operate more efficiently and lower their fuel consumption, although it may lead to longer voyage times and potential scheduling challenges.

Investment in Green Technologies: Research and development efforts are ongoing to develop and deploy

innovative green technologies such as wind-assisted propulsion, solar panels, and other renewable energy solutions to complement traditional power sources.

Regulatory Frameworks: Stricter regulations from organizations like the IMO, as well as regional and national governments, can provide incentives and mandates for the shipping industry to reduce its emissions further.

It's important to note that the landscape of maritime emissions reduction is continually evolving, and there may have been additional developments and measures implemented after my last update in September 2021. Efforts to combat climate change are likely to continue and intensify as the world becomes more conscious of the environmental impact of various industries, including shipping.

The 2023 GHG Strategy on reduction of GHG emissions from ships
MEPC.377(80) 2023 IMO Strategy for the reduction of Green House gases from Ships

MEPC 80 adopted the 2023 IMO GHG strategy (revised strategy) which includes a revised level of ambitions and a timeline for a comprehensive impact assessment for the selection of candidate mid-term measures.

The levels of ambitions agreed within the revised strategy include the following:

- To peak GHG emissions as soon as possible and to reach net-zero by or around, i.e. close to 2050, mindful of different national circumstances.
- To reduce GHG emissions on a well-to-wake basis, as addressed in the LCA Guidelines. The life cycle assessment (LCA) methodology refers to the assessment of greenhouse gas emissions from the fuel production to the end-use by a ship ("Well-to-Wake"); it results from the combination of a "Well-to-Tank" part (from primary production to carriage of the fuel in a ship's tank, also known as upstream emissions) and a "Tank-to-Wake" (also called "Tank-to Propeller") part (from the ship's fuel tank to the exhaust, also known as downstream emissions).
- To reduce GHG emissions within the boundaries of the energy system of international shipping and prevent a shift of emissions to other sectors.



Source pic: Internet

- A reduction in CO₂ emissions per transport work (carbon intensity) by 2030 to be at least 40% as an average across international shipping compared to 2008 levels.
- Indicative checkpoints to reach net-zero GHG emissions from international shipping of 20% striving for 30% by 2030, and 70% striving for 80% by 2040, compared to 2008.
- Low-carbon and zero-carbon fuels/energy source uptake for international shipping to be at least 5%, striving for 10%, by 2030.
- Recognition of the need for a broad approach to regulating the safety of using zero or near-zero GHG emission technologies, fuels and/or energy sources, including addressing the human element, to ensure a safe implementation of the Strategy.
- Review, with the aim of strengthening, the energy efficiency design requirements for ships.

Source pic: Internet



CONCLUSION :

For our maritime industry IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible in this century. The IMO's efforts need to go hand in hand with National Action Plans, enhanced technical cooperation, port activities, research and development, support to the effective uptake of alternative low-carbon and zero carbon fuels and innovative emission reduction mechanisms.



Source pic: Internet

CAMPUS REPORT

JANUARY-JUNE 2023

JANUARY 2023



OUR UNIVERSITY INDIA'S 74TH REPUBLIC DAY ON 26TH JAN 2023

FEBURARY 2023

INTERNATIONAL MOTHER LANGUAGE DAY



*Value your mother
tongue and be proud
of your roots*

MARCH 2023



SHIP VISIT AT KOLKATA PORT HELD ON 3RD OF MARCH 2023



MMD VISIT FOR ESSAY WRITING AND PHOTOGRAPHY COMPETITION

APRIL 2023



APRIL 2023



SEMINAR ON "AMRIT KAL IN SHIPPING" ON THE OCCASION TO CELEBRATE 60TH NATIONAL MARITIME DAY



PROJECT PRESENTATION BY 4TH YEAR AND 3RD YEAR MRE CADETS

APRIL 2023

DEBATE-CROSSFIRE 2023



MAY 2023





INTER COLLEGE SPORTS FEST-"RAMPAGE" 2023

JUNE 2023



HALDIA PORT AND JWAHAR TOWER VISIT ON 12TH JUNE 2023

LITERARY CORNER

West Bengal: The Sweetest part of India

In the heart of India, lies a land so sweet

Where culture, history and tradition meet

From the bustling streets of Kolkata to the hills of Darjeeling

West Bengal, a land so enchanting

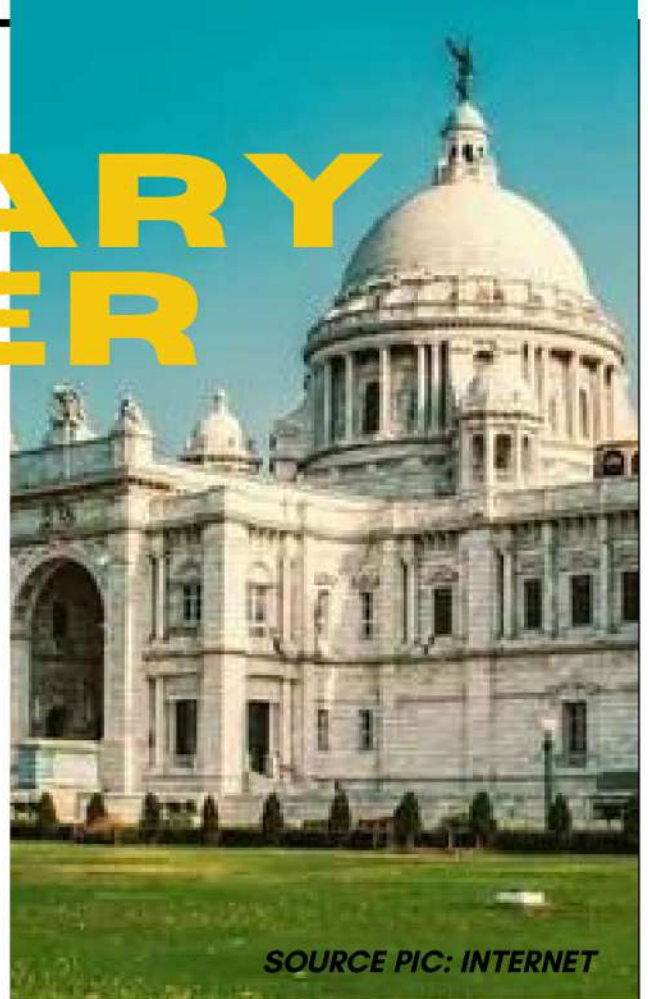
From the puchkas to the rosogollas

From the Durga Puja to the Kali ghats

The land of Tagore, Bose and Ray

West Bengal, a land that's here to stay

From the Sunderbans to the tea gardens



SOURCE PIC: INTERNET

From the Victoria Memorial to the Howrah Bridge

The land of art, literature and music

West Bengal, a land that's truly unique

From the language to the food

From the festivals to the attitude

The people of Bengal, so warm and kind

West Bengal, a land that's hard to find

From the Ganga to the Bay of Bengal

From the mountains to the plains so fertile

West Bengal, a land that's so divine

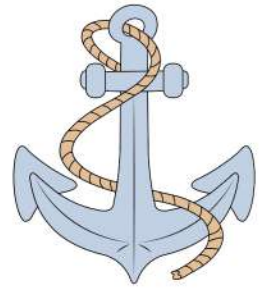
The sweetest part of India, a land so fine.



SOURCE PIC: INTERNET

PRATYAY SARKAR
2ND YEAR MRE

TNUSOMS



MOHIT KUMAR NAIK
3RD YEAR MRE

TNUSOMS

The journey begin, with a heart full of hope
Navigating Through challenges we must cope,
Understanding the word, with an open in mind
seeking knowledge, that we can find.

Navigating toward our destiny
Nurturing our skill, with tenacity,
Innovative mind, with creativity
Versatile sailor with Versatility.

Under the umbrella of Neotia university
We learn to excel with great continuity,
Inspiring leaders, with nobility
Transforming Lives, with ingenuity.

Studying in the school of maritime
Our skill honed with every step climbed,
Opportunities comes like a rhyme
Making us ready for a lifetime.

Our teachers are our guiding Star
Mentoring us to reach for the far,
Sharing their wisdom, with utmost care
Natures us to become aware.

Moving forward with every step
Seeking knowledge with no regret,
College makes our foundation strong
Setting us for a future long

So let us raise our flag and set a sail
With courage and determination we shall
prevail,

TNUSOMS our beacon bright
Guiding us toward a future bright.





SOURCE PIC: INTERNET

WHERE SKY MEETS THE SEAS

By **Nasir Hussain Ansari**
3rd Year BNS

"CATCH SOME
WAVES"

Where sky meets the seas, a wondrous sight,
A merging of realms, a pure delight.
The sun's golden kisses touch the waves,
As they dance and sparkle like gleaming caves.
Above, the canvas of heavens so vast,
Painted with hues, from first to last.
The clouds, like brushstrokes in a masterpiece,
Drifting serenely, their forms release.
Below, the endless expanse of blue,
Reflecting the sky in a mirror so true.
The waters whisper secrets untold,
As they ebb and flow, both gentle and bold.
Here, worries fade, and spirits mend,
In this union, tranquility transcends.
A meeting point of grace and embrace
Where sky meets the seas, a sacred space.

নিঃসঙ্গ

ঘর অন্ধকার হলে
জানলাটা জেগে ওঠে
এক ছোপ
চৌকো
পৃথিবী
রেলিং এর পাশে
ঝিরি ঝিরি-
আর
যার ঘর নেই
শুধু অন্ধকার আছে-
তার থাকে
আকাশময়
অসংখ্য
পালাবার সিঁড়ি |
সিঁড়ি দিয়ে তুমি
কোথায় যাবে শুনি?
এত তাড়া কিসের-
কিসের রহস্য ?
থাকে যদি মন
হবে না কখন,
যাবেনা কো ভুলে |
ওই যে দূরে-
সুজ্জি ওঠে
আলোয় ভরে বাতাস,
পড়বেনা শুধু,
ঝিরিঝিরি ওই-
শিশিরের সুবাস |

SNEHASIS ROY
2ND YEAR BNS



জলের দূরত্ব মেপে

জলের দূরত্ব মেপে
আমরা ভেসে যাচ্ছি গভীরতায়
উপচে পড়া ঢেউ ও মেঘের বিষণ্ণতা
মেখে,
নাবিক কম্পাসে বারবার দুলে উঠছে
কেবিন,
বঙ্গোপসাগর থেকে ঘূর্ণিঝড়ের শব্দ
তাকে নিঃশব্দ করেছে
তবুও সে সাবলীল চোখ থেকে বেরিয়ে
নীল জলের বুকে
লিখে রাখে ফিরে আসার মানচিত্র....

DEBADRITA SARDAR
2ND YEAR BNS

A MAN WHOSE DOCTOR HAD GIVEN HIM THREE MONTHS TO LIVE

*"This life at best is as inn and we are the passengers", said
James Howell.*

Death is ultimate truth to every living being on this world. It common to everyone, from poor to rich or from learned to foolish. However no one can predict the time or place at which the death will occur and to whom.

Richard Brown, a middle class widower who worked in the local block development office of the town. He used to live alone in his small house. He had no children and his beloved wife and left for heavenly abode some 8 years ago. Still, Richard was a man of strong character with good heart. He was a popular figure among the local children, with whom he used to play during the weekends.

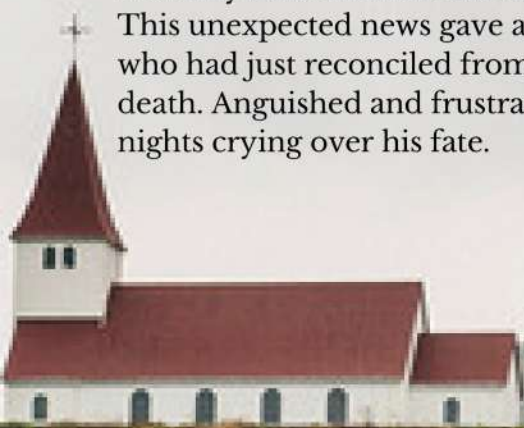
Days passed and Richard was getting old. His age was catching up and he was no longer enough energetic to play cricket with the children. On a suggestion from his best friend, he visited the local doctor to enquire about his health. The doctor, after a medical examination asked him to carry out some medical tests like the pathological tests and so on before giving his final decision. After 1 week Richard re-visited the doctor. On seeing one report's results the doctor turned pale. With a sympathetic tone he said that Richard was suffering from blood cancer which was at its terminal stage. His condition was so bad that he had only three months left to live.

This unexpected news gave a big shock to Richard, who had just reconciled from the grief of his wife's death. Anguished and frustrated, he spent sleepless nights crying over his fate.

But 'Time is a great healer' and in course of time Richard accepted his fate. Bowing to the wishes of almighty, he donated all his wealth and possessions to an local orphanage of the town. He also took retirement from his job and devoted himself to the service of the poor children in his town.

Two months passed. One fine morning Richard got a call from the same doctor. The doctor heavily apologized for his mistake, telling that his(Richard's) test report had by mistake got mixed up with the report of another patient with the same name. His(Richard's) report was completely normal and he can live a normal life. The news at first excited Richard, but the thought of having lost everything came as a big shock, which proved fatal to him and he collapsed clutching the receiver. Death is indeed certain and unpredictable, as the truth echoed by William Shakespeare, "All lives must die, passing through nature and eternity."

Tamal Chandra Dey, M.R.E.(2nd Year)
Suman Sahoo,B.N.S.(2nd Year)



BY: MR. Subir Basu
(MRE Faculty)

SOURCE PIC: INTERNET

অভিজ্ঞতা

অনেক দিন আগে, ১৯৯০ এর প্রথম দিকে, একটা ব্যক্তিগত কাজে, সুন্দরবনের কাছে একটা প্রত্যন্ত গ্রামে যেতে হয়েছিল। সকাল ছটার সময় বাড়ী থেকে রওনা হয়ে, ট্রেন,ভ্যান ও ভটভটিতে চারটে নদী পেরিয়ে এবং প্রায় আধ ঘন্টার হাঁটা পথে একটা মাঠ পেরিয়ে, গন্তব্যস্থলে পৌঁছলাম সন্দের মুখে। যাদের বাড়ী গিয়েছিলাম তাদের বাড়ী থেকে কাছের নদীর দূরত্ব খুব বেশি নয়, নদীর অন্য পারেই বিখ্যাত সুন্দরবনের জঙ্গল, মাঝে মাঝেই দক্ষিণরায় নদী পেরিয়ে গ্রামে হানা দেয়। আমি যাদের বাড়ী গিয়েছিলাম, তাদের মাটির ঘরের দাওয়ায় বাঘের পায়ের ছাপ দেখেছিলাম। মাটির ঘরের কাঁচা অবস্থায় দক্ষিণরায়ের আগমন হয়েছিল।

গ্রামের লোকের আতিথেয়তায় মুগ্ধ হতে হয়। সীমিত সামর্থ্যের মধ্যেও "অতিথী নারায়ণ" এর আপ্যায়নে কোন ক্রটি থাকে না।

আমি যে সময়ের কথা বলছি, তখন ঐ সব গ্রামে বিদ্যুতের ব্যবহার ছিল না, হ্যারিকেনের আলোই ছিল একমাত্র ভরসা। রাত্রের খাওয়ার পর, দেখি গৃহস্থামী কোলে একটা ছোট্ট ছাগল বাচ্চা ও হাতে হ্যারিকেন নিয়ে কোথাও চলেছেন। কোথায় চলেছেন, জানতে চাইলে বললেন, বাচ্চাটাকে মায়ের দুধ খাওয়াতে নিয়ে যাচ্ছেন।

কৌতূহলের বশে আমিও ওঁনার সঙ্গে চললাম। খানিক চলা পরে, গ্রামের বাইরে একটা মাঠের ধারে পৌঁছলাম, মাঠটা চলাচলের রাস্তা থেকে বেশ খানিকটা এঁ নীচে। অবাক হয়ে দেখলাম, মাঠে প্রায় ৩৫০/৪০০ ছাগল ছাড়া আছে। ভাবছি এত ছাগলের মধ্যে বাচ্চাটার মাকে কী করে খুঁজে পাওয়া যাবে।

হঠাৎ দেখলাম গৃহস্থামী ছাগল বাচ্চাটার পেটের পাসে দু অঙ্গুল দিয়ে চাপ দিতেই বাচ্চাটা ডাকতে শুরু করল, আর সেই ডাক শুনেই অত ছাগলের মধ্যে থেকে একটা ছাগল দৌড়ে এল ডাক লক্ষ করে, ছাগলের বাচ্চাটাকে নামিয়ে দিতেই, বাচ্চাটা দৌড়ে গিয়ে মায়ের দুধ খেতে লাগল। সেই দিন দেখেছিলাম, শুধু মাত্র ডাক শুনে, মা কি ভাবে সন্তান কে খুঁজে নেয়।

আমি সেদিন জেনেছিলাম যে, সুন্দরবন অঞ্চলের বেশিরভাগ গ্রামে মানুষ ছাগল প্রতিপালন করে ব্যবসায়িক কারনে,আর বাড়ীতে ওত ছাগল রাখার জায়গা না হওয়ার কারনে তাদের গ্রামের সংলগ্ন মাঠে সেগুলিকে ছেড়ে রাখা হয়। এছাড়া প্রধান কারন, নদী সাঁতরে রাত্রে বাঘ যখন গ্রামে আসে, সব ছাগল বাঘের গায়ের গন্ধে তারস্বরে ডাকতে থাকে, তাই শুনে গ্রামবাসীরা বাঘ তাড়াতে বেড়িয়ে পড়ে। ছাগলের ডাক তাদের কাছে Alarm এর কাজ করে। গ্রামের সংলগ্ন মাঠে সেগুলিকে ছেড়ে রাখা হয়। এছাড়া প্রধান কারন, নদী সাঁতরে রাত্রে বাঘ যখন গ্রামে আসে, সব ছাগল বাঘের গায়ের গন্ধে তারস্বরে ডাকতে থাকে, তাই শুনে গ্রামবাসীরা বাঘ তাড়াতে বেড়িয়ে পড়ে। ছাগলের ডাক তাদের কাছে Alarm এর কাজ করে।

WATER FESTIVAL IN MYANMAR



By Shekhar Chandra Saha
HOD, BNS

Way back I was then a Junior Officer in a general cargo ship, we were asked to go to Rangoon to load the rice. It was probably in mid-April. After vessel berthing, when all formalities were completed, we were issued shore passes to go ashore. As junior officers, we were always ready to go ashore in a foreign land after duty hours. A few of us decided to go ashore and roam around Rangoon, after we got out from the port gate, we saw many decorative pavilions, where boys and girls were throwing water at each other. we went nearby, they were throwing water to us also. we got wet and were surprised.

Later, We discovered that it was a water festival. In Myanmar, the Water Festival is known as 'Thingyan' (also spelled as 'Thin-gyan' or 'Songkran' in other Southeast Asian countries). It is the traditional New Year celebration, usually held in mid-April. The festival lasts for several days and is one of the most important and widely celebrated events in Myanmar.

Thingyan marks the transition from the old year to the new year, and it is a time of joy, fun, and spiritual reflection for the people of Myanmar. The festival is observed with various activities and rituals, with water playing a central role in the celebrations. The most distinctive feature of the Thingyan festival is the playful water-throwing that takes place on the streets and in public places. People, young and old, participate in water fights using water guns, buckets, and hoses to drench each other in a symbolic act of washing away the previous year's bad luck and sins and welcoming the new year with a clean slate. Water is also sprinkled on Buddha statues and pagodas as a form of cleansing and respect.

Throughout the festival, temporary pavilions called 'pandals' are set up across cities and towns. These pandals are adorned with colorful decorations and often feature stages for music, dance performances, and cultural shows. People gather around these pandals to enjoy live entertainment, food, and festivities.

In addition to the water play and merrymaking, Thingyan is also a time for spiritual reflection and religious activities. Many people visit temples and monasteries to offer alms and make merit through charitable acts and donations. Monks may also deliver sermons on the significance of the New Year and the importance of living a virtuous life. Thingyan is a time when families and friends come together to celebrate and strengthen their bonds. It is common for people to travel to their hometowns to reunite with loved ones during this festive period. Different regions of Myanmar may have unique traditions and customs during Thingyan. For example, in Mandalay, there is a tradition of holding a flower-bathing ceremony where scented water is poured over Buddha images. While Thingyan is a joyous occasion, they responsibly ensure that the water play doesn't lead to wastefulness or harm to others. In recent years, the Myanmar government has encouraged a more restrained and mindful approach to water throwing to conserve water resources and promote safety during festival time.

After the four days of water-throwing and merriment, the New Year is welcomed with a special ceremony and religious observances. The festival provides an opportunity for people to come together, celebrate their culture, and foster a sense of community and unity.



FROM THE
BRUSHES
OF SOVS



MITA PATRA
3RD YEAR BNS



SNEHASIS ROY
2ND YEAR BNS



DEBADRITA SARDAR
2ND YEAR BNS

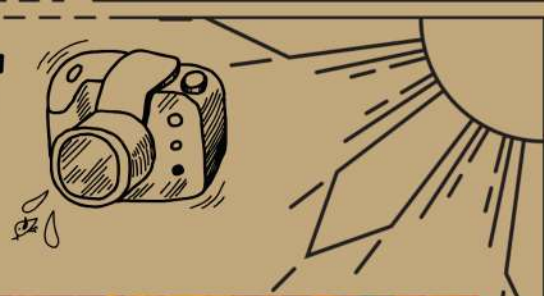


PRITAM RANA
2ND YEAR MRE





FROM LENS OF SOMS



MR SUBIR BASU

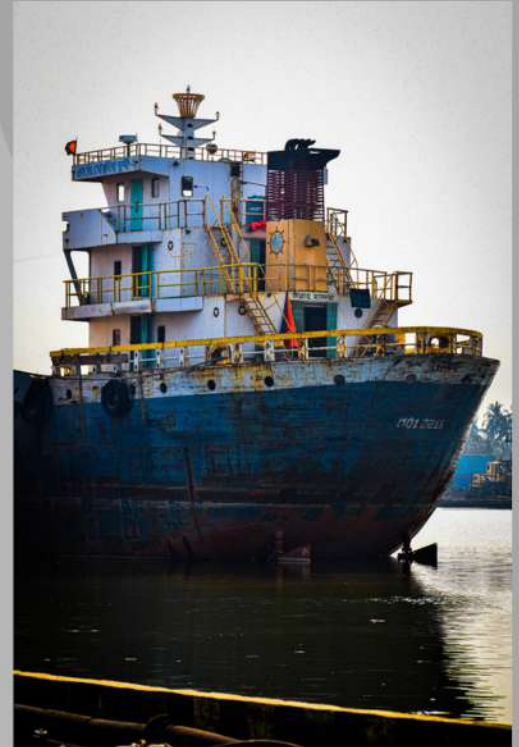


Cdt Binet kr Mishra
4th year MRE





*For rejoicing your memories
you need the lens by your side*



*Cdt Nasir Hussain Ansari
3rd year BNS*





OUR STRENGTH OUR FAMILY



4th Yr MRE (2020-24)



3rd Yr MRE (2021-25)



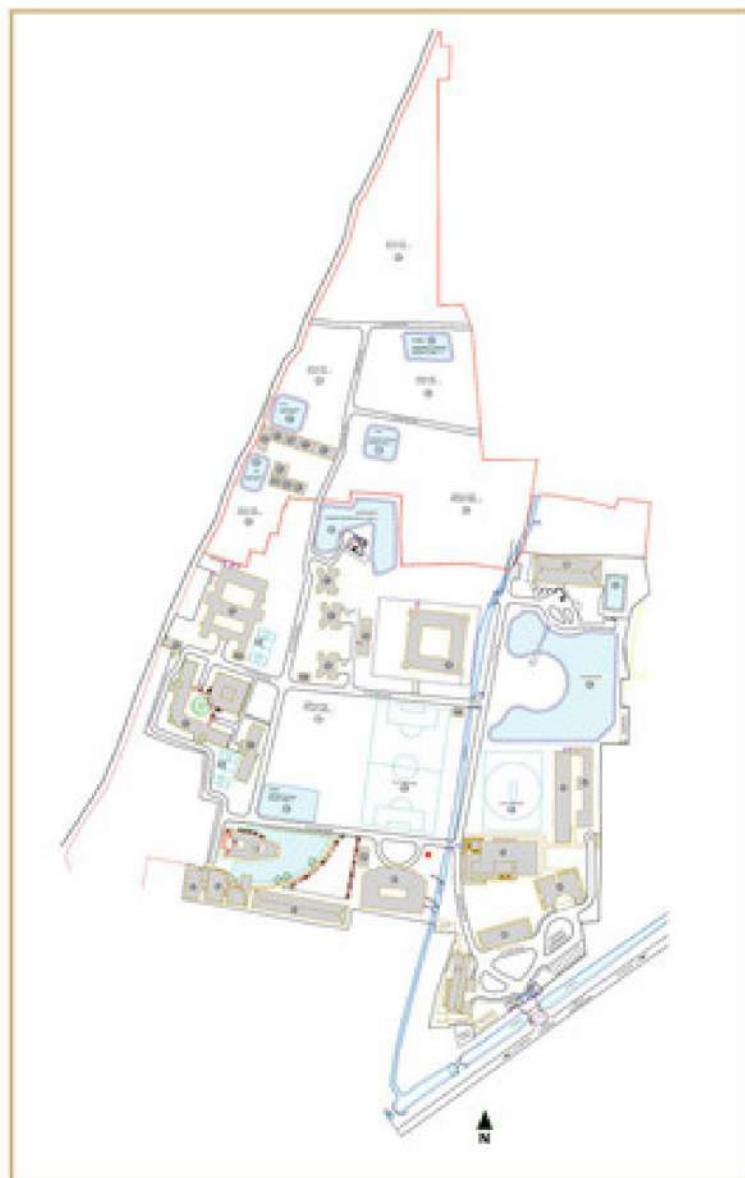
3rd Yr BNS (2021-24)



2nd Yr MRE (2022-26)



2nd Yr BNS (2022-25)



LEGEND- BUILDING

A. ADMINISTRATIVE BLOCK

1. ADMINISTRATIVE BUILDING (G + V)

B. ACADEMICS BLOCK

2. SCHOLASTIC BUILDING - 1 (G + III)
3. SCHOLASTIC BUILDING - 2 (G + II)
4. SCHOLASTIC BUILDING - 3 (G + III)
5. SCHOLASTIC BUILDING - 4 (G + III)
6. SCHOLASTIC BUILDING - 5 (G + III)
7. WORKSHOP BUILDING
8. NEW WORKSHOP BUILDING
9. NEW PHARMACY BUILDING (G + III)
10. PHARMACY BUILDING (G + III)
11. SHIP IN CAMPUS (G + III)

C. AGRICULTURE & FISHERY SCIENCE BLOCK

12. POLY HOUSE & NET HOUSE
13. FISHERY SCIENCE PROJECT AREA - 1
14. AGRICULTURE PROJECT AREA - 1
15. FISHERY SCIENCE PROJECT AREA - 2
16. AGRICULTURE PROJECT AREA - 2
17. FISHERY SCIENCE PROJECT AREA - 3
18. AGRICULTURE PROJECT AREA - 3
19. FISHERY SCIENCE PROJECT AREA - 4
20. AGRICULTURE PROJECT AREA - 4
21. AGRICULTURE PROJECT AREA - 5
22. FISHERY SCIENCE PROJECT AREA - 5
23. FISHERY SCIENCE PROJECT AREA - 6
24. AGRICULTURE PROJECT AREA - 6
25. MUSHROOM UNIT
26. FIELD LAB
27. STORE HOUSE
28. SERICULTURE UNIT
29. THRESHING FLOOR
30. BIO GAS PLANT
31. CATTLE SHED
32. VERMI COMPOST PIT
33. BIO FERTILIZER PLANT

D. RESIDENTIAL BLOCK

34. BOY'S HOSTEL - 1 & 2 (G + III)
35. BOY'S HOSTEL - 1 & 2 (G + III)
36. BOY'S HOSTEL - 1 & 2 (G + III)
37. OLD STAFF QUARTERS (G + III)
38. NEW STAFF QUARTERS (G + III)
39. NEW STAFF QUARTERS (G + III)
40. DIRECTOR'S RESIDENCE (G + I)
41. OLD STAFF QUARTERS (G + III)
42. GIRL'S HOSTEL - 3 (G + II)

E. UTILITY & SERVICES BLOCK

43. ELECTRICAL ROOM
44. PUMP ROOM

F. RECREATIONAL BLOCK

45. FOOTBALL GROUND
46. CRICKET GROUND
47. SWIMMING POOL
48. MULTI PURPOSE HALL
49. BASKETBALL COURT (3 NOS.)

G. HEALTH BLOCK

50. MEDICAL UNIT

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