REPORT ON

HALF-DAY INDUSTRIAL VISIT

IN

INDIAN COAST GUARD

HALDIA

SESSION – 2021-2022

DEPARTMENT OF APPLIED ELECTRONICS AND INSTRUMENTATION ENGINEERING

HALDIA INSTITUTE OF TECHNOLOGY

ACKNOWLEDGMENT

Theoretical engineering knowledge is only become contented with practical applications. Considering this, a frequent industry visit always help academician to deliver their lecture in a more constructive way to their belovedstudents.

Firstly, we express our gratitude to Prof. Dr. Uday Maji, HOD, Department of Applied Electronics and Instrumentation Engineering, HIT, Haldia, for giving us the opportunity of industrial visit in such a reputed industry. We extend our thanks to Mr. Rohan Mandal, In-charge of Departmental Training, Applied Electronics and Instrumentation Engineering, HIT, Haldia for providing us all necessary supports required for this visit.

We also express our immense pleasure to Mr. Tanmay Sinha Roy, Manager- Training & Placement, HIT, Haldia, for making this rendezvous feasible.

We would like to express our gratitude to the management of INDIAN COAST GUARD, Haldia, for providing us the opportunity and sharing various practical aspects of industry involved.

We extend our thanks to Indian Coast Guard personnel for their constant support and co-operation throughout thevisit.

Finally, we would like to express our deep sense of gratitude to, Mrs. Priyanka Sarkar Rakshit (Assistant Professor, Applied Electronics and Instrumentation Engineering Department) and other employees for their time expended and smooth conduct of all activities during the visit.

Date: 22nd July, 2022

CERTIFICATION

Mrs. Priyanka Sarkar Rakshit (Assistant Professor, Applied Electronics and Instrumentation Engineering Department) faculty of Department of Applied Electronics and Instrumentation Engineering, Haldia Institute of Technology, Haldia, Purba Medinipur, West Bengal-721657, hereby certified that an Industrial visit at Indian Coast Guard (Haldia) on 22nd July, 2022 completed by us is true and fact according to our knowledge.

PREFACE

Industrial visit is considered as one of the tactical methods of teaching. The main reason behind this - it lets academicians to know things practically through interaction, working methods and employment practices. Moreover, it gives exposure from academic point of view. It also provides a good opportunity to gain full awareness of industrial practices. Through industrial visit ,it is possible to get awareness about new technologies.

PURPOSE OF VISIT:

The Indian Coast Guard is a multi-mission organization, conducting round-the-year real-life operations at sea. Despite being relatively small, it has a wide range of task capabilities for both surface and air operations.

The organization is headed by the Director General Indian Coast Guard (DGICG) exercising his overall command and superintendence from the Coast Guard Headquarters (CGHQ) located at New Delhi.

Indian Coast Guard is ensuring the safety and protection of artificial islands, offshore terminals, installations and their structures and devices in any maritime zone. They are providing protection and assistance to fishermen in distress while at sea and also, assisting the Customs and other authorities in anti-smuggling operations.

The purpose for our visit –

➢ To discuss the matter of student's internship based on new AICTE INTERSHIP POLICY

➢ To talk about placement opportunities for B.Tech. students.

➢ To discuss about any possibility of industry-academia collaborative works to support each-other.

Contents:

1. Introduction

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The organization is headed by the Director General Indian Coast Guard (DGICG) exercising his overall command and superintendence from the Coast Guard Headquarters (CGHQ) located at New Delhi. At CGHQ, he is assisted by four Deputy Director Generals of the rank of Inspector General, and other senior officers heading various staff divisions.

For effective command and control, the Maritime Zones of India are divided into five Coast Guard Regions, namely, North-West, West, East, North-East and Andaman & Nicobar, with the respective Regional Headquarters located at Gandhinagar, Mumbai, Chennai, Kolkata and Port Blair. The Coast Guard Regions are commanded by Officers of the rank of Inspector General.

The regions are further divided into twelve Coast Guard 'Districts', one each for the nine coastal states on the mainland, two in the Andaman & Nicobar Region, and one at Kavaratti in the Lakshadweep and Minicoy Islands. Each Coast Guard District comprises of one or more Coast Guard Stations. In addition, there are Coast Guard Air Stations (CGAS) and Air Enclaves (CGAE) for air operations from various locations along the coastline.

The Regional Headquarters (North-West) at Gandhinagar exclusively covers the strategically important maritime state of Gujarat. The state has its District Headquarters at Porbandar. This District, commissioned in 1984, is supported by stations at Veraval, Mundra, Okha and Jakhau. Dornier aircraft and Advanced Light Helicopters operating from Porbandar, provide air-support to this region.

The State of Karnataka has its District Headquarters at New Mangalore. This Headquarters, commissioned in 1990, is engaged in regulating maritime activities along the Karnataka coast. Kerala has its District Headquarters at Kochi, and the Lakshadweep is monitored and administered by the District Headquarters at Kavaratti. It is close to the Sea Lanes of Communication (SLOCs) followed by a large number of oil tankers, and is therefore a high-risk area in terms of oil pollution. Air support is provided by Dornier aircraft based at Kochi.

The **Regional Headquarters (North-East)** is located at Kolkata. The entire coast line from Sundarbans to Gopalpur comes under the jurisdiction of the Commander, Region (North-East). There are two District Headquarters, situated at Haldia and Paradip respectively, besides CG Station and one Air Station. Dornier and Helicopter are operated from CGAE, Kolkata for air support.

2. Mission & Motto of Indian Coast Guard

MISSION

- TO PROTECT OUR OCEAN AND OFFSHORE WEALTH INCLUDING OIL, FISH AND MINERALS. TO ASSIST MARINERS IN DISTRESS AND SAFEGUARD LIFE AND PROPERTY AT SEA.

- TO ENFORCE MARITIME LAWS WITH RESPECT TO SEA, POACHING, SMUGGLING ANDNARCOTICS.

- TO PRESERVE MARINE ENVIRONEMENT AND ECOLOGY AND PROTECT RARE SPECIES.TO COLLECT SCIENTIFIC DATA AND BACK-UP THE NAVY DURING WAR.

MOTTO

"VAYAM RAKSHAMAH" - WE PROTECT

3. Duties of Indian Coast Guard

(a) Safety and Protection of Artificial Islands and Offshore Terminals

Coast Guard ships and aircraft undertake regular patrols to keep the Offshore Development Areas (ODAs), on both the Eastern and Western seaboard under surveillance.

(b) Assistance to Fishermen in Distress at Sea

The Maritime Rescue Coordination Centers (MRCCs) co-located with RHQs, coordinate the Search and Rescue (SAR) efforts undertaken by Coast Guard units. Effective liaison is also maintained with the concerned state government departments for expeditious launch of SAR missions and their successfulculmination.

(c) Prevention and Control of Marine Pollution

The Indian Coast Guard conducts regular training for all stakeholders and oil agencies, and continuously validates various contingency plans to prevent environmental damage in case of marine oil-spills. It has developed the capability to be the "first-responder" for oil-spills in Indian waters.

(d) Preservation and Protection of Marine Environment

The Indian Coast Guard is engaged with environmentalists for preservation and protection of the marine environment, including flora and fauna.

(e) Assisting the Customs and other authorities in anti-smuggling operations

The Indian Coast Guard, in coordination with the Customs and other enforcement agencies, undertakes operations to prevent ingress and egress of contraband, and other items on the banned list.

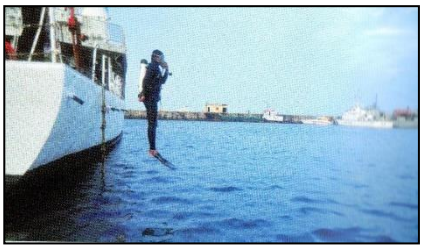
(f) Enforcement of Maritime Laws in Force

Indian Coast Guard ships and aircraft undertake regular patrols to enforce maritime laws, and other regulations and international treaties to which India is a signatory.

(g) Safety of Life and Property at Sea

Indian Coast Guard ships and aircraft operations mitigate the effect of maritime accidents, and help in ensuring safety and security from natural or man-made disasters.

(h) Collection of Scientific Data



Whilst on patrol, ICG ships collect relevant information regarding meteorological and oceanographic data for analysis and use by the scientific fraternity.

4. Crest and Ensign of Coast Guard

The Crest of the Indian Coast Guard

The State Emblem, which is an adaptation from the Sarnath Lion dating back to the time of Emperor Ashoka (273 – 232 B.C.) is on the top of the Crest of the Indian Coast Guard. The original statue has four lions, standing back to back mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels. The National Motto "Satyamev Jayate" meaning "Truth Alone Triumphs" is inscribed below the Ashoka emblem in gold. The Lion capital itself is surmounted by a "Chakra" (Wheel), which is the symbol of the Sun manifested as time. The Ashoka Capital is within a lifebuoy in white (depicting safety at sea),which enclosed the words "Bharatiya Tatrakshak" in Devanagri script. Two anchors are placed below the lifebuoy and the helicopter rotor on top (all three in blue) depicting the maritime service with an air arm. The scroll placed below has words inscribed in Sanskrit,"VAYAM RAKSHAMAH", meaning "We Protect". The Five cornered Star at the base of the Lifebuoy is synonym with the Coast Guard. One corner of the star point upward, two grounded and two stretching on both sides indicating omnipresence of Coast Guard at Sea.

The Indian Coast Guard Ensign

The Blue Colour of the Indian Coast Guard ensign signifies a ship on Government Duty. On the Indian Coast Guard ensign, there is a National Flag on the top left quadrant, and a Coast Guard crest in the fly part of flag. The Indian Coast Guard ensign was hoisted for the firsttime onboard the Indian Coast Guard Ship Kuthar on 19th August 1978, at the inaugural ceremony of the Indian Coast Guard at Bombay (now Mumbai).

5. AIR CUSHION VEHICLES (ACV):

A **hovercraft**, also known as an **air-cushion vehicle** or **ACV**, is an amphibious craft capable of travelling over land, water, mud, ice, and other surfaces.

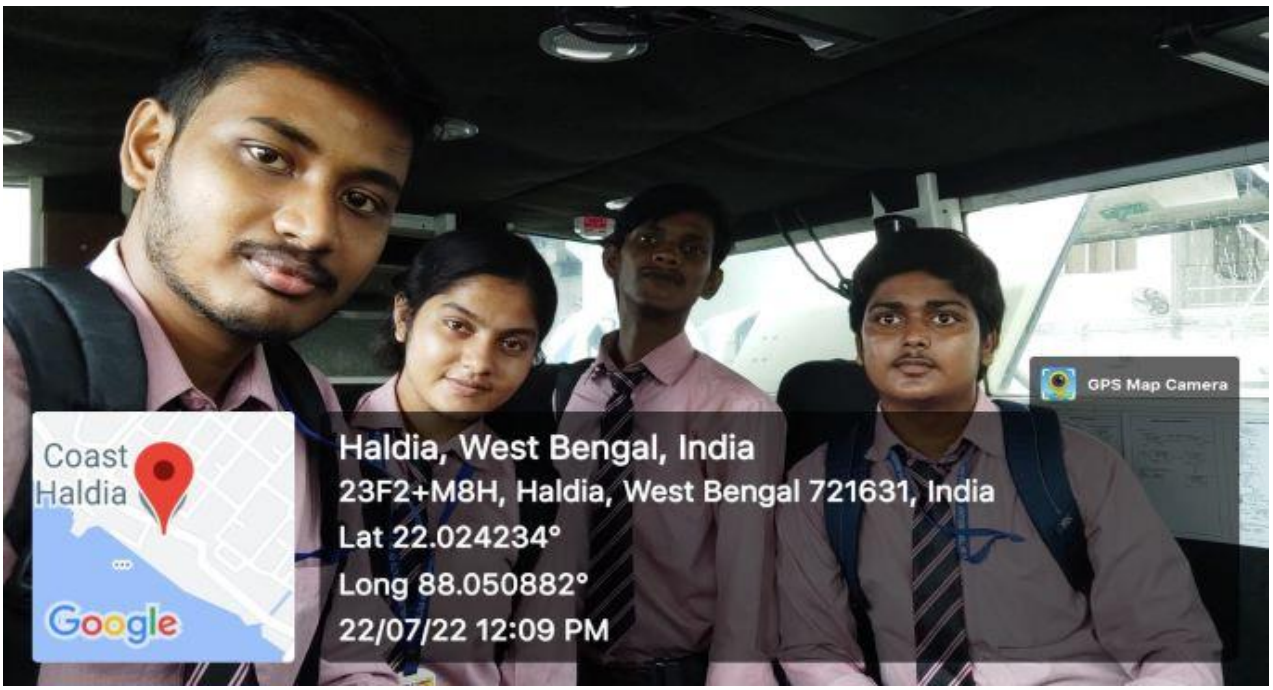
Hovercraft use blowers to produce a large volume of air below the hull, or air cushion, which is slightly above atmospheric pressure. The pressure difference between the higher-pressure air below the hull and lower pressure ambient air above it produces lift, which causes the hull to float above the running surface. For stability reasons, the air is typically blown through slots or holes around the outside of a disk- or oval-shaped platform, giving most hovercraft a characteristic rounded-rectangle shape.

AIR CUSHION VECHICLE (H-181 CLASS)

AVC H-181 CLASS include H-181, H-185, H-182, H-186, H-183, H-184 vehicles and H-187 Class include H-187, H-191, H- 195, H-188, H-192, H-196, H-189, H-193, H-197, H-190, H-194, H-198 Vehicles.

The Indian Coast guard (Haldia) has 4 AVC vehicles 88-AVC-H-181, H-193, H-182, and H-186.

a) H-186 AVC VEHICLE AT HALDIA UNIT.



b) FAST PATROL VESSEL- AMRIT KAUR

c) ANALYZING AVC FUEL TANKS

d) VISITING TEAM

6. SPECIFICATION OF ACV:

SL	EXTERNAL DIMENSION	H-181 CLASS	H-187 CLASS
1	OVERALL LENGTH- MAIN STRUCTURE	19.85 m	19.89 m
2	OVERALL LENGTH- HOVERING	21.15 m	21.69 m
3	BEAM- MAIN STRUCTURE	8.70 m	8.70 m
4	BEAM- HOVERING	11 m	11.45 m
5	HEIGHT OVERALL TO LANDING PADS TO TOP OF MAST (EXCLUDING ANTENNAE)	5.50 m	4.48 m
6	AIR DRAUGHT (TO TOP OF DUCT, MAST LOWERED)	5.70 m	5.75 m
7	HEIGHT OVERALL HOVERING- TO TOP OF MAST (EXCLUDING ANTENNAE)	6.70 m	6.66 m
8	DRAUGHT AFLOAT- TO BOTTOM OF LANDING PADS	0.32 m	0.32 m
9	SKIRT DEPTH (AVERAGE)	1.25 m	1.38 m
10	MINIMUM HEIGHT FOR TRANSPORTATION (MAST, RANE AND DUCTS REMOVED)	3.90 m	3.20 m

5. CONCLUSION

The experience of this tour was really fantastic and unforgettable. It was reverberating experience which cherished all of us. We got valuable information from this industrial tour and they suggested us how to guide our students to act in the era of competition. We got to learn a lot many more things from this tour. They also told us that they will visit our college and talk to students to deliver their ideas.