GOVERNMENT DEGREE COLLEGE FOR WOMEN

(AUTONOMOUS), BEGUMPET, HYDERABAD-500016

DEPARTMENT OF MATHEMATICS

FIELD VISITS, 2021-2022

S.No.	Field of Visit	Dates	No. of Students along with faculty Participated
1.	BHARATH DYNAMICS LIMITED	16.12.2021	54
2.	RENEWX, AN INTERNATIONAL EXPO ON RENEWABLE RESOURCES, HI-TECH CITY, HYDERABAD	20.11.2021	34
3.	TELANGANA STATE POLICE ACADEMY, HYDERABAD	17.12.2021	56

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DEPARTMENT OF MATHEMATICS

2021-2022

A

FIELD VISIT

TO

BHARATH DYNAMICS LIMITED

DATE: 16.12.2021

PARTICIPANTS: STUDENTS OF B.Sc.,MPCS AND B.Sc.,MPC

NUMBER OF PARTICIPANTS: 54

OBJECTIVE:

To ignite the scientific spirit in the innovative brains and to inculcate the national integrity in the students.

REPORT:

On 16.12.2021, by the efficient guidance of the principal Dr. K.Padmavathi, the faculty members of the department of mathematics Dr.S.Prasanna Rani, Asst. Prof. &HoD, Dr. D.Sarada Devi, Asso. Prof. and

T.Ravali, Guest lecturer along with a 54 number of students got the opportunity to visit Bharath Dynamics Limited (BDL), Hyderabad.

MINUTE TO MINUTE REPORT:

- **STARTED FROM THE COLLEGE AT 11.40AM**
- **REACHED TO THE DESTINATION POINT BDL AT NANAKRAMGUDA BY 1.50PM**
- **WENT IN QUEUE TO THE BDL POWER POINT PRESENTATION SPOT BY 2.10PM**
- **BDL STAFF RECEIVED US WELL AND SHOWN THE PLACES TO BE SEATED TO WATCH THE PRESENTATION BY 2.15PM.**
- **EACH STUDENT AND FACULTY MEMBER WERE OFFERED BY BDL STAFF, WHITE CAPS WITH BDL EMBLEM ON THEM BY 2.20PM.**
- **AN OFFICIAL OF BDL GAVE SUCH A WONDERFUL PRESENTATION ON BDL AT 2.20PM, THE AUDIENCE WATCHED WERE SPELLBOUND AND WERE TOTALLY TAKEN INTO THE WORLD OF MISSILES.**
- **AFTER THE PRESENTATION FOR ABOUT 15 MINUTES, THE STUDENTS MARCHED TOWARDS THE EXHIBITION ON MISSILES IN QUEUE AT 2.36PM.**
- **AN OFFICIAL OF BDL, EXPLAINED TO THE STUDENTS IN DETAIL ABOUT EACH MISSILE EXHIBITED THERE FOR ABOUT AN HOUR UP TO 3.40PM.**
- **STUDENTS INTERACTED WITH THE BDL OFFICIALS REGARDING MISSILE TECHNOLOGY UP TO 4PM.**
- **BDL STAFF OFFERED WATER BOTTLES AND FRUITY PACKETS TO ALL AT 4.05PM.**
- **STUDENTS TOOK SOME PHOTOGRAPHS AND RETURNED BACK AT 4.30PM.**

ABOUT BDL:

BHARATH DYNAMICS LIMITED, a reputed government agency is one of India's Manufacturers of ammunitions and missile systems. It was founded in 1970 in Hyderabad, Telanaa State, India. Its parent organisation is Ministry of Defence,

Government of India. As on 2019, it has 3090 employees working in it. BDL was established to be a manufacturing base for guided weapon systems and begun with a pool of engineers drawn from Indian Ordinance Factories, DRDO and aerospace industries. It began by producing a first generation anti-tank guided missile – the French SS11B1. This product was a culmination of a license agreement, the Government of India entered into Aerospatiale. BDL has 3 manufacturing units located at Kanchanbagh, Hyderabad, Telangana, Bhanur, Medak district, Telangana and Visakhapatnam, Andhra Pradesh.

HISTORY

India began to develop indigenous Missile Missiles through the integrated guided missile development program (IGMDP), which gave BDL an opportunity to be closely involved with the program, wherein it was identified as the prime production agency. This opened up a plethora of opportunities to assimilate advanced manufacturing, programme management technologies and skills. Responding to the concurrent engineering approaches adopted by DRDO in IGMDP, BDL was seen as a reliable and trust-worthy ally, and resulted in the induction of India's first state-of-the-art surface to surface missile Prithvi. BDL has delivered Prithvi to the three services as per requirements. BDL has forayed into the field of underwater weapon systems and air-to-air missiles and associated equipment with technology support from the DRDO and other players in this domain.

OPERATIONS: BDL has been consistently incurring profits and has been nominated as a Mini Ratna – Category-I Company by the Government of India. Showing steady progress in its operations over the years, BDL achieved a record sales turnover of ₹1,075 crore in 2012–13. BDL has orders worth over ₹1,800 crore. Keeping pace with the modernisation of the Indian Armed Forces, BDL is poised to enter new avenues of manufacturing covering a wide range of weapon systems such as: Surface to Air Missiles, Air Defence Systems, Heavy Weight Torpedoes, Air to Air Missiles, making it a defence equipment manufacturer. BDL has also entered into the arena of refurbishment of old missiles.

INDIGENOUS MISSILES

BDL is the nodal agency for the production of missiles developed by India. The first such missile that entered production of dynamics with BDL was the missile. Prithvi

BDL manufactures a range of missiles for the Indian Armed Forces some prominent products are listed below:

- **Agni**

In 1998, BDL produced Agni-I were inducted into the Indian Armed Forces. BDL also manufactures other missiles and systems for the Indian Armed Forces.

- **Akash**

Akash (Sanskrit: आकाश Ākāś "Sky") is a medium-range surface-to-air missile defence system developed by the Defence Research and Development Organisation (DRDO), and supported by Ordnance Factories Board and Bharat Electronics Limited (BEL) in India. The missile system can target aircraft up to 30 km away, at altitudes up to 18,000 m. A pre-fragmented warhead could potentially give the missile the capability to destroy both aircraft and warheads from ballistic missiles. It is in operational service with the Indian Army and the Indian Air Force.

- **Advanced Light Weight Torpedo**

It can be launched from a Ship, a Helicopter, submarine as well and available as both war shot / exercise modes. Homing can be passive / active / mixed modes. Multiple search pattern capability.

- **Counter Measures Dispensing Systems**

Counter Measures Dispensing System (CMDS) is chaff and flare dispensing system. CMDS is an airborne defensive system providing self-protection to the aircraft by passive ECM against radar guided & IR seeking, air & ground

launched missiles. Protection to the aircraft is achieved by misguiding the missiles by dispensing of chaff and/or flare payloads.

MILAN 2T

This is a second generation, semi-automatic, tube launched, optically tracked missiles with tandem warhead.

- **KonkursM**

This is a second generation, semi-automatic, antitank, tube launched, optically tracked, wire guided and aero-dynamically controlled missile. It is designed to destroy moving and stationary armoured targets with Explosives Reactive Armours at a range of 75 to 4000 metres.

Salient Features : Can be launched either from BMP-2 or from ground launcher. Tandem Warhead Simple in operation and immune to Electronic Counter measures High hit and kill probability Portable and Para droppable. Hermetically sealed ensuring long storage life.

- **Invar**

Invar is weapon fired from the Gun barrel of T-90 Tank. The missile has a semi-automatic control system, tele-orienting in the laser beam. This is high velocity jamming immune missile with tandem warhead designed to defeat explosive reactive armour. Intended to destroy stationary and moving targets with speeds up to 70 km/hr.

FACULTY AND THE STUDENTS STARTING TO BDL FROM THE COLLEGE AT 11.50 AM

AT THE ENTRANCE OF THE BHARATH DYNAMICS LIMITED (BDL) AT 2PM

ATTENDING THE POWER POINT PRESENTATION ON BDL BY THEIR OFFICIALS AT 2.20PM

VISITING THE MISSILE EXHIBITS AT BDL, NANAKRAMGUDA AT 2.40PM

BDL OFFICIAL EXPLAINING THE STUDENTS ABOUT THE EXHIBITS AT 2.40PM

DISPLAY OF DETAILS OF MISSILES AT EACH EXHIBIT

STUDENTS WATCHING THE EXHIBITS LIKE AAKASH, PRITHVI, AGNI, VARUNA etc.

A MODEL MISSILE AT THE EXHIBITION, BDL

OUTCOMES:

After the completion of this field visit, the students are

- **Enlightened with Indian missile technology.**
- **Enhanced scientific temper.**
- **Appreciated Indian missile technology in making different models of missiles air to air, surface to air, surface to surface, surface to water etc.**
- **Developed team spirit and inculcated national integrity.**

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS), BEGUMPET

DEPARTMENT OF MATHEMATICS

A FIELD VISIT

TO

RENEWX, AN INTERNATIONAL EXPO ON RENEWABLE RESOURCES,

HI-TECH CITY, HYDERABAD

DATE: 20.11.2021

PARTICIPANTS:

MATHEMATICS STUDENTS OF B.SC.,MSCS, B.SC.,MPCS AND B.SC.,MPC.

NUMBER OF PARTICIPANTS:

30 STUDENTS AND 4 FACULTY MEMBERS.

OBJECTIVE:

To create awareness to the students on Renewable energy resources.

INTRODUCTION:

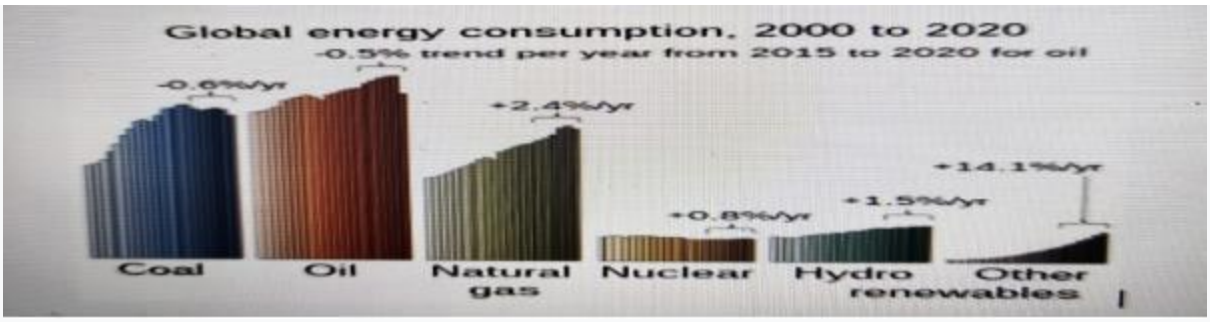
The department of Mathematics has organized a field visit on 20th November 2021 to RENEWX, an international expo on renewable energy resources organized by a Delhi based company INFORMA MARKETS PVT. LTD. for two days on 19.11.2021 to 20.11.2021.

ABOUT RENEWABLE ENERGY RESOURCES:

Sunlight, wind, geothermal heat, tidal waves are some renewable resources that are naturally replenished on a human time scale. Renewable energy is energy that is collected from renewable resources. Most of the renewable energy sources are sustainable and some are not. For example, some biomass resources are considered unsustainable at current rates of exploitation. Renewable energy often provides energy for electricity generation. Studies reveal that, about 20% of humans' global energy consumption is renewable, including almost 30% of electricity.–About 8% of energy consumption is traditional biomass, but this is declining.- Further, 4% of energy consumption is heat energy from modern renewable energy, such as solar water heating and over 6% electricity.

Renewable energy systems are rapidly becoming more efficient and cheaper and their share of total energy consumption is increasing. Majority of worldwide newly installed electricity capacity being renewable. In most countries, photovoltaic solar and onshore wind are the cheapest new-build electricity.–Many nations around the world already have renewable energy contributing more than 20% of their energy supply with more than half by solar energy. A few countries generate all their electricity using renewable energy. Renewable energy resources exist over wide geographical areas, in contrast to fossil fuels, which are concentrated in a limited number of countries. To achieve net zero carbon emissions, more effort is needed to increase renewable resources.

Renewable energy technology projects are typically large-scale, but they are also suited to rural and remote areas and developing countries where energy is crucial in human development. As most of the renewable energy technologies provide electricity, renewable energy is often deployed together with further electrification.



Coal, oil, and natural gas remain the primary global energy sources even as renewable resources have begun rapidly increasing.

Renewable energy is derived from natural processes that are replenished constantly. In its various forms, it derives directly from the sun, or from heat generated deep within the earth. Electricity and heat generated from solar, wind, ocean, hydropower, biomass, geothermal resources, and bio fuels and hydrogen Energies derived from renewable resources.

Electricity is generated from:

- **Solar energy**
- **Heat**
- **Wind**
- **Ocean**
- **Hydropower**

- **Biomass**
- **Geothermal resources**
- **Bio fuels**
- **Hydrogen**

BENEFITS OF RENEWABLE ENERGY RESOURCES:

- **Renewable energy stands in contrast to fossil fuels, which are being used far more quickly than they are being replenished.**
- **Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries.**
- **Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits.**
- **It would reduce environmental pollution such as air pollution caused by the burning of fossil fuels, and improve public health.**
- **Reduce premature mortalities due to pollution and save associated huge health costs**
- **Renewable energy sources, that derive their energy from the sun, either directly or indirectly, such as hydro and wind, are expected to be capable of supplying humanity energy for almost another 1 billion years, at which point the predicted increase in heat from the sun is expected to make the surface of the Earth too hot for liquid water to exist.**

MINUTE TO MINUTE REPORT:

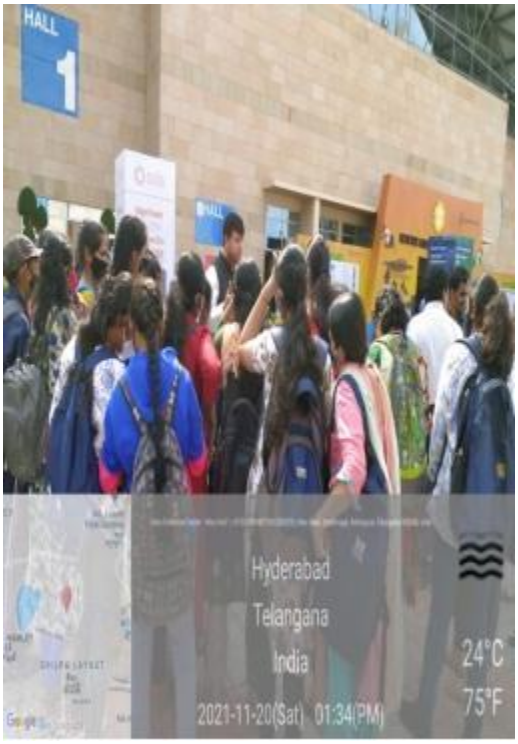
- **STARTED FROM COLLEGE AT 12.10PM**

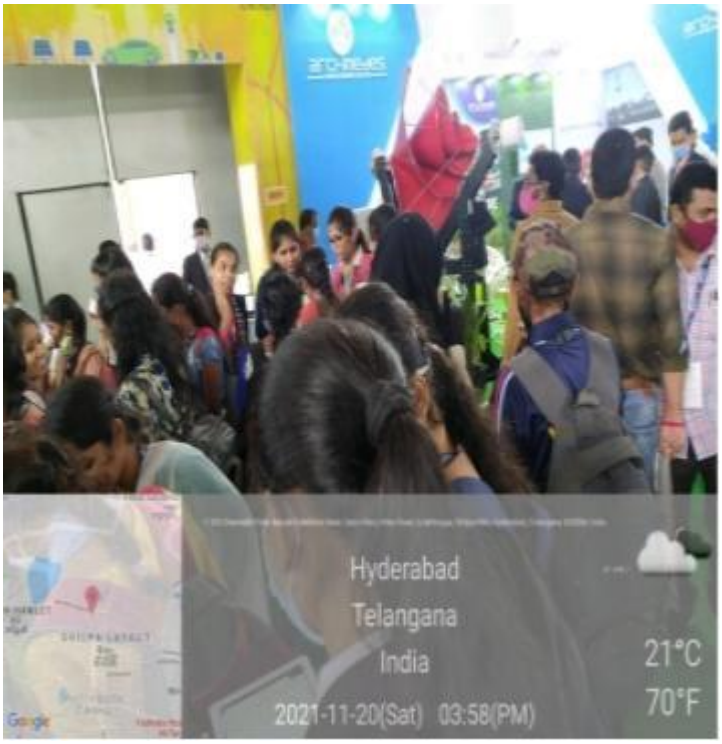
- **REACHED TO EXPO AT HITECH- CITY BY 1.20PM**

- **THE STUDENTS HAVE INTERACTED WITH MR.RAJNEESH KHATTAR,MANAGING DIRECTOR, INFORMA MARKETS PVT. LTD. AND ORGANIZER OF THAT INTERNATIONAL EXPO.**
- **THE DIRECTOR OF EXPO, RAJANEESH SIR IS A VERY HUMBLE AND DOWN TO EARTH PERSON AND HE EXPLAINED THE STUDENTS ABOUT THE EXPO FOR 10-15 MINUTES.**
- **THE STUDENTS ENTERED THE EXPO AND THE ENTRY PASS OF EVERY PERSON HAS BEEN CHECKED BY 1.45PM.**

- **THERE ABOUT 20 STALLS EXHIBITING VARIOUS FORMS OF RENEWABLE ENERGY RESOURCES TECHNOLOGIES WITH MACHINERY. UP TO 2.10PM, VISITED 4 STALLS.**
- **ATTENDED A POWER POINT PRESENTATION ON RENEWABLE ENERGY RESOURCES FROM 2.15PM TO 3.05PM.**

- **HAD SOME REFRESHMENTS AND TEA UP TO 3.20PM.**
- **VISITED THE REMAINING STALLS AND THE STUDENTS WERE EXCITED TO KNOW ABOUT THE DETAILS OF PROCESS OF MANUFACTURING OF DIFFERENT ENERGY FORMS.**





- **THE HUGE MACHINERY WAS INTERESTING. COMPLETED THE VISIT OF ALL STALLS BY 4.10PM.**
- **EVERYONE WAS OFFERED BY A FREE PHOTOGRAPH INSIDE THE EXPO AS A TOKEN OF MEMORY BY THE EXPO MANAGEMENT BY 4.25PM. EVERYONE IS ALSO BEEN GIVEN AN EXPO KIT OF BROCHURES ON RENEWABLE ENERGY RESOURCES.**

- **B.R.SOUMYA, B.SC., SECOND YEAR GAVE HER FEEDBACK TO THE TV MEDIA AT 4.20PM.**
- **BY 4.30PM, CAME OUT AND TOOK SOME PICS FOR ABOUT 10-15MINUTES.**

- **CAME BACK TO THE COLLEGE BY 5.50PM.**

CONCLUSION:

Renewable energy has the ability to lift the poorest nations to new levels of prosperity. At the national level, at least 30 nations around the world already have renewable energy contributing more than 20% of energy supply. Renewable energy often displaces conventional fuels in and rural off-grid energy services.

OUTCOMES:

After completion of the field visit, the students are

- **Enlightened on renewable energy resources**
- **Oriented towards research in various forms of renewable energy technologies**
- **Aware of significance and benefits of renewable energy resources.**
- **Enriched by the power point presentation on different forms of renewable energy resources.**

GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS), BEGUMPET

HYDERABAD

DEPARTMENT OF MATHEMATICS

A FIELD VISIT

TO

TELANGANA STATE POLICE ACADEMY, HYDERABAD

DATE: 17.12.2021

PARTICIPANTS: Students of B.Sc.,MSCs Second Year

NUMBER OF PARTICIPANTS: 51 Students and 5 faculty members.

OBJECTIVE: To create awareness to the students on police services and inculcate patriotism, discipline and dedicated service.

The department of Mathematics by a request received from students who are aspirants of Indian Police Services and related services has organized a field visit to Telangana State Police Academy (TSPA), Hyderabad on 17th December 2021. We have followed the formalities, approached TSPA authorities and been sanctioned a one month prior permission for the visit to TSPA, Hyderabad for 5 faculty members and 50 students. The department has engaged a bus and on 17.12.2021, the faculty along with the students made a memorable visit to TSPA, Hyderabad.

MINUTE TO MINUTE REPORT:

- **The five faculty members along with the Started from our college GDCW(A), Begumpet, Hyderabad at 9.30AM**
- **Reached TSPA, Hyderabad which is about 25km away from our college at 10.30AM.**
- **Two members of TSPA, Hyderabad staff received us and they accompanied and guided our team during the visit till our stay there in the evening.**
- **From 10:30AM to 11:30AM, we have visited open huge training hall with advanced and varied gym equipment. Students tried some of them.**
- **11:30AM onwards, we have waked around two large grounds in which hurdles for high jumps, hanging ropes etc. are there.**
- **Then we entered a very big ground with a large dais and white screen.**
- **After that, we have seen different hostel buildings with good facilities for men and women trainees.**
- **The TSPA officials have arranged an Armour show from past to latest present guns, pistols etc.**
- **There, in the garden TSPA has arranged refreshments for all the faculty members and students.**
- **At 2PM, we have entered a set of MUSEUM HOUSES where we have seen Arms Gallery, Forensic Science Gallery, Communication Gallery and Computer Gallery. The students enjoyed to watch the old days police weapons to modern ones and other interesting exhibits in the galleries.**
- **Finally at 3:30PM we all have assembled in a well furnished conference hall and attended a special address arranged for us by Director, TSPA. The message for about 20 min was highly inspirational for the students to join in police services.**

ABOUT TSPA

RBVRR TS POLICE ACADEMY(ERSTWHILE APPA) was established in 1985 as a nodal agency and an institute of higher learning for and other law enforcement agencies including Forensic Science and Public Prosecutors. Rechristened as RBVRR AP Police Academy in 2013 and later as Raja Bahadur Venkata Rama Reddy Telngana State Police Academy in February 2015 after re-organisation.

Mission TSPA

To impart professional training of outstanding quality to front Police Executives and others connected with criminal justice system to enable them to serve the community in consonance with law, understanding its expectation.

Respecting rights of the people in the cause of peace, tranquility, safety and security in the society and position the Academy as a "Centre of Excellence" in the field of police training.

OBJECTIVES OF TSPA

Identifying the training needs of the T.S.Police of various levels

Organizing Seminars/Workshops on important subjects

Transform TSPA into a Premier Training Institute & a COE in India and also Globally

RECOGNITION

For training of Police personnel from Southern States in It enabled services for policing by National Crime Records Bureau,Delhi

As its Resource, Research Development and Nodal Training Centre on Anti-Human Trafficking by UNODC(United Nations office on Drugs & Crimes)

For conducting "Vertical interaction and ATA, Safety of Women Courses" by Bureau of Police Research & Development, Delhi

AWARDS

Two times winner of UNION HOME MINISTERS TROPHY AS BEST POLICE TRAINING INSTITUTION FOR THE YEARS 2014-15 and 2017-18

TRAININGS PROGRAM BY TSPA

TSPA designed courses

Basic course

In-service course

Thematic course

External agency courses

BPR&D course

NCRB course

UNODC course

DR.HANKINS POLICE MUSEUSM & DISCOVERY CENTRE

MUSEUM HOUSES

Arms Gallery

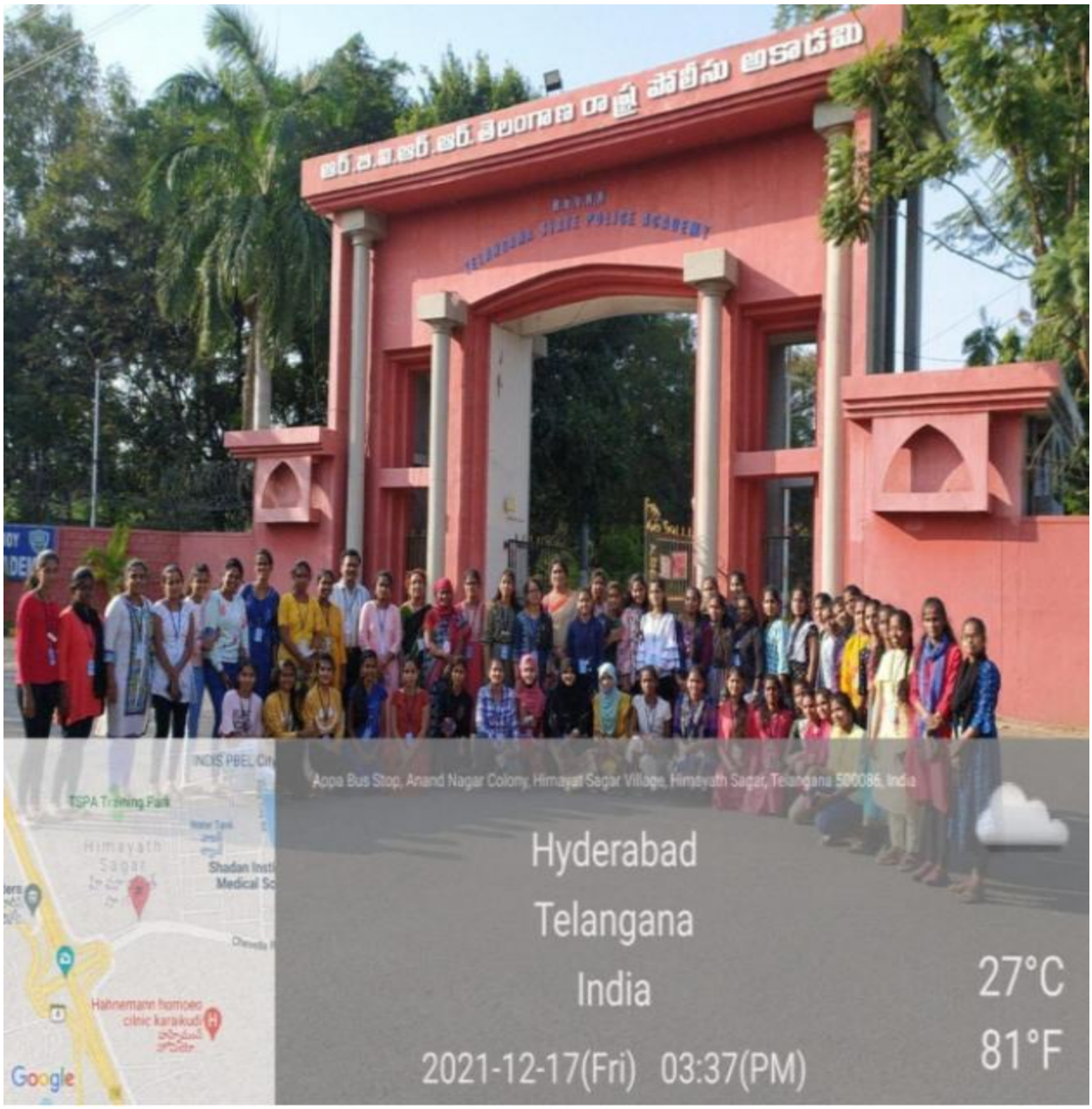
Forensic Science Gallery

Communication Gallery

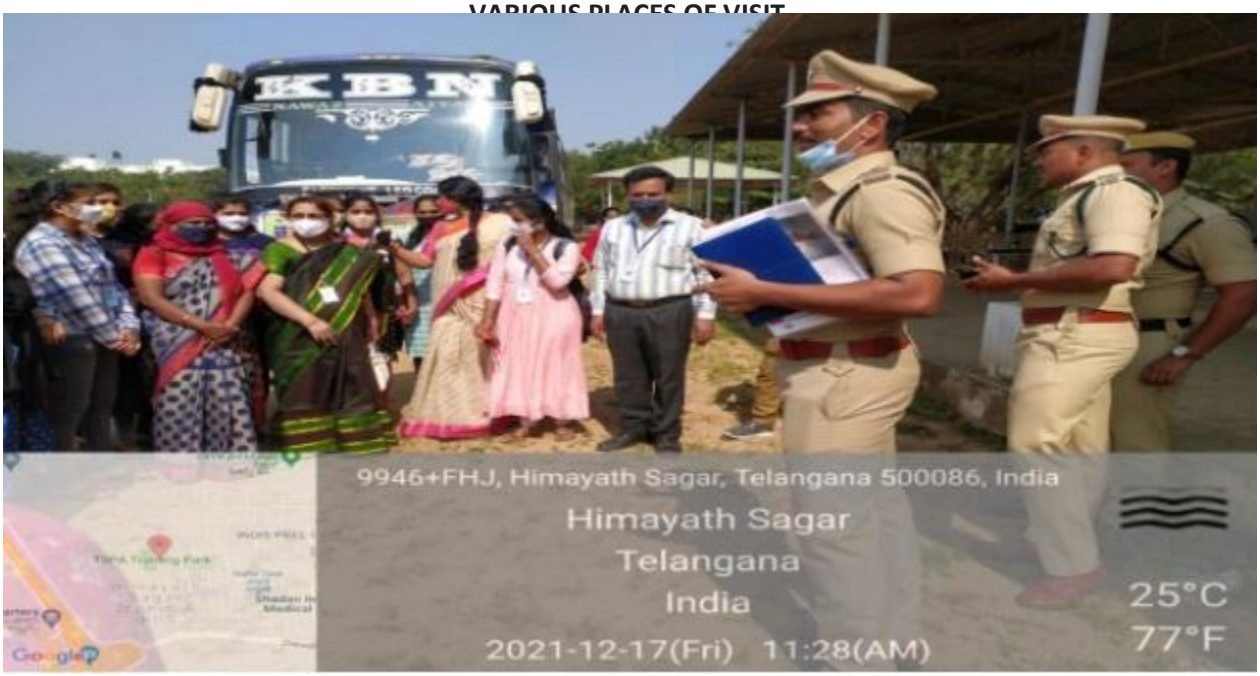
Computer Gallery

The Telangana State Police Academy (TSPA) has established Hankins Police Museum and Discovery centre in its premises in the memory of Dr.Hankins, the first Inspector General of Police, Nizam state .The Museum was dedicated to the nation by Dr.Y.S.Rajasekhar Reddy the then Hon'ble Chief Minister of A.P on 14..2008.This Museum has a large number of antique pieces available viz, the Swords of the Emperors - Shahjahan and Aurangazeb.

PICS OF FIELD VISIT TO TSPA, HYDERABAD ON 17.12.2021



AS THE TSPA CAMPUS IS SPREADED OVER IN ACRES OF LAND, WE HAVE TRAVELED IN BUS TO VARIOUS PLACES OF VISIT



AT THE POLICE TRAINING HUGE OPEN HALL WITH LOTS OF VARIOUS GYM EQUIPMENT

AN ENTHUSIASTIC STUDENT'S TRAIL AT ONE OF POLICE TRAINING GROUNDS AT TSPA

WELL ORGANISED TRAINEE OFFICERS HOSTEL AT TSPA CAMPUS

DISPLAY OF ARMOUR VARIED FROM PAST TO LATEST HIGH TECHNOLOG - STUDENT INTERACTION WITH TSPA OFFICER

AT TSPA GROUND

GROUP PHOTO OF FACULTY AND STUDENTS WITH TSPA OFFICIALS

AT SHOOTING TRAINING GROUND, SHOOTING WALL CAN BE SEEN AT A DISTANCE , TSPA

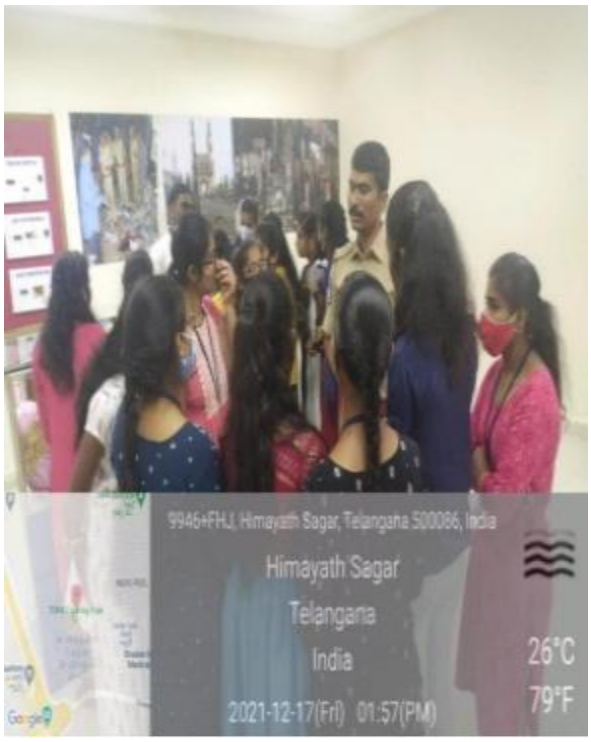
AT THE VERY HUGE AND BEAUTIFUL SWIMMING POOL IN THE TSPA CAMPUS

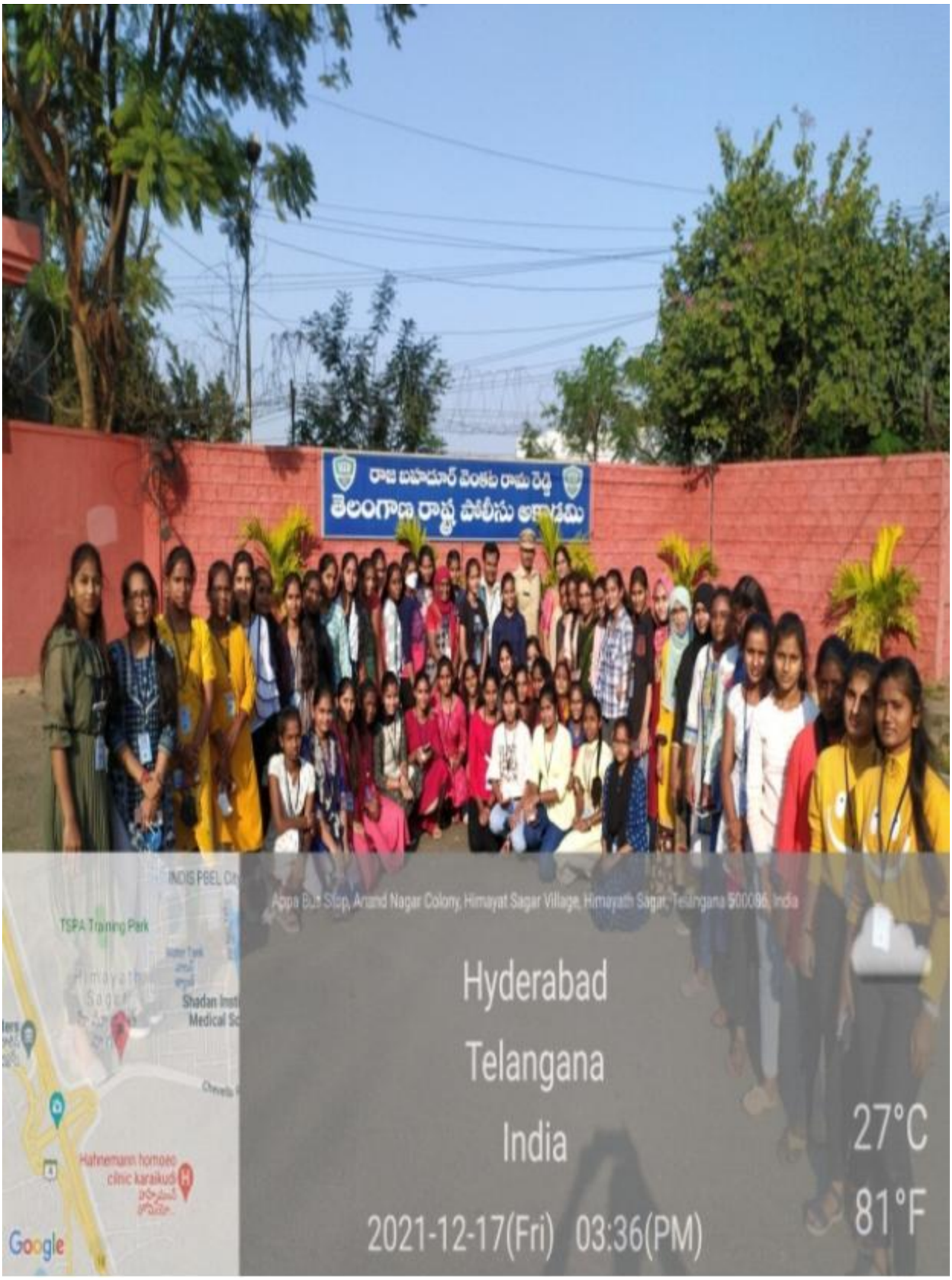
AT DR.HANKINS POLICE MUSEUSM & DISCOVERY CENTRE

AT THE GALLERY WITH EXHIBITS OLD FASHIONED ARMOUR AND OTHER ITEMS USED IN PAST BY POLICE

INTERACTION OF STUDENTS WITH TSPA OFFICIALS ABOUT THE CHALLENGES FACED BY POLICE IN CURBING TERRORIST ACTIVITIES

INTERACTION OF STUDENTS WITH TSPA OFFICIALS ABOUT THE CHALLENGES FACED BY POLICE IN CURBING TERRORIST ACTIVITIES




రాజ బహదూర్ వెంకట రామి రెడ్డి
తెలంగాణ రాష్ట్ర పోలీసు అకాడమి
TSPA Training Park
Hahnemann homoeo clinic karakudi
Google
Hyderabad
Telangana
India
2021-12-17(Fri) 03:36(PM)
27°C
81°F

ADRESSING THE STUDENTS AND THE FACULTY AT CONFERENCE HALL BY DIRECTOR, TSPA

THE MESSAGE FOR ABOUT 20 MIN WAS HIGHLY INSPIRATIONAL TO JOIN IN THE POLICE SERVICES .

OUTCOMES

The students have been inspired by the high discipline and training system of trainee police at TSPA and they have set their goal to enter into Indian police services and serve the nation with dedication.