



ESCI

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DIRECTOR'S DESK

5th June World Environment Day

Preserve the Earth: Conserve Water, Plant Trees and Choose Sustainability for a Greener Future!

World Environment Day, celebrated annually on June 5th, brings together from all corners of the globe to recognize and promote environmental protection. This significant day sees participation from various state and central government departments, civil society organizations, environmental workers, volunteers, and activists. Together, they proudly highlight their achievements and set future goals for advancing environmental sustainability. Thanks to everyone involved for your continued dedication and efforts.

Sustainable Development Goal number 15 focuses on environmental protection by promoting the sustainable use of terrestrial ecosystems, managing forests sustainably, combating desertification, and halting and reversing land degradation and biodiversity loss. Out of the total 17 SDG's, six other goals are closely linked to the environmental dimension, such as SDG 3 (health and well-being), SDG 6 (water and sanitation), SDG 11 (sustainable cities and communities), SDG 12 (responsible consumption and production), SDG 13 (climate action), and SDG 14 (life below water).

According to the Environmental Performance Index (EPI), Switzerland is recognized as the most environmentally friendly country globally, with an impressive score of 81.5%. This ranking reflects Switzerland's dedicated efforts toward environmental protection, including excellent environmental health, sustainability, and the management of water resources and sanitation. Meanwhile, Denmark is acclaimed as the cleanest country in the world due to its significant reductions in greenhouse gas emissions and its strong commitment to sustainable practices. Denmark excels in

promoting renewable energy and sustainable agriculture, setting a global example for environmental stewardship.

A clean environment is essential for the peaceful and healthy survival of humanity. Unfortunately, human activities have increasingly cause negative impacts on the environment, causing pollution, global warming, and the extinction of species. Addressing these issues is imperative to ensure the sustainability of our planet. To protect the natural world, it is crucial to embrace the principles to reduce, reuse, and recycle. Public education on environmental conservation is vital, encouraging actions such as conserving water, planting trees, and choosing sustainable materials for longer-lasting use. By taking these steps, we can help safeguard the environment and protect our Earth for future generations.

The Engineering Staff College of India (ESCI) established an exclusive division dedicated to Environment Management around a decade ago. This division focuses on providing comprehensive training programs in areas such as environmental monitoring, water management, water supply and sanitation, and addressing environmental and social issues. Annually, the Environment Division of ESCI conducts 30 Continuing Professional Development (CPD) programs for various levels of officers from central and state governments, public sectors, and industries. These programs also include specialized training tailored for organizations such as the Central Pollution Control Board (CPCB), National Mineral Development Corporation (NMDC), Oil and Natural Gas Corporation (ONGC), and Urban Local Bodies (ULB). To date, over 2,500 participants from various states have benefited from the training initiatives of ESCI.

For the year 2024-25, ESCI has proposed a series of environment-related programs, including Bio-Medical Waste Management, Air Pollution Monitoring, and Solid Waste Management Systems for Sustainable Sanitation, Urban Water Management, and Circular Economy. These programs aim to equip participants with the knowledge and skills necessary to address contemporary environmental challenges effectively.

With best regards,
Dr. G. Rameshwar Rao, FIE

Events at ESCI

Centre for Climate Change Division



The CCC Division successfully conducted a Continuing Professional Development Program (CPDP) titled "Impact of Climate Change on Water Resources: Monitoring and Management" from April 25-26, 2024. This program addressed the critical issue of climate change and its effects on water resources, providing strategies for effective monitoring and management. The first day featured an insightful presentation that introduced climate change and examined its impact from global to regional scales. Engaging interactive sessions featured guest speakers from Osmania University and the Groundwater Department of Telangana. Among the participants were two assistant engineers from the Brahmaputra Board (BBRD) and two from the Polavaram Project Authority (PPA). On the second day, participants visited the Telangana Engineering Research Laboratories (TSERL). They explored hydrology, hydraulic models, soil testing, and concrete technology laboratories. The afternoon session featured a presentation on adaptive management strategies for water resources in response to climate change. The program concluded with a valedictory session and a discussion on potential collaborations with BBRD.

Editorial Team:

Shri K. J. Amarnath
Shri K. Manohara Chary
Mrs. S. Rajeshwari
Shri Vamsi Krishna



The CCC Division organized an Advisory Meeting on May 16, 2024, gathering 11 representatives from various organizations across Academia, Industry, and Government sectors. Dr. G. Rameshwar Rao, Director, welcomed participants, and Dr. K. Chandrakala presented updates on CPDP activities. Discussions centered on topics such as collaboration opportunities, funding proposals, stakeholder engagement, and program enhancements. Key suggestions included focusing on specific climate change areas, initiating R&D activities, expanding training programs, and strengthening partnerships with organizations like NMDC. Participants emphasized the importance of targeted capacity building for key departments and industries, aligning efforts with the State Action Plan, and raising awareness about climate change issues. The meeting concluded with actionable plans to implement the discussed recommendations and enhance the division's impact through strategic collaborations and program improvements.

Design Prototyping Centre & Mechanical Division



Events at ESCI

Design Prototyping Centre & Mechanical Division conducted a Continuing Professional Development Programme on "Geometric Dimensioning and Tolerancing (GD&T)" from 06 - 08 May 2024, to provide a comprehensive understanding of GD&T principles, symbols, and their applications in manufacturing and engineering design.

Engineers, Scientists, Seniors Technical Officers from GTRE, RCI, HEMRL and BDL attended and benefited from the program. The feedback suggested that, the course content and case studies in particular were useful for the participants and greatly appreciated the relevance and the talks delivered by the expert speakers.

Environment Management Division



The CPDP on "Bio Medical Waste Management - Handling & Safe Disposal Options with New Rules 2016" conducted by EMD with 25 Participants at ESCI from 3-5th April 2024. The objective of this 3-day programme during to provide information on scientific approach to the Bio Medical Waste Management by addressing the latest methods involved in safe handling and disposal options in line with the current and proposed legal & statutory requirements. The program focuses on the various provisions of Bio Medical Waste (Management & Handling) Rules, 2016 and its implications on the health care and associated sectors.

The topics covered and Field visits during the programme were inline with the recent trends in Bio medical Waste Management (BMWM) in align with Covid-19, The Bio medical Waste (Management & Handling) Rules, 2016 and BMWM (Amendment) rules, Bio Medical Waste Treatment Technologies, its disposal and closing the disposal cycle, Bio-Medical Waste Management in Emergencies, Health Camps etc., Guidelines and Criteria to set up Common Bio medical Waste Treatment Facility (CBWTF), Audit of

Bio medical Waste management, National Green Tribunal regarding compliance of Bio-Medical Waste Rules 2016 etc..

The CPDP on "**Conducting EIA Study and Preparation of EIA reports - Case study & Group Discussion**" was conducted with 05 participants at ESCI during **7-9th May 2024**. The objective of this 3-day programme is to provide information on Strategic planning and conducting EIA study, Preparation of EIA reports Effectively, Various Parallel Clearance Process, Creating a milestone to carry out the EIA Study, Preparation of Effective Management Plan.

The topics covered during the programme were Introduction to EIA and Latest guidelines and 2020 Notification, Effective Criteria and Consideration during EIA Preparation and Elements of Environmental Appraisal, Review and Evaluation of EIA Report, Assessment of Key Issues and NGT guidelines on Environment Clearance, Hands on experience on SIA, EIA Process and procedure.

Information Technology Division

Programmes organised by the Division

The Information Technology Division has conducted 2 Special Training Programmes (STPs) and 3 CPDPs in ESCI in the month of April and May, 2024.

STP Programs

- STP Program for BDL on SAP MM Module conducted from 15-17th May 2024 at BDL, Kanchanbagh. The Objective of the program is to impart knowledge for Bharat Dynamics Limited (BDL) Officials on SAP Material Management Module. 16 Participants have attended the training program
- In house professional Training Program on Office 365 with Chat GPT & Microsoft Copilot for Uttarakhand Jal Vidyut Nigam Ltd (UJVNL) conducted during 20 -



Events at ESCI



25th May 24 at UJVNL , Dehradun. The Objective of the program is to give the overview of Chat GPT & Copilot for Microsoft Office 365, Data Management with ChatGPT & Copilot, Enhancing Microsoft Teams and Outlook with ChatGPT.

CPDP Programs

- Big Data Analytics Using MS Excel & Power BI Training program conducted (Online/Offline) from 14 - 17th May 2024 at ESCI Campus. The Objective of the Program is to explore the skills on Advanced Tools of Excel for Big Data Analytics. The Participants are from All India Institute of Speech and Hearing (AIISH) West Bengal Power Development Corporation Limited (WBPDC), Ship Building centre (SBC) and CQAE (WE) have attended the program.
- Cyber Security Best Practices for Managers & Executives conducted (Online/Offline) from 22- 24 May 2024 at ESCI Campus. The Objective of the program is to provide knowledge and skills to protect our information assets & to prevent cybercrimes and ensuring network security. The Participants from WBPDC and Defence Organizations have attended the training program.
- Working with BOSS Linux & Libre Office conducted (Online/Offline) from 27- 30th May 2024 at ESCI Campus. The Objective of the program is to acquire a practical insight into the working and administration of a Linux based system. The participants from different Directorate General of Quality Assurance (DGQA) Units have attended the Training program.
- Network & Security Administration conducted (Online/Offline) from 27- 31 May 2024 at ESCI Campus. The Objective of the Program is to gain the knowledge in Network Administration, to analyse security threats and protect organization's systems and database. The Participants from DGQA, DRDO, WBPDC, Southern Region Load Dispatch Centre (SRLDC), National Thermal Power Corporation (NTPC) SRLDC, NTPC have attended the training program.

Management & Technology Division



The Management & Technology Division conducted CPDP on "Casting and Pattern Making Techniques" from 1-5th May, 2024 at ESCI campus. The Casting processes involve the use of molten material, usually metal. This molten material is then poured into a mould cavity that takes the form of the finished part. The molten material then cools, with heat generally being extracted via the mould, until it solidifies into the desired shape. Although the above describes a relatively simple process, casting is generally quite a complex process due to the complex metallurgy of using molten metal. Casting processes can be broken down into two broad categories: expendable mould processes; permanent mould processes.

With expendable mould processes, the moulds are destroyed in order to remove the casting. Typical mould materials include sand, plaster and ceramics mixed with a bonding agent. However, with permanent mould processes, the mould itself is reused and must therefore be designed to allow the easy removal of the casting. Typically, permanent moulds are made from metals that retain their strength at high temperatures.

This programme was designed to train employees of the Naval Dockyard, Vishakapatnam. The main objective of the programme is to provide good knowledge on Casting Techniques and practical knowledge about induction furnaces, identify casting defects and solving them, classify the pattern materials, describe the types of patterns and explain the pattern making allowances. This programme was successfully conducted with good feedback from all the participants.

Mining Division



"Efficient Drilling & Blasting Operations in Opencast Mines" (15 - 17 April 2024 at ESCI)

Drilling & Blasting is still the most popular and predominant rock excavation techniques in mining, civil projects even today either to break ore/mineral or waste rock or for any civil infrastructure development. The engineering of Drilling & Blasting operations needs clearly defined objectives. During this programme, the themes like Basics of Rock Geology, Fundamentals and Smart Drilling & Blasting, Controlled Blasting Techniques, Application of IoT and Drones are covered. Delegates from SCCL, BGR Mining & Infra Limited and Yes Metals have participated in the training programme. Dr P Balamadeswaran, Dr D Venkat Reddy, Dr N Sri Chandrabhas, Dr Sanjeev Kumar Sinha and Mr P Ranganatheswar, T Srinivas attended as faculty **"General Safety in Mining" (22 - 26 April 2024 at ESCI).**

Safety shall always be of utmost priority in Mining Industry to Safeguard against Health and Risk Challenges. A well-defined safety policy is to be framed for preventing injury or illness in the workplace. All operations in the mine are to be meticulously planned and designed with due regards to Safety, Conservation, Sustainable Development and Clean Environment.

Dr Hari Sarvothaman, Dr C S Krishna Prasada Rao, Mr P Ranganatheswar, Mr V Lakshminarayana, Mr G L Kanta Rao, Mr P Kumar, M E Jaya Kumar, Mr A C Mohana Rao and Mr K J Amarnath delivered expert lectures on the following subjects

- i) Risk Reduction, Risk Analysis, Evaluation, Assessment and Mitigation.



Mr L Krishna, Faculty, Mining Division, addressing the delegates during the National Seminar on "Advanced Iron Ore Beneficiation & Sustainable Low Grade Iron Ore Utilization" Organized by Mining Engineers' Association of India, Hyderabad.

- ii) IMS - ISO:31000
- iii) Statutory and Legislation
- iv) Formulation, Monitoring and Auditing of Safety Management Plan
- v) Safety in Electrical Engineering in Mines
- vi) Safety features of HEMM and Safe Handling of Tyres
- vii) Main Causes, Analysis and Prevention of Accidents in Mines
- viii) Safety in Electrical Appliances
- ix) Safety Culture.

Delegates from OCPL, SCCL, Bhilai Steel Plant, NMDC Limited & Adani Natural Resources Limited have participated in the training programme.

Other News :

"Safe, Just & Sustainable World enabled by Responsibly Produced Minerals and Metals

Currently there has been a perceptible interest for accessing to lithium resource on account of its enormous capability to render a carbon free world, to act as an important source of raw material for energy development and storage. It has the immense potential to reduce the carbon emission level produced due to burning of fossil fuel, particularly in the automobile industry with the use of rechargeable and chargeable batteries in electric vehicles, mobile phones, laptops, digital cameras and also for items like heart pacemakers, toys and clocks; use of lithium and its alloys in the aero-space. Lithium also finds its use in the glass and ceramic and thermo-nuclear warheads.

Events at ESCI

Power & Energy Division



AMIE Laboratory Practicals for 33 Candidates have been conducted for Civil, Electrical, Electronics & Communication, Mechanical & Computer Science candidates. The preparations for conducting these Lab. Practicals have started from 20th April, 2024 onwards.

A 4- Day CPDP on **“CEA (Measures relating to Safety & Electric Supply Associated Maintenance and Safety Practices) Regulations-2010 & Subsequent (Amendments) Regulations- 2023”** was conducted from 03rd to 06th April, 2024 in which 21 participants from CSPDCL, CSPGCL, SCCL, NMDC have been participated. The Objective of this training programme is to familiarize the participants about the Safety Philosophy, Causes of Accidents & Safe Working Procedures, while energizing the equipment in substation following measures relating to safety, Testing, O&M Practices, Electric Supply Regulations, 2010 and subsequent amendments, Regulations, 2023. Shri. G. Veera Mahendra, Former



Visit to CESS, Sircilla for 3rd Party Quality Inspection and meeting held with operation ADEs& AEs and conducted random inspections on the field.

Member CEA delivered a session on CEA Regulations 2023 besides SACHET, a compilation precautions to be observed on Electrical Safety issued by Indian Electrical & Electronics Manufacturers' Association (IEEMA).

Activities of Power & Energy Division during May 2024

A 4- Day CPDP on **“Electrical Safety Procedures & Accident Prevention”** was conducted from 07-10 May, 2024 in which 19 participants from TSGENCO, OPTCL, SCCL, SJVNL, DVC have been participated in this training program. The Objective of this program is to build the capacity of technicians, junior management and middle





AMIE Laboratory Practical Examinations for 33 Candidates have been conducted for Civil, Electrical, Electronics & Communication, Mechanical & Computer Science candidates up to 07th May, 2024. The Certificates have been issued on 10th May, 2024.

management to adopt electrical safety procedures to prevent accidents, to impart awareness regarding statutory Rules, Regulations and Safety Audit, to take timely action to arrange first aid during the accidents.

During this training, Shri. K. Vijaykumar, Asst. District Fire Officer, Madhapur explained the different fire-fighting techniques to the participants. His team was demonstrated fire-fighting methods being followed in extinguishing various kinds of fires & equipment used to extinguish them. Shri. Thakur Rajkumar Singh, St. John Ambulance has delivered a lecture-cum-demonstration session on First-Aid including the necessary steps to be taken during the time of Cardiopulmonary resuscitation (CPR) technique as and when accident takes place.

Sri U.Vidya Sagar, HoD along with Sr. Faculty of P&E Div., **visited the Executive Director Power Grid Corporation of India (SR-1)** Office with the proposal to tie-up on providing training on Hot Line Technology to our trainees. Further, we have requested him to suggest customized training programs for their organizational training needs, for which, he has agreed to communicate them to us.

The **draft Report Presentation to the Chairman, CESS Sircilla** was given by the HoD, P&E Division on 06th May, 2024, before finalizing the 3rd Party Quality Inspection Report.



Quality & Productivity Division

The Certification programme on AS 9100 Rev.D Lead Auditor Training Programme

This programme conducted by Q&T Division from 14 - 18th May, 2024 attended by 14 participants of rank of senior management cadre from different locations from DGAQA, Delhi. Prof. Chandra Sekhar & Shri SHARWAN K. MANOCHA from MacLead Certifications, Gurgaon attended as faculty.

Laboratory Management System Awareness & Internal Auditing ISO/IEC 17025:2017 & NABL Requirements

Conducted from 27 - 31 May 2024. The objective of the training programme is to enable to interpret ISO/IEC 17025 requirements, improve confidence in test results. This programme was attended by 15 participants the rank of Executives of from different locations of DGAQA, Delhi. Shri A Dhananjaya Rao attended as Faculty and looked after by the course Director Dr. C S Krishna Prasad Rao.

INTERNATIONAL LABOUR DAY

Every year on May 1st, employees across various sectors, including industries, factories, and public sector undertakings, celebrate International Labour Day. This day honours the efforts and victories of millions of workers worldwide who have fought for their rights. Established in 1889, International Labour Day commemorates the labor movement's struggles, particularly the events in Chicago, and marks a nationwide strike advocating for an eight-hour workday.

The theme for International Labour Day 2024 is "Ensuring Workplace Safety and Health Amidst Climate Change." This theme underscores the importance of adapting to new challenges and ensuring that workplaces remain safe and healthy as the world faces the impacts of climate change.

Events at ESCI



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