

**PRAJWALAM** We create the world**A NEWSLETTER OF CIVIL ENGINEERING DEPARTMENT**

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EDITOR'S VOICE:

Little is known about the impact of air pollution on school children in developing countries. Many developing countries face severe air pollution problems. For instance, the levels of air pollution in India and China are six to eight times as high as those in the U.S. Sample evidence shows that air pollution poses a significant threat to human respiratory and cardiovascular systems. In 2012, approximately 3.7 million lives lost were attributed to air pollution globally, and 88% of this death burden is borne by developing countries (WHO, 2014). Governments in developing countries have long realized that air pollution constitutes one of the key factors that worsen the national health and constrain sustainable development. We measure air pollution as the levels of Air Quality Index, a composite measure that captures the binding pollutant on any certain date. Ground-level ozone is formed by the chemical reactions between volatile organic compounds (VOC) and nitrogen oxides (NO_x) in the presence of sunlight at high temperature. Therefore, ozone concentration is generally higher in metropolitan areas with large amounts of motor vehicle exhausts and industrial emissions that contain VOC and (NO_x).

Additionally, the ozone concentration usually peaks in the summertime, when the temperature is high and the sunlight is at its strongest level. Breathing ozone deeply can trigger a variety of health problems such as shortness of breath, coughing, and chest pain. It can also aggravate asthma, emphysema, chronic bronchitis, and other respirator diseases. The main sources of SO₂ pollution are the emissions from fossil-fuel combustion in power plants and other industrial facilities. CO is a colorless, odorless, and dangerous gas pollutant. The reaction between CO and hemoglobin reduces the amount of oxygen transported in the blood. As a consequence, the functions of critical organs such as the brain and heart may be impaired due to tissue hypoxia. CO can also poison the neurological system at high concentrations, impairing the coordination and cognition temporarily or permanently (WHO, 2000). CO is generated mainly by the incomplete combustion of carbonaceous materials. Therefore, the largest sources of CO in outdoor space are petroleum-derived emissions, either from vehicle exhausts or industrial processes

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ABOUT DEPARTMENT :

Civil engineering is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built infrastructure for fulfillment of Basic Needs of human race including Transportation, Communication, Energy production, Religious, Cultural, Sports and Community and Social and Developmental activities like bridges, roads, canals, dams and buildings. Department is the foremost in imparting Civil Engineering education in KITS. Well qualified and experienced faculty is one of the salient feature of the department and acute care is taken to ensure that students acquire essential engineering concepts with in-depth understanding. In addition to, the civil department is well equipped with required departmental laboratories with tools and equipments.

Vision of the Department:

Create a congenial learning environment for imparting knowledge, skills and values.

Mission of the Department:

- DM1 Providing state of the art facilities for learning and practicing.
- DM2 Providing additional skills and training to meet the needs of the industry.
- DM3 Inculcating professional and ethical values and serve the industry, society and environment.

WORK SHOP

A HANDS ON EXPERIENCE ON PRIMAVERA.P6 – A CONSTRUCTION MANAGEMENT SOFTWARE COLLABORATION WITH CPLR

RESOURCE PERSON: Mr.Magesh, Senior Manager, CPLR, Chennai. Manager CPLR Solutions CHENNNAI.

The aim of this seminar is to tell the students the importance of Primavera.P6 in construction industry and the role of construction engineers at different managerial levels. The PRIMAVERA.P6 and its future scope were dealt to motivate the students towards upgrading trends in construction sector at the different managerial levels.

Day one: Introduction to Primavera.P6

This course provides hands-on training for Primavera's client/server-based solution, leading participants through the entire project life cycle, from planning to execution. Topics include adding activities, assigning resources, and creating a baseline.

Participants also gain a thorough background in the concepts of planning and scheduling. All workshops and instruction stress the three basic elements of project management: schedule, resource and costs.

Day Two:

Learn to create a project, add activities, Schedule a project, Assign resources, Adjust project schedule, and create reports

Day Three:

Manage multiple projects Create a project, Create a Work Breakdown Structure, Add activities Maintain the project documents library, Create relationships, Schedule the project, Assign constraints, Format schedule data, Define roles and resources, Assign roles, Assign resources and costs, Analyze resources, Optimize the project plan, Execute the project, Report performance.

Day Four :

Creating a Work Breakdown Structure Define a Work Breakdown Structure □ Create multiple levels of a WBS hierarchy □ Adding Activities Describe an activity and its components □ Describe activity types □ Add activities □ Add a Notebook topic to an activity □ Add steps to an activity □ Assign activity codes to activities □ Creating Relationships View a network logic diagram

Day Five:

Differentiate between the four relationship types □ Create relationships in the Activity Network □ Create

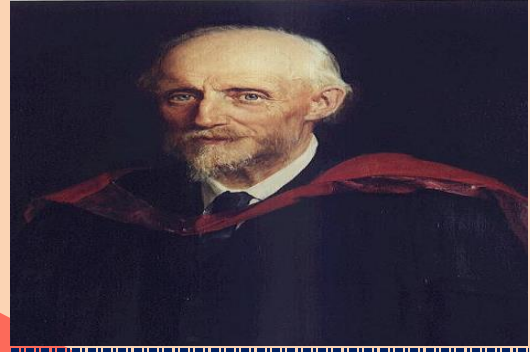
relationships in Activity Details□ Scheduling perform a forward and backward pass□ Describe float and its impact on a schedule□ Identify loops and open ends□ Calculate a schedule□ Analyze the scheduling log report□ Assigning Constraints Apply an overall deadline to a project

Day Six: Apply a constraint to an individual activity□ Add notebook topics to constrained activities□ Describe the available constraint types□ maintaining the Project Documents Library Describe the difference between a work product and a reference document□

Create a document record□ Link the document record to a project document or work product□ Assign the project document to an activity or WBS

CEEA

SCIENTIST OF THE MONTH



OSBORNE REYNOLDS

Osborne Reynolds (23 August 1842 – 21 February 1912) was an innovator in the understanding of fluid dynamics. Separately, his studies of heat transfer between solids and fluids brought improvements in boiler and condenser design. He spent his entire career at what is now the University of Manchester. Reynolds most famously studied the conditions in which the flow of fluid in pipes transitioned from laminar flow to turbulent flow. In 1883 Reynolds demonstrated the transition to turbulent flow in a classic experiment in which he examined the behaviour of water flow under different flow rates using a small jet of dyed water introduced into the centre of flow in a larger pipe.

The larger pipe was glass so the behaviour of the layer of dyed flow could be observed, and at the end of this pipe there was a flow control valve used to vary the water velocity inside the tube. When the velocity was low, the dyed layer remained distinct through the entire length of the large tube. When the velocity was increased, the layer broke up at a given point and diffused throughout the fluid's cross-section. The point at which this happened was the transition point from laminar to turbulent flow.

Reynolds published about seventy science and engineering research reports. When towards the end of his career these were republished as a collection they filled three volumes. For a catalogue and short summaries of them. Areas covered besides fluid dynamics included thermodynamics, kinetic theory of gases, condensation of steam, screw-propeller-type ship propulsion, turbine-type ship propulsion, hydraulic brakes, hydrodynamic lubrication, and laboratory apparatus for better measurement of Joule's mechanical equivalent of heat.

One of the subjects that Reynolds studied in the 1880s was the properties of granular materials, including dilatant materials. In 1903 appeared his 250-page book *The Sub-Mechanics of the Universe*, in which he tried to generalise the mechanics of granular materials to be "capable of accounting for all the physical evidence, as we know it, in the Universe". His aim seems to have been to construct a theory of aether, which he considered to be in a liquid state. The ideas were extremely difficult to understand or evaluate, and in any case were overtaken by other developments in physics around the same time.