Yashoda Shikshan Prasarak Mandal's

Yashoda Technical Campus,Satara

Faculty of Engineering

YSPM

CONSTROMATIX

MAGAZINE

JULY-DECEMBER 2020

DEPARTMENT OF CIVIL ENGINEERING

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Yashoda Shikshan Prasarak Mandal's
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OVERVIEW OF DEPARTMENT

Welcome to the Department of Civil Engineering at YSPM's Yashoda Technical Campus, Satara. The department has been immensely successfully working from 2011 in the field of Professional Knowledge and advanced technical world. The department offers 4 years Bachelor of Technology in Civil Engineering.. The department undergoes several curricular and extra-curricular activities throughout the year. The department is having mixture of well experienced and young, enthusiastic faculty members who are involved in industry institute interaction besides their day to day teaching activities. The Department of Civil Engineering at Yashoda Technical Campus (YTC) delivers latest knowledge in Civil Engineering . It prepares students for careers in industry, academia, and also create young entrepreneurs.

STRENGTH OF DEPARTMENT

· Well Qualified, Experienced staff
· Good infrastructure, Well-equipped laboratories
· Excellent academic performance
· Departmental Library facility for students.

Vision of the Department

To become a center of excellence by producing Civil engineers having research and development activity, sound technical knowledge, professional skills and social awareness to serve society.

Mission of the Department

M1: To impart quality technical education through interactive teaching learning methods.
M2: To promote research and development activity by encouraging creativity and exposure to real world problems.
M3: To mentor students for innovative thinking with relevance to entrepreneurship.
M4: To develop social awareness in graduates to serve society.

Program Educational Objectives (PEOs)

PEO1: Demonstrate technical expertise, leadership and ethical qualities to design & execute Civil Engineering Projects.
PEO2: Exhibit qualities of teamwork with effective communication, life long learning to address real world civil engineering problems.
PEO3: Develop sensitivity towards environment and society for sustainable development including disaster management.

Program Specific Outcomes (PSOs)

PSO-1 : The graduates will analyse and mitigate the natural disasters for the effective disaster management.
PSO-2 : The graduates will be able to acquire sound technical knowledge to analyse and work on critical civil engineering issues.
PSO-3 : The graduates will be enhancing professional abilities to meet industrial need.

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INSIDE

CONTRIBUTORS

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Miss. Snehal S Mane
Mr. Siddhesh P Dekhane
Mr. Shivraj S Sabale
Miss. Pallavi P Khatmode

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LANDSLIDES

Landslides are natural phenomena that occur when large amounts of rock, soil, and debris move down a slope under the influence of gravity. They can be triggered by various factors, including heavy rainfall, earthquakes, volcanic eruptions, or human activities. The movement of materials during a landslide can range from slow and gradual to rapid and catastrophic, depending on the size, slope, and conditions. Landslides pose significant threats to life, infrastructure, and the environment, especially in areas with steep terrains, such as mountainous regions and hilly urban areas.

Landslides are classified into several types based on the materials involved and th manner of movement. One of the most common types is the debris flow, which involve the rapid downslope movement of a mixture of water, soil, rocks, and vegetation. Thes are often triggered by heavy rainfall or rapid snowmelt. Rockfalls are another type where loose rocks or boulders detach from a steep cliff or mountain face and fa rapidly. These events are usually quick and can be particularly dangerous to people o structures in the path of falling debris. Mudslides, a type of flow slide, are compose primarily of fine particles such as clay and silt, and they move more slowly than debri flows but can still cause significant damage. Another common landslide type is th slump, a type of rotational slide where a section of land moves downward and rotate along a curved surface. This often occurs in softer, unconsolidated materials like clay o mud. Translational slides are also significant, where large masses of rock or soil slid down a slope along a relatively flat or planar surface, often triggered by an externa force such as an earthquake or human disturbance. The creep is a slow, continuou movement of soil or rock down a slope, occurring over long periods of time and ofte going unnoticed. Each type of landslide has distinct characteristics and requires tailore risk management strategies to prevent or mitigate its impact on people and property.

Mr. Raj Wagh (B Tech Civil)

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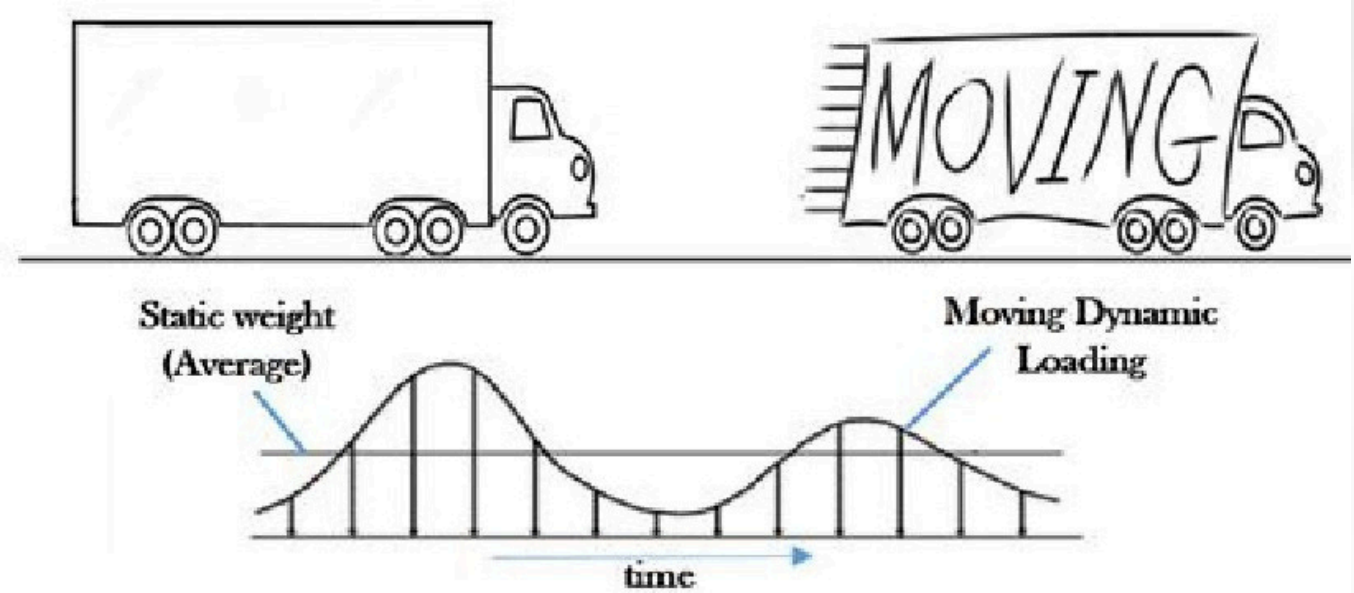

Structural Dynamics is the study of the behavior of structures subjected to dynamic loads or forces, such as earthquakes, wind, and vibrations. Unlike static loads, which act on a structure at rest, dynamic loads change over time, and the structure's response to these loads is time-dependent. The field of structural dynamics focuses on understanding how these loads affect the motion, deformation, and stability of buildings, bridges, and other structures. The primary objective is to ensure that structures can withstand dynamic forces without failure, excessive displacement, or discomfort to occupants. The analysis of structural dynamics involves calculating the dynamic response of a structure using principles from physics and engineering mechanics. The key parameters include the natural frequency, damping, and mode shapes of a structure. These properties determine how a structure reacts to external forces and how vibrations are transferred through the system. Structural engineers use advanced mathematical models and computational tools, such as finite element analysis (FEA), to predict the behavior of structures under dynamic conditions. This helps in designing safer structures that can endure natural forces like earthquakes or man-made forces like machinery vibrations. In practice, structural dynamics plays a critical role in the design of buildings, bridges, and other infrastructure to ensure their resilience to dynamic forces. For example, buildings in earthquake-prone areas must be designed to absorb seismic energy through effective damping systems and flexible materials to prevent collapse. Similarly, bridges must be designed to account for wind forces and traffic-induced vibrations. Advances in structural dynamics have led to the development of better materials, improved construction methods, and sophisticated monitoring systems that enhance the safety, comfort, and longevity of structures in a dynamic world.

Miss. Snehal Mane (B Tech Civil)

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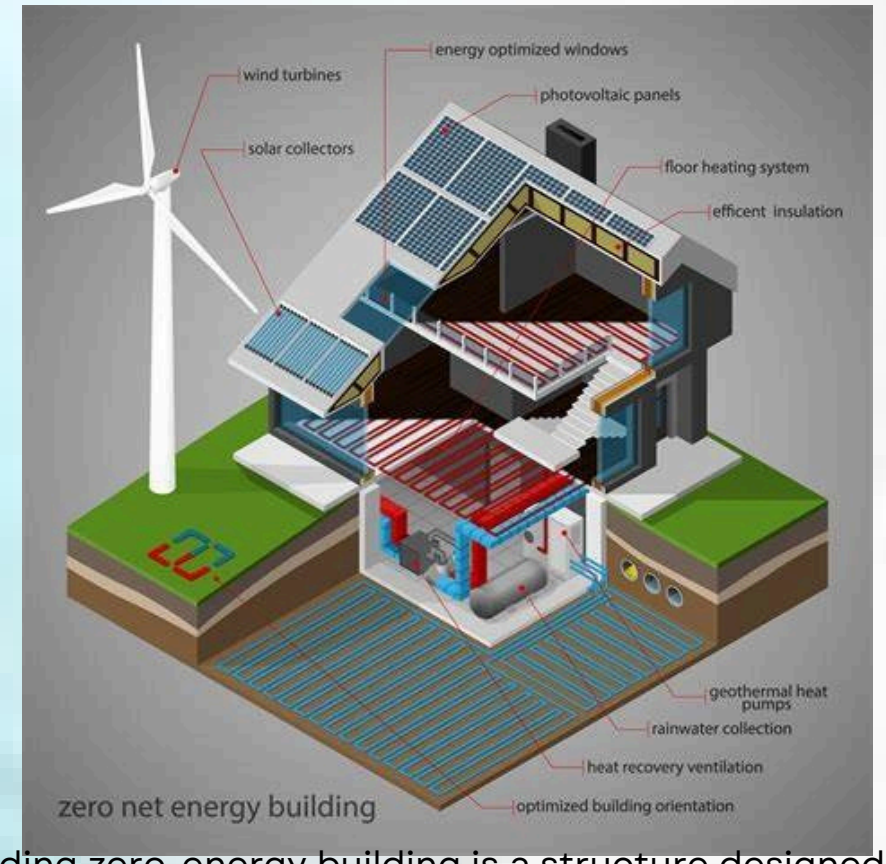

zero-energy building zero-energy building is a structure designed to produce as much energy as it consumes over the course of a year. This ambitious goal is achieved through a combination of energy-efficient building techniques and the integration of renewable energy systems, such as solar panels, wind turbines, or geothermal heating and cooling. The design focuses on minimizing energy use through high-performance insulation, airtightness, energy-efficient windows, and advanced lighting and HVAC (heating, ventilation, and air conditioning) systems. By reducing the energy demand of the building, it becomes easier to meet the remaining energy needs with renewable sources, leading to net-zero energy consumption. The benefits of zero-energy buildings are both environmental and economic. By relying on renewable energy sources, these buildings drastically reduce their carbon footprint, contributing to the fight against climate change. They also help to lower the building's operational costs in the long term, as the energy generated from renewable sources can offset the costs of traditional energy bills. Furthermore, ZEBs often enhance the indoor comfort of their occupants by maintaining a consistent temperature and air quality, thanks to their airtight and well-insulated construction, reducing the need for constant heating or cooling.

Miss. Pallavi P Khatmode (TY Civil)

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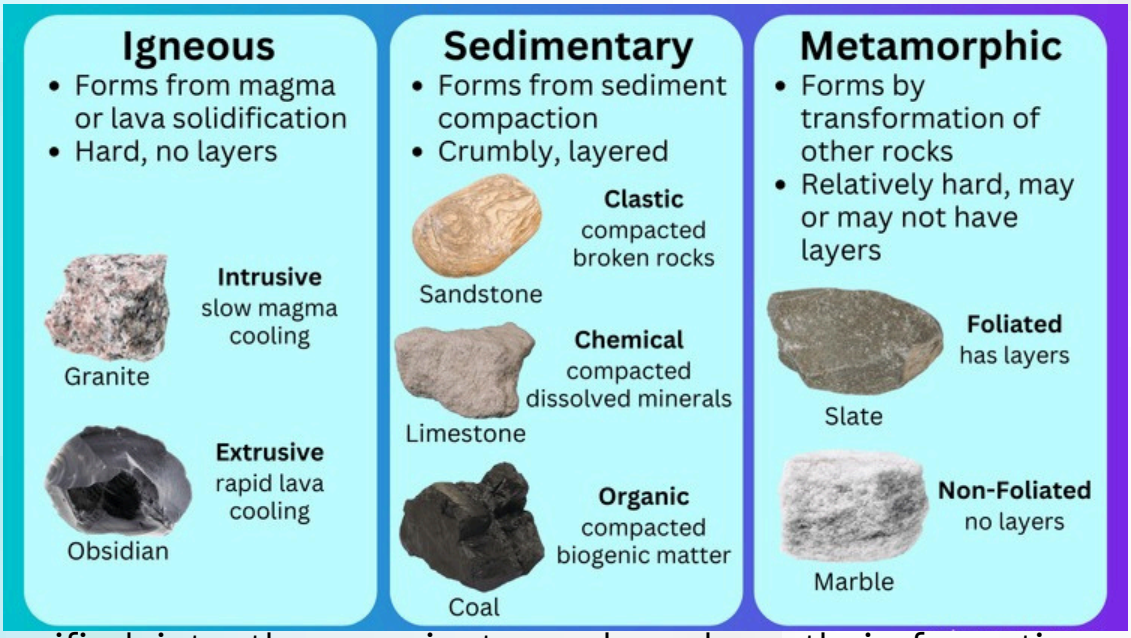

Rocks are classified into three main types based on their formation processes: igneous, sedimentary, and metamorphic. Each type has distinct characteristics, and their classification depends on factors such as the environment of formation, mineral composition, and texture.

1.Igneous Rocks: These are formed from the cooling and solidification of molten rock, either magma beneath the Earth's surface or lava erupted onto the surface. Igneous rocks are further classified into intrusive (plutonic) and extrusive (volcanic) types. Intrusive igneous rocks, such as granite and diorite, form when magma cools slowly beneath the Earth's surface, allowing larger crystals to develop.

2.Sedimentary Rocks: These rocks are formed from the accumulation and compression of sediments over time, which can include fragments of other rocks, minerals, organic matter, or chemicals. Sedimentary rocks often have layered structures and are typically softer than igneous or metamorphic rocks. Common types include sandstone, which forms from cemented sand grains, limestone, composed mainly of calcium carbonate from shells or coral, and shale, which is made from compressed clay particles.

3.Metamorphic Rocks: These rocks are formed when existing rocks—either igneous, sedimentary, or other metamorphic rocks—are subjected to high pressure, temperature, or chemically active fluids, causing changes in their mineral composition, structure, or texture without the rock melting. This process is called metamorphism. Metamorphic rocks can be classified into foliated and non- foliated types. Slate, schist, and gneiss are foliated metamorphic rocks that show layers or bands of minerals.

Prof. Vijaya P Pawar

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ART GALLERY

आयुष्य म्हणजे आहे एक खेळ.
नाही देत कोणी कोणाला वेळ.
झाले आहेत सगळे Busy.
राहीली नाही कोणतीच गोष्ट Easy.
घ्यावे लागतात खुप Efforts.
कधी करतात आपल्याच माणसाला Hurt.
जणू Life झाली एक Race.
कधीतरीच पहायला मिळत आपल्याच माणसाच Face.

Siddhesh Dekhane (B Tech Civil)

Shivraj Sabale (B Tech Civil)

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