REVISION ACTIVITIES

A. Fill in the gaps with the words:
irrigation system, empirical information, design, construction, sanitation system, port facilities, modifications, process, discipline, impact.
Some terms might be used more than once.

1. The _____ of an effective _____ requires careful planning and consideration of various factors such as climate, soil type, and water sources.

2. Engineers use _____ methods to gather and analyse data, relying on observation and experimentation to obtain reliable and verifiable information. This type of information is known as _____.

3. The _____ and _____ of a new bridge involve a collaborative effort from architects, structural engineers, and construction teams to bring the vision to life.

4. A well-designed _____ is essential for maintaining public health and preventing the spread of diseases. This includes proper waste disposal and water treatment methods.

5. _____ play a crucial role in facilitating international trade and transportation. They include harbours, docks, and other facilities for loading and unloading cargo.

6. Ongoing _____ to existing infrastructure may be necessary to adapt to changing needs, technological advancements, or unforeseen challenges.

7. The _____ of creating a sustainable and efficient _____ involves a deep understanding of environmental and social factors, requiring collaboration across multiple fields of expertise.

8. The _____ of a new urban development should consider not only the physical structures but also the provision of essential services, including a reliable _____.

9. _____ refers to the systematic approach and methodology employed in a particular field of study or profession, such as engineering or medicine.

10. The _____ of a new manufacturing plant can have far-reaching consequences on the local ecosystem, economy, and overall community well-being.

B. Fill in the gaps with the words:

pollution, water resource management, water supply, contractor, soil mechanics, surveying, rock mechanics, flood, structural engineering, transportation engineering

Use the terms only once.

1. **_____ is a branch of civil engineering that focuses on designing and analysing structures to ensure their safety, durability, and functionality.

2. A _____ is responsible for overseeing the execution of construction projects, managing resources, and coordinating the work of various subcontractors.

3. Before initiating construction, a thorough _____ is conducted to assess the site's topography, soil conditions, and other factors influencing the project.

4. _____ is a crucial aspect of environmental engineering, addressing the control and mitigation of pollutants to preserve the quality of air, water, and soil.

5. _____ involves the planning, development, and management of water resources, ensuring a sustainable and efficient use of this vital natural asset.

6. The study of _____ is essential in understanding the behaviour of soils and their interaction with structures, providing insights for foundation design.

7. _____ focuses on the mechanics of rocks and geological formations, particularly in the context of tunnelling, mining, and excavation projects.

8. _____ Engineering encompasses the design and management of transportation systems, including roads, highways, and public transit networks.

9. Adequate _____ is essential to meet the demands of a growing population, ensuring a reliable and safe provision of water for various purposes.

10. A sudden and excessive accumulation of water, leading to the inundation of land, is known as a _____, posing risks to communities and infrastructure.

C. Match the terms with their definition:

TERMS: ***energy loss, insulation, energy efficiency, energy performance, sustainability, nearly Zero Energy buildings, renovation, renewable energy sources***

Definition 1: the utilization of energy in a way that maximizes the desired output while minimizing energy waste. It involves using less energy to perform the same tasks without sacrificing comfort or performance.

Definition 2: when the energy produced for a specific purpose is not effectively utilized and dissipates in the form of heat, sound, or other non-productive outputs.

Definition 3: the process of restoring or improving a building, structure, or system to a good state of repair. It involves upgrades, repairs, or alterations to enhance functionality, aesthetic appeal, and compliance with current standards.

Definition 4: material used to reduce the transfer of heat, sound, or electricity. In the context of buildings, it helps maintain a comfortable indoor temperature by minimizing heat exchange between the interior and exterior.

Definition 5: the ability to meet present needs without compromising the ability of future generations to meet their own needs. It involves balancing economic, environmental, and social considerations to promote responsible resource use.

Definition 6: relates to how efficiently a system, building, or appliance utilizes energy to perform its intended functions. It is often measured in terms of energy consumption per unit of output or activity.

Definition 7: natural resources that can be replenished naturally, such as sunlight, wind, rain, tides, waves, and geothermal heat. They are considered environmentally sustainable because they have a minimal impact on the planet.

Definition 8: structures with extremely high energy efficiency, where the total energy consumed is nearly balanced by the renewable energy produced on-site or nearby. The goal is to minimize the carbon footprint associated with the building's energy use.

D. Choose the correct term that best fits the description:

1. Efforts to design buildings with minimal environmental impact, considering energy efficiency and resource conservation, fall under:
a. Water Management
b. Green Building Design
c. Waste Management
d. Environmental Conservation

2. The systematic study and application of scientific principles to address environmental challenges, such as pollution control, is known as:
a. Environmental Conservation
b. Research and Development
c. Environmental Engineering
d. Ecosystem Restoration

3. The branch of engineering focused on the study of soil and rock mechanics, often crucial in construction projects, is called:
a. Geotechnical Engineering
b. Waste Management
c. Water Management
d. Green Building Design

4. Activities aimed at recovering and restoring ecosystems to their original state after degradation or damage are part of:
a. Environmental Conservation
b. Greenhouse Gas Emissions
c. Ecosystem Restoration
d. Waste Management

5. The strategic planning and efficient utilization of transportation systems to minimize environmental impact are encompassed by the:
a. Green Building Design
b. Transportation Sector
c. Environmental Engineering
d. Water Management

6. The process of managing and reducing the generation of waste, as well as promoting recycling and proper disposal, is known as:
a. Waste Management
b. Ecosystem Restoration
c. Greenhouse Gas Emissions
d. Geotechnical Engineering

7. Initiatives to reduce the release of harmful gases into the atmosphere, contributing to climate change, are focused on minimizing:
a. Green Building Design
b. Water Management
c. Greenhouse Gas Emissions
d. Research and Development

8. Scientific and technological activities aimed at creating new solutions and innovations to address environmental challenges fall under:
a. Environmental Conservation
b. Green Building Design
c. Research and Development
d. Water Management

9. The organized efforts to protect and preserve natural resources and biodiversity for future generations are part of:
a. Ecosystem Restoration
b. Transportation Sector
c. Environmental Conservation
d. Geotechnical Engineering

10. Strategies and practices for the efficient use and conservation of water resources in various applications are included in:
a. Green Building Design
b. Environmental Conservation
c. Water Management
d. Waste Management