Unit 12 - Week 10

Assignment 10

The cut-off date for submitting this assignment has passed. As per our module you have not submitted this assignment.

Dued on 2019-10-09, 23:59 IST.

1. Why is the use of direct energy storage often considered ineffective?  
   - A. It is expensive to store the same energy.  
   - B. It requires very large storage volumes.  
   - C. It is not suitable for use in small-scale systems.  
   - D. All of the above.  
   
   Answer: D. All of the above.  

2. In a pumped hydro storage system, why is it necessary to have a source of water?  
   - A. To ensure consistent output from multiple plants.  
   - B. To maintain a constant level of energy storage.  
   - C. All of the above.  
   - D. None of the above.  
   
   Answer: C. All of the above.  

3. For the answer to question 3, provide the equation for calculating energy storage.  

4. Water storage is critical in energy systems. Why?  
   - A. It provides a reliable and consistent energy source.  
   - B. It helps in managing peak energy demands.  
   - C. Both A and B.  
   - D. None of the above.  
   
   Answer: C. Both A and B.  

5. The answer to question 4 is:  
   - A. E = m * c * T  
   - B. E = m * k * T  
   - C. E = m * V  
   - D. E = m * V / f  
   
   Answer: B. E = m * k * T.  

6. How much energy can be stored in 1000 kg of water used by 2000 m³ in a pumped hydro system?  
   - A. 1000 kg * 5000 m³ * 9.81 m/s²  
   - B. 1000 kg * 5000 m³ * 9.81 m³  
   - C. 1000 kg * 5000 m³ * 9.81 kg  
   - D. 1000 kg * 5000 m³ * 9.81 m³/kg  
   
   Answer: D. 1000 kg * 5000 m³ * 9.81 m³/kg.  

Text Transcripts

Course Outline

How to access the portal

Week 3 Assignment 10

Question 1

Why is the use of direct energy storage often considered ineffective?  

A. It is expensive to store the same energy.  
B. It requires very large storage volumes.  
C. It is not suitable for use in small-scale systems.  
D. All of the above.  

Answer: D. All of the above.

Question 2

In a pumped hydro storage system, why is it necessary to have a source of water?  

A. To ensure consistent output from multiple plants.  
B. To maintain a constant level of energy storage.  
C. All of the above.  
D. None of the above.  

Answer: C. All of the above.

Question 3

For the answer to question 3, provide the equation for calculating energy storage.

Answer: E = m * c * T.

Question 4

Water storage is critical in energy systems. Why?  

A. It provides a reliable and consistent energy source.  
B. It helps in managing peak energy demands.  
C. Both A and B.  
D. None of the above.  

Answer: C. Both A and B.

Question 5

The answer to question 4 is:  

A. E = m * c * T  
B. E = m * k * T  
C. E = m * V  
D. E = m * V / f  

Answer: B. E = m * k * T.

Question 6

How much energy can be stored in 1000 kg of water used by 2000 m³ in a pumped hydro system?  

A. 1000 kg * 5000 m³ * 9.81 m/s²  
B. 1000 kg * 5000 m³ * 9.81 m³  
C. 1000 kg * 5000 m³ * 9.81 kg  
D. 1000 kg * 5000 m³ * 9.81 m³/kg  

Answer: D. 1000 kg * 5000 m³ * 9.81 m³/kg.