WEEK 10 - Assessment

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2018-10-10, 23:59 IST.

1) 10 litres of water has to be lifted to a height of 10m. The energy needed for the task is

- 100 J
- 1 kWh
- 1 kJ
- 2.725 kWh

No, the answer is incorrect.
Score: 0
Accepted Answers: 1 kJ

2) The potential energy of a body of water is increased by 10000 joules by lifting it through 100m height. The mass of the water body is

- 10 kg
- 100 kg
- 10 litres
- 1000 litres

No, the answer is incorrect.
Score: 0
Accepted Answers: 10 kg

3) Water has to be lifted to a height of 30m from an underground sump at the rate of 10 litre/s. The power required by the prime mover is

- 300 W
A water tank (A) is on a building at 10m above the ground. Another water tank (B) is on another building at a height of 25m above ground. A motor pump set placed on the ground is supposed to pump water from tank A to tank B. The suction head for this system is:

- 0 m
- 10m
- 15m
- -15m
- 25m

No, the answer is incorrect.  
Score: 0

A water tank (A) is on a building at 10m above the ground. Another water tank (B) is on another building at a height of 25m above ground. A motor pump set placed on the ground is supposed to pump water from tank A to tank B. The total physical head for this system is:

- 0 m
- 10m
- 15m
- -15m
- 25m

No, the answer is incorrect.  
Score: 0

In a water pumping system, the water is being pumped from a sump to an overhead tank situated 25m above ground. The sump bottom is 2m below ground. The motor-pump system is located at ground level. The water is being pumped at the rate of 24.6 litres/sec. The pipe inner diameter is 10 cm. The pipe is placed completely vertical with no horizontal part. If the friction factor is 0.037, the head equivalent of friction loss is:

- 1 m
- 5 m
- 2.5 m
- 25 m

No, the answer is incorrect.  
Score: 0

In a water pumping system, the water is being pumped from a sump to an overhead tank situated 25m above ground. The sump bottom is 2m below ground. The motor-pump system is located at ground level. The water is being pumped at the rate of 24.6 litres/sec. The pipe inner diameter is 10 cm. The pipe is placed completely vertical with no horizontal part. If the friction factor is 0.037, the total dynamic head is:

- 28 m
8) In a water pumping system, the water is being pumped from a sump to an overhead tank situated 25m above ground. The sump bottom is 2m below ground. The motor-pump system is located at ground level. The water is being pumped at the rate of 24.6 litres/sec. The pipe inner diameter is 10 cm. The pipe is placed completely vertical with no horizontal part. The friction factor is 0.037. The efficiencies of the pump, motor and dc-dc converter are 70%, 80% and 90% respectively. If the system is being powered by a PV source, what is the output power requirement for the PV panels?

- 32 m
- 29.5 m
- 52 m

No, the answer is incorrect.
Score: 0
Accepted Answers:
- 32 m

9) A ballast load is used along with stand-alone induction generator

- for startup
- for better flux control
- for maintaining constant frequency irrespective of load
- for maintaining frequency inversely proportional to load

No, the answer is incorrect.
Score: 0
Accepted Answers:
- for maintaining constant frequency irrespective of load

10) Capacitor bank is connected to the terminals of a stand-alone induction generator (IG)

- To supply magnetizing current to IG
- To keep IG frequency constant
- To improve transient stability of IG
- To maintain the voltage constant

No, the answer is incorrect.
Score: 0
Accepted Answers:
- To supply magnetizing current to IG