

Easy

Deputy Executive Engineer (Electrician) 2026

Sports Authority of Gujarat / Assistant Engineer (Electrical)

Consider the following statements regarding pumped storage plants:

- 1. A pumped storage plant is a base load plant.**
- 2. The starting time of a pumped storage plant**

A

1 and 2 only

B

2 and 3 only

Correct

C

1 and 3 only

D

1, 2 and 3

Correct Answer: B

Full Detailed Explanation

Correct Answer: B - 2 and 3 only

Quick Concept Explanation Pumped-storage hydro stores energy by pumping water to an upper reservoir during low-demand periods and generating during peaks. Its rapid start and reversible pump-turbine equipment make it valuable for peak support, balancing and reserves rather than as a conventional base-load plant. Key relation: Stored potential energy $= \rho g H \text{ volume}$. Exam focus: Pumped storage shifts energy in time; it does not create net energy. Common trap: Do not classify it as a normal base-load plant.

Statement-wise Verification

Statement 1 - Incorrect. A pumped storage plant is a base load plant. Pumped storage is typically used for peak support, balancing and storage rather than continuous base load

Statement 2 - Correct. The starting time of a pumped storage plant is very short. Pumped storage shifts energy in time; it does not create net energy.

Statement 3 - Correct. Reversible turbines and pumps are highly suitable for pumped storage plants. Pumped storage shifts energy in time; it does not create net energy.

Core Concept Pumped-storage hydro stores energy by pumping water to an upper reservoir during low-demand periods and generating during peaks. Its rapid start and reversible pump-turbine equipment make it valuable for peak support, balancing and reserves rather than as a conventional base-load plant.

Formula / Key Relationship Stored potential