Renewable Energy Science and Technology.

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O1. Explain the first ...

Ans 1. The first law of thermodynamics states that energy can be converted from one form to another with the interaction of heat, work & internal energy, but it cannot be created nor destroyed, under any circumstances.

$$\Delta U = q + \omega \rightarrow \text{work done}$$

heat exchanged b/w a system & its surrounding

Total change in the internal energy.

No, it does not indicate continous depletion of energy.

O2. Explain the meaning of 'global energy' —

Ans 2. Global energy crisis is any great price rise in the supply of energy resources to an economy. It often reffers to one of the energy sources used at a certain time & place. causes includes overconsumption, overpopulation, poor infrastructure, unexplained renewable energy options, delay in commissionary of power plants, wastage of energy poor discription system, major accidents & natural calamities, wars and attacks, Tax hikes, Strikes and political events.

Some sol au

1. More toward renewable resources
2. Buy efficient products.
3. Lighting controls.
4. Easier grid access
5. Perform energy audit.

Q3 Write down the _ _ _ _

Ans 3. Second law of Thermodynamics states that the state of entropy of the entire universe as an isolated system, will always increase over time

The significance of second law of efficiency is measure of how much of the theoretical maximum you can achieve a comparison of the system thermal energy efficiency.

Q4. A heat engine _ _ _ _

Ans 4. $e = \Delta q / q$ in $\epsilon = c(T_1 - T_2) T_i$
T_1 = initial temp of gas
T_2 = final temperature of gas

$e = (773.15 - 300.15) / 77315 = 0.608$
$500°C = 773.15 K (C 500 + 273.15)$
$30°C = 273.15 + 30 = 300.15.$

Q5. How do you _ _ _

Ans 5. Energy is the quantitative property that must be transformed to an object in order to perform work on or to heat the object or measure of the ability of a body system to do work or produce a change.

It is imp. because it helps us in identifying the potential of that particular process as a system. If you like to maximize a work potential, it means that you have to extract as much work as possible from that particular system which means that the system should be in a dead state at the end of the process.

06   Explain the ___ ___

Ans 6.   The ranking cycle is the fundamental operating cycle of all power plants where an operating fluid is continuously evaporated and condensed.

Rankine Cycle
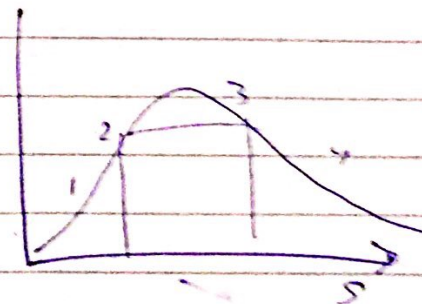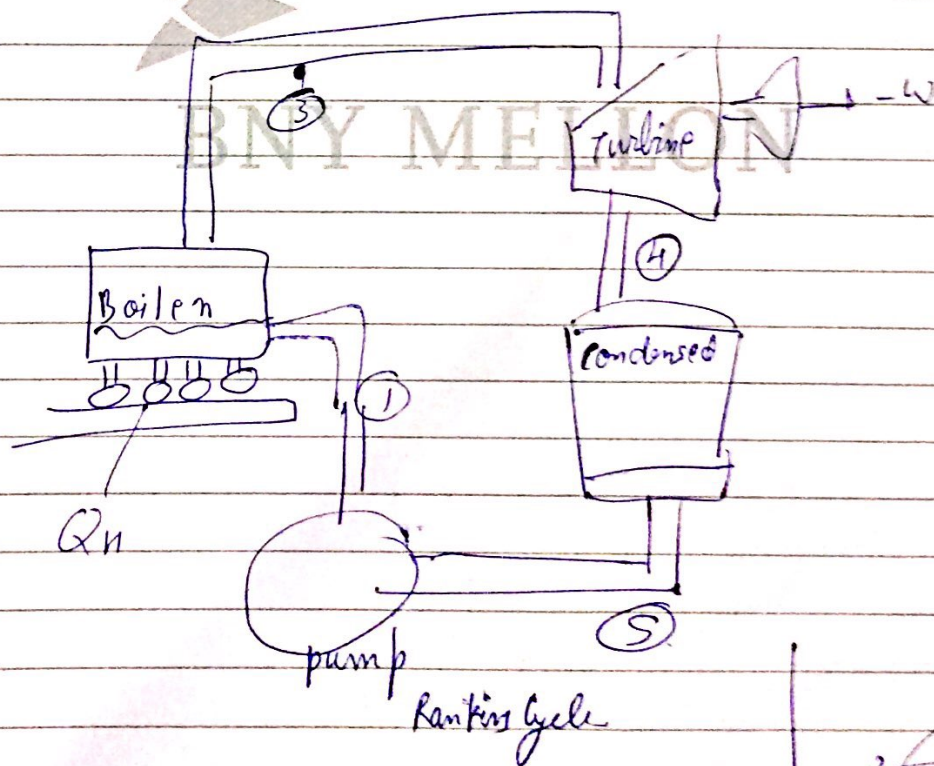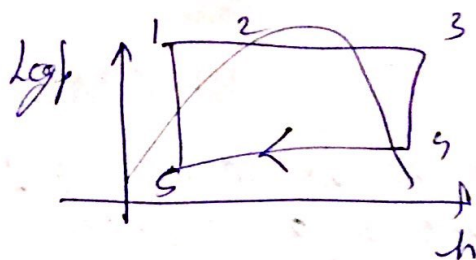
Efficiency of power cycle is defined as.

$$\eta = \frac{W_{net}}{Q_{in}} = \frac{W_{3q} - W_{51}}{Q_{13}}$$