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Question:

Differentiate between closed cycle and open cycle gas turbine

Answer:

Closed Cycle Gas Turbine	Open Cycle Gas Turbine
1. The compressed air is heated in heating chamber.	1. The compressed air is heated in combustion chamber.
2. As the gas is heated by an external source, hence the amount of gas remains same thought the cycle	2. The products of combustion are get mixed up in the heated air hence same gas doesn't remain in cycle.
3. The gas after turbine is passed into the cooling chamber.	3. The gas after turbine is exhausted into the atmosphere.
4. The working fluid is circulated continuously.	4. The working fluid is replaced continuously.
5. Any fluid with better thermodynamic properties can be used.	5. Only air is used as the working fluid.
6. The turbine blades do not wear away earlier, as the enclosed gas does not get contaminated while flowing through heating chamber.	6. The turbine blades wear away earlier, as the air from atmosphere get contaminated while flowing through combustion chamber.
7. The mass of installation per Kwatt is more	7. The mass of installation per Kwatt is less
8. High maintenance cost	8. Maintenance cost is low
