

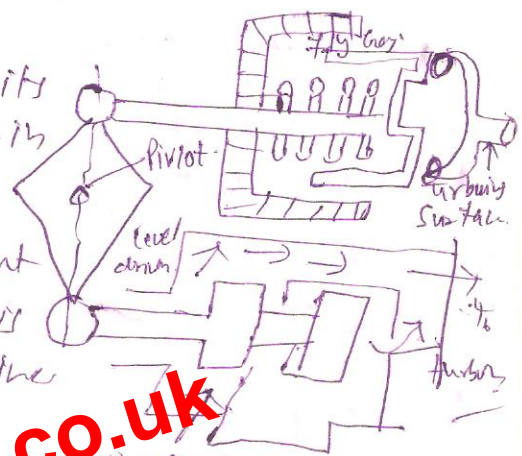
than that of jet condenser.
 - The surface condenser is quite bulky & require more space.
 - Its capital, running & maintenance costs are considerably high than that of a jet condenser.

Q.8
 Ans- The function of a governor is to regulate the supply to steam to the turbine so as to maintain as far as possible a const. mean speed under varying load conditions. These are the principles.

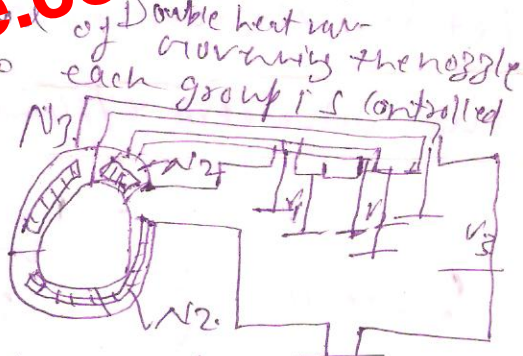
1. Throttle governing :- In throttle governing a double beat valve is provided in the way of the steam flowing to the turbine. When the load on the turbine decreases its speed will tend to increase under such conditions the fly bar moves outward due to centrifugal force acting on it.

When the load on the turbine increases i.e. its speed tends to decrease the governor will act in the reverse direction so as to keep const.

Throttling governing is mechanically simple but thermodynamically it is inefficient and as such this method finds its application on small machines.



2. Nozzle Control Governing :- In this method the nozzles are made up in groups & supply of steam to each group is controlled by regulating valve under full load the valve remain fully open or the turbine speed does not fall below the designed value. When the load on the turbine is less than the designed value the supply of steam to a group of nozzle is varied accordingly so as to restore the original speed nozzle governing and is thus preferred for large machines.



3. By Pass Governing :- The modern high pressure turbine, generally consist of a no. of stages of comparatively small mean dia. of the wheels such turbines are usually designed for a definite load known as economical load at which the efficiency is maxm. This load is taken as about 80% of maxm continuous rating.

Due to small heat drop in 1st stage it is not advisable to employ nozzle steam required can't be admitted through additional nozzle in the first stage. These difficulties of speed regulation are overcome by using by pass governing. The by-pass of steam is automatically regulated by the lift of the valve. The by-pass valve is under the control of the speed governor for all loads within the range.

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