

Secondary Systems: Condensate/Feedwater Cycle

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1 Quiz

1.1 Questions

1. Tube sheets in a shell and tube condenser serve to
 - (a) hold the tubes together
 - (b) prevent direct contact between condensing vapor and coolant
 - (c) provide direct contact between condensing vapor and coolant
 - (d) none of the above
2. Which of the following is not a function of pass partition?
 - (a) permit even number of multiple passes of shell-side fluid
 - (b) permit odd number of multiple passes of tube-side fluid
 - (c) permit even number of multiple passes of tube-side fluid
 - (d) permit odd number of multiple passes of shell-side fluid
3. Which of the following is the advantage of multiple passes in shell & tube heat exchanger?
 - (a) Higher heat transfer area
 - (b) higher pressure drop
 - (c) higher thermal resistance
 - (d) higher heat transfer coefficient
4. Why are steam nozzles larger in diameter than that for condensate?
5. Which one of the following is an advantage of triangular pitch in shell and tube heat exchanger?
 - (a) higher cross sectional area per unit heat exchanger volume
 - (b) higher heat transfer area per unit heat exchanger volume
 - (c) higher surface area per unit heat exchanger volume
 - (d) none of the above
6. The hot fluid used in HP heater is _____.
7. The hot fluid used in low pressure heater is _____.
8. What is the role of clean up system in the secondary circuit?
9. Cooling towers work on the principle of _____.

1.1 Answers

1. (a) & (b)
2. (c) permit even number of multiple passes of tube-side fluid
3. (d) higher heat transfer coefficient

4. Specific volume of steam is higher compared to that of condensate. Hence steam nozzles are larger to accommodate higher steam volume and maintain steam velocity within permissible limits.
5. All of (a), (b) & (c)
6. Extraction steam from high-pressure turbine
7. Extraction steam from low-pressure turbine
8. To remove impurities that can form hard scales inside the tubes of steam generators
9. Cooling towers work on the principle of evaporative cooling