Module 8: Short questions

1. What mechanisms are responsible for the very high heat transfer coefficients in nucleate boiling?

2. Does the amount of heat absorbed as 1 kg of saturated liquid water boils at 100ºC have to be equal to the amount of heat released as 1 kg of saturated water vapour condenses at 100ºC?

3. What is the difference between evaporation and boiling?

4. What is the difference between pool boiling and flow boiling?

5. What is the difference between subcooled and saturated boiling?

6. Suggest some methods of enhancing pool boiling heat transfer coefficient.

7. What is the meaning of burnout point in a boiling curve? How is burnout avoided in the design of steam boilers?

8. Using concepts of thermodynamics, explain how condensation occurs.

9. Why is higher heat transfer coefficient generally associated with dropwise condensation than with film condensation?