

## **RoadToSuccess for Gate Chemical Engineering**

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What is driving force in heat transfer?

What is 3 modes of heat transfer?

What is conduction?

What is convection?

What is radiation?

What is Fourier law of heat transfer?

What thermal conductivity?

Variation of thermal conductivity of solid, gases, liquids with temperature.

In which phase conduction is fastest and slowest. Give Reason.

What is heat transfer coefficient?

What is newton's law of cooling?

What is critical radius of insulation?

What is biot number?

What is nusselt number and its significance?

What is prandtl number and its significance?

What is prandtl number for oil, gases, liquid metals?

What is peclet number and its significance?

What is Stanton number and its significance?

What is Lewis number?

What are two types of convection?

What is forced convection?

What is Dittus Bolter equation? When it is used.

What is natural convection?

What is LMTD?

What is heat exchanger?

Design double pipe heat exchanger.

Draw diagram of shell and tube heat exchangers.

Tell advantages of shell and tube heat exchanger.



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What are plate heat exchanger?

What are the disadvantages of plate heat exchanger?

What are the type of heat exchanger generally used in industries?

What are air coolers?

Where are air coolers used?

How air is transported in air coolers?

How water is transported in water coolers?

Types of air coolers and explain with help of diagram.

Why we use more frequently air coolers than water coolers?

What is approach?

What is minimum approach fluid should have?

What is difference between heat exchanger and condensor?

What is overall heat transfer cofficient?

How you calculate value of U?

How will you design Heat Exchanger?

What are parameters you need to have to design heat exchanger?

What is the most important thing you need to know in design of heat exchanger?

Design shell and tube heat exchanger.

What are the assumptions of kerns method?

Why we need correction factor in 1,2 or 1,4 shell and tube heat exchanger and not in case of 1,1 shell and tube heat exchanger?

What is use of baffle?

What is baffle cut?

What are types of baffle?

What is co-current, counter current and cross flow?

Which is better between counter and co current flow and why?

Draw counter current temperature profile for 1,2 shell and tube heat exchangers.

Draw co-current temperature profile for 1,2 shell and tube heat exchangers.

What is cross temperature?



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How to avoid cross temperature?

What is condenser?

What are different types of condensor?

What is reboiler?

What are different types of reboiler?

Selection of reboilers.

What is evapoation?

Difference between evaporation and vaporisation.

What are different types of evaporators?

Selection of evaporators.

What is boiling point eleevation?

What is forward feed, backwardfeed, parallel feed evaporators?

When to go for forward feed evaporator.

When to go for backward feed evaporator.

What is fouling?

Difference between fouling and corrosion.

What are different types of fouling in heat ecchanger?

What is the procedure of removing fouling from heat exchanger?