

# Process Dynamics and Control

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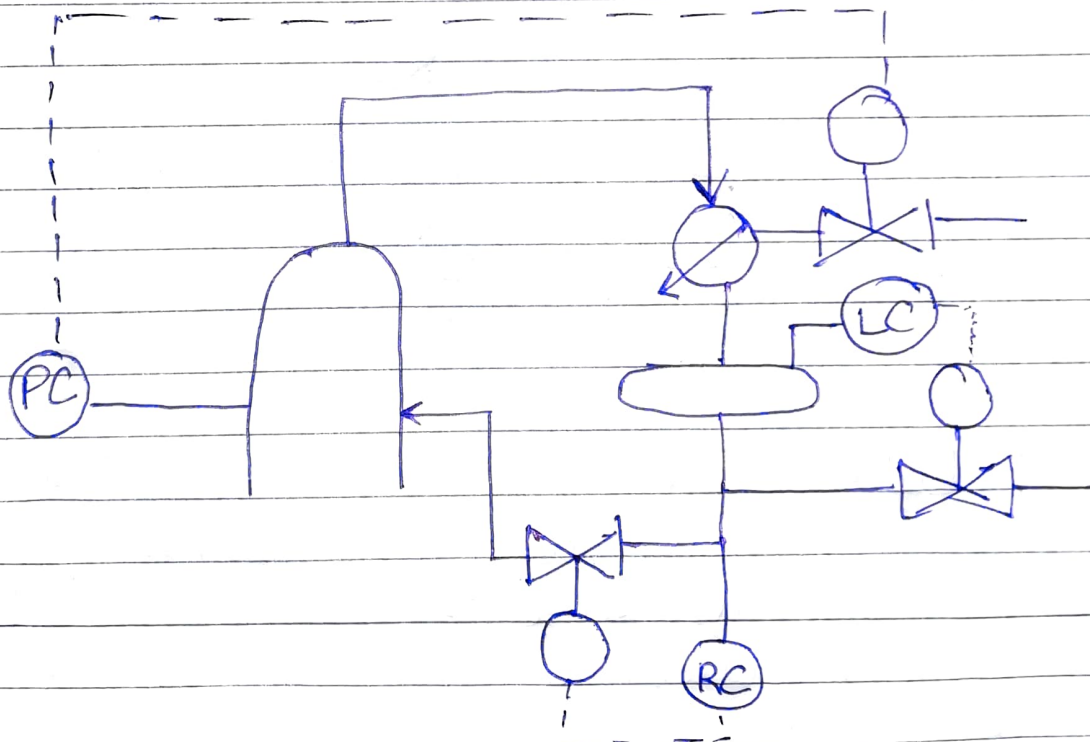
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## Assignment

Q Write and explain in brief of three different control configurations for the distillate composition control for simple distillation column.

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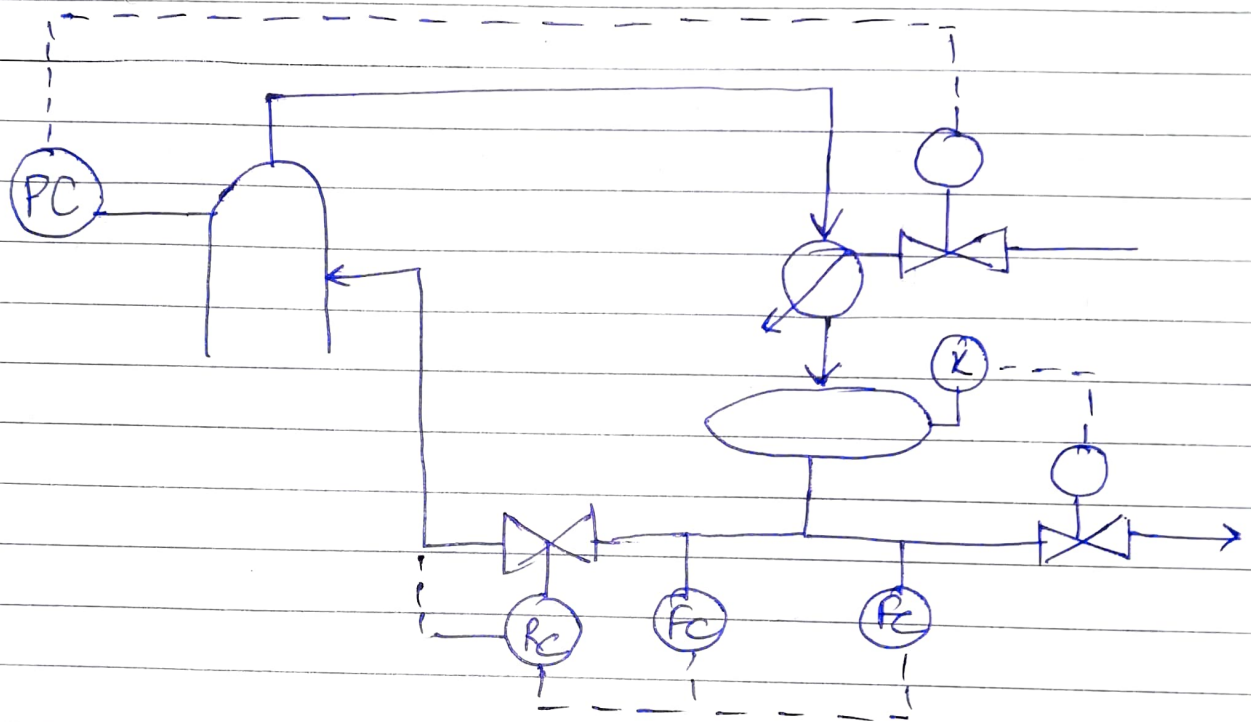
REFLUX RATE - The reflux rate is adjusted to control the composition of tops product.



As the amount of reflux is changed so the temperature profile in the column changes and hence the composition.

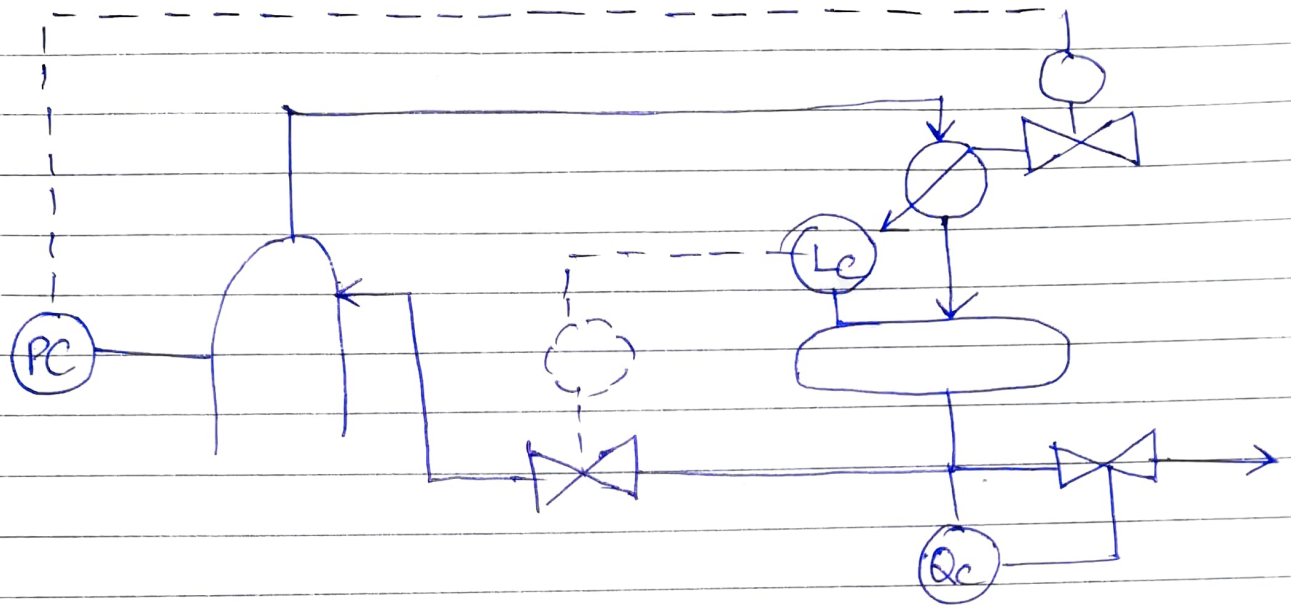
REFLUX RATIO - when designing a distillation column, it is usually the reflux ratio that is determined.

This can be kept constant throughout the operation by using two flow indicators and a ratio controller.



DISTILLATE RATE - It can be shown that for a purity column, the composition of the distillate is sensitive to the distillate flow but insensitive to the reflux ratio.

Therefore for high purity column the control scheme outlined below is used.



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