

**PROCESS MODELING AND
SIMULATION/B.E./CHEMICAL/2015/SEM-II**

409349

Item Bank Name

Item Text	Option Text 1	Option Text 2	Option Text 3	Option Text 4
Transport laws for momentum transfer is	Fourier,s law	Ficks law	Newton,s law	Einstein,s Law
Transport laws are for	Molecular transport	Overall transport	Bulk transport	Turbulent transport
.Find out the dimensionless quantity	Pressure	Reynoldsnumber	viscosity	density
We don't use volume balance in a chemical process because	Mass is not conserved in a process	Volume is not conserved in a process	Both a and b	Neither a nor b
.Material balance equation can be applied to	Total mass	Mass of a component	Moles of a component	All of the mentioned
.Material balance equation cannot be applied to	Total moles	Mass of an atomic species	Moles of an atomic species	All of the mentioned
A system that does not have material crossing the system boundary is called	Closed System	Open System	Steady state system	None of the mentioned
.In open system the material crosses the boundary. The above given statement is	Incorrect	Correct	Correct for closed system	None of the mentioned
A system in which all conditions remain constant with time is called	Open system	Closed system	Steady state system	Dynamic system
A system in which conditions change with time is called	Open system	Closed system	Steady state system	Dynamic system
.Gibbs phase rule for general system is	$P+F=C-1$	$P+F=C+1$	$P+F=C-2$	$P+F=C+2$
The pressure drop in a packed bed is _____ for a given length.	Constant	Exponentially Increasing	Parabolically Increasing	Linearly Increasing
The Ergun equation is used to calculate the _____	Pressure drop in packed beds	Reynolds number in packed columns	Overall heat transfer coefficients	Number of particles
In the Ergun equation, what do you understand by the term X? $f = \frac{\Delta P}{L} \frac{X}{\rho \theta S^2 (\epsilon^3 / (1-\epsilon))}$	Diameter of the tube	Diameter of the pellets	Effective diameter	Equivalent diameter of the tube

In the Formula for porosity, what is the meaning of the term $V_{\emptyset} = VVT$	Volume of Void	Volume of Pure Solid	Total Volume	Volume of the tube material
The substance used in fluidised bed is _____	Same as Packed Bed	Powdered Substance	Large balls	Finely divided Solid material
At fluidisation, the upward drag force is _____ the weight of the particles	Equal to	Slightly higher than	Less than	Negligible to
The pressure drop in fluidised bed on fluidisation _____ with increasing flow rate.	Remains same	Linearly increases	Linearly decreases	Remains zero
.At fluidisation, the temperature of the bed is _____	Constant but non-uniform	Same for fluid and particles	Non uniform	Increasing from the bottom
.At minimum fluidisation flow rate, the gas flow velocity is also known as _____ of the pellets.	Superficial velocity	Terminal velocity	Average velocity	Transport velocity