University of Mumbai
Online Examination 2020
Program: BE Chemical Engineering
Curriculum Scheme: Revised 2016
Examination: Third Year Semester VI
Course Code: CHC602
Course Name: Mass Transfer Operation II

Q1.	Which of the following is not a step in the process of distillation?
Option A:	vaporization
Option B:	condensation
Option C:	heating
Option D:	precipitation
Ans:	
Q2.	In the distillation column, the temperature is highest at----.
Option A:	top of the column
Option B:	bottom of the column
Option C:	In the middle of column
Option D:	near wall of the entire column
Ans:	
Q3.	Separation of two volatile liquids by distillation makes use of their
Option A:	selectivity
Option B:	density difference
Option C:	relative volatility
Option D:	solubility
Ans:	
Q4.	Minimum reflux ratio in a distillation column results in
Option A:	Maximum condenser size
Option B:	Minimum reboiler size
Option C:	Optimum number of trays
Option D:	Minimum number of trays
Ans:	
Q5.	In Azeotropic mixture, the equilibrium vapour composition is
Option A:	More than liquid composition
Option B:	Independent of pressure
Option C:	Same as liquid composition
Option D:	Independent of pressure
Ans:	
Q6.	Larger value of the distribution coefficient

Option A:	More is the solvent required
Option B:	Less is the solvent
Option C:	There is no effect of the amount of solvent used
Option D:	Is not desired
Ans:	
Q7.	In the first stage of a three stage cross current liquid extraction, 100 kg of feed solution containing 15 % weight of solute was contacted with 75 kg of fresh solvent. if the solvent is completely immiscible with the feed solution, the slope of the operating line is
Option A:	1.13
Option B:	-1.13
Option C:	2.3
Option D:	-2.3
Ans:	
Q8.	Common Leaching solvent can be
Option A:	water
Option B:	Sulphuric acid
Option C:	Hydrogen chloride
Option D:	Sodium Hydroxide
Ans:	
Q9.	Tea percolation employs
Option A:	Distillation
Option B:	Absorption
Option C:	Leaching
Option D:	Drying
Ans:	
Q10.	For better Leaching,the viscosity of the solvent should be
Option A:	Less
Option B:	High
Option C:	No effect
Option D:	Very high
Ans:	
Q11.	Sugar recovery from sugar beats is by
Option A:	Absorption
Option B:	Leaching
Option C:	Distillation
Option D:	Adsorption
Ans:	
Q12.	Which one of the following characteristics is not correct for physical adsorption
Option A:	Adsorption on solids is reversible
Option B:	Adsorption increases with increase in temperature
Option C:	Adsorption is spontaneous
Option D:	Both enthalpy and entropy of adsorption are negative
Ans:	

Q13.	Which of the following not true for Freundlich isotherm
Option A:	The isotherm is applicable in certain limit of pressure
Option B:	constants k and n changes with temperature
Option C:	It shows deviation at low pressure
Option D:	Freundlich isotherm is empirical
Ans:	
Q14.	Breakpoint time
Option A:	increases with decrease in bed height
Option B:	decreases with decreases bed height
Option C:	not affected by bed height
Option D:	first increases and then decreases with bed height
Ans:	
Q15.	with increases in flow rate
Option A:	break point time decreases
Option B:	breakpoint time increases
Option C:	breakpoint time decreases first and then increases
Option D:	breakpoint is not affected
Ans:	
Q16.	HTU for packed bed adsorber is
Option A:	Heat of transfer units
Option B:	Heat of Unit
Option C:	Height of temperature unit
Option D:	Height of transfer unit
Ans:	
Q17.	One of the most common solvent used in crysatllisation are
Option A:	Water
Option B:	Alcohol
Option C:	Normal saline
Option D:	Sulphuric acid
Ans:	
Q18.	Crystalline solids can be recognised by their
Option A:	low boiling point
Option B:	sharp melting point
Option C:	color
Option D:	moderate melting point
Ans:	
Q19.	The insoluble impurities from solution during crystallisation are removed by
Option A:	Drying
Option B:	Filtration
Option C:	Heating
Option D:	Cooling
Ans:	

Q20.	What is the molar transmembrane flux of species if Premeability P= 10 units,Membrane thickness l= 10units,Driving force = 200units
Option A:	500
Option B:	200
Option C:	400
Option D:	600
Ans:	
Q21.	Which of the following is not an application of transport in membranes?
Option A:	Microfiltration
Option B:	Reverse osmosis
Option C:	Dialysis
Option D:	Fractional distillation
Ans:	
Q22.	If the pressure drop(ΔP) is 1000 units, the flux(J) is 50 units,what is the hydraulic membrane permeability?
Option A:	0.02
Option B:	0.04
Option C:	0.05
Option D:	0.06
Ans:	
Q23.	Which of the following is not true about membrane separations?
Option A:	Components which are passed through the membrane is called permeate
Option B:	Components which are not passed through are called retentate
Option C:	Non-porous membrane is never used
Option D:	Membrane separations require a driving force
Ans:	
Q24.	What is the reflux ratio at total reflux
Option A:	0
Option B:	∞
Option C:	1
Option D:	0.5
Ans:	
Q25.	_____is a result of chemical interaction between solid and the adsorbed substance
Option A:	elution
Option B:	desorption
Option C:	chemisorption
Option D:	physical adsorption
Ans:	