

SAMPLE Question paper

Examination: Third Year; Semester VI

Course Code: CHC602

Course Name: Mass Transfer Operations II

Time: 1 hour

Max. Marks: 50

College Name: Thadomal Shahani College of Engineering

Note to the students:- All Questions are compulsory and carry equal marks .

Q1.	For distillation to be achieved, relative volatility should be
Option A:	1
Option B:	>1
Option C:	0
Option D:	<1
Ans:	
Q2.	Rayleigh's equation is applicable to----- distillation.
Option A:	Simple Distillation
Option B:	Steam distillation
Option C:	Extractive distillation
Option D:	Flash Distillation
Ans:	
Q3.	The reflux to a distillation column is 100 moles/h when the overhead product rate is 50 moles/h. The reflux ratio is
Option A:	50

Option B:	2
Option C:	0.5
Option D:	150
Ans:	
Q4.	The slope of a feed line for a saturated vapor feed is-----
Option A:	0
Option B:	1
Option C:	infinity
Option D:	>1
Ans:	
Q5.	McCabe –Thiele method excludes ----- information.
Option A:	Flow rate
Option B:	Reflux ratio
Option C:	Enthalpy
Option D:	number of theoretical stages
Ans:	
Q6.	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:	

Q7.	The distribution coefficient is defined as
Option A:	Ratio of concentration in extract phase to concentration in raffinate phase
Option B:	Product of concentration in extract phase and concentration in raffinate phase
Option C:	Ratio of concentration in raffinate phase to concentration in extract phase
Option D:	None of the above
Ans:	
Q8.	The solvent rich phase in liquid-liquid extraction is
Option A:	Distillate
Option B:	Residue
Option C:	Extract
Option D:	Raffinate
Ans:	
Q9.	The length of a tie line at the plait point on the binodal solubility curve is
Option A:	0
Option B:	1
Option C:	Infinite
Option D:	Not Affected
Ans:	
Q10.	A feed of 1000 kg/hr, containing 20 % of solute is mixed with 850 kg/hr of pure solvent. The mass fraction of solute in the resulting mixture is
Option A:	0.11
Option B:	0.32

Option C:	0.5
Option D:	0.9
Ans:	
Q11.	As compared to distillation, liquid extraction is more economical when
Option A:	The feed is a dilute aqueous solution
Option B:	The feed is a concentrated aqueous solution
Option C:	Distillation is always economical
Option D:	High relative volatility
Ans:	
Q12.	Perfumes from flowers can be obtained by
Option A:	Drying
Option B:	Adsorption
Option C:	Crystallisation
Option D:	Leaching
Ans:	
Q13.	The tie lines in multistage ideal Crosscurrent Leaching are
Option A:	Vertical
Option B:	Horizontal
Option C:	Line, positive slope
Option D:	Line, negative slope
Ans:	
Q14.	Example for Leaching equipment

Option A:	Ion exchanger
Option B:	R.D.C
Option C:	Sparged column
Option D:	Bollman Extractor
Ans:	
Q15.	Moving bed adsorbers are
Option A:	steady state adsorbers
Option B:	Unsteady state adsorbers
Option C:	batch adsorbers
Option D:	Steady state batch adsorbers
Ans:	
Q16.	Slop of operating lines for cross current adsorption is
Option A:	positive
Option B:	negative
Option C:	zero
Option D:	infinity
Ans:	
Q17.	The break through curve generally is
Option A:	S shaped
Option B:	L shaped
Option C:	U shaped
Option D:	V shaped

Ans:	
Q18.	In case of fixed bed adsorbers as solution continues to flow the adsorption zone
Option A:	moves down
Option B:	is not affected
Option C:	moves up
Option D:	becomes smaller
Ans:	
Q19.	Adsorption is__
Option A:	exothermic process
Option B:	endothermic process
Option C:	constant enthalpy process
Option D:	not affected by temperature
Ans:	
Q20.	_____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:	
Q21.	Which of the following is known as mother liquor?
Option A:	Solvent

Option B:	Solute
Option C:	Solution
Option D:	Filtrate
Ans:	
Q22.	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:	
Q23.	To increase the strength of polyisoprene ,it is vulcanized with:
Option A:	Rubber
Option B:	Phosphorous
Option C:	Sulphur
Option D:	Sodium
Ans:	
Q24.	Polysulphones contain the _____ group.
Option A:	S
Option B:	CO
Option C:	SO ₂
Option D:	SO ₄
Ans:	

Q25.	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:	
