

Id	1
Question	The diffusivity (D) in a binary gas mixture is related to the temperature (T) as
A	$D \propto T$
B	$D \propto T^{0.5}$
C	$D \propto T^{1.5}$
D	$D \propto T^2$
Answer	
Marks	2
Unit	1

Id	2
Question	The unit of molar concentration is
A	kmol/m^3
B	Kg/m^2
C	gram/liter
D	none of this
Answer	
Marks	2
Unit	1

Id	3
Question	Molecular diffusion is caused by
A	transfer of molecules from low concentration to high concentration region
B	thermal energy of the molecules
C	activation energy of molecules
D	potential energy of molecules
Answer	
Marks	2
Unit	1

Id	4
Question	Pick out the correct statement
A	Diffusivity decreases with increase in temperature
B	Diffusivity increases with increase in molecular weight.
C	Diffusivity increases with the size of the individual molecule.
D	None of these
Answer	
Marks	2
Unit	1

Id	5
Question	Mass transfer co-efficient is defined as
A	Flux = Co-efficient / concentration difference
B	Co-efficient = Flux / concentration difference
C	Flux = concentration difference / co-efficient
D	None of these
Answer	
Marks	2
Unit	1

Id	6
Question	Mass transfer co-efficient (k) and diffusivity (D) are related according to film theory as
A	$K \propto D$
B	$K \propto \sqrt{D}$
C	$K \propto D^{1.5}$
D	$K \propto D^2$
Answer	
Marks	2
Unit	1

Id	7
Question	Penetration theory relates average mass transfer co-efficient (K) with diffusivity (D) as
A	$K \propto D$
B	$K \propto \sqrt{D}$
C	$K \propto D^{1.5}$
D	$K \propto D^2$
Answer	
Marks	2
Unit	1

Id	8
Question	Mass transfer co-efficient of liquid is
A	affected more by temperature than that for gases
B	affected much less by temperature than that for gases
C	not affected by temperature
D	none of these
Answer	
Marks	2
Unit	1

Id	9
Question	In distillation , in binary system, overhead product contains
A	only one component
B	two components
C	any number of components
D	only saturated liquid
Answer	
Marks	2
Unit	2

Id	10
Question	Boiling point diagram is
A	Not affected by pressure
B	affected by pressure
C	a plot of temperature vs. liquid composition
D	a plot of temperature vs. vapour composition
Answer	
Marks	2
Unit	2

Id	11
Question	Raoult's law is applicable to
A	ideal solutions
B	real solutions
C	the mixture of water and alcohol
D	non- ideal gases
Answer	
Marks	2
Unit	2

Id	12
Question	Henry's law states that the
A	Partial pressure of a component over a solution is proportional to its mole fraction in the liquid.
B	Partial pressure of a component over a solution is proportional to the mole fraction in the vapour.
C	Vapour pressure is equal to the product of the mole fraction and total pressure
D	Partial pressure is equal to the product of the mole fraction and total pressure
Answer	
Marks	2
Unit	1

Id	13
Question	Flash distillation is
A	same as differential distillation
B	used for multicomponent systems like crude refining
C	same as simple distillation
D	Most useful for handling binary systems
Answer	
Marks	2
Unit	2

Id	14
Question	Relative volatility does not change appreciably with change in
A	temperature
B	vapour pressure of either component
C	total pressure
D	none of these
Answer	
Marks	2
Unit	2

Id	15
Question	In a binary system, separation is very efficient when relative volatility is
A	1
B	>1
C	< 1
D	0.5
Answer	
Marks	2
Unit	2

Id	16
Question	Positive deviation from Raoult's law means a mixture whose total pressure is
A	greater than that computed for ideality
B	less than that computed for ideality
C	less than the sum of the vapour pressure of the components
D	none of these
Answer	
Marks	2
Unit	2

Id	17
Question	In azeotropic mixture , the equilibrium vapour composition is
A	more than liquid composition
B	less than liquid composition
C	same as liquid composition
D	independent of pressure
Answer	
Marks	2
Unit	2

Id	18
Question	In batch distillation with constant reflux, overhead product composition..... with time.
A	Increases
B	decreases
C	does not vary
D	none of these
Answer	
Marks	2
Unit	2

Id	19
Question	For a binary mixture with low relative volatility, continuous rectification to get pure products will require
A	Low reflux ratio
B	Less number of trays
C	small cross-section column
D	high reflux ratio
Answer	
Marks	2
Unit	2

Id	20
Question	Azeotropic distillation is employed to separate
A	constant boiling mixture
B	high boiling mixture
C	mixture with very high relative volatility
D	heat sensitive materials
Answer	
Marks	2
Unit	2

Id	21
Question	For a binary mixture with low relative volatility
A	use steam distillation
B	use molecular distillation
C	use high pressure distillation
D	an azeotrope may be formed during distillation
Answer	
Marks	2
Unit	2

Id	22
Question	Components, having widely different boiling point in a binary mixture, can be separated using
A	molecular distillation
B	extractive distillation
C	steam distillation
D	simple distillation
Answer	
Marks	2
Unit	2

Id	23
Question	Rayleigh equation applies to
A	differential distillation
B	flash vaporization
C	equilibrium distillation
D	molecular distillation
Answer	
Marks	2
Unit	2

Id	24
Question	At what value of reflux ratio, number of theoretical plates in a distillation column is minimum ?
A	0
B	1
C	∞
D	< 1
Answer	
Marks	2
Unit	2

Id	25
Question	In liquid extraction, if selectivity is unity , then
A	separation of the constituents is the most effective
B	no separation will occur
C	amount of solvent required will be minimum
D	solvent flow rate should be very low
Answer	
Marks	2
Unit	3

Id	26
Question	The apex of an equilateral- triangular co-ordinate (in ternary liquid system) represents
A	a pure component
B	a binary mixture
C	a ternary mixture
D	an insoluble binary system
Answer	
Marks	2
Unit	3

Id	27
Question	In a counter-current extractor as the axial mixing increases, the extraction efficiency
A	increases
B	decreases
C	remains unchanged
D	depends on the pressure of the system
Answer	
Marks	2
Unit	3

Id	28
Question	The solvent used in liquid extraction should not have high latent heat of vaporization , because
A	The pressure drop and hence the pumping cost will be very high.
B	It cannot be recovered by distillation.
C	Its recovery cost by distillation may be prohibitively high.
D	it will decompose while recovering by distillation.
Answer	
Marks	2
Unit	3

Id	29
Question	Sides of equilateral- triangular co-ordinates (on which ternary liquid system is plotted) represent
A	a pure component
B	a binary mixture
C	a ternary mixture
D	partially miscible ternary system
Answer	
Marks	2
Unit	3

Id	30
Question	Radioactive nuclear waste is treated in
A	mixer-settler extractor
B	rotating- disc contactor
C	pulsed column extractor
D	Bollman extractor
Answer	
Marks	2
Unit	3

Id	31
Question	In rectifying section of a continuous distillation column, the
A	Vapour is enriched with low boilers.
B	Vapour is enriched with high boilers.
C	Liquid is stripped of high boilers.
D	None of these.
Answer	
Marks	2
Unit	2

Id	32
Question	Entrainer used in azeotropic distillation should
A	form a low boiling azeotrope with one of the constituents of the mixture.
B	form a new azeotrope of low relative volatility with one of the constituents of the mixture.
C	have high latent heat of vaporisation.
D	have high viscosity to provide high tray efficiency.
Answer	
Marks	2
Unit	2

Id	33
Question	Alcohol is dehydrated using.....distillation.
A	extractive
B	azeotropic
C	steam
D	molecular
Answer	
Marks	2
Unit	2

Id	34
Question	High pressure at the bottom of a distillation tower handling heat sensitive materials results in
A	Thermal decomposition of bottoms.
B	Increased relative volatility.
C	Erosion of the tower.
D	very efficient operation
Answer	
Marks	2
Unit	2

Id	35
Question	Components, having widely different boiling point in a binary mixture, can be separated using.....distillation.
A	molecular
B	extractive
C	steam
D	simple
Answer	
Marks	2
Unit	2

Id	36
Question	In stripping section of continuous distillation column, the
A	liquid is stripped of high boiler.
B	liquid is enriched with high boiler.
C	vapour is stripped of low boiler.
D	none of these.
Answer	
Marks	2
Unit	2

Id	37
Question	Which of the following same diameter columns gives lowest pressure drop per unit height ?
A	Bubble cap column
B	Sieve plate column
C	Packed column (stacked)
D	Randomly packed column
Answer	
Marks	2
Unit	2

Id	38
Question	The reflux to a distillation column is 100 moles/hr, when the overhead product rate is 50 moles/hr. The reflux ratio is
A	2
B	0.5
C	50
D	150
Answer	
Marks	2
Unit	2

Id	39
Question	When the feed to a distillation column is a saturated liquid, slope of the feed line is
A	zero
B	unity
C	infinity
D	none of these
Answer	
Marks	2
Unit	2

Id	40
Question	Which of the following provides maximum contact surface for a liquid vapour system?
A	Packed tower
B	Bubble cap plate column
C	Sieve plate column
D	Wetted wall column
Answer	
Marks	2
Unit	2

Id	41
Question	What is the reflux ratio at total reflux?
A	Zero
B	Infinity
C	Unity
D	Data insufficient
Answer	
Marks	2
Unit	2

Id	42
Question	As the reflux ratio increases, the slope of the operating line for rectifying section
A	increases
B	decreases
C	remains constant
D	data insufficient, cannot be predicted
Answer	
Marks	3
Unit	2

Id	43
Question	In McCabe-Thiele method, at infinite reflux ratio
A	number of plates is maximum.
B	overhead product is maximum.
C	both the operating lines coincide with the diagram.
D	none of these.
Answer	
Marks	2
Unit	2

Id	44
Question	At minimum reflux ratio for a given separation
A	number of plates is zero.
B	number of plates is infinity.
C	minimum number of the theoretical plates is required.
D	separation is most efficient
Answer	
Marks	2
Unit	2

Id	45
Question	For water-ethanol system, the minimum reflux ratio
A	is computed from the slope of the upper operating line that is tangent to the equilibrium curve.
B	is computed from the intercept of the operating line.
C	cannot be computed.
D	is the optimum reflux ratio
Answer	
Marks	2
Unit	2

Id	46
Question	As the reflux ratio decreases, the
A	separation becomes more efficient.
B	number of plates decreases.
C	column diameter increases
D	none of these.
Answer	
Marks	2
Unit	2

Id	47
Question	Reboiler is considered as one theoretical plate, because
A	of the assumption that vapour and liquid leaving the reboiler are in equilibrium.
B	vapour is recycled to the column.
C	reboiler itself contains one plate.
D	none of these.
Answer	
Marks	2
Unit	2

Id	48
Question	To get high tray efficiency
A	interfacial surface between liquid and gas phase should be large.
B	time of contact between the two phases should be less.
C	gas velocity should be very low.
D	liquid entrainment should be severe.
Answer	
Marks	2
Unit	2

Id	49
Question	Tower diameter may be decreased by
A	using higher reflux ratio.
B	use of increased tray spacing.
C	increasing the liquid flow rate.
D	increasing the vapour flow rate
Answer	
Marks	2
Unit	2

Id	50
Question	Which of the following is the most suitable for extraction in a system having very low density difference?
A	Mixer settler extractor
B	Centrifugal extractor
C	Pulsed extractor
D	Packed extraction tower
Answer	
Marks	2
Unit	3

Id	51
Question	In a counter current liquid extractor
A	both liquids flow at fixed rate
B	both liquids can have any desired flow rate.
C	only one of the liquids may be pumped at any desired rate.
D	liquid's flow rate depends upon the temperature and pressure.
Answer	
Marks	2
Unit	3

Id	52
Question	In case of liquid-liquid binary diffusion, diffusivity of one constituent into another is not dependent on the
A	temperature and pressure
B	concentration
C	nature of the constituents
D	none of these
Answer	
Marks	2
Unit	3

Id	53
Question	Steady state equimolar counter diffusion is encountered in
A	separation of a binary mixture by distillation.
B	absorption of NH ₃ from air by water.
C	all liquid-liquid diffusion systems.
D	all liquid-solid diffusion systems.
Answer	
Marks	2
Unit	2

Id	54
Question	In case of binary distillation, increasing the reflux ratio above optimum does not result in the increase of
A	area between operating line and 45° diagonal x-y diagram.
B	condenser and reboiler surfaces
C	tower cross-section.
D	none of these
Answer	
Marks	2
Unit	2

Id	55
Question	Unit of molal diffusivity is
A	$\text{cm}^2/\text{sec gm. mole}$
B	$\text{gm moles}/\text{cm}^2. \text{ sec}$
C	$\text{gm moles}/\text{cm. sec}$
D	$\text{gm moles}/\text{cm}^2. \text{ sec}$
Answer	
Marks	2
Unit	1

Id	56
Question	In case of non-ideal gases and liquids, the molal diffusivity
A	varies inversely as the pressure.
B	varies directly as the pressure.
C	is independent of pressure.
D	is equal to the volumetric diffusivity.
Answer	
Marks	2
Unit	1

Id	57
Question	The relative volatility of a binary mixture at constant temperature.....the total pressure.
A	decreases with increase in
B	increases with increase in
C	is independent of
D	none of these
Answer	
Marks	2
Unit	2

Id	58
Question	McCabe-Thiele method of binary distillation does not assume that the
A	sensible heat changes are negligible compared with latent heat changes.
B	molar latent heats of all components are equal.
C	heat of mixing is negligible
D	none of these
Answer	
Marks	2
Unit	2

Id	59
Question	The overall mass transfer co-efficient for the absorption of SO ₂ in air with dilute NaOH solution can be increased substantially by
A	increasing the gas film co-efficient.
B	increasing the liquid film co-efficient,
C	increasing the total pressure.
D	decreasing the total pressure.
Answer	
Marks	2
Unit	1

Id	60
Question	The feed to fractionating column is changed from saturated vapour to saturated liquid. If the separation and reflux ratio remains unchanged, the number of ideal stages will
A	increase
B	decrease
C	remains same
D	depend on saturated boiling point; may
Answer	
Marks	2
Unit	2

Id	61
Question	At constant pressure, with increase of temperature, the dew point will
A	increase
B	decrease
C	remain unchanged
D	increase/decrease; depends on the temperature
Answer	
Marks	2
Unit	2

Id	62
Question	At constant pressure, with increase of temperature, the will increase
A	boiling point
B	dew point
C	bubble point
D	none of above
Answer	
Marks	2
Unit	2

Id	63
Question	For a distillation column operating at minimum reflux, the
A	concentration of liquid and vapour leaving a plate will be same.
B	reflux ratio will be maximum.
C	number of plates required will be maximum
D	none of these.
Answer	
Marks	2
Unit	2

Id	64
Question	An azeotropic mixture is a.....mixture.
A	binary
B	ternary
C	constant boiling point
D	none of these
Answer	
Marks	2
Unit	2

Id	65
Question	The binary diffusivity in gases does not depend upon the
A	pressure
B	temperature
C	nature of the components
D	none of these
Answer	
Marks	2
Unit	1

Id	66
Question	Statement A. The binary diffusivity in gases does depend upon the pressure Statement B. The binary diffusivity in gases does not depend upon the pressure
A	Statement A is true
B	Statement B is false
C	both statements true
D	both statements false
Answer	
Marks	2
Unit	1

Id	67
Question	The dimension of diffusivity is same as that of the
A	density
B	molal concentration
C	kinematic viscosity
D	velocity head
Answer	
Marks	2
Unit	1

Id	68
Question	Inside the distillation column, the
A	driving force for the vapour flow is the pressure drop.
B	liquids are not always at their bubble points.
C	pressure increases gradually from bottom to the top of the column.
D	none of these
Answer	
Marks	2
Unit	2

Id	69
Question	The operating cost of a distillation column at minimum reflux ratio is
A	minimum
B	maximum
C	infinite
D	zero
Answer	
Marks	2
Unit	2

Id	70
Question	Total reflux in a distillation operation requires minimum
A	reboiler load
B	number of plates
C	condenser load
D	all (A), (B) and (C)
Answer	
Marks	2
Unit	2

Id	71
Question	Pick out the system with maximum boiling azeotrope at 1 atm.
A	acetone chloroform
B	ethyl alcohol-water
C	benzene-ethyl alcohol
D	none of these
Answer	
Marks	2
Unit	2

Id	72
Question	Pick out the system with minimum boiling azeotrope at 1 atm.
A	benzene-toluene
B	ethyl alcohol-water
C	hydrochloric acid-water
D	all (a), (b) and (c)
Answer	
Marks	2
Unit	2

Id	73
Question	Flash distillation is suitable for the separation of components
A	having very close boiling points
B	which form maximum boiling azeotrope.
C	having very wide boiling points
D	which form minimum boiling azeotrope.
Answer	
Marks	2
Unit	2

Id	74
Question	Separation of two volatile liquids by distillation makes use of their
A	selectivity
B	relative volatility
C	solubility
D	density difference
Answer	
Marks	2
Unit	2

Id	75
Question	Mass transfer co-efficient is directly proportional to DAB according to the.....theory.
A	film
B	penetration
C	surface-renewal
D	none of these
Answer	
Marks	2
Unit	1

Id	76
Question	Mass transfer co-efficient varies as $DAB^{0.5}$, according to the.....theory.
A	film
B	surface renewal
C	penetration
D	none of these
Answer	
Marks	2
Unit	1

Id	77
Question	In which of the following unit operations, the selectivity is an important parameter ?
A	Distillation
B	extraction
C	Absorption
D	None of these
Answer	
Marks	2
Unit	3

Id	78
Question	With increase in pressure, the relative volatility for a binary system
A	increases.
B	decreases.
C	remains same.
D	either (A) or (B), depends on the system.
Answer	
Marks	2
Unit	2

Id	79
Question	The minimum number of theoretical plates is required for achieving a given separation in distillation column with
A	no reflux
B	total reflux
C	zero reflux ratio
D	minimum reflux ratio
Answer	
Marks	2
Unit	2

Id	80
Question	The relative volatility for separation of a non-ideal binary mixture by distillation should be
A	0
B	1
C	>1
D	< 1
Answer	
Marks	2
Unit	2

Id	81
Question	If a two phase system is in physical equilibrium; then it means that, the
A	escaping tendency of each component from the liquid phase to the vapor phase is exactly equal to that from vapor phase to liquid phase..
B	temperature of the liquid phase is equal to that of the vapor phase
C	total pressure throughout the liquid phase is equal to that throughout the vapor phase
D	all (a), (b) and (c).
Answer	
Marks	2
Unit	1

Id	82
Question	Pick out the correct statement.
A	In case of liquid-liquid extraction, no separation is possible, if the selectivity of the solvent used is unity.
B	With increase in temperature, the selectivity of the solvent used in solvent extraction decreases.
C	The selectivity of solvent used in solvent extraction is unity at the plait point.
D	all (A), (B) and (C).
Answer	
Marks	2
Unit	3

Id	83
Question	Gaseous diffusivity at atmospheric pressure is of the order of.....cm ² /second.
A	< 1
B	1 to 5
C	5 to 10
D	> 10
Answer	
Marks	2
Unit	1

Id	84
Question	In McCabe-Thiele method of theoretical plate calculation for a distillation column, the operating lines of stripping and rectifying sections coincide with the diagonal at.....reflux.
A	Total
B	minimum
C	operating
D	maximum permissible
Answer	
Marks	2
Unit	2

Id	85
Question	Dimension of mass diffusivity is the same as that of
A	Kinematic viscosity
B	dynamic viscosity
C	surface tension
D	pressure
Answer	
Marks	2
Unit	1

Id	86
Question	Gaseous diffusion co-efficient increases with increase in the
A	pressure
B	temperature
C	both (A) & (B)
D	neither (A) nor (B)
Answer	
Marks	2
Unit	1

Id	87
Question	Which of the following liquid-vapor contacting devices provides maximum contact surface area for a particular duty?
A	Sieve plate column
B	Bubble cap column
C	Randomly packed column
D	spray column
Answer	
Marks	2
Unit	2

Id	88
Question	Columns are used for liquid dispersion in a continuous gas phase.
A	Packed
B	Pulse
C	Bubble cap
D	Sieve plate
Answer	
Marks	2
Unit	2

Id	89
Question	Rayleigh's equation applies to.....distillation.
A	continuous
B	steam
C	differential
D	flash
Answer	
Marks	2
Unit	2

Id	90
Question	Boiling point diagram is not affected by the ambient
A	Pressure
B	humidity
C	temperature
D	both (B) and (C)
Answer	
Marks	2
Unit	2

Id	91
Question	In liquid-liquid extraction, the number of phases at plait point is
A	1
B	2
C	3
D	4
Answer	
Marks	2
Unit	3

Id	92
Question developed the film theory.
A	Higbie
B	Fick
C	Ergun
D	Levenspiel
Answer	
Marks	2
Unit	1

Id	93
Question	The equilibrium liquid composition compared to the vapor composition in case of azeotropic mixture is
A	more
B	less
C	same
D	either more or less; depends on the system
Answer	
Marks	2
Unit	2

Id	94
Question	With lapse of time, the overhead composition of light component in case of batch distillation with constant reflux
A	increases
B	decreases
C	remains same
D	may increase or decrease ; depends on
Answer	
Marks	2
Unit	2

Id	95
Question	Design calculation for binary distillation is done by
A	Ponchon-Savarit method
B	McCabe-Thiele method
C	enthalpy concentration method
D	tray to tray calculations
Answer	
Marks	2
Unit	2

Id	96
Question	Eddy diffusion process is also called..... diffusion.
A	pressure
B	thermal
C	concentration
D	turbulent
Answer	
Marks	2
Unit	2

Id	97
Question	Calculation of mass transfer co-efficient is mostly/normally done using.....theory.
A	surface renewal
B	film
C	penetration
D	none of these
Answer	
Marks	2
Unit	1

Id	98
Question	In liquid extraction we having liquid Components
A	one
B	two
C	three
D	four
Answer	
Marks	2
Unit	3

Id	99
Question	Packed column is used in which following operation
A	distillation
B	extraction
C	both distillation and extraction
D	none of this
Answer	
Marks	2
Unit	3

Id	100
Question	A good solvent used for extraction should not have very high
A	viscosity
B	vapor pressure
C	freezing point
D	all (A), (B) & (C)
Answer	
Marks	2
Unit	3

Id	101
Question	Which of the following equipment's is not used in liquid-liquid extraction ?
A	Tray dryer
B	Agitated vessels
C	Centrifugal extractors
D	Packed towers
Answer	
Marks	2
Unit	3

Id	102
Question	The slope of q-line is determined by the
A	reflux ratio
B	plate efficiency to be achieved
C	thermal condition of the feed
D	relative volatility.
Answer	
Marks	2
Unit	2

Id	103
Question	On moving the feed line (q-line) from saturated liquid feed (vertical position) to saturated vapor feed (horizontal feed), if the slope of both the operating lines are to be increased, then it will result in
A	greater degree of separation with a fixed number of trays
B	increased reboiler load
C	increased reflux ratio
D	None of these
Answer	
Marks	2
Unit	2

Id	104
Question	Which of the following factors does NOT have a direct influence on the rate of diffusion?
A	Molecule size
B	Color
C	Temperature
D	Barriers in the substance
Answer	
Marks	2
Unit	1

Id	105
Question	Statement A. Diffusion is a process that only occurs in liquid substances. Statement B. Diffusion is a process that only occurs in gases substances.
A	Statement A is true
B	Statement B is false
C	Both statements true
D	Both statements false
Answer	
Marks	2
Unit	1

Id	106
Question	Statement A. Distillation is a process that only occurs in gases substances Statement B. Distillation is a process that only occurs in solid substances.
A	Statement A is true
B	Statement B is false
C	Both statements true
D	Both statements false
Answer	
Marks	2
Unit	1

Id	107
Question	In case of distillation, a third component added to alter the relative volatility of the mixture to be separated.
A	molecular
B	Azeotropic
C	drying
D	flash.
Answer	
Marks	2
Unit	2

Id	108
Question	In distillation following phases involved
A	Liquid –vapor
B	Liquid –solid
C	Solid- gas
D	none of these
Answer	
Marks	2
Unit	2

Id	109
Question	As the reflux ratio in a distillation column is increased from the minimum, the
A	slope of the operating line in stripping section decreases.
B	number of plates decreases very slowly first and then more and more rapidly.
C	total cost first decreases and then increases.
D	liquid flow increases while the vapor flow decreases for a system.
Answer	
Marks	2
Unit	2

Id	110
Question	Liquid extraction Phase contain the desired product in large proportion
A	Feed
B	Raffinate
C	Extract
D	none of these
Answer	
Marks	2
Unit	3

Id	111
Question	Which of the following examples would diffuse the fastest?
A	Salt into salt water
B	Salt water into salt water
C	Salt into tap water
D	Salt water into tap water
Answer	
Marks	2
Unit	1

Id	112
Question	Separation of two components of a liquid solution can be achieved by
A	crystallisation
B	liquid extraction
C	Absorption
D	Evaporation
Answer	
Marks	2
Unit	3

Id	113
Question	In extraction following phases involved
A	Liquid –liquid
B	Liquid –solid
C	Solid- gas
D	none of these
Answer	
Marks	2
Unit	3

Id	114
Question	Mass transfer occurs in one direction is called.....
A	Distillation
B	gas absorption
C	Extraction
D	none of these
Answer	
Marks	2
Unit	1

Id	115
Question	Mass transfer rate between two fluid phases does not necessarily depend on the.....of the two phases.
A	chemical properties
B	physical properties
C	degree of turbulence
D	interfacial area
Answer	
Marks	2
Unit	1

Id	116
Question	Separation of three components of a liquid solution can be achieved by
A	fractional crystallisation
B	liquid extraction
C	Absorption
D	Evaporation
Answer	
Marks	2
Unit	3

Id	117
Question	In most of the mechanically agitated liquid-liquid extractors, baffles or horizontal compartmental plates are provided, which helps in
A	Reducing the axial mixing.
B	Increasing the rate of extraction.
C	Maintaining the concentration difference between the two phases.
D	all 'A', 'B' & 'C'.
Answer	
Marks	2
Unit	3

Id	118
Question	Solvent extraction is the terminology applied to the liquid-liquid extraction, which is preferred for the separation of the components of liquids, when
A	extracting solvent is cheaply & abundantly available.
B	one of the liquid components is heat sensitive.
C	viscosity of liquid components is very high.
D	one of the liquid components has very high affinity towards the solvent.
Answer	
Marks	2
Unit	3

Id	119
Questioncolumn is the most suitable for achieving the best performance for mass transfer operations involving liquid with distillation
A	Wetted wall
B	Packed
C	Plate
D	Spray
Answer	
Marks	2
Unit	2

Id	120
Question	Ficks law used for
A	molecular diffusion
B	eddy diffusion
C	Drying
D	none of these
Answer	
Marks	2
Unit	1

Id	121
Question	Use of packed towers for distillation is generally limited to the
A	small sizes.
B	multicomponent distillation.
C	High pressure operation.
D	Vacuum distillation.
Answer	
Marks	2
Unit	2

Id	122
Question	Unit of molar flow rate is
A	kmol/s
B	kg/s
C	gram /s
D	none of these
Answer	
Marks	2
Unit	1

Id	123
Question diffusion is fast process
A	Molecular
B	Eddy
C	Drying
D	none of these
Answer	
Marks	2
Unit	1

Id	124
Question	Diffusion co-efficient generally depends upon the temperature, pressure & the nature of the components of the system. Its dimension is not the same as that of the
A	mass transfer co-efficient.
B	thermal diffusivity.
C	kinematic viscosity.
D	volumetric diffusivity.
Answer	
Marks	2
Unit	1

Id	125
Question	Pick out the wrong statement.
A	Constant pressure distillation can not separate an azeotropic mixture.
B	Relative volatility of a binary mixture changes appreciably with the minor change in temperature.
C	The relative volatility of a binary mixture at azeotropic composition is unity.
D	Flash distillation is practiced on wide spread scale in petroleum refinery.
Answer	
Marks	2
Unit	2

Id	126
Question	Driving force for mass transfer is.....
A	temperature
B	pressure
C	volume
D	concentration
Answer	
Marks	2
Unit	1

Id	127
Question	The solvent in extraction is having.....viscosity
A	high
B	Low
C	medium
D	none of these
Answer	
Marks	2
Unit	3

Id	128
Question	In an operating distillation column, the
A	vapors and liquids are at their dew point and bubble point respectively.
B	driving force for the liquid flow is its specific weight.
C	driving force for the vapor flow is the pressure drop, as the pressure decreases gradually from the bottom to the top of the column.
D	highest temperature is encountered at the top of the column.
Answer	
Marks	2
Unit	2

Id	129
Questioncolumn is preferred to be used, when a high liquid hold up is required in a reactor for gas-liquid operation
A	Packed
B	Bubble
C	Spray
D	Tray
Answer	
Marks	2
Unit	2

Id	130
Question	spray column is having efficiency
A	low
B	High
C	medium
D	none of above
Answer	
Marks	2
Unit	3

Id	131
Question	Distillation under reduced pressure is used to purify these liquids, which
A	decomposes below their boiling points.
B	have high boiling point.
C	are highly volatile.
D	are explosive.
Answer	
Marks	2
Unit	2

Id	132
Question column is having low Efficiency in liquid extraction
A	Packed
B	perforated
C	Spray
D	Tray
Answer	
Marks	2
Unit	3

Id	133
Question	Azeotropic mixtures of liquids
A	cannot be separated by selective absorption.
B	obeys Raoult's law.
C	does not boil at constant temperature.
D	can be separated by fractional distillation.
Answer	
Marks	2
Unit	2

Id	134
Question	Pick out correct statement about fractional distillation column operation. Inside the distillation column, the
A	temperature is same throughout the distillation column.
B	driving force for the vapor flow is the pressure drop.
C	driving force for the liquid flow is its weight.
D	liquids & vapors are always at their bubble point & dew point respectively.
Answer	
Marks	2
Unit	2

Id	135
Question	A stage is a device
A	in which mass transfer between two immiscible phases occurs.
B	in which two immiscible phases are brought into intimate contact.
C	at the exit of which both phase are in equilibrium.
D	where all (A) ,(B) and (C) occur.
Answer	
Marks	2
Unit	3

Id	136
Question	Height of transfer unit gives an idea about the.....the separation.
A	ease of
B	degree of
C	difficulty in achieving
D	both (B) and (C)
Answer	
Marks	2
Unit	2

Id	137
Question	Number of transfer unit gives us an idea about the.....of separation.
A	degree
B	difficulty
C	ease
D	none of these
Answer	
Marks	2
Unit	2

Id	138
Question	The dew point of a saturated gas is equal to the.....temperature.
A	Gas
B	adiabatic saturation
C	wet bulb
D	none of these
Answer	
Marks	2
Unit	2

Id	139
Question	There is a direct relationship between the distribution coefficient and the solvent requirement. As the distribution coefficient increases, the solvent requirement for a given separation
A	decreases
B	increases
C	remain unchanged
D	may increase or decrease, depending on the system
Answer	
Marks	2
Unit	3

Id	140
Question	The side of an equilateral triangular coordinate (in ternary liquid system) represents a
A	Binary mixture
B	ternary mixture
C	pure component
D	none of these
Answer	
Marks	2
Unit	3

Id	141
Question	In equilateral triangular coordinate, a point on any side of the triangle represents a
A	pure component
B	binary mixture
C	ternary mixture
D	none of these
Answer	
Marks	2
Unit	3

Id	142
Question	Which of the following is/are correct? A spray tower is a.....extractor.
A	multistage
B	single-stage
C	differential contact
D	none of these
Answer	
Marks	2
Unit	3

Id	143
Question	For liquid-liquid extraction systems, that separate aromatics from aliphatic. contactor is called
A	mixer-settler
B	Rotating disc contactor
C	spray column
D	pulsed packed column
Answer	
Marks	2
Unit	3

Id	144
Question	A good absorbent should have a
A	high selectivity for the solute
B	Sufficiently high capacity
C	long life
D	None of above
Answer	
Marks	2
Unit	3

Id	145
Question	Diffusion can occur in materials.
A	Solid
B	Liquid
C	Gaseous
D	All
Answer	
Marks	2
Unit	1

Id	146
Question	The units for diffusivity, D, are
A	m^2 / sec
B	$\text{m}^2 / \text{sec}^{-3}$
C	$\text{m}^{-2} \text{sec}^{-2}$
D	$\text{m}^{-2} \text{sec}^1$
Answer	
Marks	2
Unit	1

Id	147
Question	The most influencing factor of diffusivity
A	Diffusing species
B	Temperature
C	Lattice structure
D	Presence of defects
Answer	
Marks	2
Unit	1

Id	148
Question	Diffusion is the result of:
A	Random motion of particles
B	Concentration gradient
C	Kinetic energy of particles
D	All of the mentioned
Answer	
Marks	2
Unit	1

Id	149
Question	Concentration gradient refers to:
A	Change of concentration with respect to time
B	Change of concentration with respect to space
C	Change of concentration with respect to temperature
D	None of the mentioned
Answer	
Marks	2
Unit	1

Id	150
Question	Rate of solid-state diffusion does not depend on which of the following?
A	Temperature
B	Diffusing species
C	Host solid
D	Gravity
Answer	
Marks	2
Unit	1