

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Program: BE Chemical Engineering

Curriculum Scheme: Rev2016

Examination: Third Year, Semester VI

Course Code: CHC602 and Course Name: Mass Transfer operation II

Time: 1 hour

Max. Marks: 50

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

Q1.	In minimum boiling azeotrope, total pressure curve
Option A:	passes through a maximum value
Option B:	passes through a minimum value
Option C:	continuously increases
Option D:	continuously decreases
Q2.	Flash vaporization is a
Option A:	Equilibrium distillation
Option B:	Differential distillation
Option C:	Steam distillation
Option D:	Azeotropic distillation
Q3.	Liquid-liquid extraction is
Option A:	An indirect separation operation
Option B:	A direct separation operation
Option C:	A membrane separation operation
Option D:	Not a separation operation
Q4.	For effective separation with liquid-liquid extraction, the selectivity should be
Option A:	Less than 1
Option B:	Equal to 1
Option C:	Greater than 1
Option D:	Equal to zero
Q5.	On the binodal solubility curve, the point where A-rich and B-rich curves merge is called as
Option A:	Tripple point
Option B:	Boiling point
Option C:	Dew point
Option D:	Plait point
Q6.	Which of the following true about polycarbonates?
Option A:	Amorphous
Option B:	Not ductile
Option C:	Fragile
Option D:	Thermosetting
Q7.	Polysulphones contain the _____ group
Option A:	S
Option B:	CO

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Option C:	SO <sub>2</sub>
Option D:	SO <sub>4</sub>
Q8.	Which of the following is untrue about Polytetrafluoroethylene?
Option A:	Branched chain
Option B:	Highly crystalline
Option C:	Exceptional thermal stability
Option D:	High degree of polymerization
Q9.	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
Q10.	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
Q11.	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
Q12.	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
Q13.	Tea percolation employs
Option A:	Distillation
Option B:	Absorption
Option C:	Leaching
Option D:	Drying
Ans:	
Q14.	For better Leaching,the viscosity of the solvent should be
Option A:	Less
Option B:	High
Option C:	No effect
Option D:	Very high

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Q15.	In a plate type distillation column, an ideal plate is defined as one where
Option A:	the vapour and liquid leaving streams are in equilibrium
Option B:	the vapour and liquid entering streams are in equilibrium
Option C:	the vapour leaving stream is in equilibrium with the liquid entering streams
Option D:	the vapour entering stream is in equilibrium with the liquid leaving streams
Ans:	
Q16.	The slope of a feed line for a saturated vapor feed is-----
Option A:	0
Option B:	1
Option C:	infinity
Option D:	>1
Q17.	Wood charcoal is used to decolourize sugar because
Option A:	It absorbs the colour
Option B:	It adsorbs colour
Option C:	Vaporizes colour
Option D:	neutralizes colour
Ans:	
Q18.	Which of the following statements is not applicable to Chemisorption
Option A:	Involves chemical bond
Option B:	It is irreversible
Option C:	It is highly specific
Option D:	It is independent of temperature
Q19.	In chemical adsorption, how many layers are adsorbed
Option A:	one
Option B:	two
Option C:	many
Option D:	zero
Q20.	In adsorption of oxalic acid on activated charcoal, the activated charcoal is known as
Option A:	Adsorbent
Option B:	Absorbate
Option C:	Adsorber
Option D:	Absorber
Q21.	At the end of extraction operation, the weight fraction of solute in extract and raffinate phases were 0.6 and 0.48 respectively. The distribution coefficient in this case is
Option A:	1.38
Option B:	2.01
Option C:	1
Option D:	1.25

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Q22.	The solvent rich phase in liquid-liquid extraction is
Option A:	Distillate
Option B:	Residue
Option C:	Extract
Option D:	Raffinate
Q23.	Crystallization is based on the _____
Option A:	Difference in melting point
Option B:	Difference in boiling point
Option C:	Difference in pressure
Option D:	Difference in solubility
Q24.	Which of the following is the example of crystallization process?
Option A:	Purification of alum
Option B:	Purification of sea water
Option C:	Separation of gases from air
Option D:	Removal of ammonia from wastewater
Q25.	At room temperature, the impure compound in crystallization is _____
Option A:	Soluble
Option B:	Sparingly soluble
Option C:	Insoluble
Option D:	cant say