JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
MASS TRANSFER OPERATIONS-II
Objective Exam

Name: _____ **Hall Ticket No.** | | | | | | A | | | | |

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I   Choose the correct alternative:

1. Which of the following is the most suitable for extraction in a system having low
   density difference   [   ]
   A. Mixer-settler extractor   B. Centrifugal extractor
   C. Pulsed extractor   D. Packed extraction tower

2. The apex of an equilateral-triangular coordinate (in ternary liquid system) represents a/an [   ]
   A. Pure component   B. Binary mixture   C. Ternary mixture   D. Insoluble

3. With increase in temperature, the rate of extraction in leaching (solid-liquid extraction
   system   [   ]
   A. Increases   B. Decreases   C. Remains unaffected   D. Increases linearly

4. 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 available.   B. one of the liquid components is heat sensitive
   C .Viscosity of liquid components is very high   D. Liquid components has very high affinity

5. In a counter-current extractor, as the axial mixing increases, the extraction efficiency   [   ]
   A. Increases   B. decreases   C. remains   D. depends on the pressure of the system

6. Rate of leaching increases with increasing   [   ]
   A. temperature   B. viscosity of solvent   C. Pressure   D. size of the solid

7. Which of the following is the most commonly used leaching solvent in vegetable oil
   Industry   [   ]
   A. Phenol   B. Hexane   C. Furfurol   D. Liquid SO_2

8. Which of the following adsorbent is used to decolourise yellow glycerine   [   ]
   A. Silica   B. clay   C. Fuller's earth   D. Activated carbon

9. When adsorption hysteresis is observed, the desorption equilibrium pressure is _____ that
   obtained by adsorption.   [   ]
   A. Always lower than   B. Always higher than
   C. Same as dependent on the system;   D. Can be either lower or higher than

10. Chemisorptions (chemical adsorption) is   [   ]
    A. Same as "Van der Waals" adsorption.   B. Characterized by adsorption of heat
    C. An irreversible phenomenon.   D. A reversible phenomenon.

II   Fill in the blanks

11.   Coffee from coffee beans is done by _____

12.   The equipment used in the extraction of highly corrosive rado active liquids is _____

13.   Heat sensitive materials with very high latent heat of vaporization may be economical separated using_____

14.   Extraction of coffee from its seed is done by _____

15.   The solvents used in liquid- liquid extraction should have _____ less than one.

16.   Percolation employs-_____

17.   Degree of freedom for leaching and solvent extraction process is

18.   Hyper sorption refers to a _____ process

19.   Though, theoretically the adsorption & desorption isotherms is expected to coincide but sometimes at least a part of the isotherms does not coincide and this phenomenon is known as adsorption hysteresis. In such cases, the desorption equilibrium pressure is _____ that obtained for adsorption.

20.   Adsorption is an unit operation which generally involves _____ systems.

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Code No: 56034   **Set No. 2**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
MASS TRANSFER OPERATIONS-II
Objective Exam

Name: _____ Hall Ticket No. [ ][ ][ ][ ][ ][A][ ][ ][ ][ ]

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I   Choose the correct alternative:

1.   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 available.   B. one of the liquid components is heat sensitive
        C .Viscosity of liquid components is very high   D. Liquid components has very high affinity

2.   In a counter-current extractor, as the axial mixing increases, the extraction efficiency   [   ]
         A. Increases   B. decreases   C. remains   D. depends on the pressure of the system

3.   Rate of leaching increases with increasing   [   ]
        A. temperature   B. viscosity of solvent   C. Pressure   D. size of the solid

4.   Which of the following is the most commonly used leaching solvent in vegetable oil
        Industry   [   ]
        A. Phenol   B. Hexane   C. Furfurol   D.   Liquid SO_2

5.   Which of the following adsorbent is used to decolourise yellow glycerine   [   ]
        A. Silica   B. clay   C. Fuller's earth   D. Activated carbon

6.   When adsorption hysteresis is observed, the desorption equilibrium pressure is _____ that
        obtained by adsorption.   [   ]
        A. Always lower than   B. Always higher than
        C. Same as dependent on the system;   D. Can be either lower or higher than

7.   Chemisorptions (chemical adsorption) is   [   ]
        A. Same as "Van der Waals" adsorption.   B. Characterized by adsorption of heat
        C. An irreversible phenomenon.   D. A reversible phenomenon.

8.   Which of the following is the most suitable for extraction in a system having low
        density difference   [   ]
        A. Mixer-settler extractor   B. Centrifugal extractor
        C. Pulsed extractor   D. Packed extraction tower

9.   The apex of an equilateral-triangular coordinate (in ternary liquid system) represents a/an [   ]
        A. Pure component   B. Binary mixture C. Ternary mixture   D.   Insoluble

10.   With increase in temperature, the rate of extraction in leaching (solid-liquid extraction
        system   [   ]
        A. Increases   B. Decreases   C. Remains unaffected   D. Increases linearly

II   Fill in the blanks

11.   Extraction of coffee from its seed is done by _____

12.   The solvents used in liquid- liquid extraction should have _____ less than one.

13.   Percolation employs-_____

14.   Degree of freedom for leaching and solvent extraction process is

15.   Hyper sorption refers to a _____ process

16.   Though, theoretically the adsorption & desorption isotherms is expected to coincide but sometimes at least a part of the isotherms does not coincide and this phenomenon is known as adsorption hysteresis. In such cases, the desorption equilibrium pressure is _____ that obtained for adsorption.

17.   Adsorption is an unit operation which generally involves _____ systems.

18.   Coffee from coffee beans is done by _____

19.   The equipment used in the extraction of highly corrosive rado active liquids is _____

20.   Heat sensitive materials with very high latent heat of vaporization may be economical separated using_____

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Code No: 56034   **Set No. 3**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
MASS TRANSFER OPERATIONS-II
Objective Exam

Name: _____ Hall Ticket No. ☐☐☐☐☐☐|A|☐☐☐☐

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I   Choose the correct alternative:

1.   Rate of leaching increases with increasing   [   ]
        A. temperature   B. viscosity of solvent   C. Pressure   D. size of the solid

2.   Which of the following is the most commonly used leaching solvent in vegetable oil
        Industry   [   ]
        A. Phenol   B. Hexane   C. Furfurol   D. Liquid SO_2

3.   Which of the following adsorbent is used to decolourise yellow glycerine   [   ]
        A. Silica   B. clay   C. Fuller's earth   D. Activated carbon

4.   When adsorption hysteresis is observed, the desorption equilibrium pressure is _____ that
        obtained by adsorption.   [   ]
        A. Always lower than   B. Always higher than
        C. Same as dependent on the system;   D. Can be either lower or higher than

5.   Chemisorptions (chemical adsorption) is   [   ]
        A. Same as "Van der Waals" adsorption.   B. Characterized by adsorption of heat
        C. An irreversible phenomenon.   D. A reversible phenomenon.

6.   Which of the following is the most suitable for extraction in a system having low
        density difference   [   ]
        A. Mixer-settler extractor   B. Centrifugal extractor
        C. Pulsed extractor   D. Packed extraction tower

7.   The apex of an equilateral-triangular coordinate (in ternary liquid system) represents a/an [   ]
        A. Pure component   B. Binary mixture C. Ternary mixture   D. Insoluble

8.   With increase in temperature, the rate of extraction in leaching (solid-liquid extraction
        system   [   ]
        A. Increases   B. Decreases   C. Remains unaffected   D. Increases linearly

9.   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 available.   B. one of the liquid components is heat sensitive
        C .Viscosity of liquid components is very high   D. Liquid components has very high affinity

10.   In a counter-current extractor, as the axial mixing increases, the extraction efficiency   [   ]
         A. Increases   B. decreases   C. remains   D. depends on the pressure of the system

II Fill in the blanks

11. Percolation employs-_____

12. Degree of freedom for leaching and solvent extraction process is

13. Hyper sorption refers to a _____ process

14. Though, theoretically the adsorption & desorption isotherms is expected to coincide but sometimes at least a part of the isotherms does not coincide and this phenomenon is known as adsorption hysteresis. In such cases, the desorption equilibrium pressure is _____ that obtained for adsorption.

15. Adsorption is an unit operation which generally involves _____ systems.

16. Coffee from coffee beans is done by _____

17. The equipment used in the extraction of highly corrosive rado active liquids is _____

18. Heat sensitive materials with very high latent heat of vaporization may be economical separated using_____

19. Extraction of coffee from its seed is done by _____

20. The solvents used in liquid- liquid extraction should have _____ less than one.

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
III B.Tech. II Sem., II Mid-Term Examinations, April – 2014
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Objective Exam

Name: _____ Hall Ticket No. ⬜⬜⬜⬜⬜ A ⬜⬜⬜⬜

Answer All Questions. All Questions Carry Equal Marks.Time: 20 Min. Marks: 10.

I   Choose the correct alternative:

1.   Which of the following adsorbent is used to decolourise yellow glycerine   [   ]
        A. Silica   B. clay   C. Fuller's earth   D. Activated carbon

2.   When adsorption hysteresis is observed, the desorption equilibrium pressure is _____ that
        obtained by adsorption.   [   ]
        A. Always lower than   B. Always higher than
        C. Same as dependent on the system;   D. Can be either lower or higher than

3.   Chemisorptions (chemical adsorption) is   [   ]
        A. Same as "Van der Waals" adsorption.   B. Characterized by adsorption of heat
        C. An irreversible phenomenon.   D. A reversible phenomenon.

4.   Which of the following is the most suitable for extraction in a system having low
        density difference   [   ]
        A. Mixer-settler extractor   B. Centrifugal extractor
        C. Pulsed extractor   D. Packed extraction tower

5.   The apex of an equilateral-triangular coordinate (in ternary liquid system) represents a/an [   ]
        A. Pure component   B. Binary mixture C. Ternary mixture   D.   Insoluble

6.   With increase in temperature, the rate of extraction in leaching (solid-liquid extraction
        system   [   ]
        A. Increases   B. Decreases   C. Remains unaffected   D. Increases linearly

7.   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 available.   B. one of the liquid components is heat sensitive
        C .Viscosity of liquid components is very high   D. Liquid components has very high affinity

8.   In a counter-current extractor, as the axial mixing increases, the extraction efficiency   [   ]
         A. Increases   B. decreases   C. remains   D. depends on the pressure of the system

9.   Rate of leaching increases with increasing   [   ]
        A. temperature   B. viscosity of solvent   C. Pressure   D. size of the solid

10.   Which of the following is the most commonly used leaching solvent in vegetable oil
        Industry   [   ]
        A. Phenol   B. Hexane   C. Furfurol   D. Liquid SO_2

II   Fill in the blanks

11.   Hyper sorption refers to a _____ process

12.   Though, theoretically the adsorption & desorption isotherms is expected to coincide but sometimes at least a part of the isotherms does not coincide and this phenomenon is known as adsorption hysteresis. In such cases, the desorption equilibrium pressure is _____ that obtained for adsorption.

13.   Adsorption is an unit operation which generally involves _____ systems.

14.   Coffee from coffee beans is done by _____

15.   The equipment used in the extraction of highly corrosive rado active liquids is _____

16.   Heat sensitive materials with very high latent heat of vaporization may be economical separated using_____

17.   Extraction of coffee from its seed is done by _____

18.   The solvents used in liquid- liquid extraction should have _____ less than one.

19.   Percolation employs-_____

20.   Degree of freedom for leaching and solvent extraction process is

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