

Appendix A : Chemistry achievement test (CAT)

Pretest

1. Simple distillation is used to separate

- (A). Solid in solid
- (B). Solid in liquid
- (C). Liquid in liquid
- (D). Liquid in gas
- (E). Gas in gas

2. Which of these is not the apparatus used during distillation

- (A). Condenser
- (B). Distillation flask
- (C). Thermometer
- (D). Burette
- (E). Retort stand

3. Simple distillation is used to recover

- (A). Liquid solvent in liquid solution
- (B). Liquid solution in liquid solvent
- (C). Liquid solution in liquid solution
- (D). Liquid solvent in liquid solvent
- (E). Liquid in liquid

4. What is the major difference between fractional distillation and simple distillation

- (A). Presence of fracturing column
- (B). Presence of thermometer
- (C). Presence of condenser
- (D). Distillation flask
- (E). Delivery tube

5. A mixture of ethanol and water can be separated through

- (A). Crystallization

- (B). Simple distillation
- (C). Evaporation
- (D). Recantation method
- (E). Filtration

6. Mixture of liquid in liquid with close boiling point can be separated through

- (A). Fractional distillation
- (B). Simple distillation
- (C). Chromatography
- (D). Crystallization
- (E). Sublimation

7. Fractionating column can be used to separate a mixture of

- (A). Ethanol in water
- (B). Kerosene in petrol
- (C). Oil in water
- (D). Salt in water
- (E). Glucose in water

8. Distillation is _____ type of reaction

- (A). Reversible
- (b). Displacement
- (C). Substitution
- (D). Nuclear
- (E). Neutralization

9. The major principle in distillation is

- (A). Difference in mass number
- (B). Difference in atomic number
- (C). Difference in boiling points
- (D). Difference in oxidation number
- (E). Difference in molarity

10. Fractional distillation of petroleum depends on difference in

- (A). Molar masses
- (B). Densities
- (C). Boiling points
- (D). Freezing points
- (E). Rate of diffusion

Post test

1. What is the major difference between fractional distillation and simple distillation?

- (A). Presence of fracturing column
- (B). Presence of thermometer
- (C). Presence of condenser
- (D). Distillation flask
- (E). Delivery tube

2. A mixture of ethanol and water can be separated through

- (A). Crystallization
- (B). Simple distillation
- (C). Evaporation
- (D). Recantation method
- (E). Filtration

3. Simple distillation is used to separate

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6. Fractional distillation of petroleum depends on difference in

(A). Molar masses

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(E). Rate of diffusion

7. Simple distillation is used to recover

(A). Liquid solvent in liquid solution

(B). Liquid solution in liquid solvent

(C). Liquid solution in liquid solution

(D). Liquid solvent in liquid solvent

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8. Fractionating column can be used to separate a mixture of

(A). Ethanol in water

(B). Kerosene in petrol

(C). Oil in water

(D). Salt in water

(E). Glucose in water

9. Distillation is _____ type of reaction

(A). Reversible

(B). Displacement

(C). Substitution

(D). Nuclear

(E). Neutralization

10. Mixture if liquid in liquid with close boiling point can be separated through

(A). Fractional distillation

(B). Simple distillation

(C). Chromatography

(d). Crystallization

(E). Sublimation

Appendix B: Academic Self-Concept Questionnaire (ASCQ).

No	Questions	SA	A	D	SD
1	It is easy for me to follow the chemistry lessons				
2	I am very active in a chemistry class				
3	I assist my classmates in their chemistry assignment				
4	I always do my chemistry homework without problems				
5	Working hard will guarantee me admission into the University				
6	I am not distracted during chemistry lessons				

7	I am more intelligent than most of my classmates in chemistry				
8	I do not joke with my chemistry tests				
9	My teachers think that I am a good chemistry student				
10	I am usually very excited in my chemistry classwork				
11	I remember everything I learn in chemistry				
12	I will put in all effort to pass chemistry with good grade				
13	When my chemistry teacher asks me any question in chemistry I am not frightened				
14	I do not have quitting feelings about chemistry				
15	I am a good chemistry student				
16	I desire to have chemistry lesson most of the times				
17	I always perform excellently in chemistry tests				
18	Facing a difficult question in my chemistry classwork does not make me give up easily.				
19	I can do better than my classmates in chemistry				
20	Putting in more effort in my chemistry study is my desire				