Multiple choice **Questions and Answers – Oils and Fats – 1**

Multiple Choice Questions & Answers (MCQs) focuses on "Oils and Fats – I".

1. Melting point of fat is _____ and melting point of oil is _____
a) Higher, higher
b) Lower, lower
c) Higher, lower
d) Lower, higher
View Answer Answer: c
Explanation: Melting point of fat is higher and melting point of oil is lower. Generally, healthy fats have a high amount of monounsaturated fats as well as polyunsaturated fats and a low amount of saturated fats.

2. Which of the following is an example of fats?
a) Glyceryl trioleate
b) Vegetable ghee
c) Coconut oil
d) Groundnut oil
View Answer Answer: b
Explanation: Vegateble ghee is an example of fats. Glyceryl trioleate, Coconut oil and groundnut oil are the examples of oils.

3. Select the incorrect statement from the following option.
a) Oils are saturated triglyceride
b) Oils have lower melting points
c) Oils are liquid at room temperature
d) Examples of oils are glyceryl trioleate, coconut oil, olive oil, etc
View Answer

Answer: a
Explanation: Oils are partially unsaturated triglyceride which have lower melting point and are liquid at room temperature.

4. Which of the following is not a suitable solvent for oils and fats?
a) Benzene
b) CCl_4
c) $CHCl_3$
d) Water

View Answer Answer: d
Explanation: Oils and fats are soluble in benzene, CCl_4, $CHCl_3$ and other organic solvents.

5. Oils and fats are good conductors of heat and electricity.
a) True
b) False
View Answer Answer: b
Explanation: Oils and fats are poor conductors of heat and electricity. They do not allow heat or electricity to pass through them.

6. Saponification is hydrolysis _____
a) By alkalis
b) In digestive tracts of human beings
c) By acids
d) By salts
View Answer Answer: a
Explanation: Saponification is the alkaline hydrolysis of the fatty acid esters. Example: The chemical reaction between any fat and sodium hydroxide is a saponification reaction.

7. Which of the following act as a catalyst in digestive tracts of human beings?
a) Lewis acid
b) Lewis base
c) Hydrogen peroxide
d) Lipases
View Answer Answer: d
Explanation: Lipases are the enzymes which act as a catalyst in the hydrolysis in the digestive tracts of human beings.

8. Hydrogenation is the conversion of unsaturated acid groups into the saturated one by a catalyst _____
a) Ti
b) Pb
c) Ni
d) Sn
View Answer Answer: c
Explanation: Hydrogenation is the conversion of unsaturated acid groups into the saturated one by metal Nickel (Ni) catalyst.

9. Vegetable ghee is manufactured by _____
a) Saponification
b) Hydrogenation
c) Oxidation polymerisation
d) Reduction polymerisation
View Answer Answer: b
Explanation: Vegetable ghee is manufactured by hydrogenation. But due to the trans fatty acids dilemma, partial hydrogenation is no longer viable.

10. Hydrogenolysis is a reaction which leads to the reduction products of _____
a) Aldehyde
b) Ketone
c) Alcohol
d) Ester
View Answer Answer: c
Explanation: Hydrogenolysis is a reaction which leads to the formation of glycerol and reduction products of alcohol

1. Soaps are _____ based soapy detergents.
a) Water
b) Kerosene
c) Oil
d) Acid
View Answer

Answer: c
Explanation: Soaps are oil based soapy detergents. Soaps for cleansing are obtained by treating vegetable or animal oils and fats with a strongly alkaline solution.

2. The saponification of a fat or oil is done using _____ solution for hot process.
a) KOH
b) NaOH
c) HCl
d) NaCl
View Answer Answer: b

Explanation: The saponification of a fat or oil is done using NaOH solution for hot process. Saponification to the sodium salt of myristic acid takes place with NaOH in water. NaOH gives hard soaps.

3. The saponification of a fat or oil is done using _____ solution for cold process.
a) KOH
b) NaOH
c) HCl
d) NaCl
View Answer Answer: a
Explanation: The saponification of a fat or oil is done using KOH solution for cold process. When potassium hydroxide (KOH) is used, a soft soap is formed. It cannot be used in hard water.

4. Soft soaps are the limitation of hot process because of their _____
a) High alkalinity
b) Low alkalinity
c) Low solubility in water
d) High solubility in water
View Answer Answer: d
Explanation: Soft soaps are the limitation of the hot process because of their greater solubility in water. When potassium hydroxide (KOH) is used, a soft soap is formed by the cold process. It cannot be used in hard water.

5. Select the incorrect statement from the following option.
a) Hard soaps are the sodium carboxylates
b) Soft soaps are potassium carboxylates
c) Hard soaps are manufactured by cold process
d) Example of soft soap – shampoo and shaving cream
View Answer Answer: c
Explanation: Hard soaps are manufactured by hot process and soft soaps are manufactured by cold process.

6. Which of the following is the residual product in the formation of soap?
a) Glyceraldehyde
b) Glycerol
c) Glycerine
d) Acrylonitrile

View Answer Answer: b
Explanation: Glycerol is the residual product in the formation of soap. The immediate product is called an orthoester:

7. Which of the following is a typical soap molecule?
a) Calcium stearate
b) Potassium permanganate
c) Sodium bicarbonate
d) Sodium stearate
View Answer Answer: d
Explanation: Sodium stearate is a typical soap molecule. Sodium stearate is the sodium salt of stearic acid. Sodium stearate has both hydrophilic and hydrophobic parts, the carboxylate and the long hydrocarbon chain, respectively.

8. Select the correct statement from the following options.
a) The soap micelle is unstable due to positive charge on its head
b) The soap micelle is stable due to positive charge on its head
c) The soap micelle is unstable due to negative charge on its head
d) The soap micelle is stable due to negative charge on its head
View Answer Answer: d
Explanation: The soap micelle is stable due to the negative charge on its polar head. It carries a negative charge due to attractive forces.

9. Soaps do not act efficiently in hard water and in acidic solution.
a) True
b) False
View Answer Answer: a
Explanation: Soaps do not act efficiently in hard water and in acidic solution due to their softness as compared to detergents. Soaps are the soft detergents and cannot be used in water containing calcium and magnesium salts.

1. Soap was invented as long ago as:

A 200 years

B 1000 years

C 2000 years

2. Soaps were originally made from:

A proteins

B animal fats and vegetable oils

C chemicals extracted from the soil

3. Today's soaps are synthesised from products including:

A plastics

B sodium hydroxide and alcohol

C proteins and hydrochloric acid

4. In a school laboratory, soap is usually made from:

A vegetable oil, sodium hydroxide and some alcohol

B methylated spirits (also called denatured alcohol) and any acid

C acids and caustic soda

5. Soaps work because the "water-loving" end of the soap molecule attracts a water molecule an "water-hating" end attracts:

A other soap molecules

B water molecules also

C grease or dirt

6. The scientific term for "water-loving" is:

A hydrophilic

B hydroxide

C hydrophobic

7. The scientific term for "water-hating" is:

A hydroxide

B hydrophilic

C hydrophobic

8. The "water-loving" end of the soap molecule has a charge that is:

A positive

B negative

C either positive or negative

9. The water-repelling end of the soap molecule has a:

A negative charge

B positive charge

C neutral or no charge

10. Hard water contains a lot of calcium and:

A magnesium salts

B sodium salts

C potassium salts

11. Hard water does not wash clothes well because:

A the salts speed up the cleaning action and hard water contains insufficient salts to do this

B the salts react with the soap to form a grey scum instead of attaching to the dirt particles

C the water is hard to touch and it is unpleasant for people to touch the water when washing

12. The type of water that produces the greatest lather of bubbles is:

A any type of water

B hard water

C soft water

13. Soaps and detergents that can be easily broken down by bacteria in the environment to form harmless substances are termed:

A biodegradable

B non-biodegradable

C environmentally unfriendly

14. The additive in many soaps and detergents that greatly harm the environment is:

A perfume

B salts

C phosphates

15. When phosphates from cleaning products reach our waterways, they encourage the rapid gro algae. This in turn extracts too much oxygen from the water and fish suffocate. This harmful proc

A phosphatisation

B eutrophication

C hydrophilic

Answers

Q 1: A Q 2: B Q 3: B Q 4: A Q 5: C Q 6: A Q 7: C Q 8: B Q 9: B

Q10: A Q11: B Q12: C Q13: A Q14: C Q15: B