1. Given below are two statements:

Statement I: Morphine is a narcotic analgesic. It helps in relieving pain without producing sleep.

Statement II: Morphine and its derivatives are obtained from opium poppy.

In the light of the above statements, choose the correct answer from the options given below

[2023 (06 Apr Shift 2)]

(1) Both Statement I and Statement II are true

(2) Statement I is true but Statement II is false

(3) Both Statement I and Statement II are false

(4) Statement I is false but Statement II is true

2. Match List I with List II :

List I		List II	
A.	Saccharin	I.	High potency sweetener
B.	Aspartame	II.	First artificial sweetening agent
C	Alitame	III.	Stable at cooking temperature
D.	Sucralose	IV.	Unstable at cooking temperature

Choose the correct answer from the options given below :

[2023 (08 Apr Shift 1)]

(1) A-IV, B-III, C-I, D-II

(2) A-II, B-III, C-IV, D-I

(3) A-II, B-IV, C-III, D-I

(4) A-II, B-IV, C-I, D-III

3. The reaction used for preparation of soap from fat is :

[2023 (10 Apr Shift 2)]

(1) An addition reaction

(2) Reduction reaction

(3) Alkaline hydrolysis reaction

(4) An oxidation reaction

ANSWER KEYS

1. (4) **2.** (4) **3.** (3)

1. (4)

Opioids (narcotic analgesics) are a class of medicines that are used to provide relief from moderate-to-severe acute or chronic pain. They may also be called opiates, opioid analgesics, or narcotics. Analgesic is another name for a medicine that relieves pain. Morphine is a narcotic analgesic. It helps in relieving pain with producing sleep.

2. (4)

Saccharin is an artificial sweetener that is commonly used as a sugar substitute. It is about $300-400$ times sweeter than sugar and has a slightly bitter aftertaste.

Aspartame use is limited to cold foods and soft drinks because it is unstable at cooking temperature.

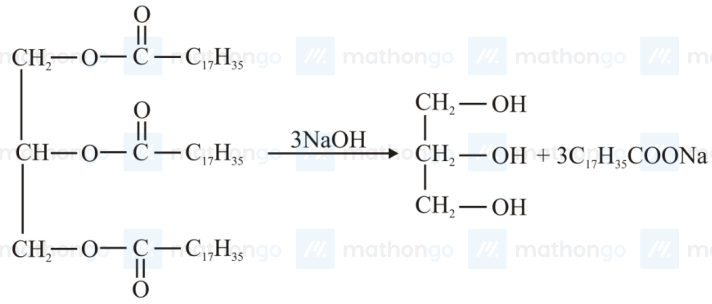
Alitame is high potency sweetener, which means that only a small amount is needed to achieve the same level of sweetness as sugar.

Sucralose is stable at cooking temperature.

So the correct option is , $A \rightarrow II,\ B \rightarrow IV,\ C \rightarrow I,\ D \rightarrow III$

3. (3)

The reaction used for preparation of soap from fat is not alkaline hydrolysis, but rather saponification. In saponification, a triglyceride (fat or oil) is reacted with a strong base, such as sodium hydroxide (or potassium hydroxide, in the presence of heat to produce soap molecules and glycerol as a byproduct. The reaction involves the hydrolysis of the ester bond in the triglyceride by the base to form carboxylate ions (the soap molecules) and glycerol.



(Glyceryl ester of stearic acid of fat)