

Chemistry in Everyday Life

Question1

Consider the following

Statement-I Shaving soaps contain glycerol to prevent rapid drying.

Statement-II Laundry soaps contain sodium carbonate as filler.

Correct answer is

AP EAPCET 2025 - 26th May Morning Shift

Options:

A.

Both statement-I and statement-II are correct.

B.

Both statement-I and statement-II are not correct.

C.

Statement-I is correct, but statement-II is not correct.

D.

Statement-I is not correct, but statement-II is correct.

Answer: A

Solution:

Statement I: *Shaving soaps contain glycerol to prevent rapid drying.*

True.



Glycerol (or glycerin) is added to shaving soaps to keep the soap moist and prevent it from drying too quickly during use. It also improves smoothness and provides lubrication for shaving.

Statement II: *Laundry soaps contain sodium carbonate as filler.*

True.

Laundry soaps often include sodium carbonate (washing soda) as a builder or filler. It helps in removing hardness of water, improves detergent efficiency, and aids in cleaning.

Correct Answer: Option A

Both statement-I and statement-II are correct.

Question2

Which of the following is not an antibiotic?

AP EAPCET 2025 - 26th May Evening Shift

Options:

A.

Chloramphenicol

B.

Oflaxacin

C.

Penicillin

D.

Novestrol

Answer: D

Solution:

- **A. Chloramphenicol:** This is a broad-spectrum antibiotic that inhibits bacterial protein synthesis.
- **B. Oflaxacin (or Ofloxacin):** This is a fluoroquinolone antibiotic that inhibits bacterial DNA gyrase, used to treat various bacterial infections.



- **C. Penicillin:** This is a well-known beta-lactam antibiotic, one of the first discovered, which inhibits bacterial cell wall synthesis.
- **D. Novestrol:** This name does not correspond to a known antibiotic. "Novestrol" sounds similar to Estradiol (an estrogen hormone) or a related hormonal compound, or it could be a made-up name. In any case, it is not an antibiotic.

Therefore, Novestrol is not an antibiotic.

The final answer is

Question3

The artificial sweetener X contains glycosidic linkage and Y contains amide, ester linkages. X and Y respectively are

AP EAPCET 2025 - 24th May Morning Shift

Options:

A.

sucralose, alitame

B.

sucralose, aspartame

C.

saccharin, alitame

D.

saccharin, aspartame

Answer: B

Solution:

Let's analyze the properties of each artificial sweetener mentioned in the options:

1. Sucralose:

- Derived from sucrose by replacing three hydroxyl groups with chlorine atoms.



- Sucrose is a disaccharide containing a **glycosidic linkage** between glucose and fructose units.
- Since sucralose retains this core structure, it also contains a **glycosidic linkage**.
- Therefore, Sucralose fits the description for X.

2. Alitame:

- It is a dipeptide amide, specifically L-alanine + D-aspartic acid + an amine.
- It contains **amide linkages** due to the peptide bonds.
- However, it does **not** contain an ester linkage.
- Therefore, Alitame does not fit the description for Y (which requires both amide and ester linkages).

3. Aspartame:

- It is a methyl ester of a dipeptide (L-aspartyl-L-phenylalanine).
- It contains an **amide linkage** (peptide bond) between aspartic acid and phenylalanine.
- It also contains an **ester linkage** (the methyl ester of the phenylalanine carboxyl group).
- Therefore, Aspartame fits the description for Y as it contains both amide and ester linkages.

4. Saccharin:

- It is a sulfimide derivative (1,2-benzisothiazol-3(2H)-one 1,1-dioxide).
- It does **not** contain glycosidic, amide, or ester linkages.
- Therefore, Saccharin does not fit the description for X or Y.

Question4

Which of the following is not an example of synthetic detergent?

AP EAPCET 2025 - 23rd May Evening Shift

Options:

A.

Cetyltrimethylammonium bromide

B.

Sodium stearate

C.

Sodium laurylsulphate

D.

Sodium dodecylbenzenesulphonate

Answer: B

Solution:

- **Option A: Cetyltrimethylammonium bromide**

→ This is a **cationic detergent** (a quaternary ammonium compound). Thus, it is a **synthetic detergent**.

- **Option B: Sodium stearate**

→ This is the **sodium salt of a fatty acid (stearic acid)** — it is a **soap**, not a synthetic detergent.

- **Option C: Sodium laurylsulphate**

→ This is an **anionic synthetic detergent** (commonly called SDS or SLS).

- **Option D: Sodium dodecylbenzenesulphonate**

→ This is also an **anionic synthetic detergent**, one of the most commonly used (found in many household detergents).

Answer: Option B — Sodium stearate is *not* an example of a synthetic detergent.

Question5

Match the following.

List-I (Drugs)		List-II (Effect)	
(A)	Equanil	(I)	Hypnotic
(B)	Furacine	(II)	Antacid
(C)	Tegamet	(III)	Antiseptic
(D)	Veronal	(IV)	To control hypertension

Correct answer is



AP EAPCET 2025 - 23rd May Morning Shift

Options:

A.

A-III, B-I, C-II, D-IV

B.

A-II, B-IV, C-III, D-I

C.

A-IV, B-III, C-I, D-II

D.

A-IV, B-III, C-II, D-I

Answer: D

Solution:

(A) Equanil → It is *meprobamate*, used as a **tranquilizer**, helps to control **hypertension and anxiety**.

→ So (A) → **(IV) To control hypertension**

(B) Furacine → It is *nitrofurazone*, used as an **antiseptic** for treating wounds.

→ So (B) → **(III) Antiseptic**

(C) Tegamet → It is *cimetidine*, which reduces acid secretion in the stomach; an **antacid**.

→ So (C) → **(II) Antacid**

(D) Veronal → It is *barbital*, used as a **hypnotic (sleep-inducing drug)**.

→ So (D) → **(I) Hypnotic**

✓ Correct matching:

(A) – IV

(B) – III

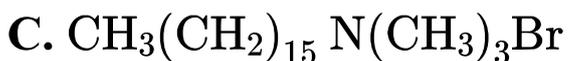
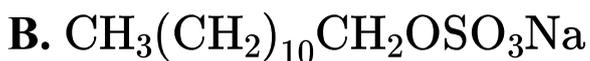
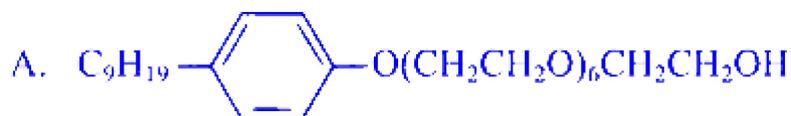
(C) – II

(D) – I

Hence, the correct option is:

Question 6

The synthetic detergents of the following are



Correct answer is

AP EAPCET 2025 - 22nd May Evening Shift

Options:

A.

A, B, C only

B.

B, C, D only

C.

A, D only

D.

B, C only

Answer: A

Solution:

Among the given options, A , B , C are synthetic detergent $(C_{15}H_{31}COO)_3C_3H_5$ represent a type of soap, specially a triglyceride derived from stearic acid.

Question7

Bithionol is added to soaps to impart antiseptic properties. The number of -OH and -Cl groups in its structure are respectively.

AP EAPCET 2025 - 22nd May Morning Shift

Options:

A.

2,3

B.

3,2

C.

4,2

D.

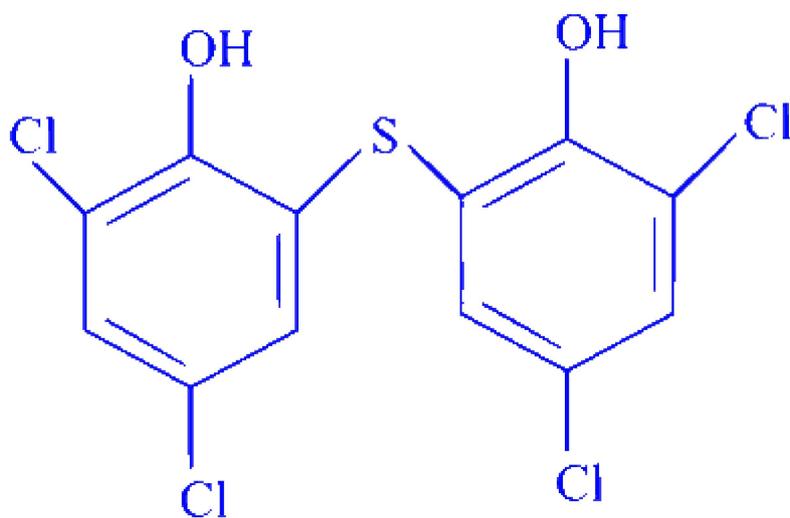
2,4

Answer: D

Solution:

The structure of bithionol.





2 = OH group

4 = Cl group

Question8

What is the drug used to control depression and hypertension?

AP EAPCET 2025 - 21st May Evening Shift

Options:

A.

Bithionol

B.

Equanil

C.

Dimetapp

D.

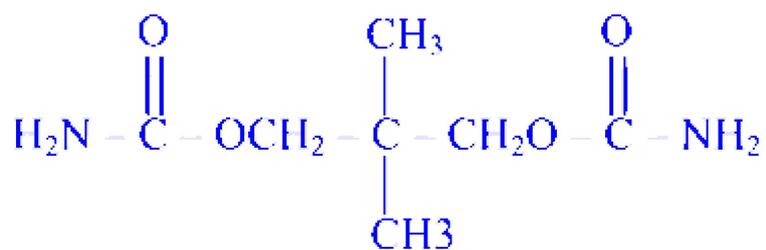
Prontosil

Answer: B

Solution:



Equanil is used to control depression and hypertension.



Question9

Which of the following is not an example of antacid?

AP EAPCET 2025 - 21st May Morning Shift

Options:

A.

Cimetidine

B.

Ranitidine

C.

Sodium hydrogen carbonate

D.

Phenelzine

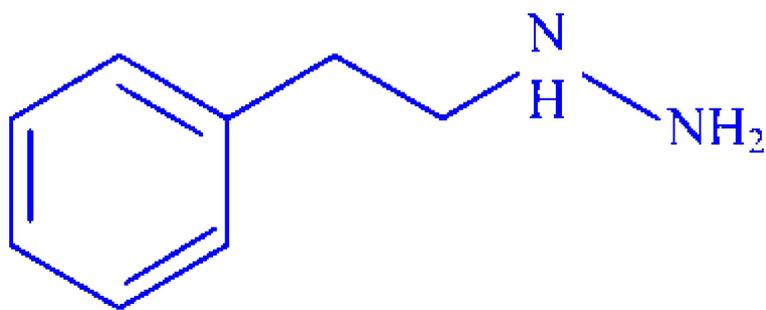
Answer: D

Solution:

The chemical substance that neutralised excess acid released by body is called antacid.

Phenelzine is not an example of antacid.





Phenelzine is used to treat depression.

Question10

Which of the following statement is incorrect?

AP EAPCET 2024 - 23th May Morning Shift

Options:

- A. Shaving soaps contain glycerol.
- B. Branched chain detergents are easily biodegradable.
- C. Commonly used dettol is mixture of chloroxylenol and terpineol.
- D. 0.2% of phenol acts as antiseptic.

Answer: B

Solution:

The incorrect statement is Option B.

• Branched-chain detergents are **not** easily biodegradable; it's the linear-chain detergents (like LAS) that break down readily in the environment.

Question11

Which of the following solutions is used in the styptic action which prevents bleeding of blood?

AP EAPCET 2024 - 22th May Evening Shift

Options:

- A. CoCl_2 solution
- B. FeCl_3 solution
- C. Gold sol
- D. AgBr emulsion

Answer: B

Solution:

Blood is a colloidal solution of an albuminoid substance. The styptic action of alum and ferric chloride (FeCl_3) solution is due to coagulation of blood forming a clot which further stop bleeding.

Question12

Which of the following is not correctly matched?

AP EAPCET 2024 - 22th May Evening Shift

Options:

- A. Aspartame - Food preservative
- B. Butylated hydroxy toluene - Antioxidant
- C. Novestrol - Antifertility drug
- D. Bithionol - Antiseptic

Answer: A

Solution:

Set given in option (a) is not cofrectly matched, while all other are matched correctly.

It's correct form is,

Aspartame is an artificial sweetener. It is used in diet coke, chewing gum etc.



Question13

The enamel present on teeth becomes much harder due to the conversion of $[3\text{Ca}_3(\text{PO}_4)_2 \cdot X]$ into $[3\text{Ca}_3(\text{PO}_4)_2 Y]$. What are X and Y ?

AP EAPCET 2024 - 21th May Evening Shift

Options:

- A. $X = \text{Ca}(\text{OH})_2, Y = \text{CaF}_2$
- B. $X = \text{Ca}(\text{OH})_2, Y = \text{CaCl}_2$
- C. $X = \text{Ca}(\text{OH})_2, Y = \text{NaCl}$
- D. $X = \text{CaO}, Y = \text{CaCl}_2$

Answer: A

Solution:

The enamel on teeth becomes significantly harder due to the transformation of the compound $[3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{Ca}(\text{OH})_2]$ into $[3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaF}_2]$.

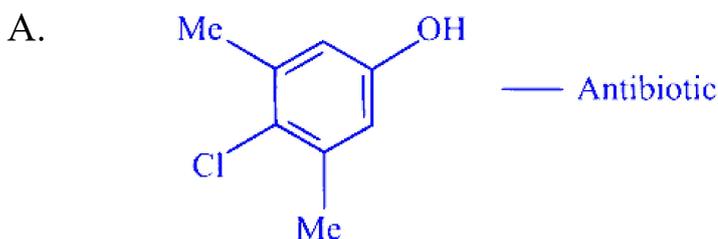
Thus, the components X and Y in this transformation are $\text{Ca}(\text{OH})_2$ and CaF_2 respectively.

Question14

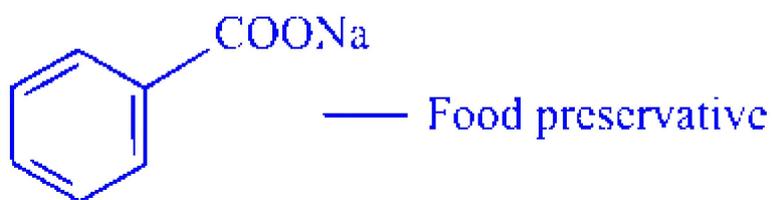
Identify the correctly matched pair from the following.

AP EAPCET 2024 - 21th May Evening Shift

Options:



B.



C. Salt of propanoic acid - Antioxidant

D. Veronal -Analgesic

Answer: B

Solution:

Sodium salt of benzoic acid is used as preservative in food industry.

- Salt of propanoic acid is used as preservative of food.
- Veronal is basically a barbiturate drug which is used as sedative.
- Dettol is an antiseptic not antibiotic. Hence, only option (b) is correctly matched.

Question15

Match the following.

List I (Drug)		List I (Use)	
A	Veronal	i	Antihistamine
B	Morphine	ii	Hypnotic
C	Seldane	iii	Analgesic
		iv	Antidepressant



Correct answer is

AP EAPCET 2024 - 21th May Morning Shift

Options:

A. A-IV, B -III, C-I

B. A-IV, B-I, C-II

C. A- II, B -III, C-I

D. A-II, B -IV, C-III

Answer: C

Solution:

Let's analyze the matches step by step.

Veronal is a barbiturate, and these are generally used as hypnotics. So, Veronal (A) matches with Hypnotic (ii).

Morphine is a well-known opioid used primarily as an Analgesic. So, Morphine (B) matches with Analgesic (iii).

Seldane, which is the brand name for terfenadine, is used as an Antihistamine. So, Seldane (C) matches with Antihistamine (i).

Thus, the correct matches are:

A – ii

B – iii

C – i

This corresponds to Option C.

Question16

Which of the following sweetener use is limited to soft drinks?

AP EAPCET 2024 - 20th May Evening Shift

Options:

A. Aspartame

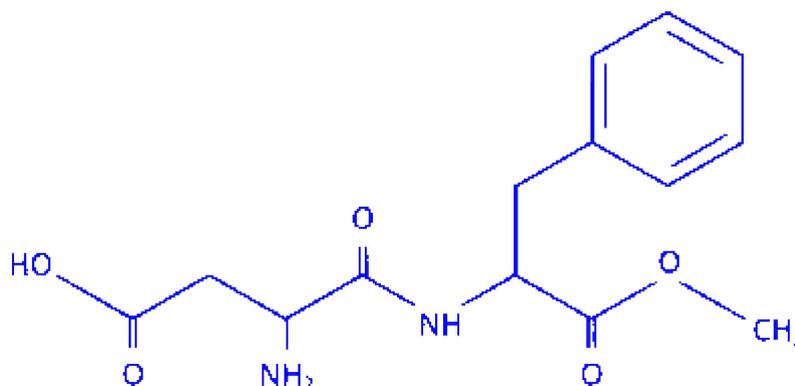


- B. Saccharin
- C. Sucralose
- D. Alitame

Answer: A

Solution:

Aspartame is sweetener used in soft drinks only as it is unstable at cooking temperature.



Question17

Which of the following pair is not correctly matched?

AP EAPCET 2024 - 20th May Morning Shift

Options:

- A. Salvarsan - to treat syphilis
- B. Luminal - antidepressant
- C. Morphine - to treat cardiac pain
- D. Acetylsalicylic acid - antipyretic

Answer: B

Solution:

The pair that is not correctly matched is:

- Option B: Luminal - antidepressant

Here's why:

Salvarsan was developed to treat syphilis, making Option A a correct match.

Luminal is actually a brand name for phenobarbital, which is used as an anticonvulsant and sedative, not as an antidepressant.

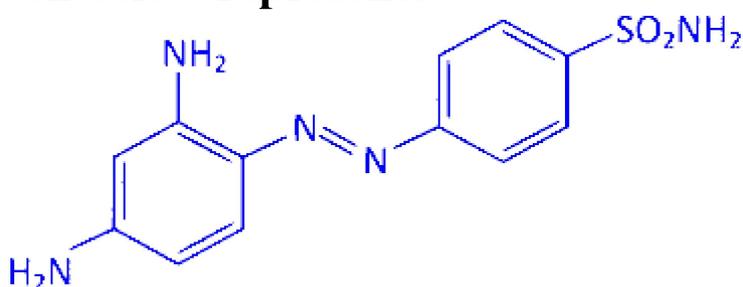
Morphine is an opioid analgesic that is used to relieve severe pain, including cardiac pain in conditions such as myocardial infarction, so Option C is acceptable.

Acetylsalicylic acid (aspirin) has antipyretic, anti-inflammatory, and analgesic properties, which makes Option D correctly matched.

Thus, the mismatch occurs with Option B.

Question 18

The structure given below represents



AP EAPCET 2024 - 19th May Evening Shift

Options:

- A. salvarsan
- B. penicillin
- C. prontosil
- D. sulphapyridine

Answer: C

Solution:

The given structure of prontosil



Prontosil is a diphenyldiazene compound having two amino substituent at 2' and 6' positions and an aminosulphonyl substituent at 4' position.

Question19

Identify the correct set form the following.

AP EAPCET 2024 - 18th May Morning Shift

Options:

- A. Penicill - narrow spectrum - bactereostatc.
- B. Chioramphericol - broad spectrum - bactereostaic.
- C. Ampicilin - narrow spectrum - bactericidat.
- D. Ofloxacin- broad spectrum - bactereostatic.

Answer: B

Solution:

The correct information is as follows:

Penicillin: It is a narrow-spectrum antibiotic.

Chloramphenicol: It is a broad-spectrum, bacteriostatic antibiotic. This statement is correct.

Ampicillin: It is a broad-spectrum, bactericidal antibiotic.

Ofloxacin: It is a broad-spectrum antibiotic.

Each statement defines the spectrum and type (bacteriostatic or bactericidal) of these antibiotics.
